

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

SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM

USACE PROGRAM UPDATE **SUPPLEMENTAL SLIDES**

SFER TASK FORCE

**POC: Eva B. Vélez, PE, Chief,
Ecosystems Branch, Jacksonville
District
25 April 2024**



Image courtesy of Conservancy of Southwest Florida



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**US Army Corps
of Engineers**

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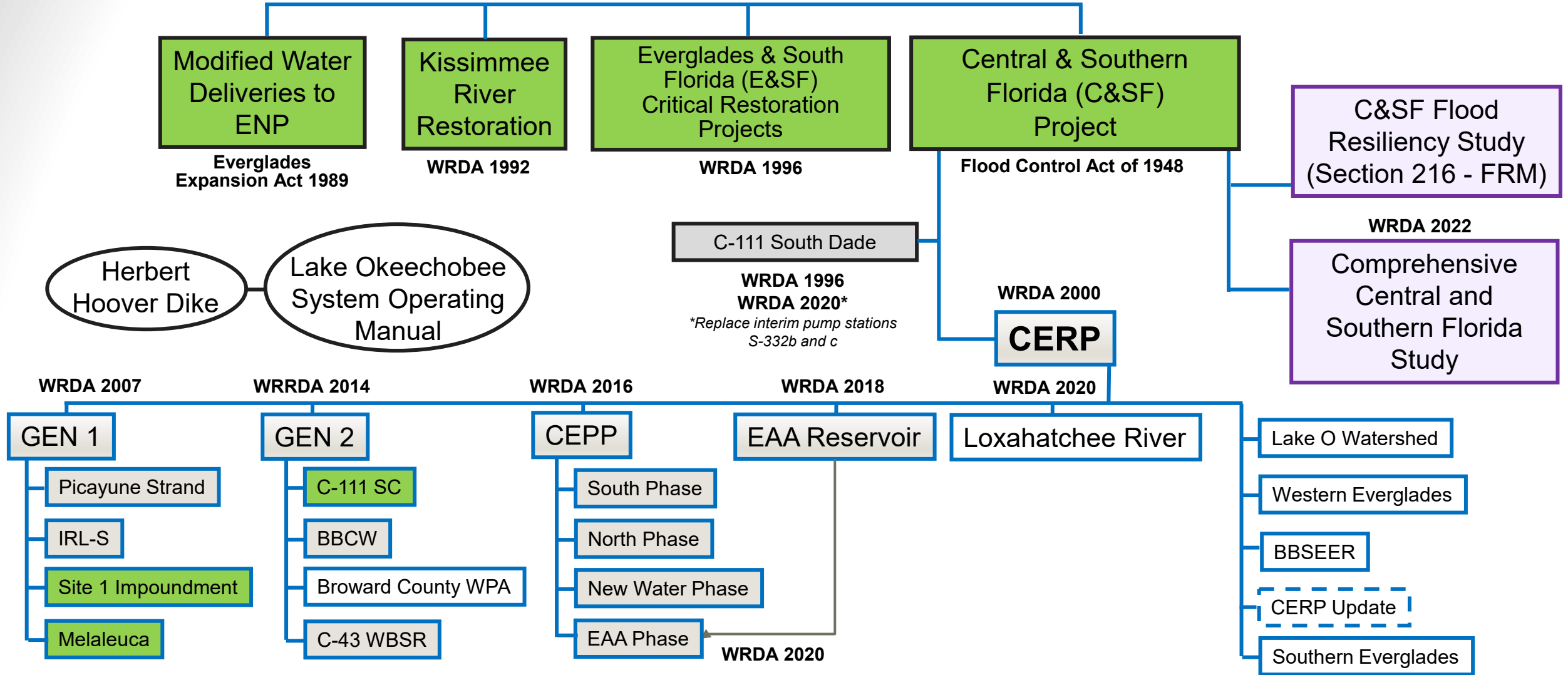


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SOUTH FLORIDA ECOSYSTEM RESTORATION AND C&SF RESILIENCE PROGRAMS



PROGRAM STRUCTURE



4/16/2024



SOUTH FLORIDA ECOSYSTEM RESTORATION FY24 EXECUTION FOCUS



 FEASIBILITY  VALIDATION/PACR/OTHER  JOINT OR SFWMD-LED CONSTRUCTION

■ Program-level Activities

- ▶ National Academies of Science Review (CISRERP)
- ▶ Interagency Modeling Center (IMC)
- ▶ Integrated Delivery Schedule (IDS)
- ▶ RECOVER (Restoration, Coordination, VERification)
- ▶ Adaptive Assessment and Monitoring
- ▶ CERP Update

