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

SOUTH FLORIDA ECOSYSTEM RESTORATION AND C&SF RESILIENCE PROGRAMS

SOUTH FLORIDA RESTORATION TASK FORCE

Presented by: Kim Vitek, Senior SFER Program Manager
For Ecosystems Branch

14 Mar 2023


Southwest Coastal Mangroves Affected by Hurricane Ian


Lake Okeechobee

US Army Corps of Engineers ®

SOUTH FLORIDA ECOSYSTEM RESTORATION AND C&SF RESILIENCE PROGRAMS

AGENDA

FY23 EXECUTION FOCUS

- **FY23 President's Budget/BIL Funds**
- **Program-level Activities**
  - Integrated Delivery Schedule (IDS)
  - RECOVER (Restoration, Coordination, VERification)
- **Planning**
  - Biscayne Bay and Southeastern Everglades Ecosystem Restoration (BBSEER)
  - Indian River Lagoon – South (IRL-S)
  - Lake Okeechobee Watershed Restoration Project (LOWRP)
  - Western Everglades Restoration Project (WERP)
  - C&SF Flood Resiliency (Section 216) Study
  - Southern Everglades Ecosystem Restoration
- **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)
  - Central Everglades Planning Project Operational Plan
  - C-43/C-44 Operational Plan

SOUTH FLORIDA ECOSYSTEM RESTORATION AND C&SF RESILIENCE PROGRAMS

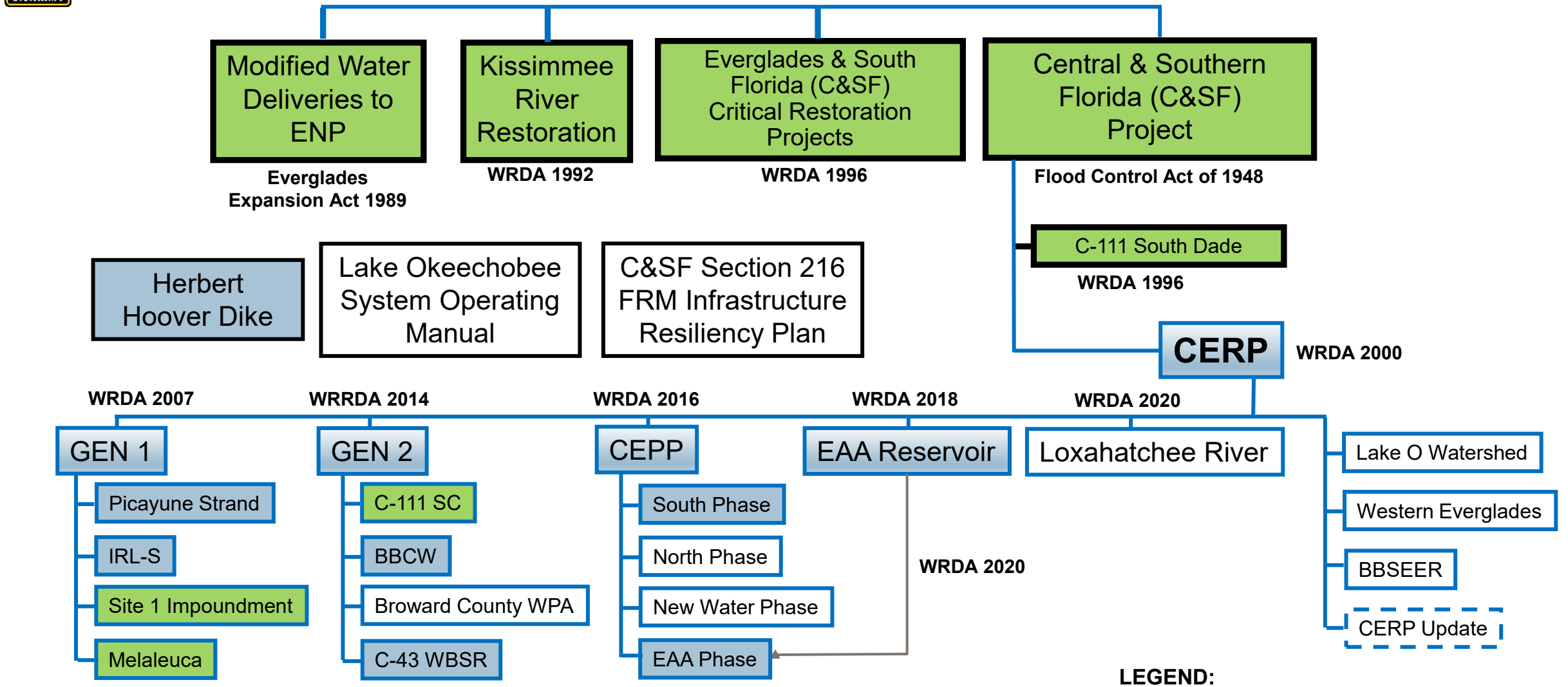
FY23 BUDGET OVERVIEW

CONSTRUCTION	SFER	OPERATIONS & MAINTENANCE
$1.5M	FY22 Carryover	$212K
$447.3M	FY23 Appropriation	$10.67M
$1.097B	Bipartisan Infrastructure Law (2022)	$0

FY24 Pressbook, $415M for SFER

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

PROGRAM STRUCTURE



CERP – Comprehensive Everglades Restoration Plan
GEN – Generation; linked to Authorization
CEPP – Central Everglades Planning Project
Legislation Dates = Original Authorization Date

Foundation Projects

LEGEND:

