Everglades Restoration Update

SW Florida Regional Planning Council, December 15, 2022

Phil Flood, South Florida Water Management District

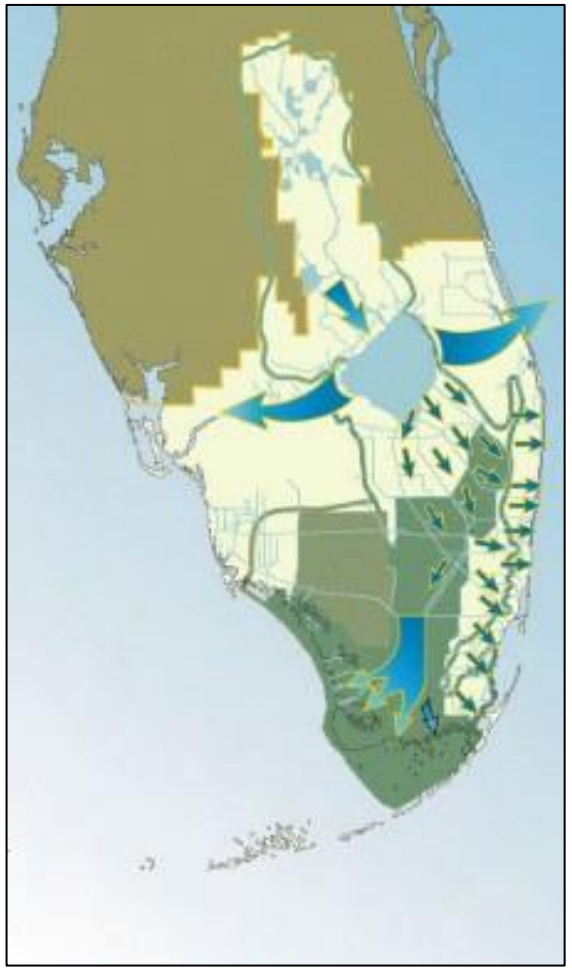
C&SF Dramatically Impacted Lake Okeechobee, Estuaries and Entire Everglades

- C&SF eliminate much of the historic floodplain storage
- Altered estuaries
- Disruption in conditions of water flow
- Water quality impacts
- 68 Federally listed threatened and endangered species

Blue-green algae in estuary

Everglade snail kite

Historic Everglades Flow

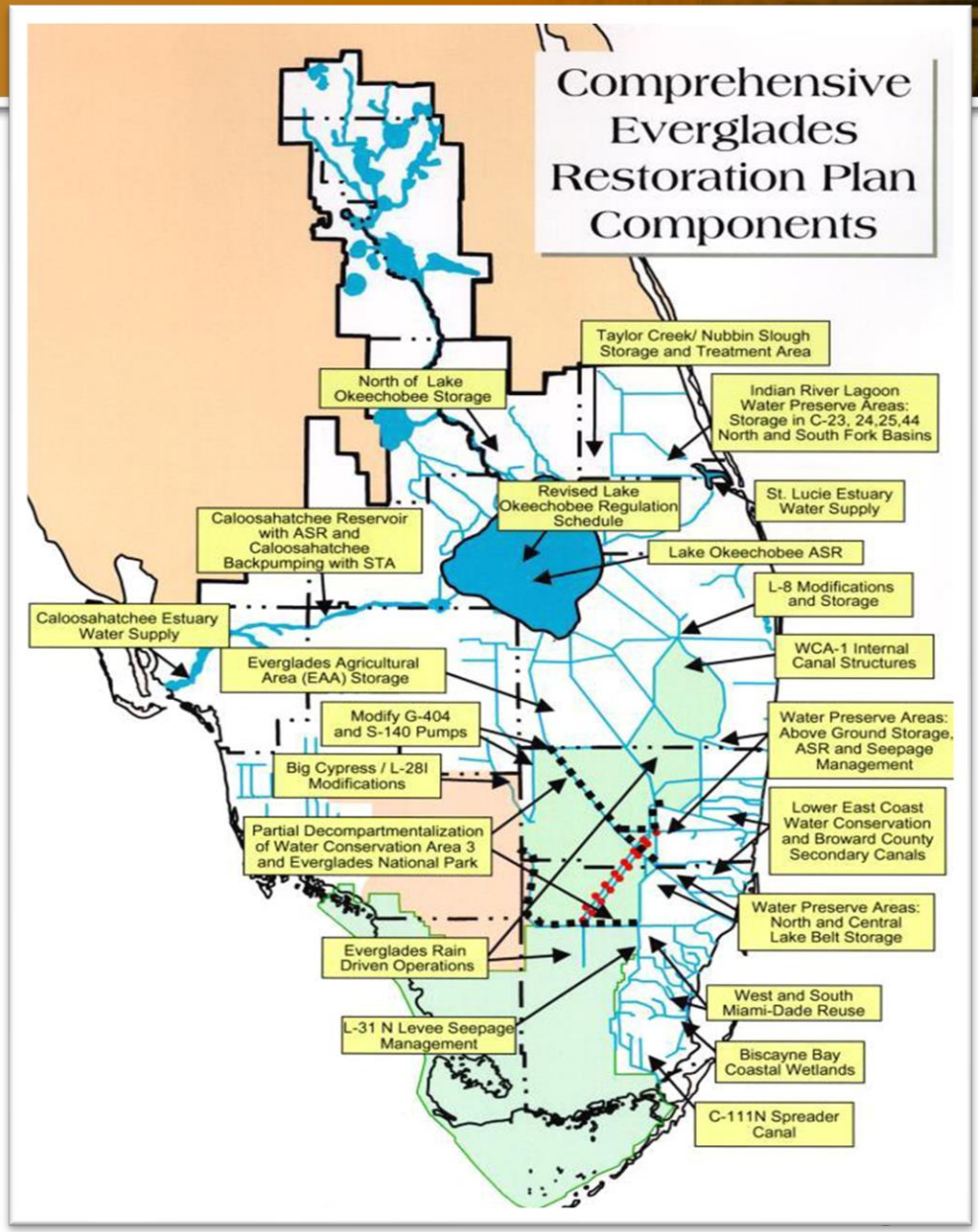


Current Everglades Flow

Comprehensive Everglades Restoration Plan

Authorized by Congress in 2000 to restore, preserve and protect the south Florida ecosystem

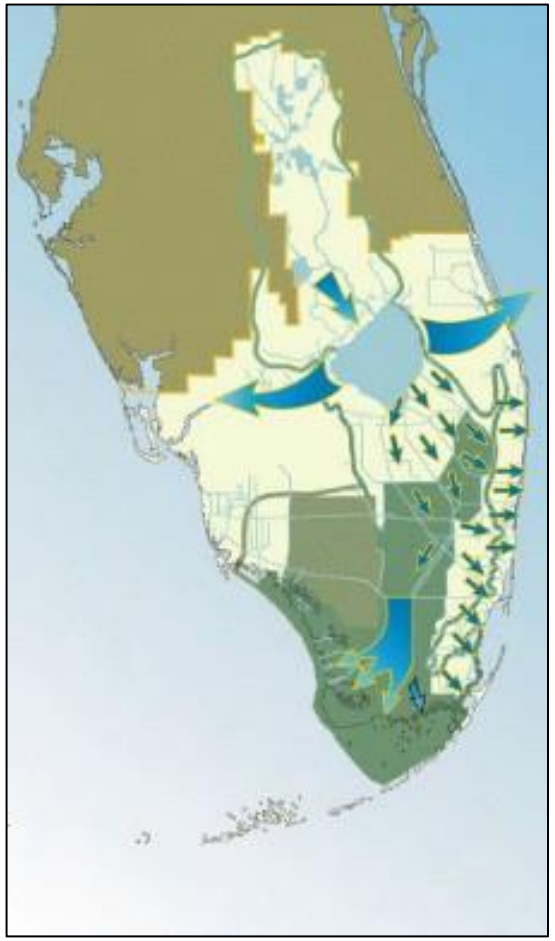
- 50-50 state-federal partnership
- Restore and improve quality, quantity, timing and flow of water
- Provide sustainable water supply to meet environmental, agricultural and urban needs
- Includes 68 components to be implemented