■ Planning

- ▶ Biscayne Bay and Southeastern Everglades Ecosystem Restoration (BBSEER)
- ▶ Lake Okeechobee Watershed Restoration Project (LOWRP)
- ▶ Western Everglades Restoration Project (WERP)
- ▶ Indian River Lagoon – South (IRL-S)
- ▶ Central Everglades Planning Project (CEPP)
- ▶ Lake Okeechobee Component A Reservoir (LOCAR)

■ Design and 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)
- ▶ C-43 West Basin Storage Reservoir
- ▶ Loxahatchee River Watershed Restoration Project (LRWRP)

■ Water Management and Operations and Maintenance

- ▶ 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 – CEPP 1.0
- ▶ Central Everglades Planning Project Operational Plan – A-2 STA
- ▶ C-43/C-44 Reservoirs Operational Plan
- ▶ Operations, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R)



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SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM PROGRAM-LEVEL ACTIVITIES

Today's Highlights:

- Second Periodic CERP Update





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SOUTH FLORIDA ECOSYSTEM RESTORATION | PROGRAM LEVEL ACTIVITIES

SECOND PERIODIC CERP UPDATE (SPCU)



OBJECTIVE:

- Evaluate “the Plan” to ensure that the goals and purposes of the Plan are achieved, with new or updated modeling that includes the latest available scientific, technical, and planning information.
- Determine the total quantity of water that is expected to be generated by implementation of the Plan, including the quantity expected to be generated for the natural system to attain restoration goals as well as the quantity expected to be generated for use in the human environment.

STATUS:

- Evaluation of round 1 modeling results by USACE and SFWMD began March 2024
- Regional simulation modeling scenarios include Future without CERP, the Future with CERP, and a sensitivity run
- Ongoing: RECOVER is preparing updates to performance measures to evaluate the Plan
- Ongoing: coordination with SFER Task Force, Working Group and Science Coordination Group
- Ongoing: Tribal Government to Government Technical Staff coordination
- Round 2 modeling will include sea level change conditions



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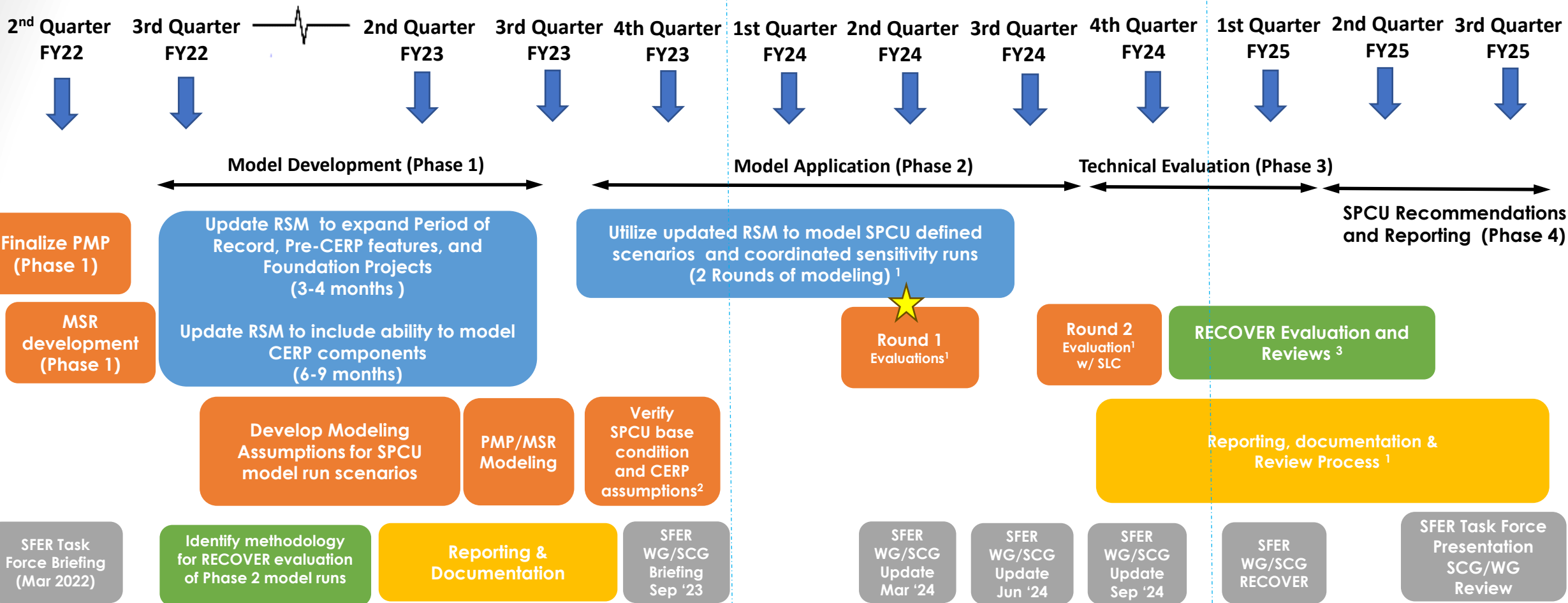
SPCU Timeline