Construction Complete, In Operations

Construction Ongoing

3/13/2023

SOUTH FLORIDA
ECOSYSTEM RESTORATION PROGRAM

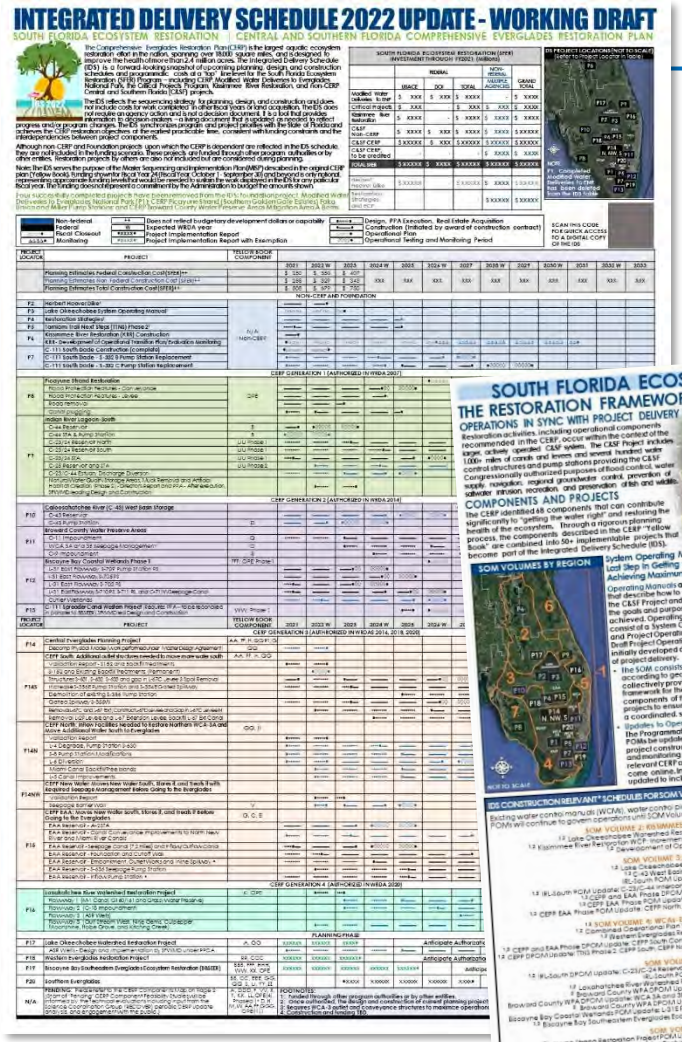
PROGRAM-LEVEL ACTIVITIES

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

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

PROGRAM-LEVEL ACTIVITIES

INTEGRATED DELIVERY SCHEDULE



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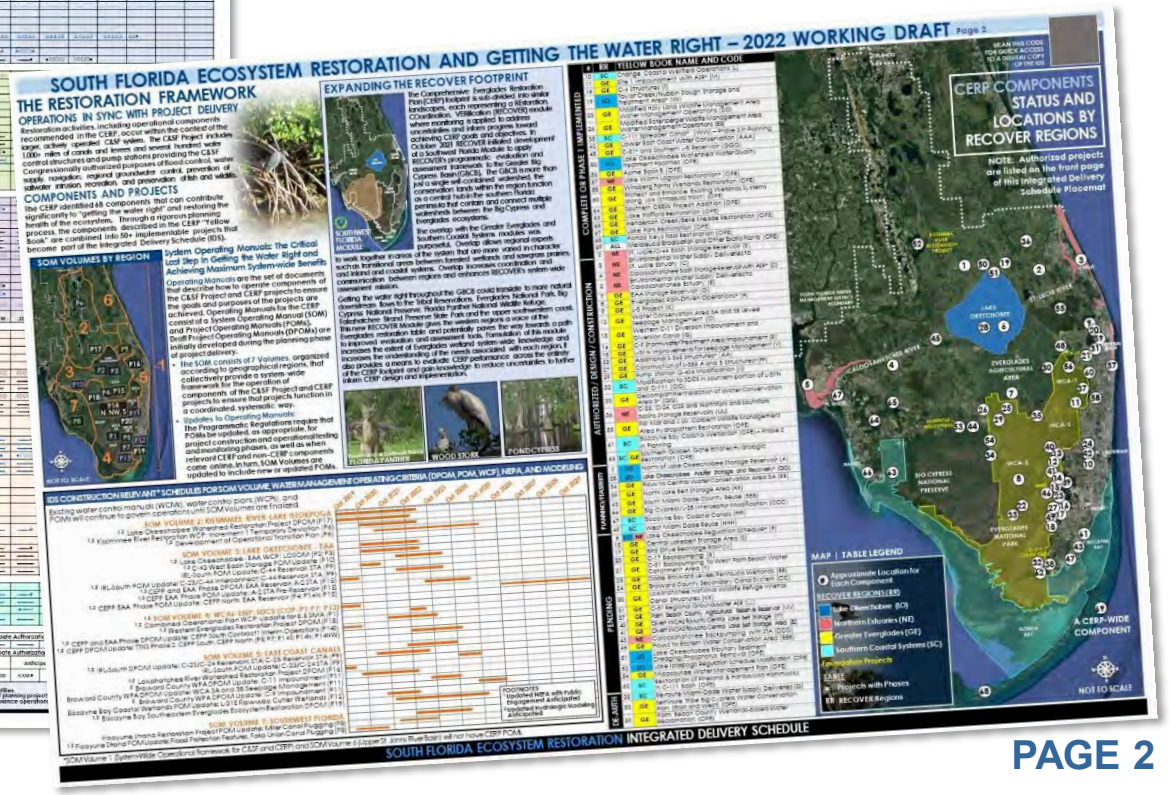
18 Nov 2022

Released of Final Draft 2022 IDS
Update at Task Force Workshop

June 2023

Working Draft 2022 IDS
Update at Task Force Meeting



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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