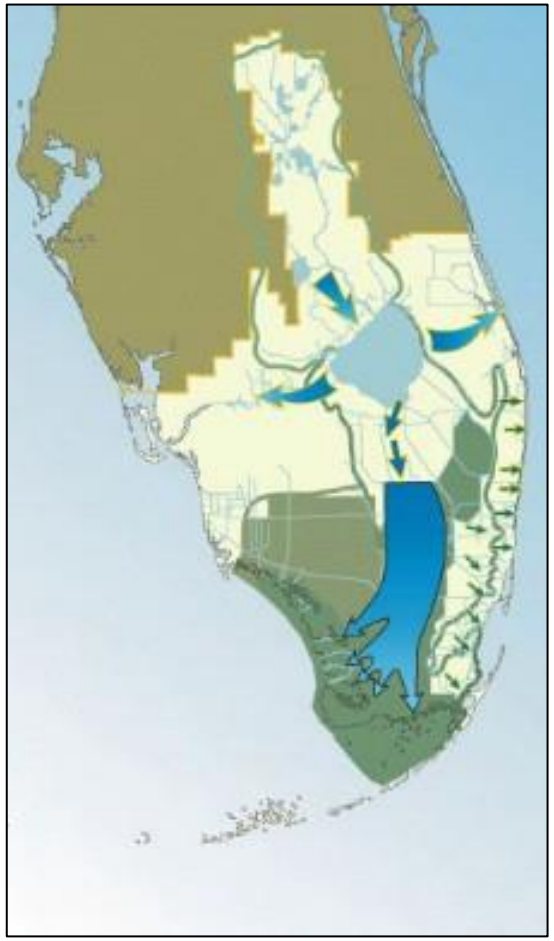
Comprehensive Everglades Restoration Plan Components

Components include:

- Wetland restoration
- Storage reservoirs
- Stormwater treatment areas
- Seepage management
- Aquifer storage and recovery (ASR)
- Waste-water reuse
- Removing barriers to sheetflow
- Operational changes