The CERP Update will evaluate (Ref. 33 CFR, 385.31 (c)) *The total quantity of water that is expected to be generated by implementation of the Plan, including the quantity expected to be generated for the natural system to attain restoration goals as well as the quantity expected to be generated for use in the human environment.*

- SFWMD/USACE
- Modeling
- RECOVER
- SFER Task Force
- Documentation



FY 2024 (01 OCT 2023 – 30 SEP 2024)



¹ Task durations and schedules reflect SPCU team, IMC and RECOVER coordination, as of March 2024

² Task Continued from Phase 1 PMP/MSR

³ RECOVER is still evaluating this schedule to coincide with other work products.



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SOUTH FLORIDA ECOSYSTEM RESTORATION

PLANNING

Today's Highlights:

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

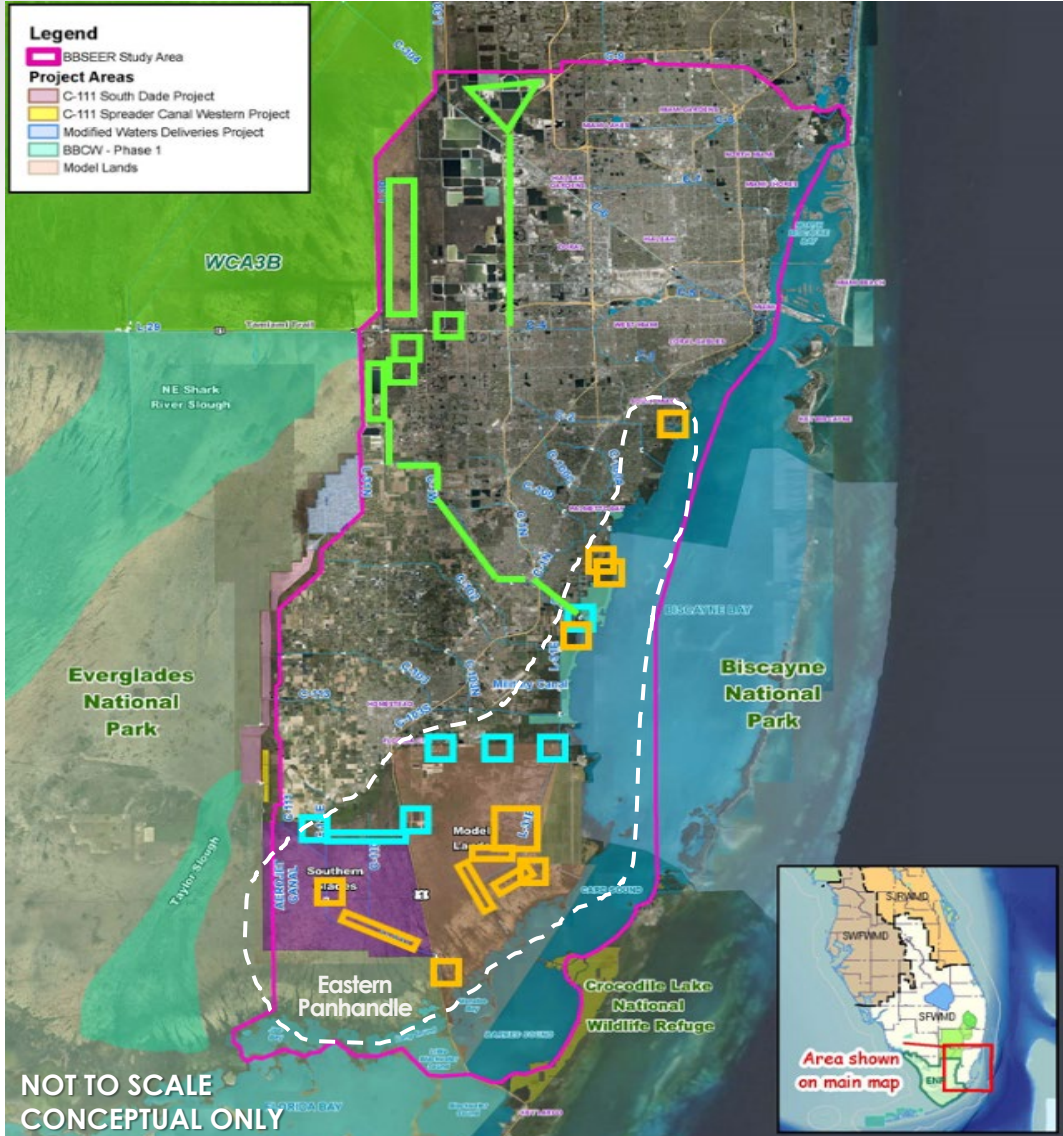




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SOUTH FLORIDA ECOSYSTEM RESTORATION | PLANNING

BISCAYNE BAY AND SOUTHEASTERN EVERGLADES ECOSYSTEM RESTORATION (BBSEER)



STUDY OBJECTIVES:

- Improve quantity, timing and distribution of freshwater to **estuarine and nearshore subtidal areas**, including mangrove and seagrass areas
- Restore freshwater depths, hydroperiods, and flows for dry and wet seasons in **terrestrial wetlands**
- Restore **connectivity and habitat gradients** in areas compartmentalized by the C&SF system in the Southern Everglades, Model Lands, and Biscayne Bay Coastal Wetlands
- Increase and restore **ecological resilience** in coastal habitats in southeastern Miami Dade County

STATUS:

- Additional time and budget needed to complete the study is under review.
- Continued engagement with Project Delivery Team (PDT), recently held April 4, 2024
- Round 3 Alternatives Evaluation – Dec 2023 to April 2024
- Draft Tentatively Selected Plan (TSP) Selection – Spring/Summer 2024

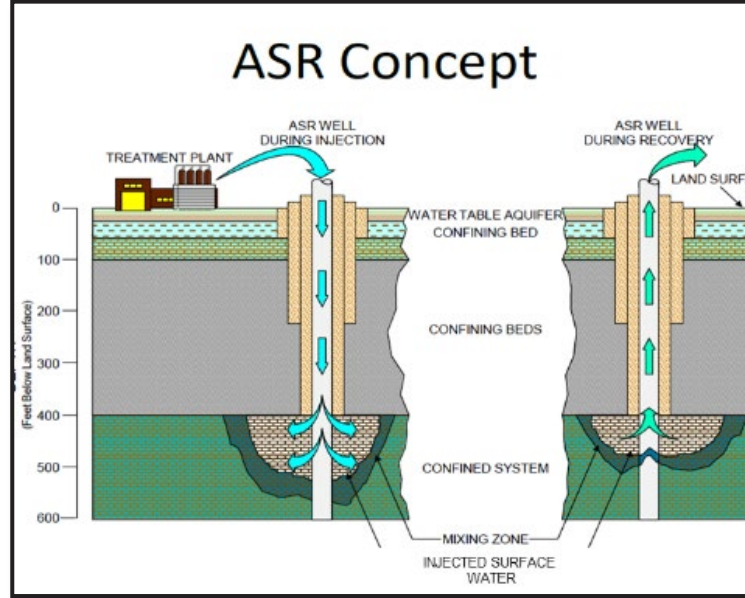
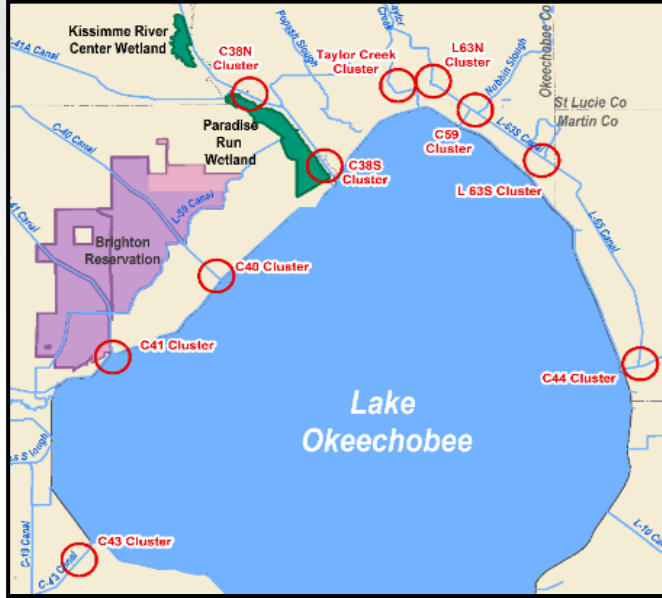


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LAKE OKEECHOBEE WATERSHED RESTORATION (LOWRP) PROJECT



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COMPONENTS:

○ Aquifer Storage and Recovery (ASR) Wells

■ WETLAND RESTORATION SITES

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

STATUS:

- First Report: Final LOWRP Wetlands Restoration Planning Implementation Report (PIR) and Environmental Impact Statement (EIS) in policy reviews and targeting WRDA 2024
- Second Report: LOWRP ASR – Pending additional science from USACE Engineering and Research Development Center (ERDC)

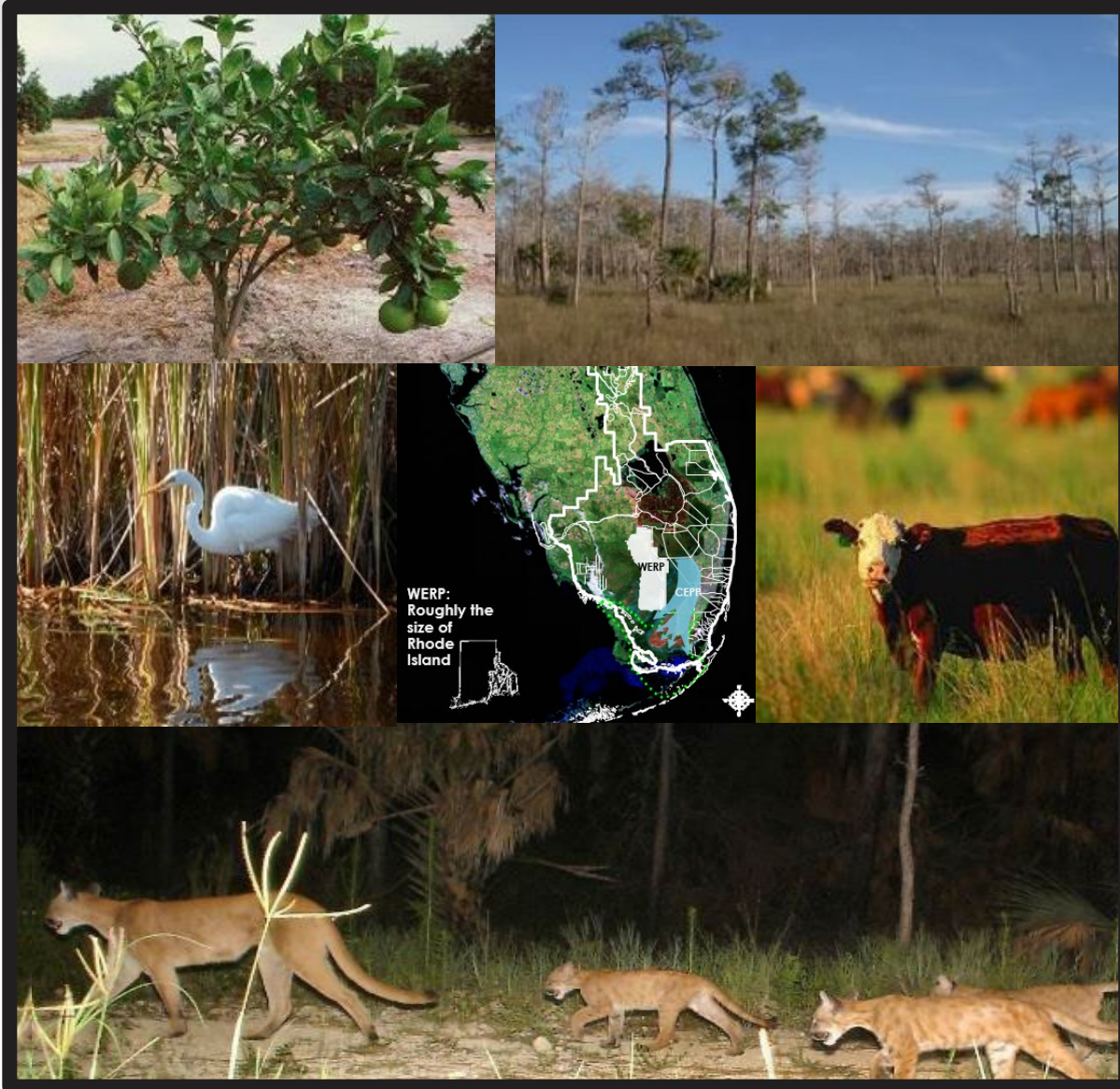




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SOUTH FLORIDA ECOSYSTEM RESTORATION

WESTERN EVERGLADES RESTORATION PROJECT (WERP)



WERP:
Roughly the
size of
Rhode
Island

WERP STUDY OBJECTIVES:

- Restore freshwater flow paths, flow volumes and 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: Targeting WRDA24

