# SOUTH FLORIDA ECOSYSTEM RESTORATION (SFER) PROGRAM

Program & Project Update SFER Task Force

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#### 29 October 2019



### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Purpose and Agenda

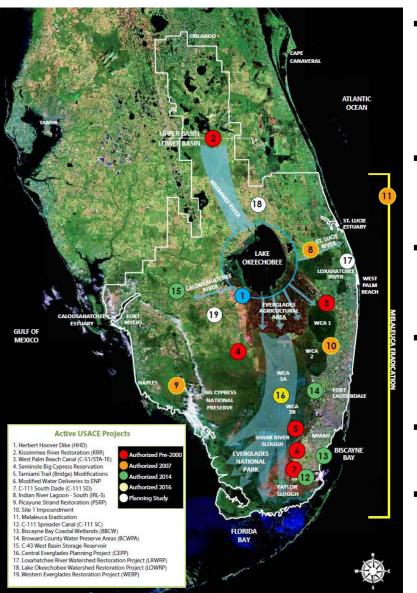
The purpose of this briefing is to provide participants with an overview and update on the status of the South Florida Ecosystem Restoration (SFER) program and projects.

### Agenda:

- 1) Program Overview
- 2) Project Status
- 3) FY20 Budget Review
- 4) Key Take Aways