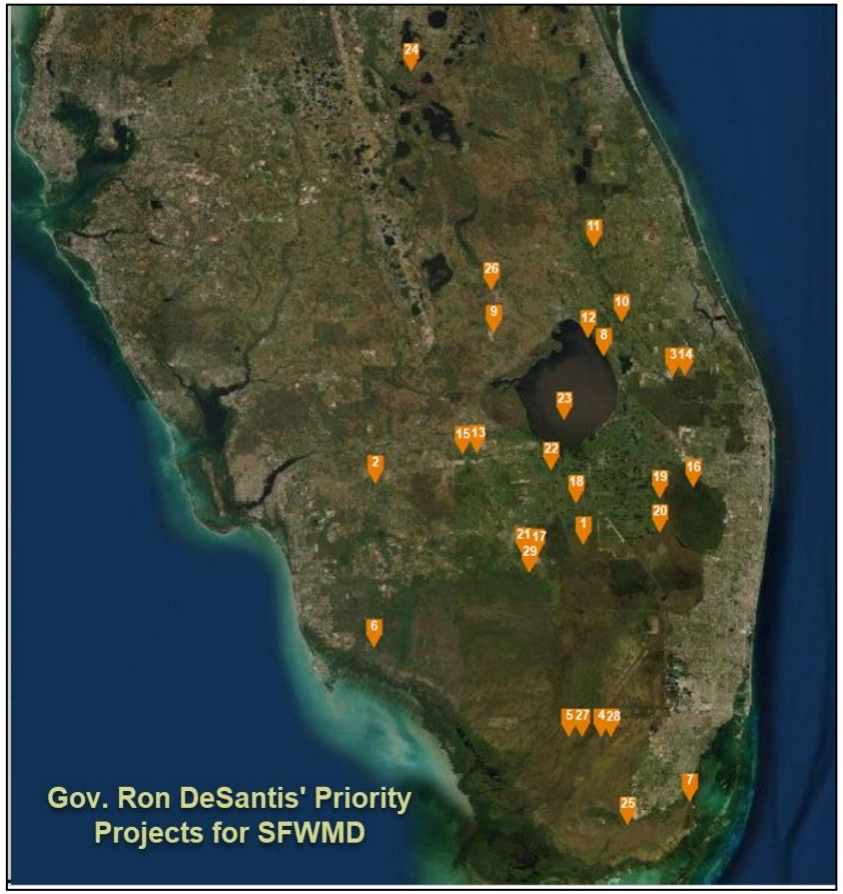
Current
Everglades Flow



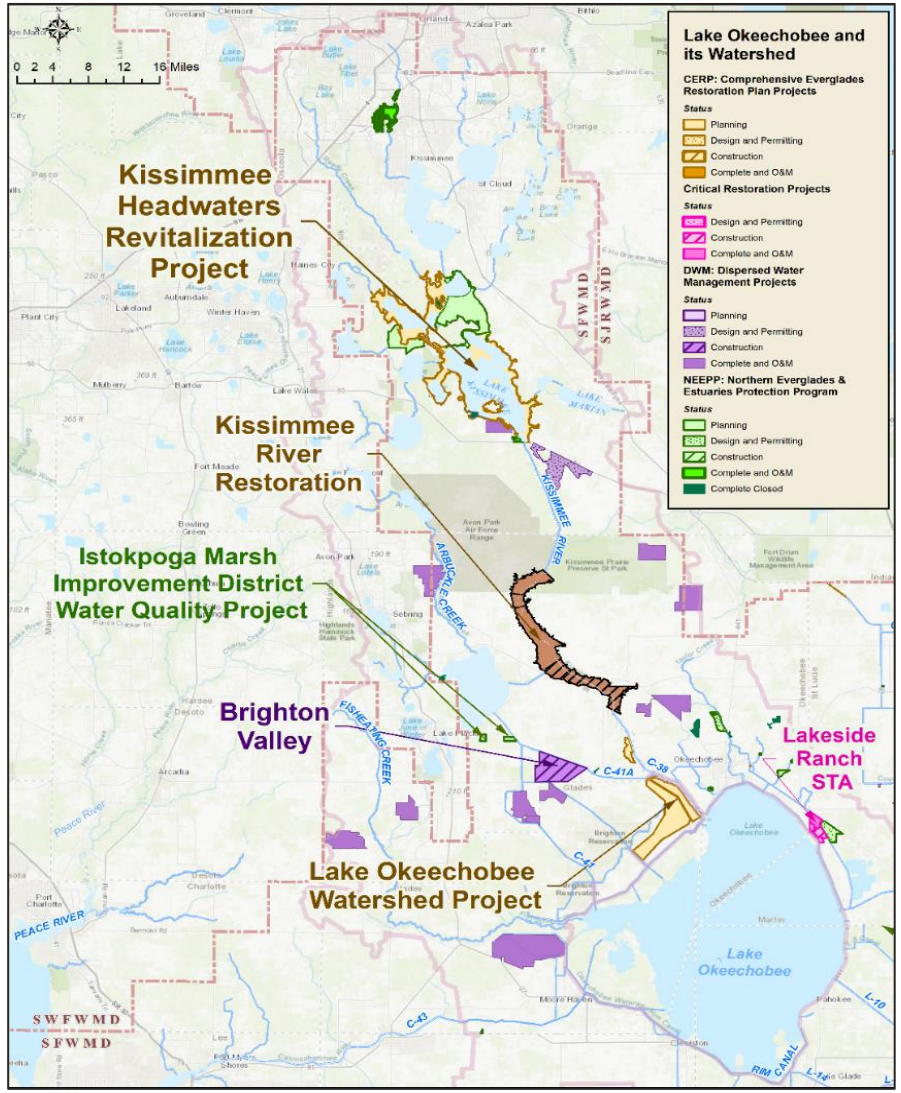
Restored
Everglades Flow

Governor DeSantis' Executive Order and 29 Priority Restoration Projects

Expedite projects to restore the Everglades and improve water quality



Lake Okeechobee & Watershed

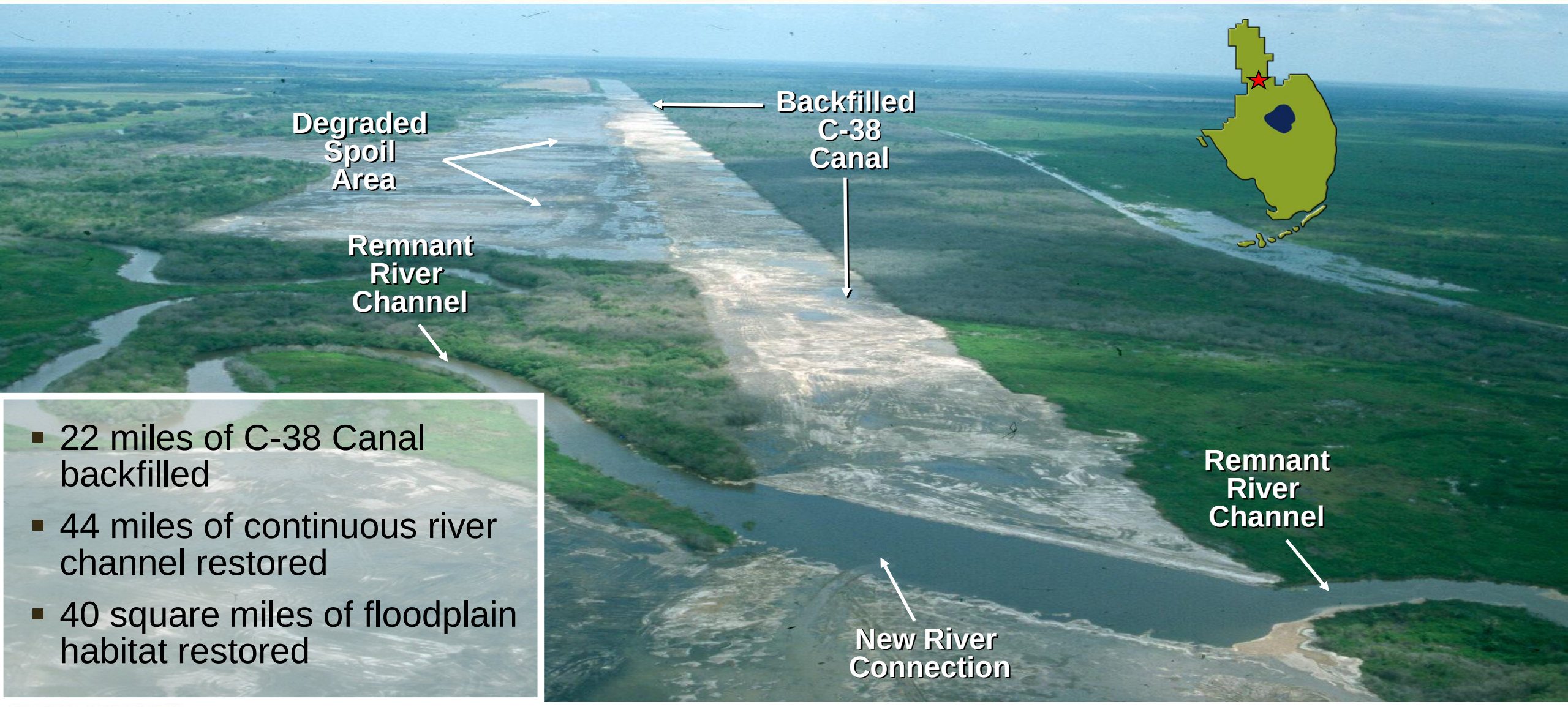


- Kissimmee River Restoration
- Lake Okeechobee Watershed Restoration Project
- Dispersed Water Management public-private partnerships
- Lakeside Ranch Stormwater Treatment Area

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Kissimmee River Restoration Project

Canal Backfilling Complete



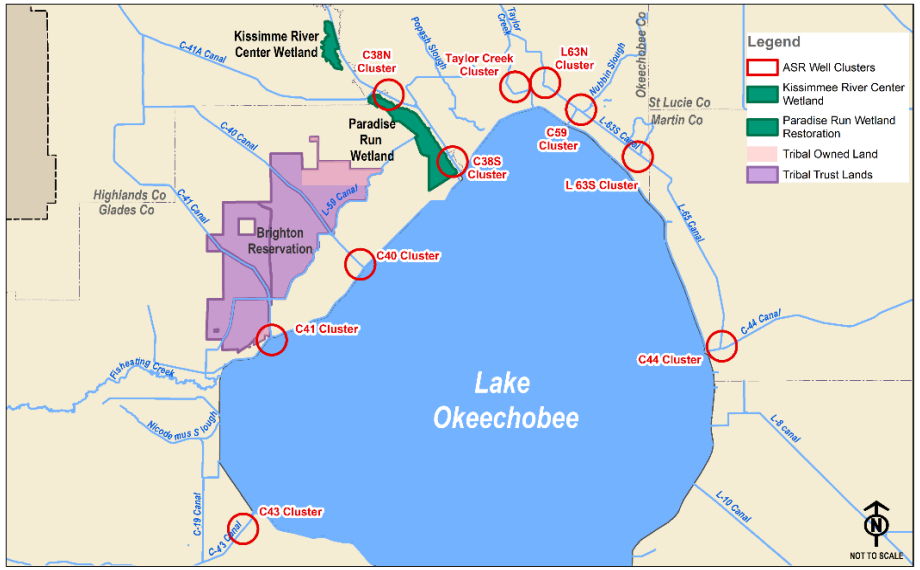
- 22 miles of C-38 Canal backfilled
- 44 miles of continuous river channel restored
- 40 square miles of floodplain habitat restored

Kissimmee River Restoration

Kissimmee River
Pre-Restoration Construction

Kissimmee River
Post-Construction Changes

Lake Okeechobee Watershed Restoration Project



Project Objectives

- Increase water storage & improve Lake Okeechobee water levels
- Improve quantity and timing of discharges to the Estuaries
- Restore wetlands
- Improve water supply