- Per 2022 IDS

Science Communication

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

Base Operations

- FY23 Synopsis

SOUTH FLORIDA ECOSYSTEM RESTORATION AND C&SF RESILIENCY PROGRAMS

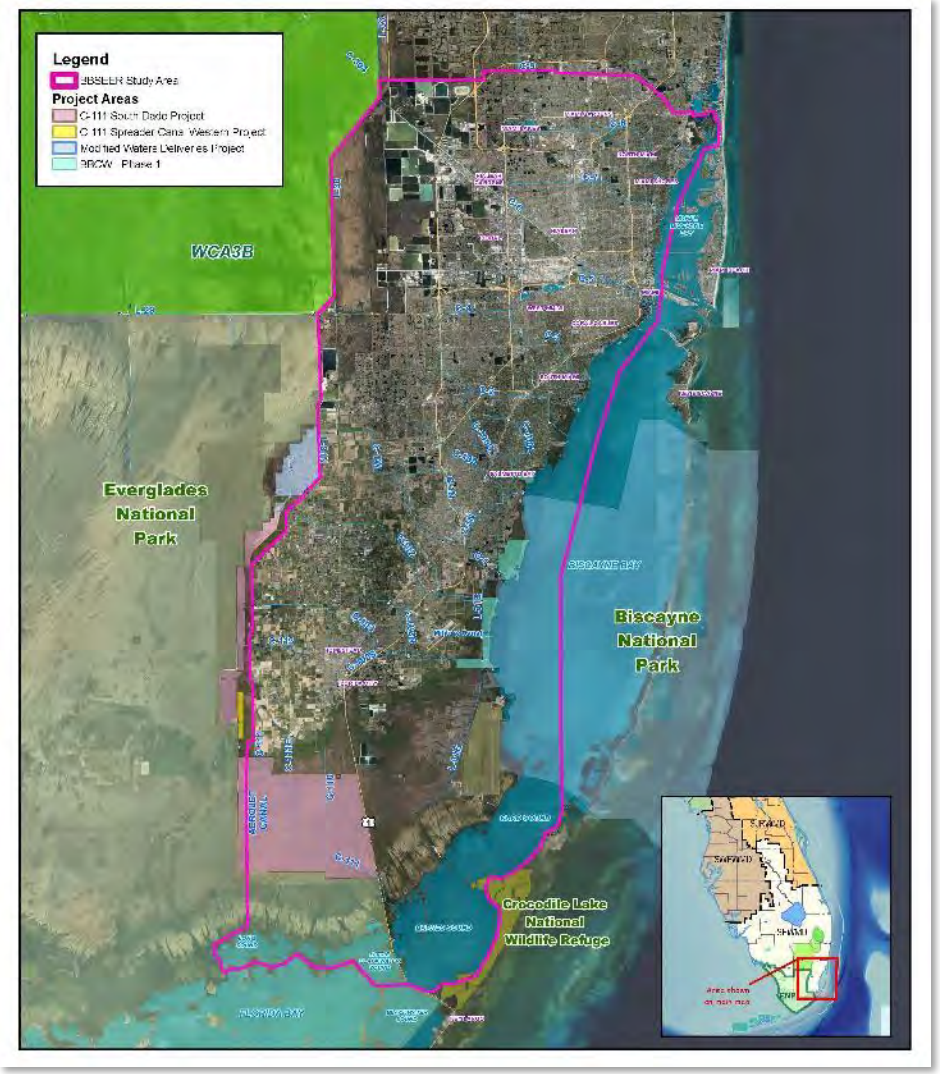
PLANNING

- Biscayne Bay and Southeastern Everglades Ecosystem Restoration (BBSEER)
- Lake Okeechobee Watershed Restoration Project (LOWRP)
- Western Everglades Restoration Project (WERP)
- C&SF Flood Resiliency (Section 216) Study

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

PLANNING

BISCAYNE BAY AND SOUTHEASTERN EVERGLADES ECOSYSTEM RESTORATION (BBSEER)



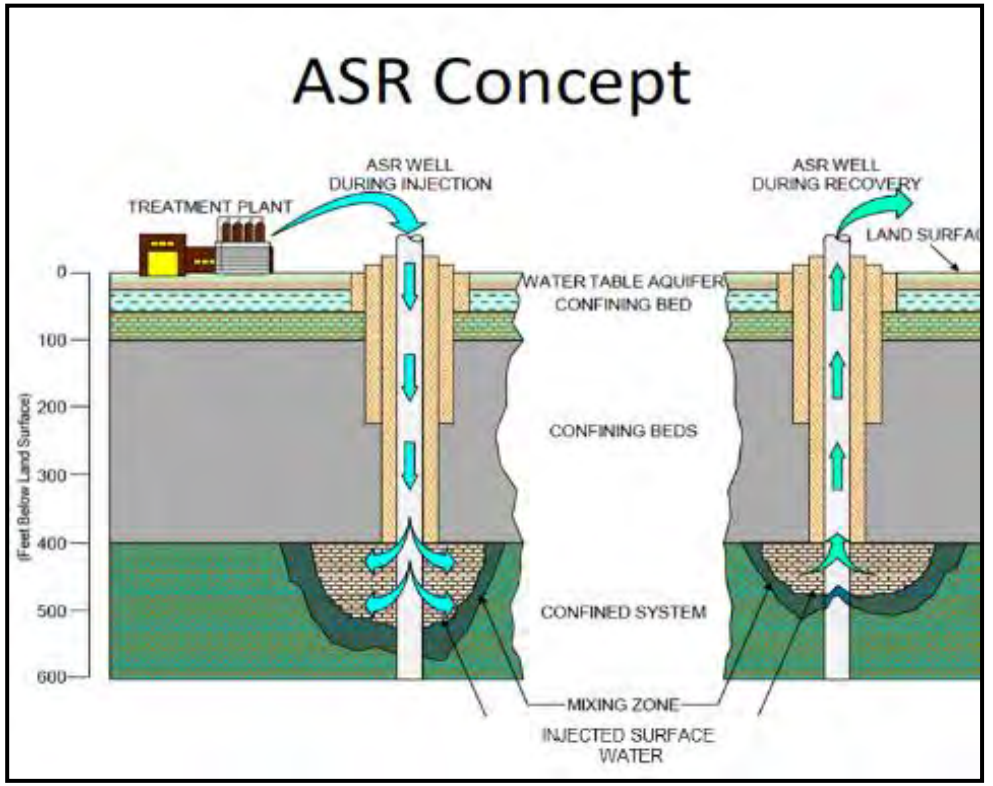
The goals and objectives of the project:

- 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
- Development of alternatives and modeling

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM
PLANNING
LAKE OKEECHOBEE WATERSHED RESTORATION PROJECT



RECOMMENDED PLAN:

AQUIFER STORAGE AND RECOVERY (ASR) WELLS

- Below ground water storage to better manage flows into Lake Okeechobee
- 55 wells and ~308,000 ac-ft of storage per year

WETLAND RESTORATION SITES

- Restore hydrology of isolated, riverine wetlands
- Paradise Run: Approx. 4,700 acres
- Kissimmee River Center: Approx. 1,200 acres
- Recreational facilities

STATUS

- Recommended plan under technical and policy review by the Chief of Engineers.