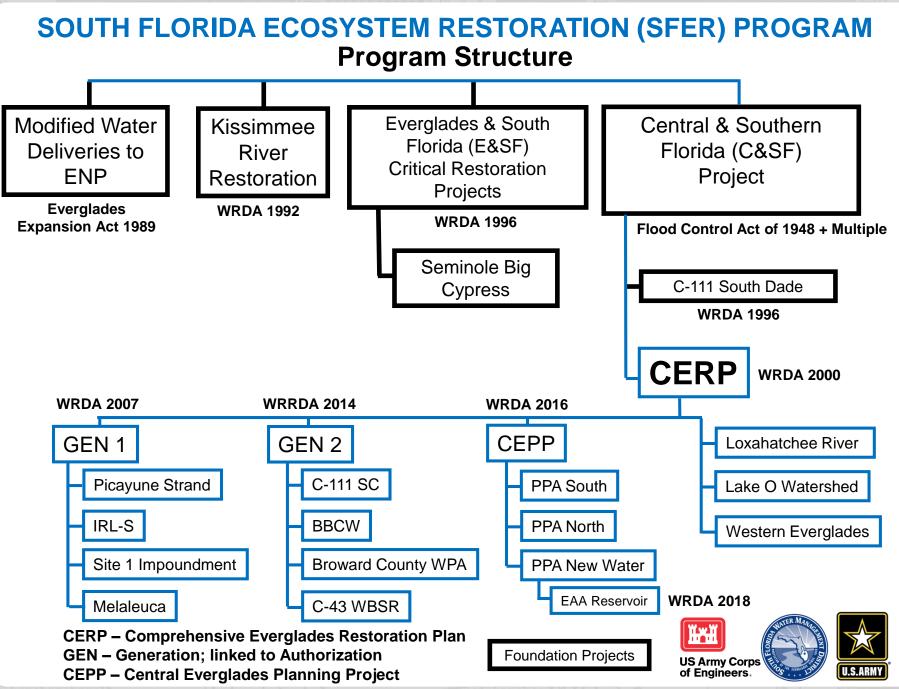


### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Program Overview

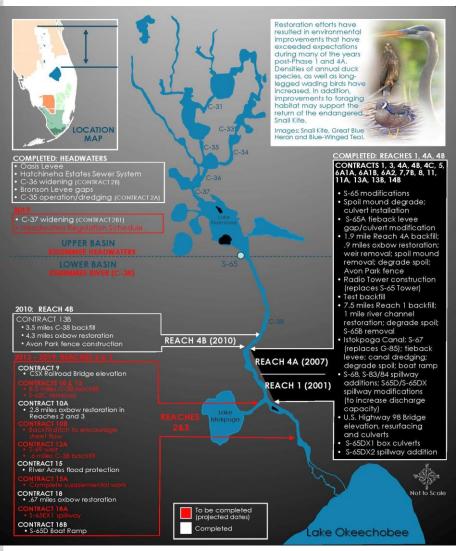


- Large-scale, watershed project area (Over 18,000 square miles), including Everglades & Dry Tortugas National Park, Biscayne National Park, Big Cypress National Preserve, Arthur R. Marshall Loxahatchee National Wildlife Refuge, and other Federal Lands
- Everglades National Park is an International Biosphere Reserve, a World Heritage Site, and a Ramsar Wetland of International Importance
- Improve the health of over 2.4 million acres of south Florida ecosystem, including Lake Okeechobee
- Flood Risk Management and Water Supply for over 8 Million residents; the largest metropolitan area in the southeastern U.S. in the 3rd largest state
- 70 Federally-listed threatened and endangered species
- Robust agricultural, recreational, and tourism industries





### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Kissimmee River Restoration



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 & reduce the impacts of high-volume discharges into the St. Lucie & Caloosahatchee estuaries.

#### Status:

- Completed Post Authorization Change Report (PACR) authorized in WRDA 2018
- Final construction contracts underway
  - S-69 Weir and Canal Backfill
  - Reach 3 Backfill
- Addressing impacts from 2017/2018 high water and Hurricane Irma
- Construction completion in 2020/2021; initiate 5-year post construction monitoring





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



Restores water deliveries to Northeast Shark River Slough in Everglades National Park

#### Total Project Benefits:

Storage, 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

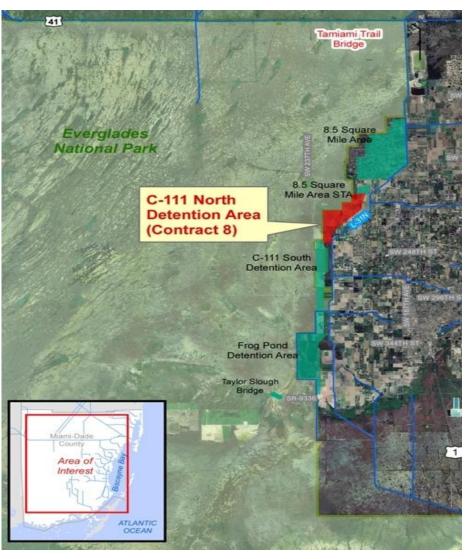
#### Status:

Construction complete May 2018!

Combined Operational Plan (COP) --Scheduled for completion summer 2020 --Progress and completion required to support CEPP implementation



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



Reduces water losses from Everglades National Park and improves freshwater flow to Taylor Slough and Florida Bay

Total Project Benefits:

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:

Completed construction of critical project features (June 2018); with balance of construction complete in fall 2019. Conducting post authorization change report to address temporary pump stations (WRDA 2020)





### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Comprehensive Everglades Restoration Plan (CERP)



#### 1<sup>st</sup> Generation

Site 1 Impoundment Indian River Lagoon – South (IRL-S) Picayune Strand Restoration Project Melaleuca Eradication and Other Exotic Plants

#### 2<sup>nd</sup> Generation

C-43 West Basin Storage Reservoir C-111 Spreader Canal Western Project Biscayne Bay Coastal Wetlands Broward County Water Preserve Area

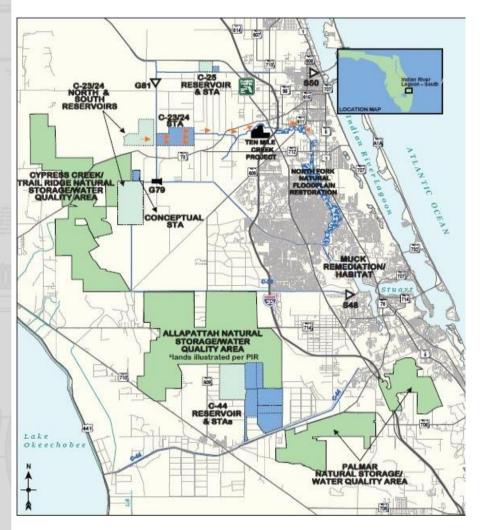
Central Everglades Planning Project --EAA Storage Reservoir