Aquifer storage and recovery

- 55 ASR wells
- 308,000 ac-ft of storage per year

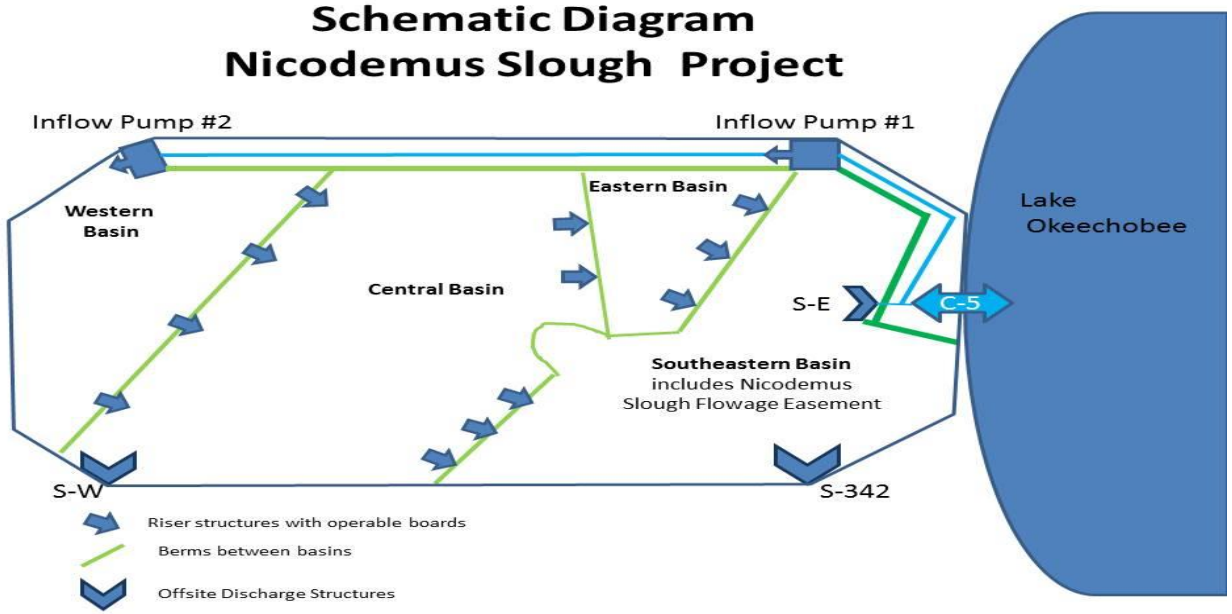
Wetland restoration

- Paradise Run ~4,700 acres
- Kissimmee River Center ~1,200 acres

Nicodemus Slough Water Storage Project

10-year, $35.5m contract with Lykes Brothers

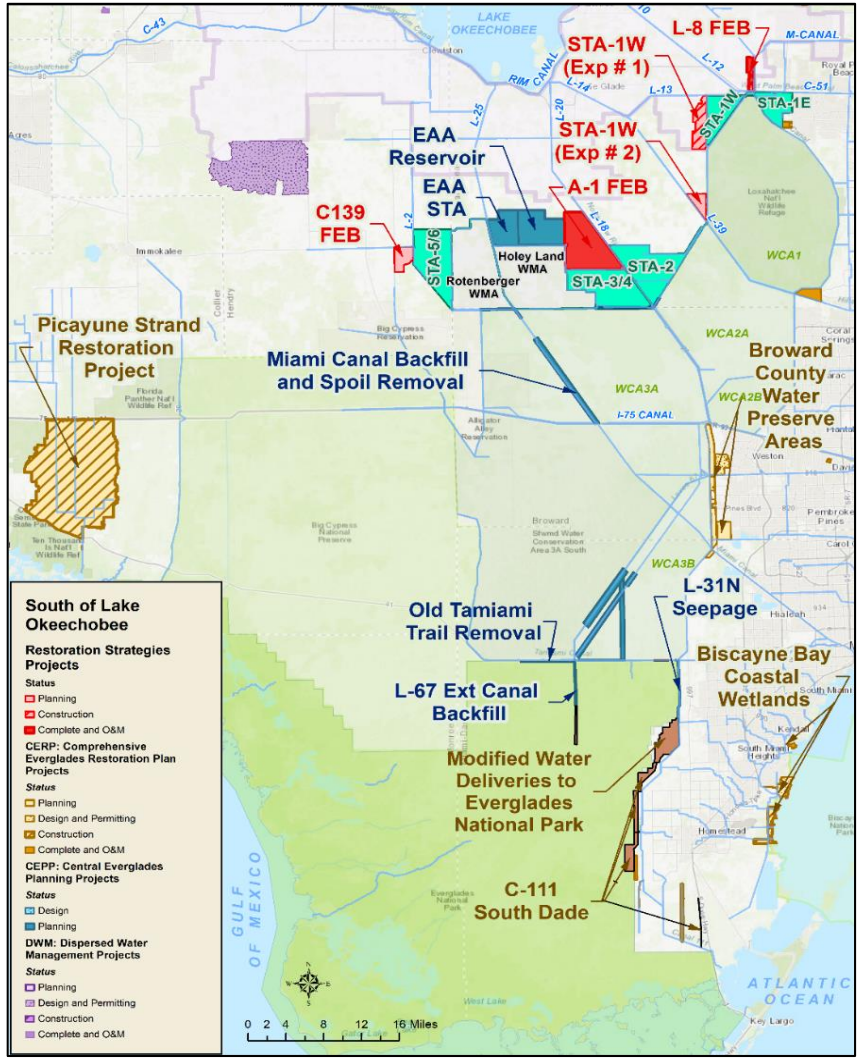
- Operational since Jan. 2015, renewed Nov. 2022
- 34,000 acre-feet of storage
- 2 metric tons Phosphorus removed annually
- 37 metric tons Nitrogen removed annually



South of Lake Okeechobee

Dozens of projects underway to send more water south

- EAA Reservoir and STA
- Restoration Strategies
- Tamiami Trail
- Picayune Strand Restoration Project



Everglades Agricultural Area Storage Reservoir

Reservoir

- 10,500 acres
- 240,000 acre-foot of storage
- 23 feet deep

Stormwater Treatment Area

- 6,500 acres
- Under construction

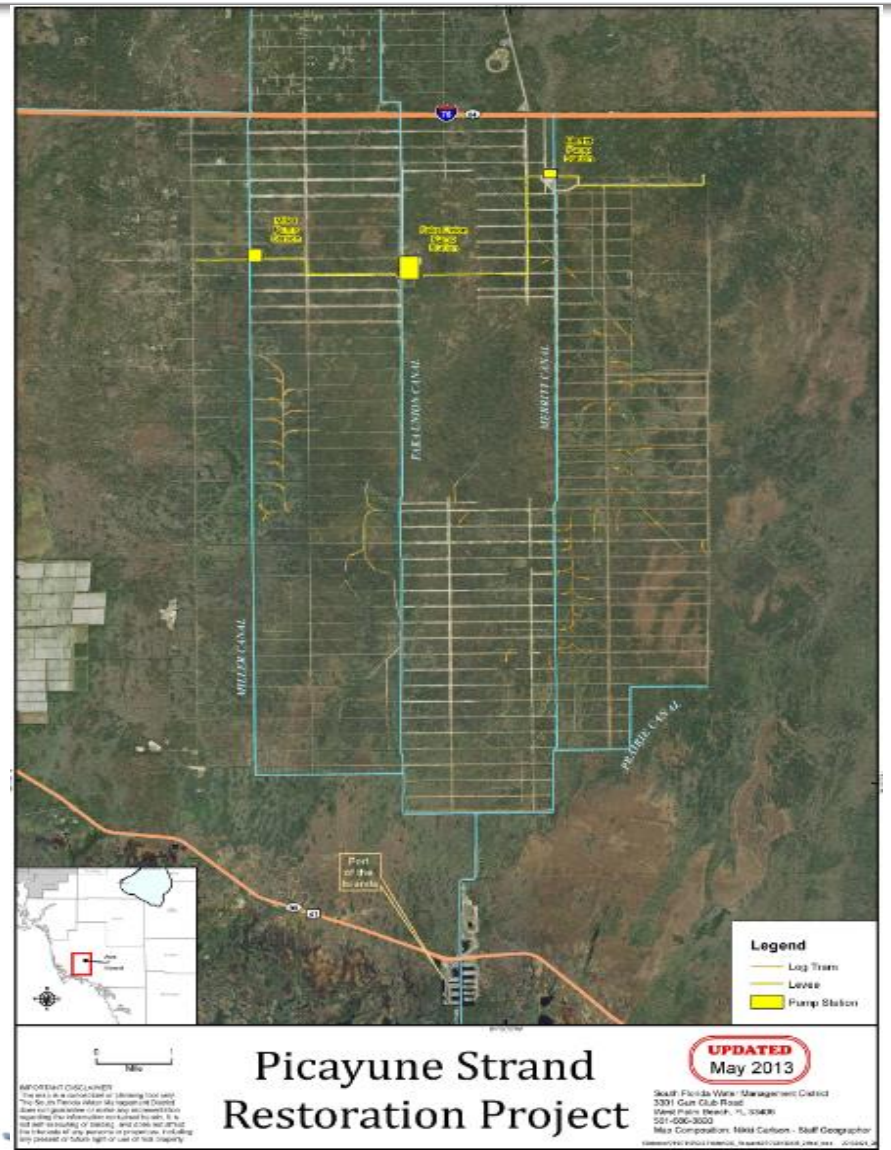
District building STA and conveyance canals

