SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Benefits of SFWMD Projects for the St. Lucie Estuary

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The Rivers Coalition
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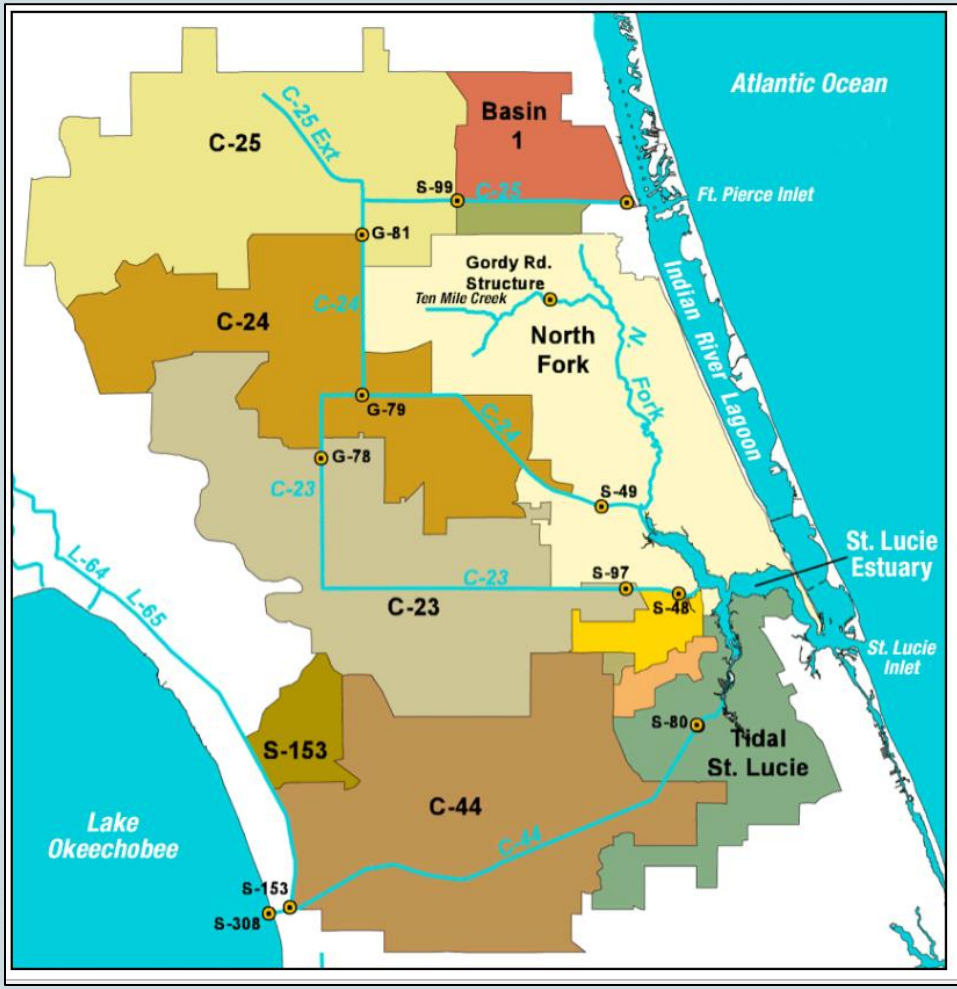
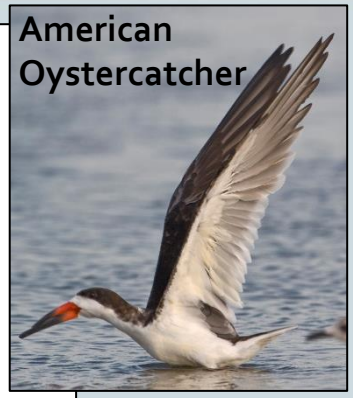
sfwmd.gov