#### **CERP** Planning/Design

Loxahatchee River Watershed Restoration Lake Okeechobee Watershed Restoration Western Everglades Restoration



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



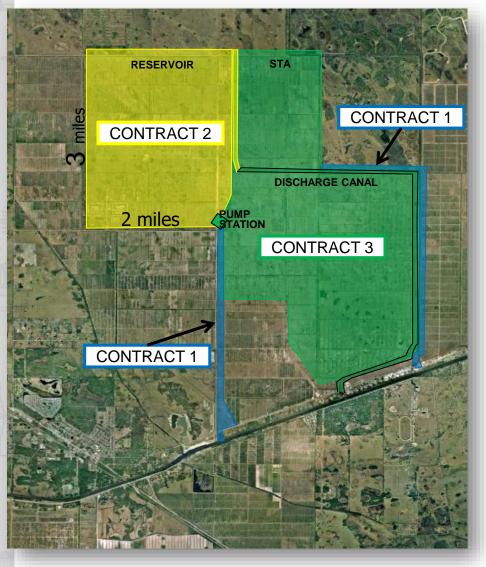
The Indian River Lagoon and St. Lucie Estuary in Martin County are two of the country's most productive and most threatened estuaries; the project will reconnect and restore natural area in the headwaters and improve water flow to the river

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



### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM CERP: Indian River Lagoon – South: C-44 Reservoir / STA

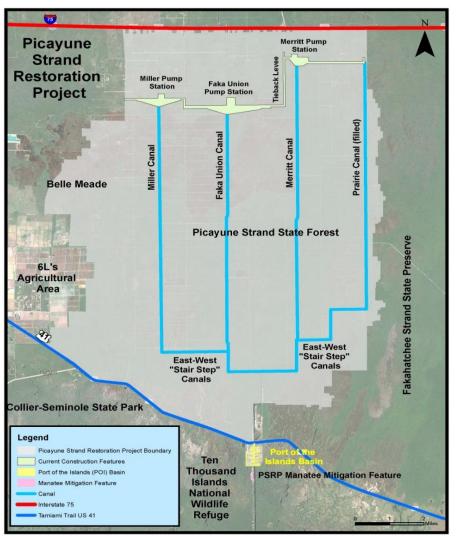


Purpose: Capture local run-off from the C-44 basin, reducing average annual total nutrient loads and improving salinity regimen for the St. Lucie Estuary and southern portion of the Indian River Lagoon.

Contract	Status	
CNT-1 (USACE) – Intake Canal	Complete	
CNT-2 (USACE) – Reservoir	Ongoing	
CNT-3 (SFWMD)		
System Discharge	Complete	
STA	Ongoing	
Pump Station	Complete	
OTMP (2-years) – Operational Testing and Monitoring	Following Construction Completion	



### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM CERP: Picayune Strand Restoration Project



The project will restore 55,000 acres of native Florida wetlands and uplands

Total Project Benefits:

- Conveyance of water which will restore natural habitat
- Three pump stations: Merritt, Faka Union, and Miller
- Plugging 48 miles of canals and removing/degrading 260 miles of roads
- Features to mitigate affects on manatees at the Port of the Islands Marina

- Miller Pump Station construction complete in May 2018; completing operational testing and monitoring period
- Design and construction of SW Protection Features



### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM CERP: Caloosahatchee River (C-43) West Basin Storage Reservoir



The project will help restore the natural flow of water to the Caloosahatchee River

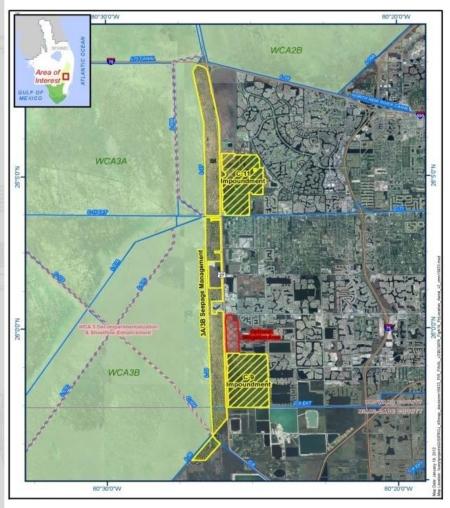
#### Total Project Benefits:

 170,000 acre-feet of storage that will capture & store basin stormwater runoff, along with a portion of water discharged from Lake Okeechobee, for release into the Caloosahatchee River and Estuary, as needed

- SFWMD is designing and constructing project
- Construction completion in 2023
- Post authorization change report to update Total Project Cost (WRDA 2020)



### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM CERP: Broward County Water Preserve Areas



The project will improve water quality; reduce seepage loss from the central Everglades, increase water supply, and reduce saltwater intrusion

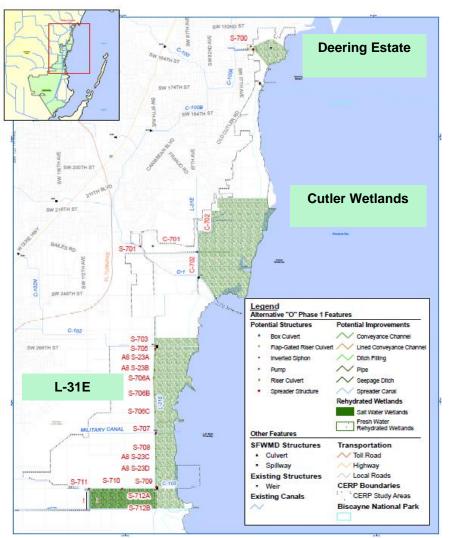
**Total Project Benefits:** 

- 10,800 acre-feet of storage and seepage management
- Reductions in seepage losses from Water Conservation Area 3
- Capture water lost to tide for redistribution and natural system deliveries

- Initial construction contract (Mitigation Area A Berm) completed in February 2019
- Design ongoing for the C-11 Impoundment



### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM CERP: Biscayne Bay Coastal Wetlands



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

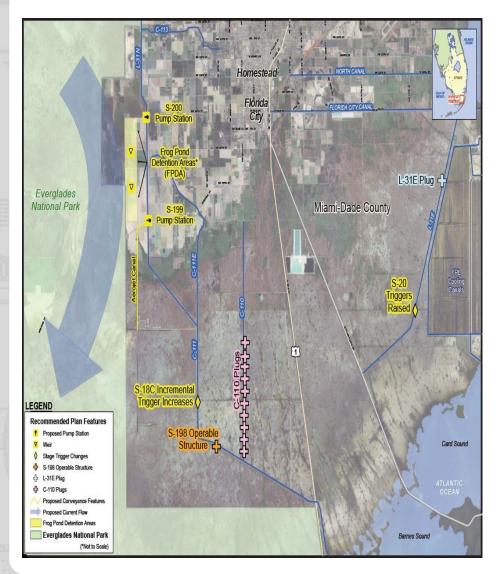
**Total Project Benefits:** 

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

- SFWMD completed Deering Estate and portions of the L-31 East culverts
- SFWMD constructing L-31 East components
- USACE design completion of final L-31 East components; construction contract award in 2020
- SFWMD designing Cutler Wetlands with construction initiation in 2020



### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM CERP: C-111 Spreader Canal Western Project



The project will reduce water loss from Taylor Slough and increase freshwater flow to Florida Bay

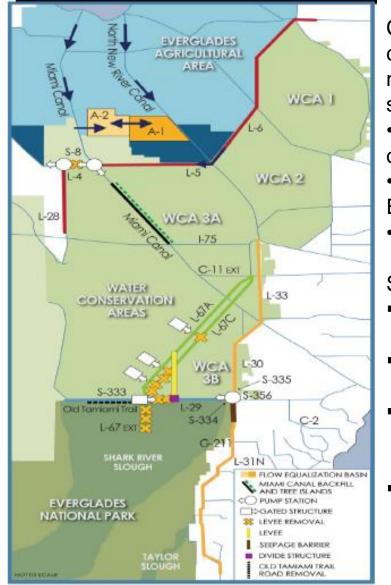
#### **Total Project Benefits:**

 590 acres of conveyance and storage that will reduce seepage losses from Everglades National Park, provide increased flows to Florida Bay, and restore near-shore habitat conditions for colonies of wading birds