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM
PLANNING
WESTERN EVERGLADES RESTORATION PROJECT



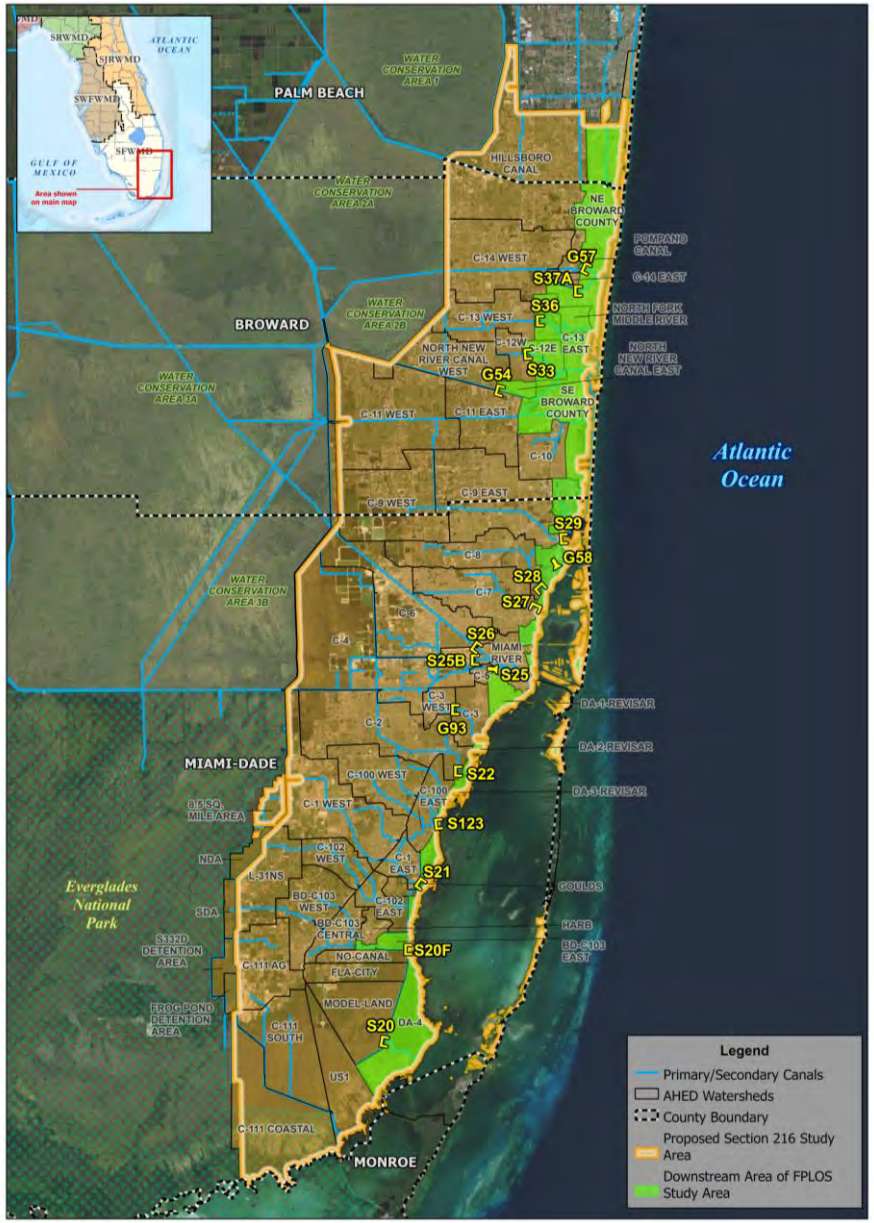

Images Courtesy of Big Cypress National Preserve

WERP Study Objectives:

- Restore freshwater flow paths, flow volumes & timing, seasonal hydroperiods, and historic distributions of sheetflow to reestablish ecological connectivity and ecological resilience of the historic wetland/upland mosaic.
- Restore water levels to reduce wildfires associated with altered hydrology, which damage the underlying geomorphology and associated ecological conditions of the western Everglades.
- Restore aquatic low nutrient (oligotrophic) conditions to reestablish and sustain native flora and fauna.

STATUS

- Tentatively Selected Plan, milestone complete 4 Aug 2022
- Ongoing engagement with stakeholders and partners
- Wingate Mill STA: considering potential courses of action
- March 2023, additionally modeling underway, updated schedule being finalized and approved by USACE HQ



C&SF RESILIENCE PROGRAM

PLANNING

C&SF FLOOD RESILIENCY (SECTION 216) STUDY

Authority

- Section 216 of the Flood Control Act of 1970 (33 U.S.C. 549a)
- Review existing projects that have significantly changed physical or economic conditions

Scope

- C&SF system resiliency in the highest risk areas in Lower East Coast
  - ► Palm Beach, Broward and Miami-Dade counties
- Includes benefits to the other C&SF project purposes in addition to the Flood Risk Management (FRM) benefits

Schedule

- Charette Workshops and NEPA Scoping meetings Jan 2023
- Array of Alternatives being finalized

Financial

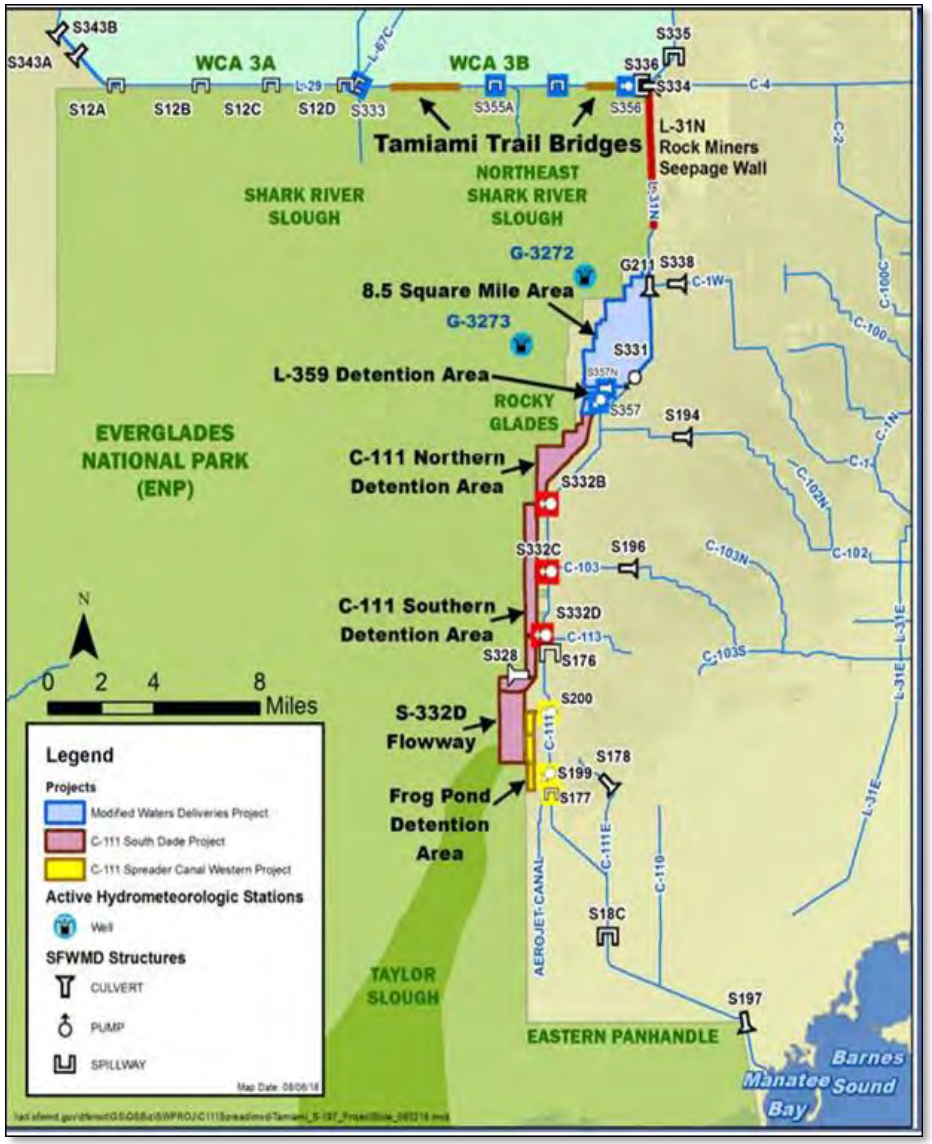
- FY22 appropriation $500K
- FY23 appropriation $495K