- Completion scheduled 2023

Corps designing and building Reservoir

- Completion scheduled 2029

Picayune Strand Restoration Project



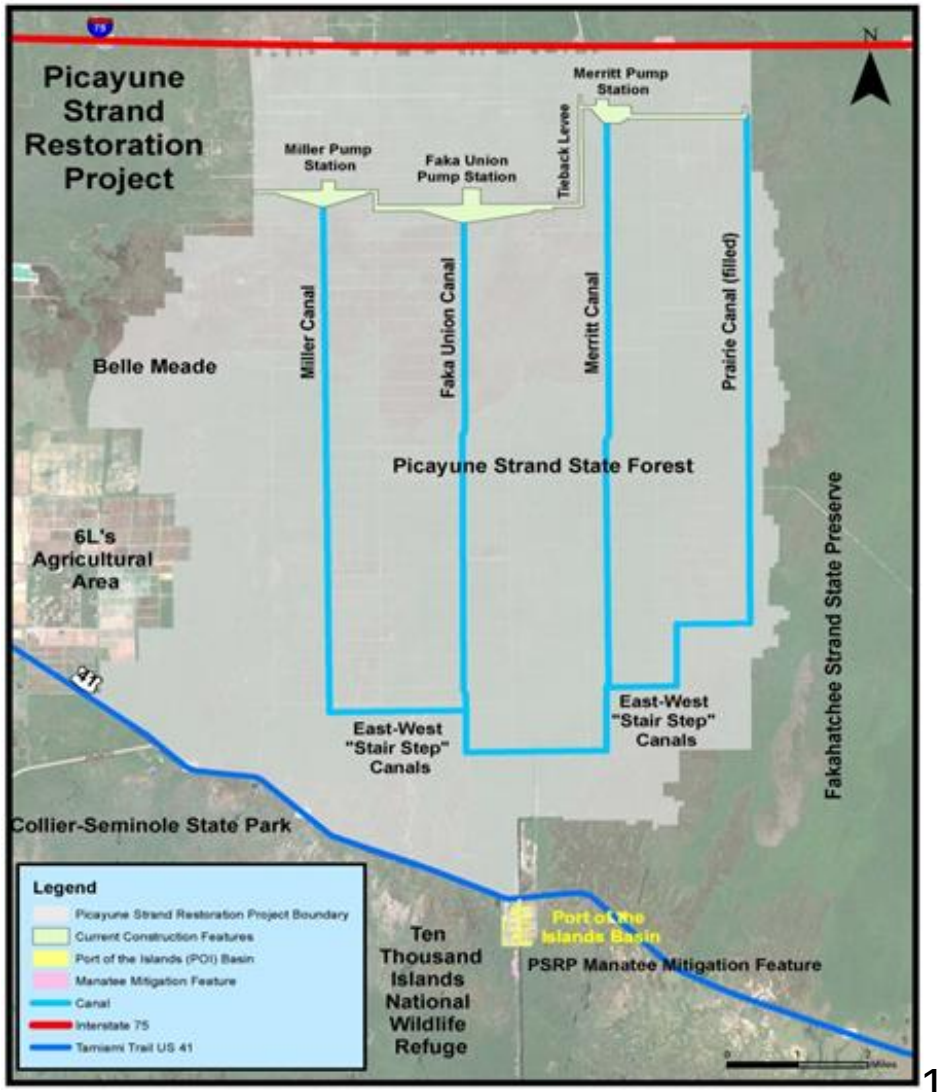
PSRP Restores:

- Over 55,000 acres of native Florida wetlands and uplands
- Pre-drainage watershed flow pattern to a sheet flow condition
- Increases groundwater levels
- Habitat for endangered/threatened species (panther, wood stork)
- Improves water quality of coastal estuaries by moderating the large salinity fluctuations caused by point source discharge of canals
- Provides for better fire management

Picayune Strand Restoration Project

- Faka Union and Merritt Pump Stations operating for restoration flows
- Southwest Protection Feature – 2024
- Project Complete – 2025

Rehydrated wetlands at Picayune Strand State Forest

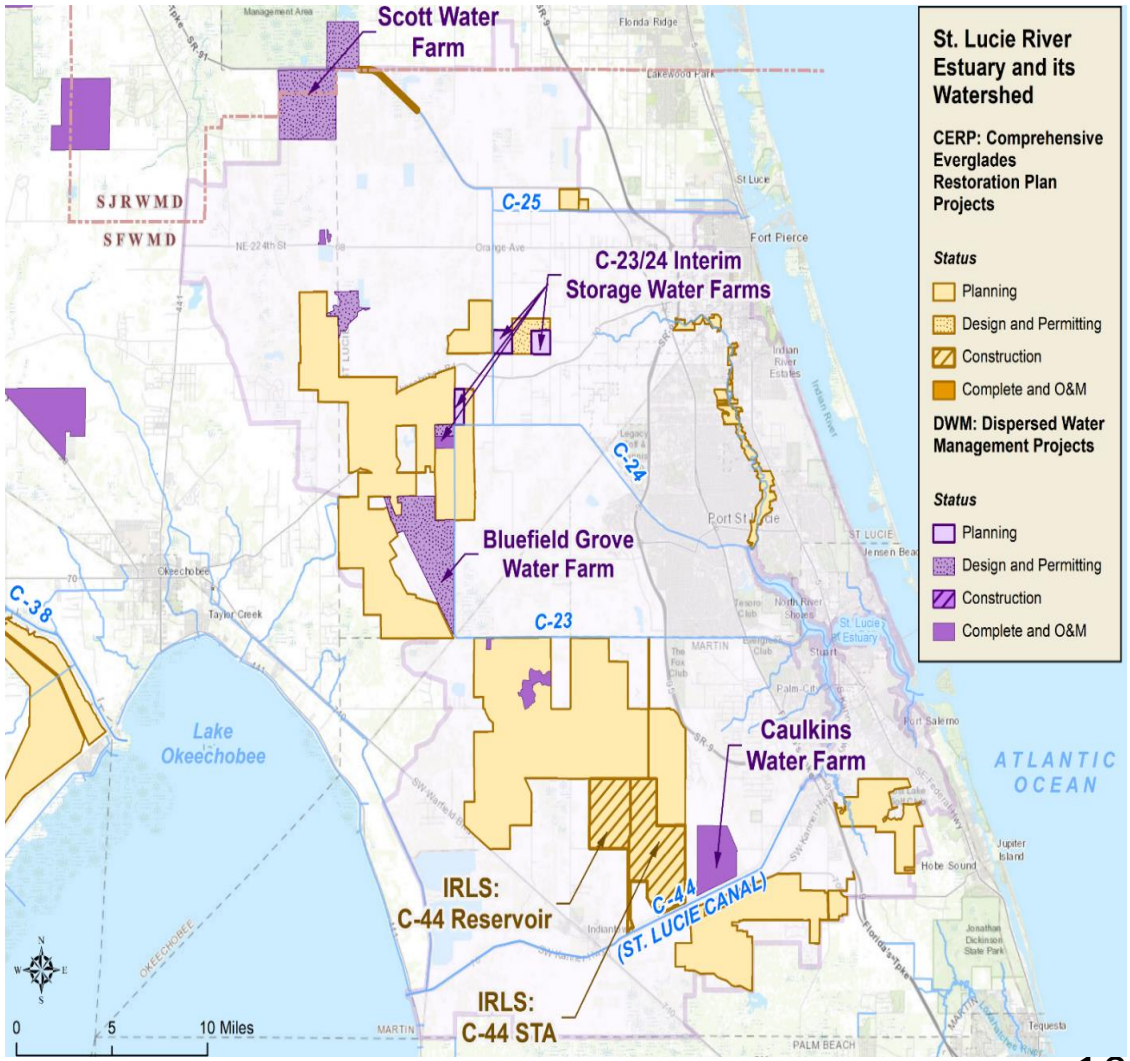


PSRP Successes

- Evidence of restoration in the Prairie Canal restoration area
- Panther sightings
- Increase in bird population
- Exotic species control