- SFWMD completed construction of main project features
- Project operations and monitoring ongoing



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



CEPP is the next increment of project components that focus 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

• Retaining water within Everglades National Park

#### Status:

- CEPP South Validation approved May 2019; preparing PPA for execution in 2020
- SFWMD engaging design and construction of CEPP South Features; SAJ design ongoing
- EAA Reservoir (Section 203) authorized by WRDA 2018 as a part of CEPP New Water; completing Section 203 Follow-up Report COP progress and completion required for

implementation



#### Loxahatchee River Watershed Restoration Project

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 wetlands and watersheds that form the historic headwaters for the river and its tributaries. Study completion = March 2020 (WRDA 2020)

#### Lake Okeechobee Watershed Restoration Project

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 functionality of wetlands. Study completion = May 2020 (WRDA 2020)

More detailed presentations later in the agenda.



#### Termination of Western Everglades Restoration Project (WERP)

**Study Objective:** 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.

#### Origins

- Tribal concerns in the Western Basins as part of CERP in response to Central Everglades Planning Project (CEPP, 2014)
- Task Force engagement on Western Basins in May 2013, November 2014, and June 2016
- USACE and SFWMD initiated the Western Everglades Restoration Project (WERP) on August 9, 2016



LAKE OKEECHOBEE

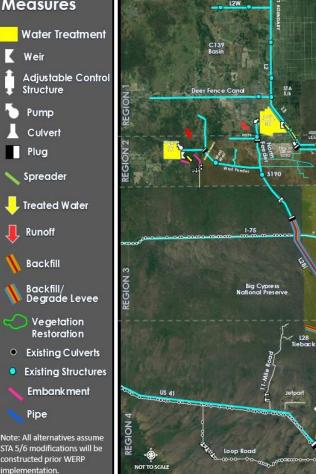
WCA-3



Seminole Tribe of Florida Reservation

Miccosukee Tribe of Indians of Florida Reservations

#### Measures



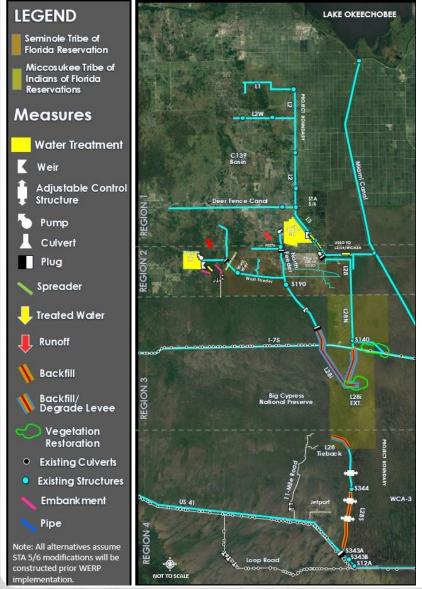
**Timeline** 

- Granted waiver (4 vs 3 years) due to complexity
- Scoping, Kick-Off and Tribal Consultation (G2G), began - August 2016
  - Identified Problems and Opportunities
- Collected Data, Developed 3 alternatives •
- Conducted over 100 Team (PDT) meetings •
- 38 G2G meetings including 2 meetings with Tribal communities
- Weighed and measured alternative plans, • discussed with Tribes and PDT

 $\rightarrow$  Developed 4<sup>th</sup> Alternative (Hybrid) Plan

- Preliminary Plan developed in JUL/AUG 2019. Conducted additional G2G
- Rough Order Magnitude Cost \$1.05B





## Challenges

- 1) Property within Big Cypress National Preserve (BCNP)
- Plan will increase hydroperiods within BCNP directly impacting property

#### 2) Storm Treatment Areas

Location limitations

#### 3) Water Quality

- Distance (15-20 miles) from areas of most stringent
  WQ criteria
- Level of treatment