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

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)

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM
DESIGN | CONSTRUCTION
CANAL 111 (C-111) SOUTH DADE



The project maintains existing flood protection and other C&SF project purposes in developed areas east of C-111 while restoring natural hydrologic conditions in the Taylor Slough and eastern panhandle areas of ENP. Increased freshwater flows in these areas will also help conditions in Florida Bay.

Status:

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

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

Plugged Faka Union Canal

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

Under Construction:

- Miller Tram and Road Removal
- Southwest Conveyance Feature
- Southwest Protection Feature

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM
DESIGN | CONSTRUCTION
INDIAN RIVER LAGOON - SOUTH PROJECT

C-23/C-24 Stormwater Treatment Area Construction

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.

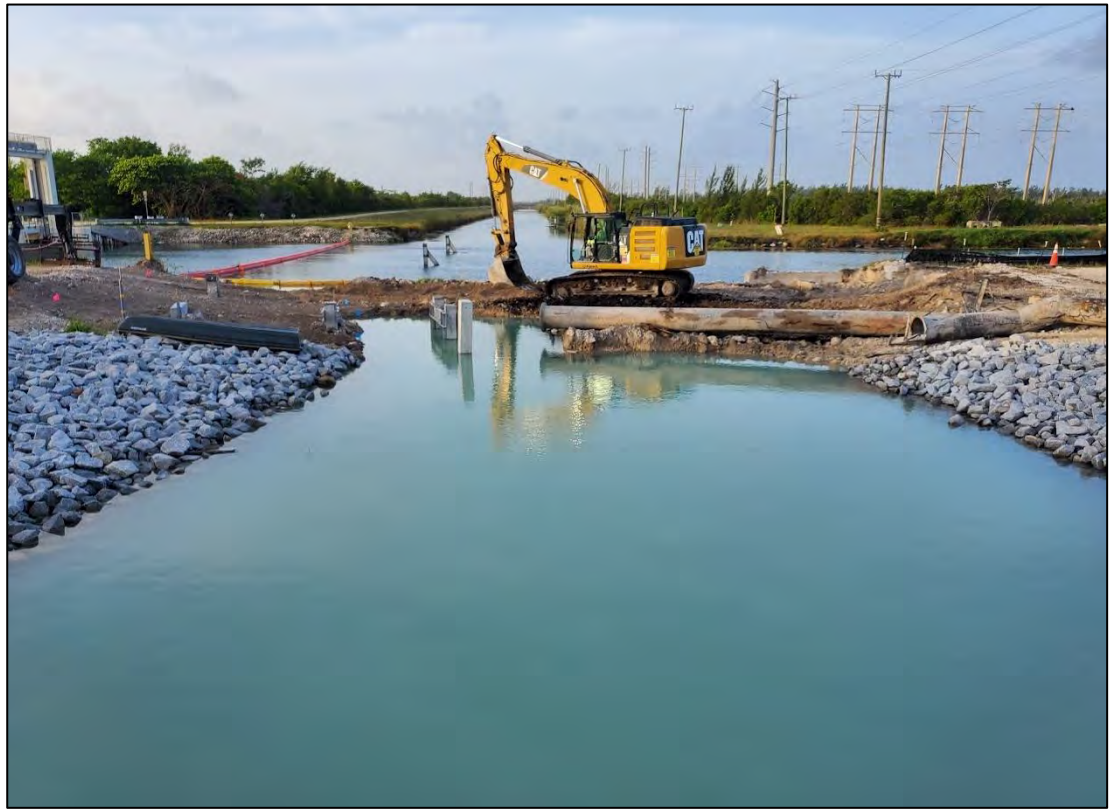
In Design:

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

Under Construction:

- C-23/C-24 Stormwater Treatment Area

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



S-705 Construction Site

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
- Groundbreaking S-701 March 2023

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM
DESIGN | CONSTRUCTION
CENTRAL EVERGLADES PLANNING PROJECT

Everglades Agricultural Area Reservoir Site

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, *under construction*
  - Pump Station S-356, final design ongoing, anticipated contract award FY23
  - Gated Spillway S-355W, design ongoing, anticipated contract award FY23
- CEPP – EAA:
  - Seepage and Inflow/Outflow Canal, *under construction*
  - Reservoir Foundation and Cut-off Wall, contract awarded Sep 2022
  - Reservoir Embankment, design ongoing, anticipated contract award FY24
  - Groundbreaking March 2023

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

DESIGN | CONSTRUCTION

BROWARD COUNTY WATER PRESERVE AREAS | C-11 IMPOUNDMENT

Briefing at the C-11 Impoundment Site

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

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)
- Central Everglades Planning Project (CEPP) Operational Plan
- C-43/C-44 Operational Plan

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM
OPERATIONS
KISSIMMEE RIVER RESTORATION

Restored
Kissimmee River

S-69 Weir

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

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM
OPERATIONS
INDIAN RIVER LAGOON - SOUTH

C-44 Reservoir

C-44 Reservoir Filling

- Initial fill and interim operations and testing underway
- Target is a 15-foot holding pool
- Current operations in accordance with Preliminary Project Operating Manual
- Overall conditions remain normal with no dam safety concerns

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

OPERATIONS
CALOOSAHATCHEE RIVER (C-43) WEST BASIN STORAGE RESERVOIR OPERATIONAL PLAN

Project Purpose:

- The C-43 WBSR Operational Plan aims to improve the ecological function of the Caloosahatchee Estuary by capturing and storing the excess surface water runoff from the C-43 basin and excess releases from Lake Okeechobee.