St. Lucie Estuary

- C-44 Reservoir and STA
- Caulkins Water Farm



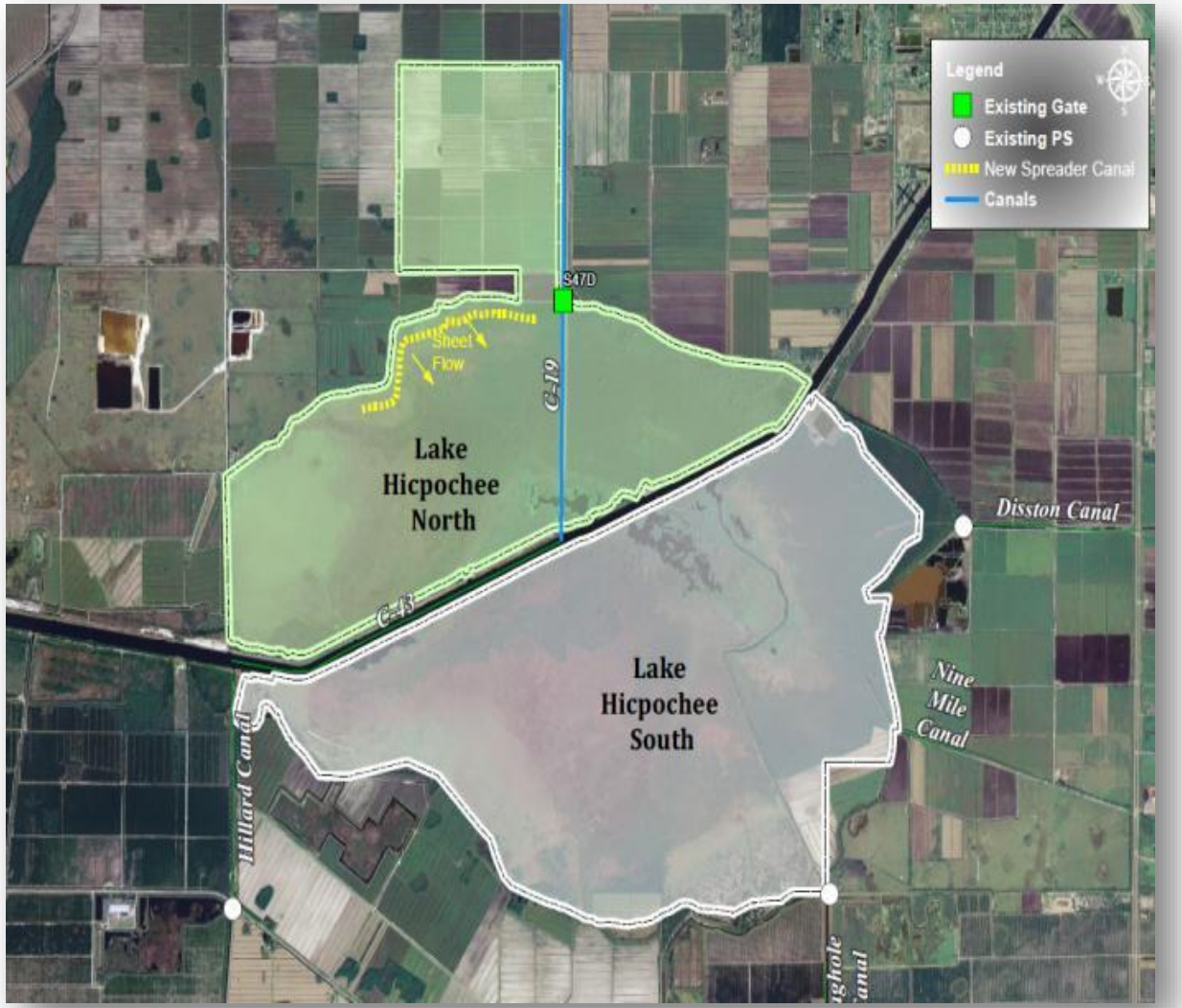
Caloosahatchee River & Estuary

- Caloosahatchee Reservoir
- Caloosahatchee Reservoir Water Quality Feature
- Lake Hicpochee Hydrologic Enhancement

Lake Hicpochee Hydrologic Enhancement Project

Shallow water storage and hydrologic enhancement of northwest portions of headwaters of Caloosahatchee River

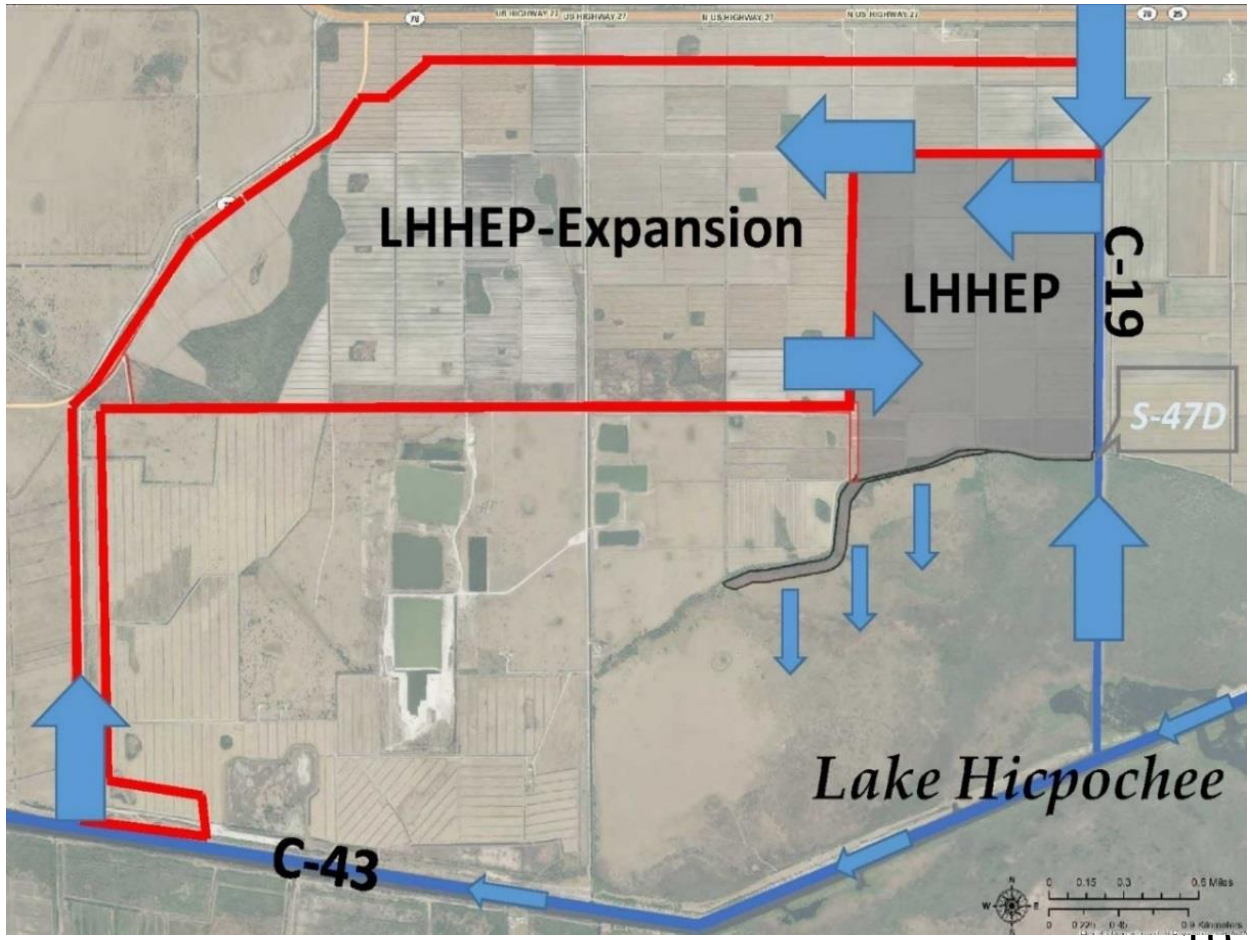
- Operational since November 2019
- Inflows from the C-19 Canal
- 721-acre FEB
- 150 cfs pump station
- 6,500 feet spreader canal
- 1,279 acre-feet of storage