#### Lack of Consensus = Study Termination



### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM FY20 Budget Review

CONSTRUCTION	
Non-CERP	
Canal 111 (C-111) South Dade	\$ 200,000
Kissimmee River Restoration (KRR)	\$ 1,000,000
Non-CERP Subtotal	\$ 1,200,000
CERP	
CERP - Caloosahatchee River (C-43) West Basin Storage Reservoir	\$ 1,800,000
CERP - Indian River Lagoon South (IRL-S)	\$ 27,500,000
CERP - Picayune Strand Restoration Project (PSRP)	\$ 38,100,000
CERP - Biscayne Bay Coastal Wetlands (BBCW)	\$ 38,600,000
CERP - Broward County Water Preserve Areas (BCWPA)	\$ 11,000,000
CERP - Central Everglades Planning Project (CEPP)	\$ 70,845,000
CERP - CERP Design: BBCW Phase 2	\$ 2,500,000
CERP - CERP Program Management	\$ 8,455,000
CERP Subtotal	\$ 198,800,000
CONSTRUCTION TOTAL	\$ 200,000,000
OPERATIONS & MAINTENANCE	\$ 5,454,000



### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Integrated Delivery Schedule (IDS)

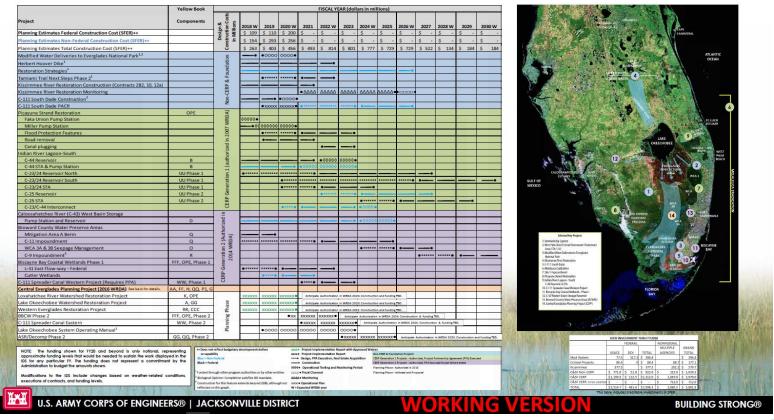
#### INTEGRATED DELIVERY SCHEDULE – A RESTORATION PROGRAM SNAPSHOT THROUGH 2030

SEPTEMBER 2019 UPDATE

The Comprehensive Everglades Restoration Plan (CERP) focuses on the "getting the water right." CERP—the largest aquatic ecosystem restoration effort in the nation, spanning over 18,000 square miles—is designed to improve the health of more than 2.4 million acres. CERP is a part of the South Florida Ecosystem Restoration (SFER) program, which also includes Modified Water Deliveries to Everglades National Park, Critical Projects, Kissimmee River Restoration, and non-CERP Central and Southern Flood (C&SF) projects.

The Integrated Delivery Schedule (IDS) is a forward-looking snapshot of upcoming design and construction schedules and programmatic costs at a "top" line level—it does not include costs for completed work or land acquisition. The IDS reflects the sequencing strategy for planning, design, and construction. The IDS does not require an agency action or a decision-makers—a living document that is updated as needed to reflect progress and/or program changes. The IDS synchronizes program and project priorities with the State of Florida and achieves the CRP restoration objectives at the activities and the interdependencies between project components.

All Everglades restoration-related projects upon which the CERP is dependent—such as the Herbert Hoover Dike, the Modified Water Deliveries to Everglades National Park, Tamiami Trail Next Steps bridging, and the Restoration Strategies projects—are reflected in the IDS schedule, but are not included in the funding scenario. These projects are funded through other program authorities or by other entities. Restoration projects by others are also not included, but are considered during planning.





### SOUTH FLORIDA ECOSYSTEM RESTORATION PROGRAM Key Take Aways

Strong Federal Interest & Strategic Partnerships

Continued progress in all phases: planning, design, construction, operations & maintenance

Continued Administration and Congressional Funding

www.evergladesrestoration.gov



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