Total Project Benefits:

- A 170,000 acre-ft reservoir/dam in 10,500 acre @ 15 to 25-ft pool, 1,500 CFS pump station to benefit the downstream estuaries within exiting framework of the authorizations.

Status:

- Study scoping and development of hydrologic/ecological targets and constraints ongoing.
- Team proposes to combine the modeling efforts for the C-43 & C-44 operational plans while keeping the NEPA coordination separate.

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

OPERATIONS

INDIAN RIVER LAGOON (C-44 RESERVOIR PROJECT)

Project Description:

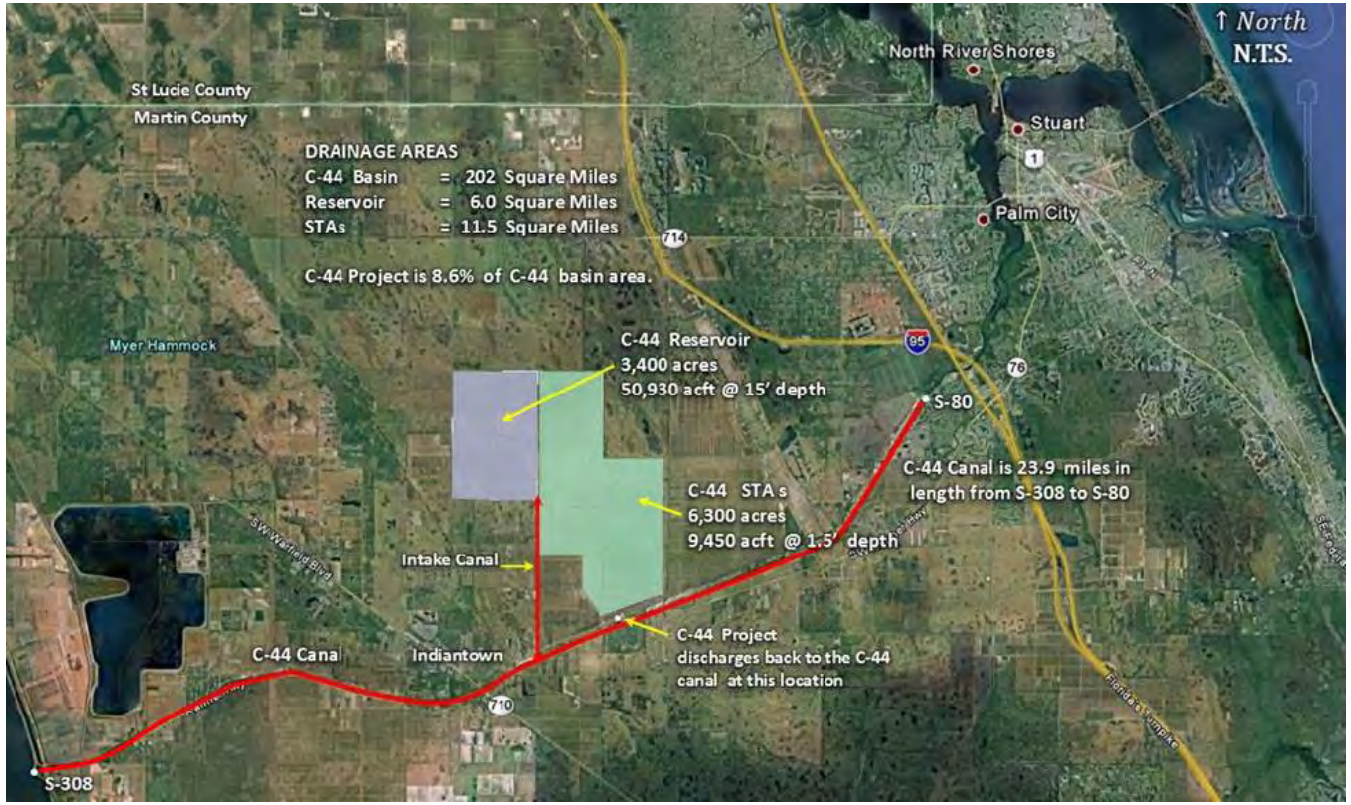
- The C-44 Reservoir/Stormwater Treatment Area Project (C-44 R/STA) is a component of the Indian River Lagoon-South (IRL-S) Project Implementation Report (PIR) under the Comprehensive Everglades Restoration Plan (CERP).

Project Purpose:

- Pump water from the C-44 Intake Canal into the C-44 Reservoir to store water and attenuate freshwater flows to the St. Lucie Estuary allowing initial treatment of water
- Distribute water from the reservoir to the C-44 Stormwater Treatment Area to reduce nutrient concentrations and release to C-44 Canal

Status:

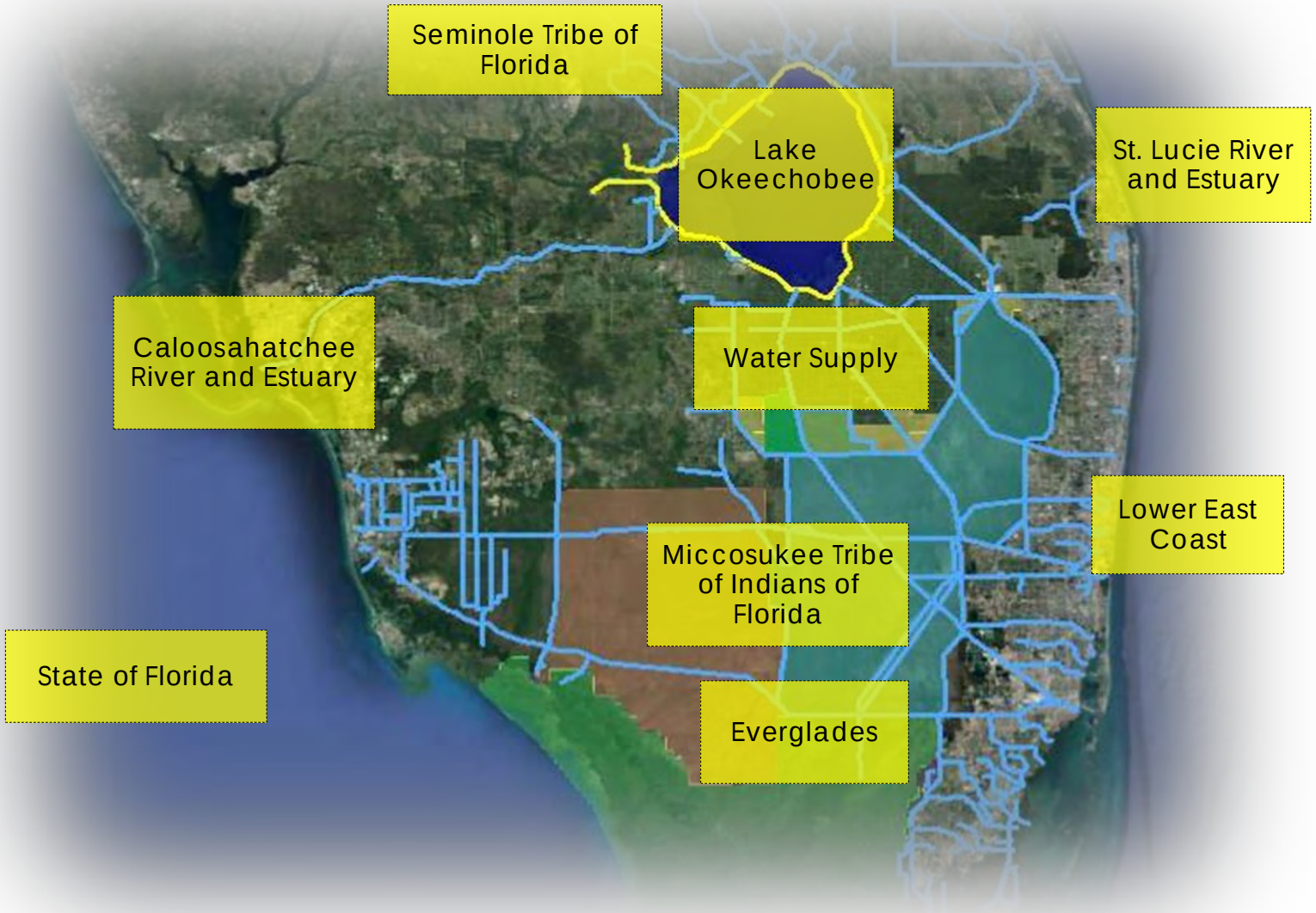
- Project operating under approved Preliminary Project Operating Manual
- Scoping, Schedule, and Modeling effort under development for Final Project Operating Manual.



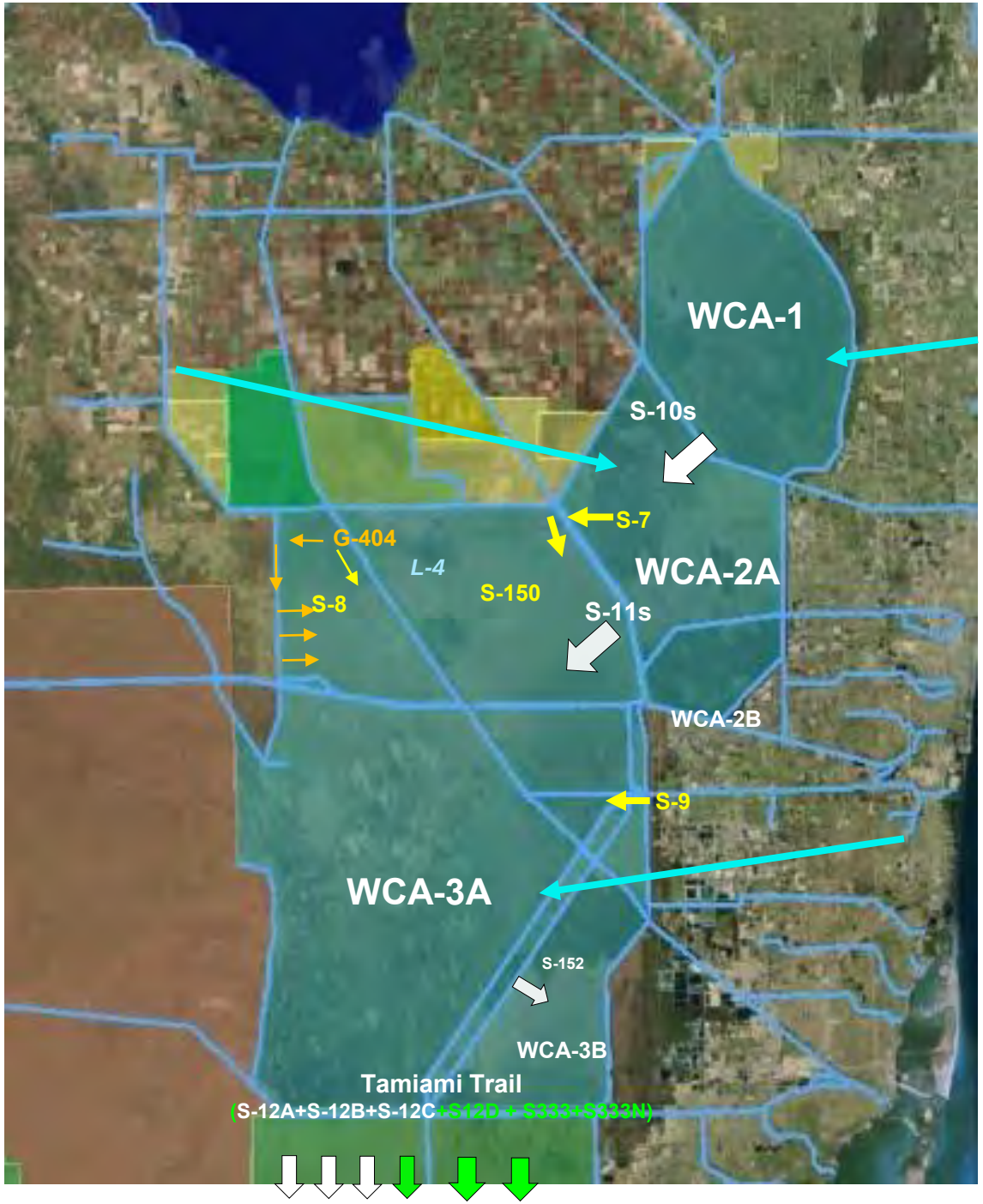
SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