- 17 Apr 24 held project update public meeting
- Final Planning Implementation Report (PIR) and Environmental Impact Statement (EIS) in policy reviews
- Complete Final Report - June 2024
- State and Agency Review - Aug 2024
- Chief's Report signed - September 2024
- Project Authorization Target - WRDA 2024



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SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM DESIGN AND CONSTRUCTION

Today's Highlights:

- 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)



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PICAYUNE STRAND RESTORATION PROJECT



Faka Union canal backfill and clearing activities near 114th Ave,
January 2024

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:

- Southwest Conveyance Feature
- Southwest Protection Feature
- Miller Canal Clearing
- Faka Union Canal Backfill



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INDIAN RIVER LAGOON – SOUTH PROJECT



S-433A, S-433B, S-436A and S-436 structures connecting S-451 under Sneed Road. These structures connect Cells 1 and 2 to Cells 3, 4 and 5 of the C-23/C-24 Stormwater Treatment Area, January 2024

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: Final design being completed, construction contract advertisement summer FY24, anticipated award of the first increment of the C-23/24 North Reservoir in FY24
- S-425 Sag Culvert, S-426 Pump Station Afterbay, Reservoir Embankment: Design underway, anticipated completion FY25

UNDER CONSTRUCTION:

- C-23/C-24 Stormwater Treatment Area



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BISCAYNE BAY COASTAL WETLANDS



S-711 Seepage Canal, March 2024

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-710, S-711 and C-711
Seepage canal
- Pump station S-709, S-705 completed final inspection and endurance testing



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CENTRAL EVERGLADES PLANNING PROJECT



Everglades Agricultural Area (EAA) reservoir canal excavation, March 2024

The Central Everglades Planning Project (CEPP) increases 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
- Gated Spillway S-355W: final design complete; procurement process underway; anticipated contract award in 2024
- Pump Station S-356: final design complete; procurement process underway; anticipated contract award in 2024

CEPP - EAA

- Seepage and Inflow/Outflow Canal under construction
- Reservoir Foundation and Cut-off Wall under construction
- Reservoir Embankment/Outlet Structure/Spillway construction contract was advertised February 2024; anticipated contract award Q4 FY24



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SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM | DESIGN AND CONSTRUCTION BROWARD COUNTY WATER PRESERVE AREAS | C-11 IMPOUNDMENT