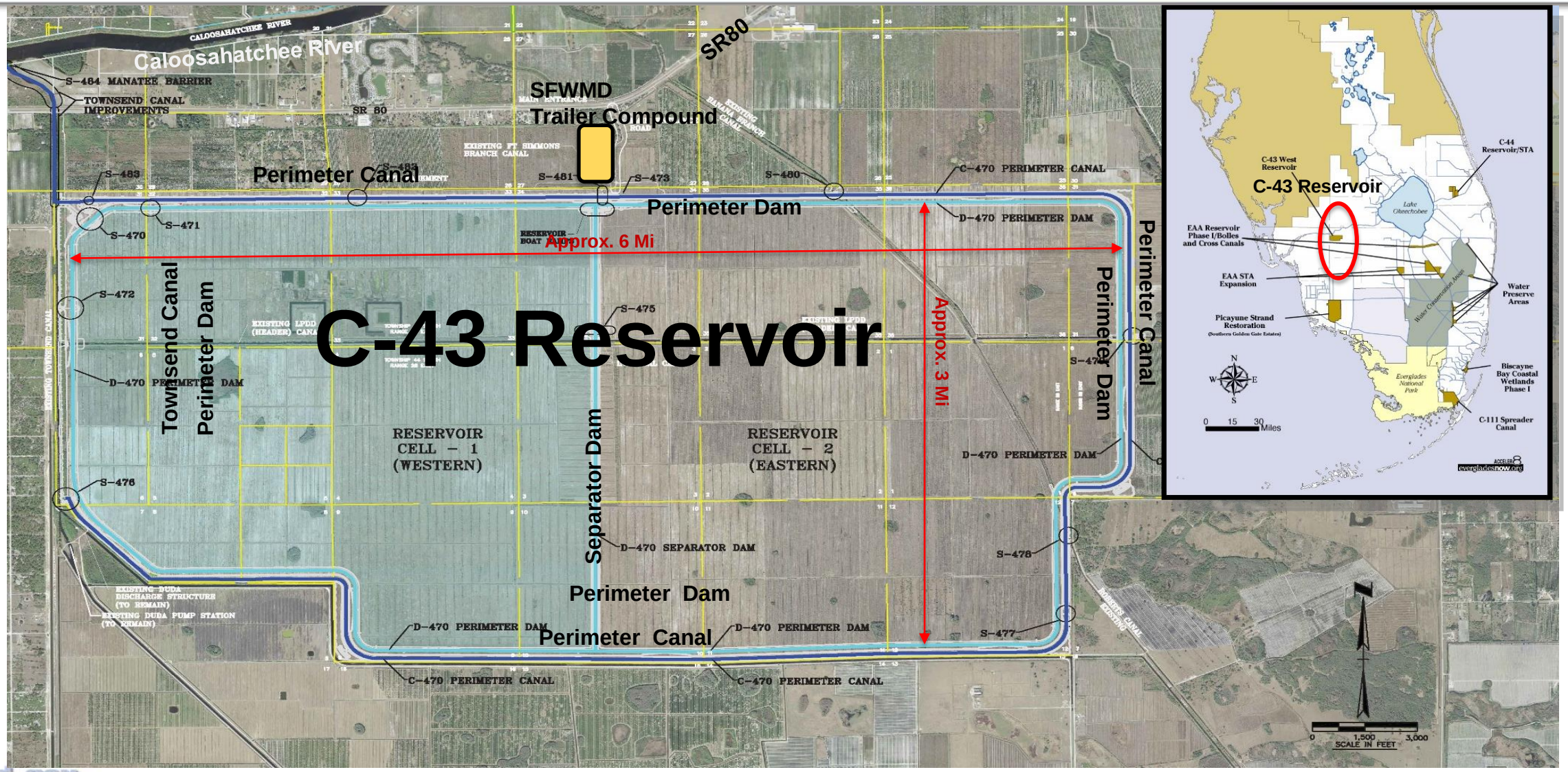
Lake Hicpochee Hydrologic Enhancement Project Expansion

Expand existing project to provide additional water storage to benefit Caloosahatchee River and Estuary

- Acquisition of 2,510 acres
- 9,000 acre-feet of additional storage
- Will provide additional storage, enhance ecological function, and aid in reducing nutrient loading into Caloosahatchee River
- Design completion December 2023
- Construction completion December 2025

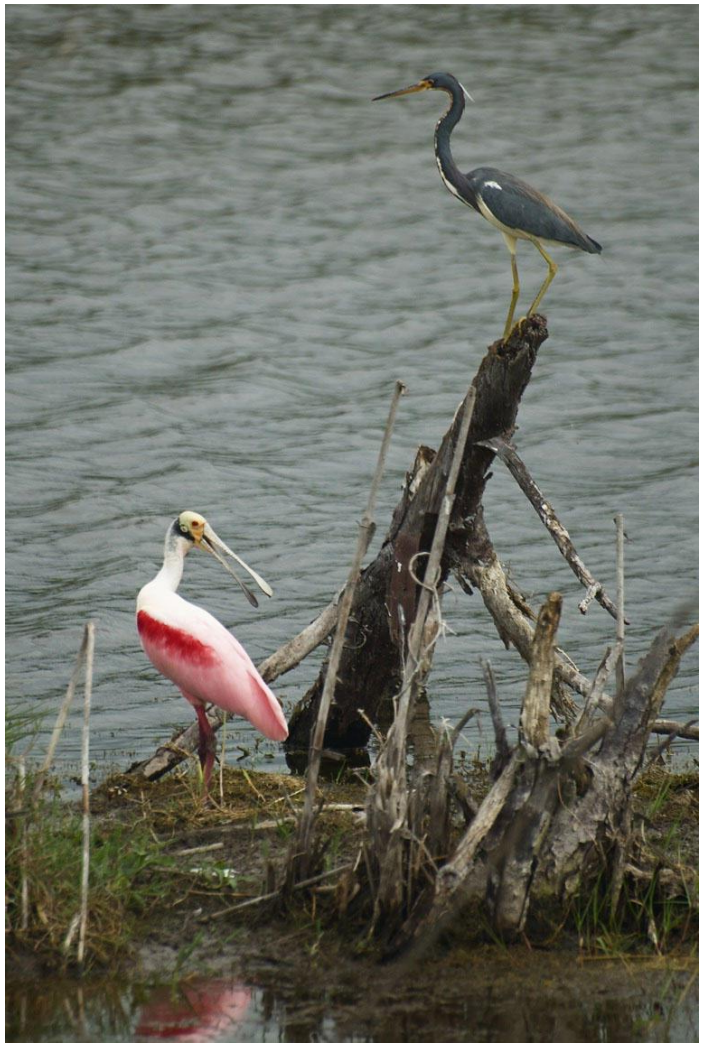


C-43 Caloosahatchee Reservoir



C-43 Reservoir Project Purpose

- **Capture excess basin runoff and Lake Okeechobee releases.**
- **Improve timing and quantity of freshwater flows to the Caloosahatchee Estuary, to help maintain proper salinity levels.**



C-43 Reservoir Project Components

- 10,500 Acres (2 Cells)
- 19± Miles of Dam Embankment
- 15± Miles of Perimeter Canal
- 14 Major Water Control Structures
- 2 Pump Stations
- Recreation Features
- 51± Acres of Littoral Zones
- Townsend Canal Improvements