OPERATIONS

LAKE OKEECHOBEE SYSTEM OPERATIONS MANUAL



- Benefits-focused
- System with holistic perspective
- Will use real time knowledge of climate conditions, weather data, climate projections, and system needs to make educated decisions about how releases are made
- Key seasonal assessment points to analyze the past, the present, and the anticipated/desired future
- 15 Mar 2023 PDT Meeting



SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

OPERATIONS

COMBINED OPERATIONAL PLAN

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM
OPERATIONS
COMBINED OPERATIONAL PLAN

WATER DELIVERIES (AC-FT) ACROSS TAMIAMI TRAIL (S-12s + S-333 + S-333N + S-356 - S-334)													
	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	135,833					703,089

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

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM
OPERATIONS
CEPP OPERATIONAL PLAN (incremental)

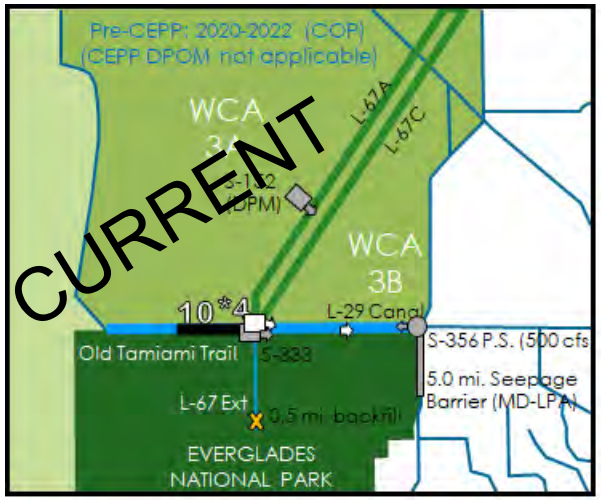
Project Purpose:

- The Central Everglades Planning Project (CEPP) Operations Plan aims to redistribute Water Conservation Area (WCA) 3A inflows to enhance flows into Everglades National Park (ENP).

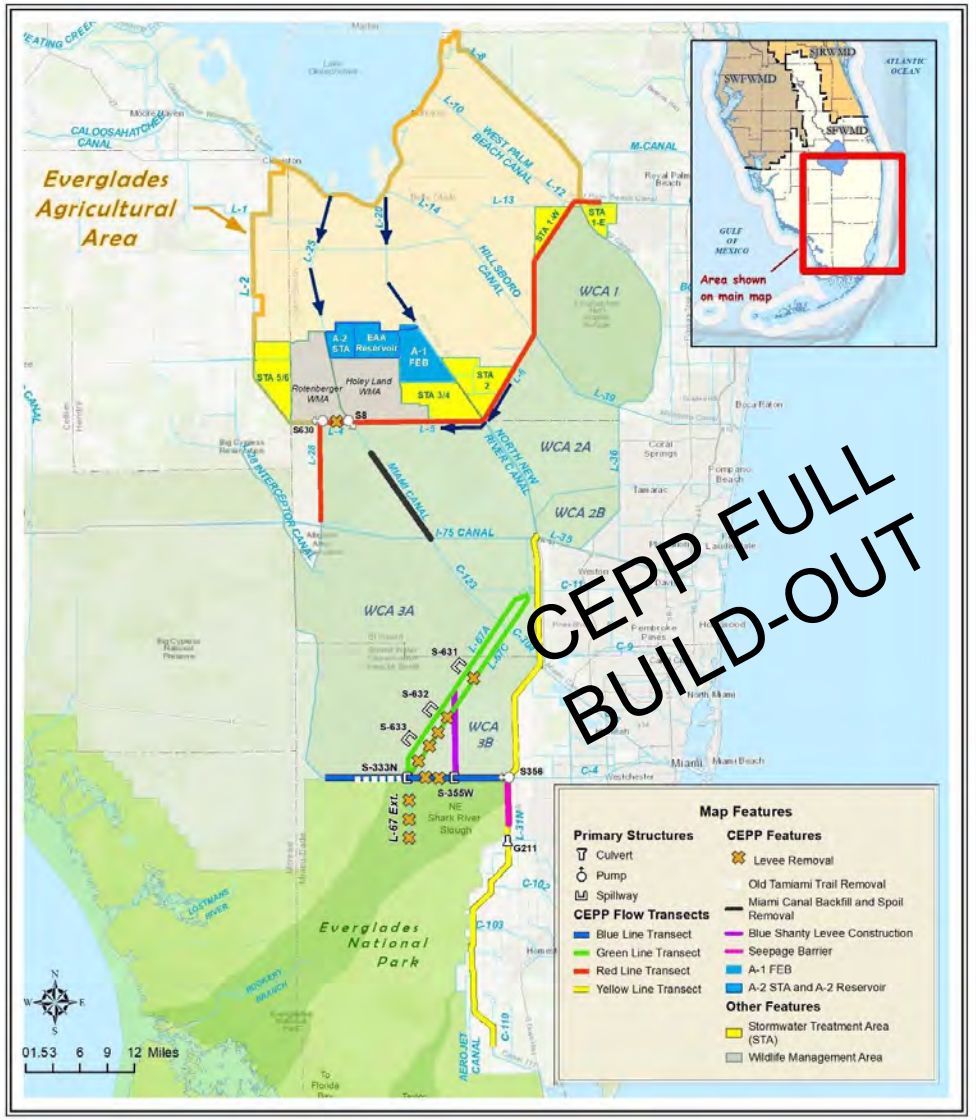
- Incremental changes to the Combined Operations Plan (COP) to include Central Everglades Restoration Projects (CERP) and non-CERP implementation.

Status:

- Study scoping, kickoff in FY23.



INTERIM OPERATIONS & BENEFITS



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SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

THANK YOU!