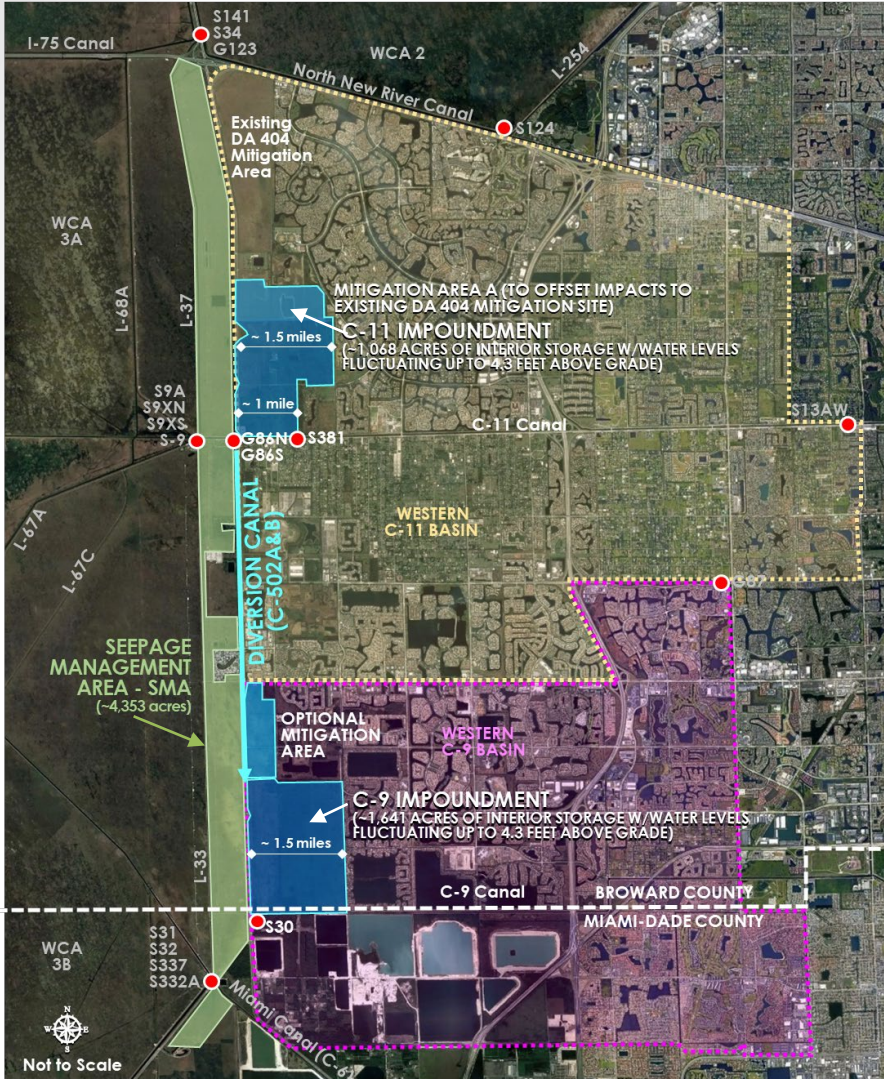


PURPOSE:

- Reduce runoff from developed areas in western Broward County into Water Conservation Area 3 (WCA 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 WCA 3 and 200,000 acres in the greater Everglades will benefit from project implementation

FEATURES:

- Final Design of C-11 Impoundment being completed; anticipate award of first increment of construction of C-11 feature in 2024





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SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM OPERATIONS

Today's Highlights:

- Overview of System Conditions (mid-April 2024)
- Indian River Lagoon – South (IRL-S)
- Lake Okeechobee System Operating Manual (LOSOM)
- Combined Operational Plan (COP)
- Central Everglades Planning Project (CEPP) Operational Plan



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OVERVIEW OF SYSTEM CONDITIONS AS OF MID APRIL 2024

Kissimmee

- Upper Basin - Normal Operations
 - S-69 Weir Repairs ongoing
 - Pool D Flow (cfs): 950cfs

Lake Okeechobee

- Lake is at 14.98 ft and in Low Sub-band, LORS08 Part D recommends up to 650 cfs at S-79 and 0 cfs at S-80
 - This week targeting 7 day average pulse release of 650 cfs at S-79
 - Next week targeting 7 day average pulse release of 2,000 cfs at S-79 and will assess for remainder of the dry season unless conditions change.

Water Conservation Areas (WCAs)

- WCA-1: stages 0.07 ft above schedule and receding.

- WCA-2A: stages 0.49 ft (S-11B HW) above schedule and receding.

- WCA-3A: stages 0.12 ft above schedule and receding.



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SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM | OPERATIONS

INDIAN RIVER LAGOON - SOUTH



C-44 Reservoir

C-44 RESERVOIR STATUS

- Operational monitoring and testing period, extended
- **In use:** Operating up to 10-feet; target is a 15-foot holding pool
 - Current water depth as of mid April 2024 ~ 6 feet
- Current operations in accordance with Preliminary Project Operating Manual
- Design of seepage management feature underway for southwest external corner of reservoir
- Overall conditions remain normal with no dam safety concerns



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SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM | OPERATIONS



LOSOM SCHEDULE OVERVIEW THROUGH THE RECORD OF DECISION (ROD)



ACTIVITIES

- Draft NEPA documentation of the effects of the alternatives and how the preferred alternative was chosen
 - Draft water control plan (WCP) documentation including regulation schedule and operational guidance
 - Endangered Species Act (ESA) consultation initiated, and Biological Assessments (BA) transmitted
- February – July 2022
COMPLETE

- NEPA public, agency, and tribal review and comment on the Draft LOSOM Environmental Impact Statement (EIS) and Water Control Plan
 - Corps Agency Technical Review (ATR) and Independent External Peer Review (IEPR)
 - Draft Fish and Wildlife Service (FWS) Biological Opinion (BO)
- July - September 2022
COMPLETE