St. Lucie Estuary in Martin County

St. Lucie River and Estuary



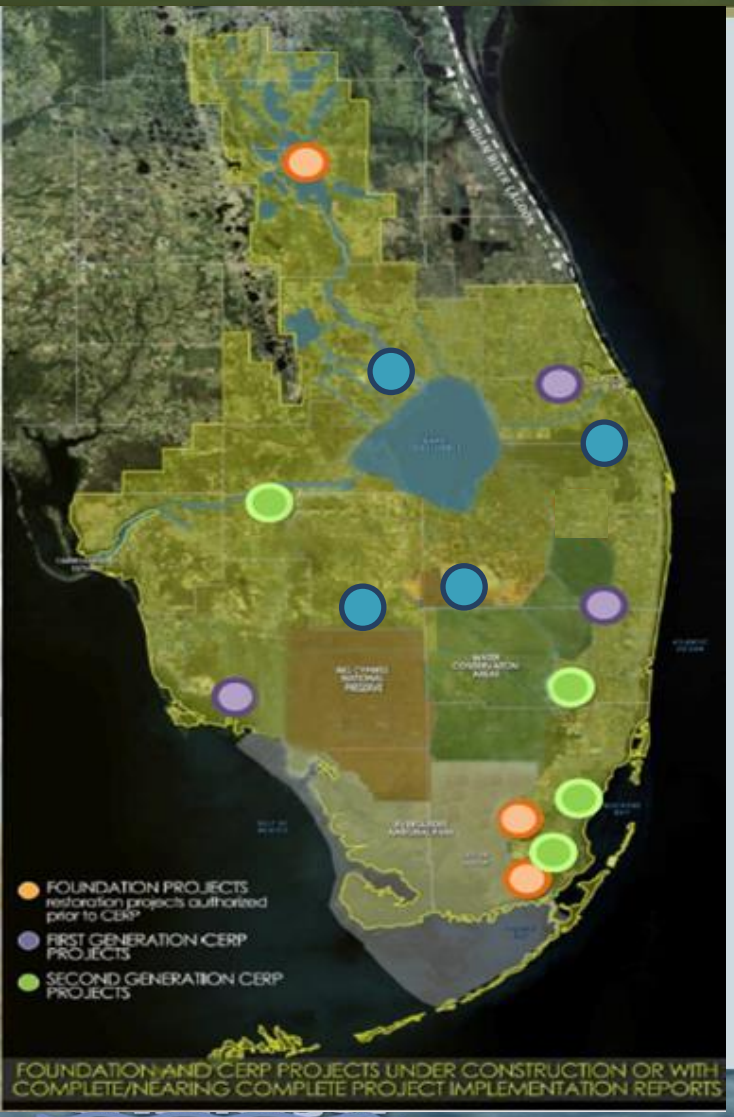
St. Lucie Estuary Watershed


American Oystercatcher


Dolphin in Manatee Pocket


Mangrove crab

CERP Implementation



Pre-CERP Foundation Projects

- Kissimmee River Restoration
- Modified Water Deliveries
- C-111 South Dade

} Significant Progress/ Nearing Completion

1st Generation CERP

- Indian River Lagoon-South
- Picayune Strand

} Under Construction

- Site 1 Impoundment/Phase1 — Construction Completed

2nd Generation CERP

- C-43 Reservoir — Under Construction
- Broward County Water Preserve Areas — Design
- C-111 Spreader Canal — Operational
- Biscayne Bay Coastal Wetlands — Design/Partially Constructed and Operational