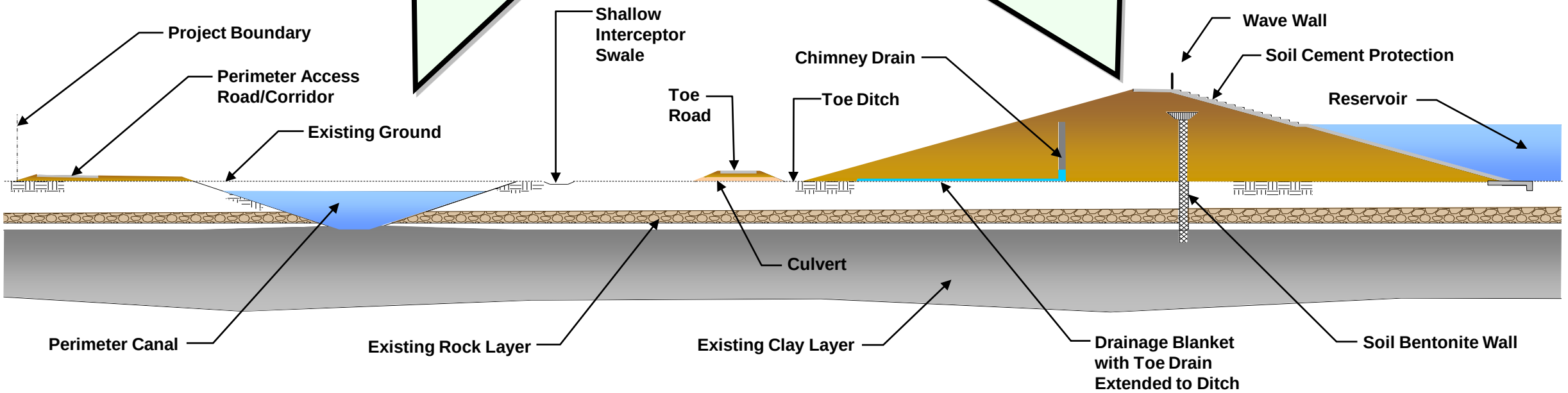
Package 4 - Dam and Canal

Perimeter Canal

- Approximate 110’ top width
- Varying bottom width
- Varying bottom elevation
- Length: 15+/- Miles
- Excavation Volume: 3+M CY

Earth Dam

- Dam Height: 27 - 38 Feet
- Length: 16+/- Miles (Excludes Separator Dam)
- Crest Width: 14+ feet
- Water Depth: 15 - 25 Feet
- Embankment Volume: 16+M CY
- Soil-Bentonite Wall: 4+M SF
- Grassing: 600 +/- AC
- Soil Cement: 980K CY



C-43 Reservoir Project Timeline

2000: Planning Completed
2008: Designed & Permitted
2013: Authorized by Congress
2015: State begins construction
2024: Scheduled Completion

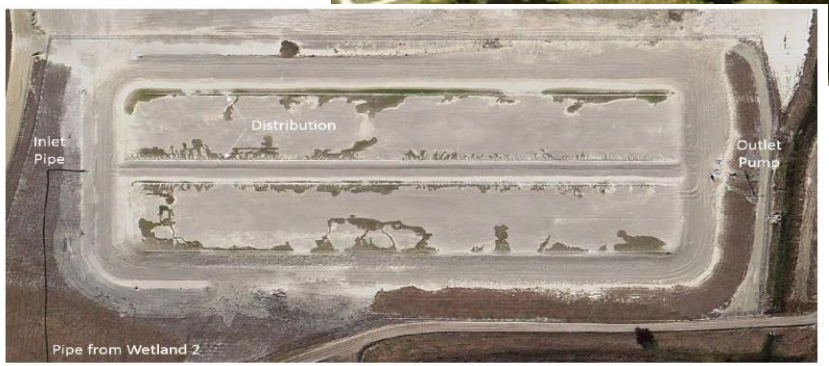
Caloosahatchee Reservoir Water Quality Component

Feasibility Study complete December 2020 recommended:

- In-reservoir treatment with alum to help prevent algal blooms within the reservoir while optimizing discharges to the Caloosahatchee River

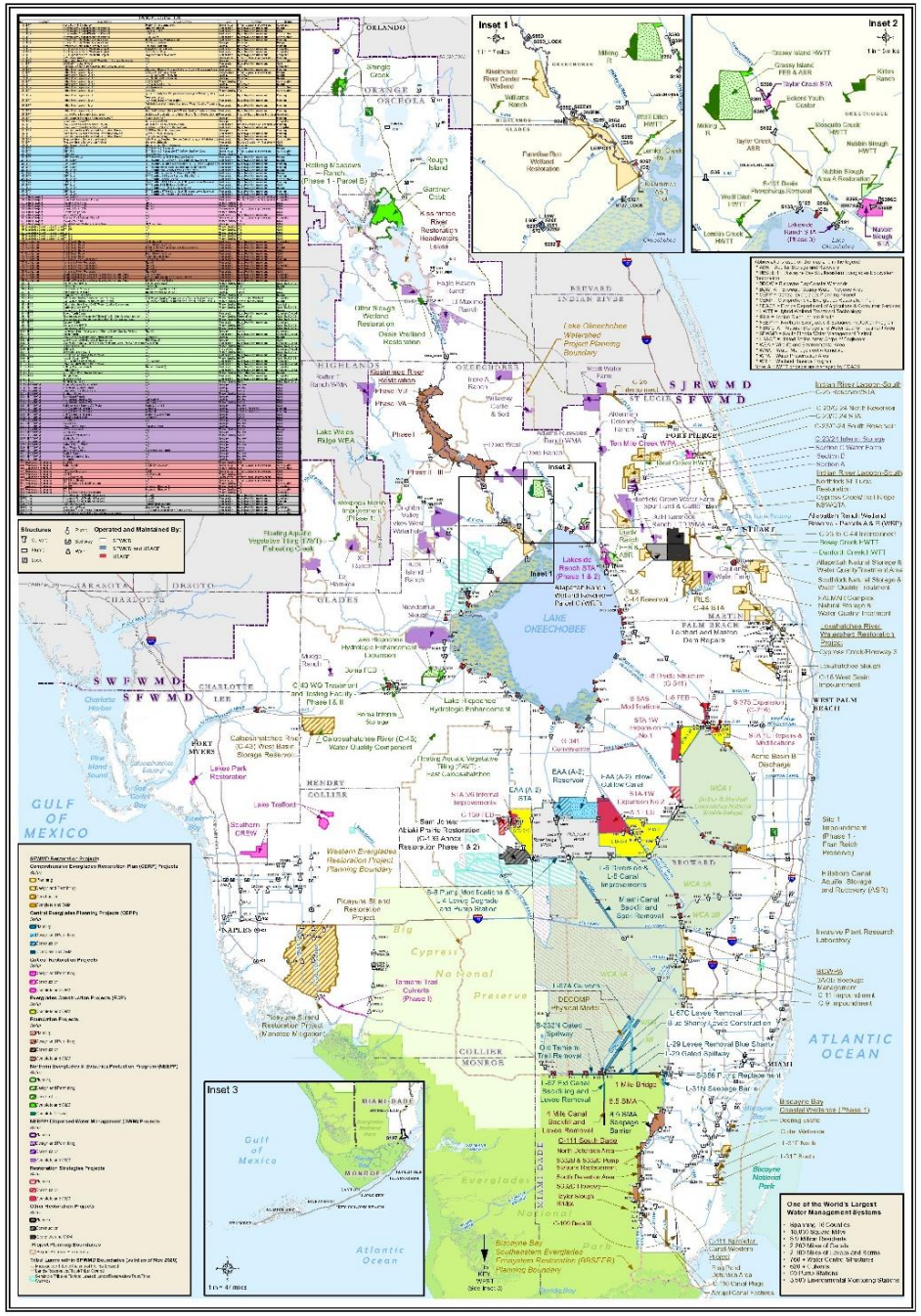
Design & Construction

- Design kicked-off April 2021
- Anticipate USACE 408 authorization and RTA Design Plans by the end of 2022
- Procurement and installation in 2023
- Operations permit early 2024 concurrent with the C-43 reservoir operations permit



FY2022-23 Legislative Appropriation

CERP	$202.1 million
EAA Reservoir	$64 million
Restoration Strategies	$86.5 million
Northern Everglades	$83.3 million
Lake Okeechobee	$100 million
C&SF Resiliency Studies	$2 million
	$537.9 million



Questions

Kissimmee River channel and floodplain at Avon Park