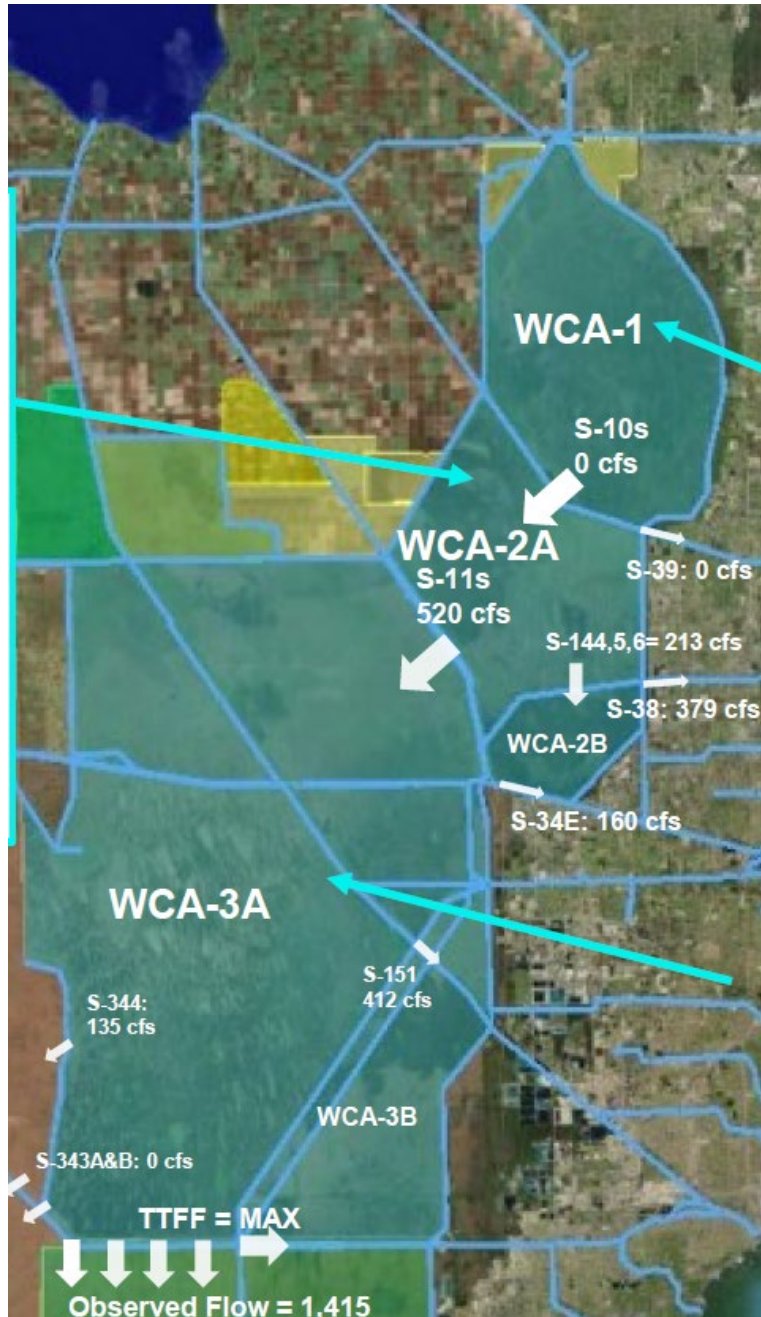
- Final EIS and System Operating Manual (SOM) completed to address review comments (January 2023)
- Final FWS Biological Opinion (BO) (COMPLETE)
- IEPR Completion, ATR Certification, South Atlantic Division (SAD) Review (September 2022– March 2023)
- Final National Marine Fisheries Service (NMFS) BO (September 29, 2023)

- Remaining Activities
- NMFS Consultation completed (March 2024)
 - NEPA public, agency, and tribal review of Final EIS and SOM
 - Corps SAD review and approval of Record of Decision (ROD)

DOCUMENTATION PROCESS



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SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM OPERATIONS COMBINED OPERATIONAL PLAN

Water Conservation Areas (WCAs), South Dade Conveyance System and Everglades National Park

- Current operations as of mid April 2024: Deliver Tamiami Trail Flow Formula target flow –maximum
- Temporary, Emergency deviation concluded on April 1, 2024.
- PDT working on a multi-year, planned deviation in response to requests from Miccosukee Tribe, SFWMD and FWC



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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	105,547	208,375	173,758	146,350	1,337,118
2023	115,477	79,869	54,672	51,472	63,929	98,634	145,097	158,969	172,580	196,770	147,163	157,341	1,441,973
2024	145,817	133,506	126,498	14,763									420,585

Note: All data is provisional.

*The latest monthly value may include an Incomplete Monthly Period of Record

LEGEND

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



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SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM | OPERATIONS CENTRAL EVERGLADES PLANNING PROJECT OPERATIONAL PLAN (INCREMENTAL)



PROJECT PURPOSE:

Redistribute Water Conservation Area 3A (WCA 3A) inflows to enhance flows into Everglades National Park (ENP).

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

STATUS:

- Development of first incremental operational plan underway, CEPP 1.0, implementation target 2026
- CEPP Increment 1.0 operations formulation analysis includes
 - CEPP South: S-333N Spillway, S-355W Spillway, L-67A Culverts, gap in L-67C levee, old Tamiami Trail removal 5.4miles
 - CEPP New Water: 8.5 Square Mile Area Seepage Barrier
 - CEPP EAA: A-2 STA grow in operations
- 12 Apr 24 Project Delivery Team (PDT) meeting held results of Round 1 modeling, development of Round 2 concepts ongoing, conditions-based operations
- Incorporation of Indigenous Knowledge (IK)
- USFWS Consultation underway
- Next step is Round 2 modeling