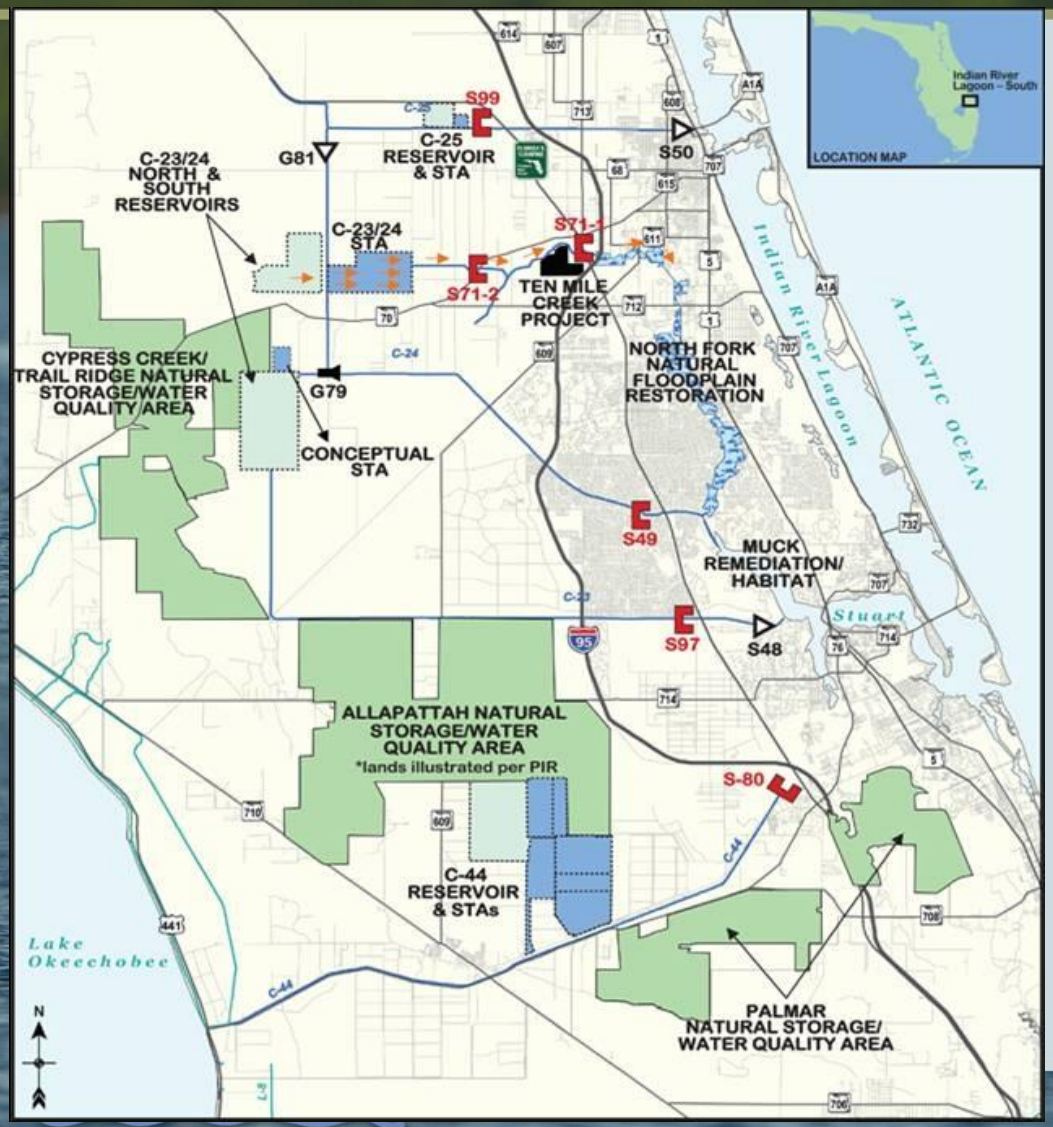
Completed and Active Planning Studies

- Central Everglades Planning Project - Authorized Dec. 2016
- Lake Okeechobee Watershed Restoration Project
- Western Everglades Restoration Project
- Loxahatchee River Watershed Restoration Project
- Senate Bill 10*

} Planning Underway

*District has initiated pre-planning investigation and data collection

Indian River Lagoon-South (IRL-S)



Indian River Lagoon-South Footprint/C-44 Basin

C-44 Reservoir
C-44 Stormwater Treatment Area (East)
C-44 Stormwater Treatment Area (West)

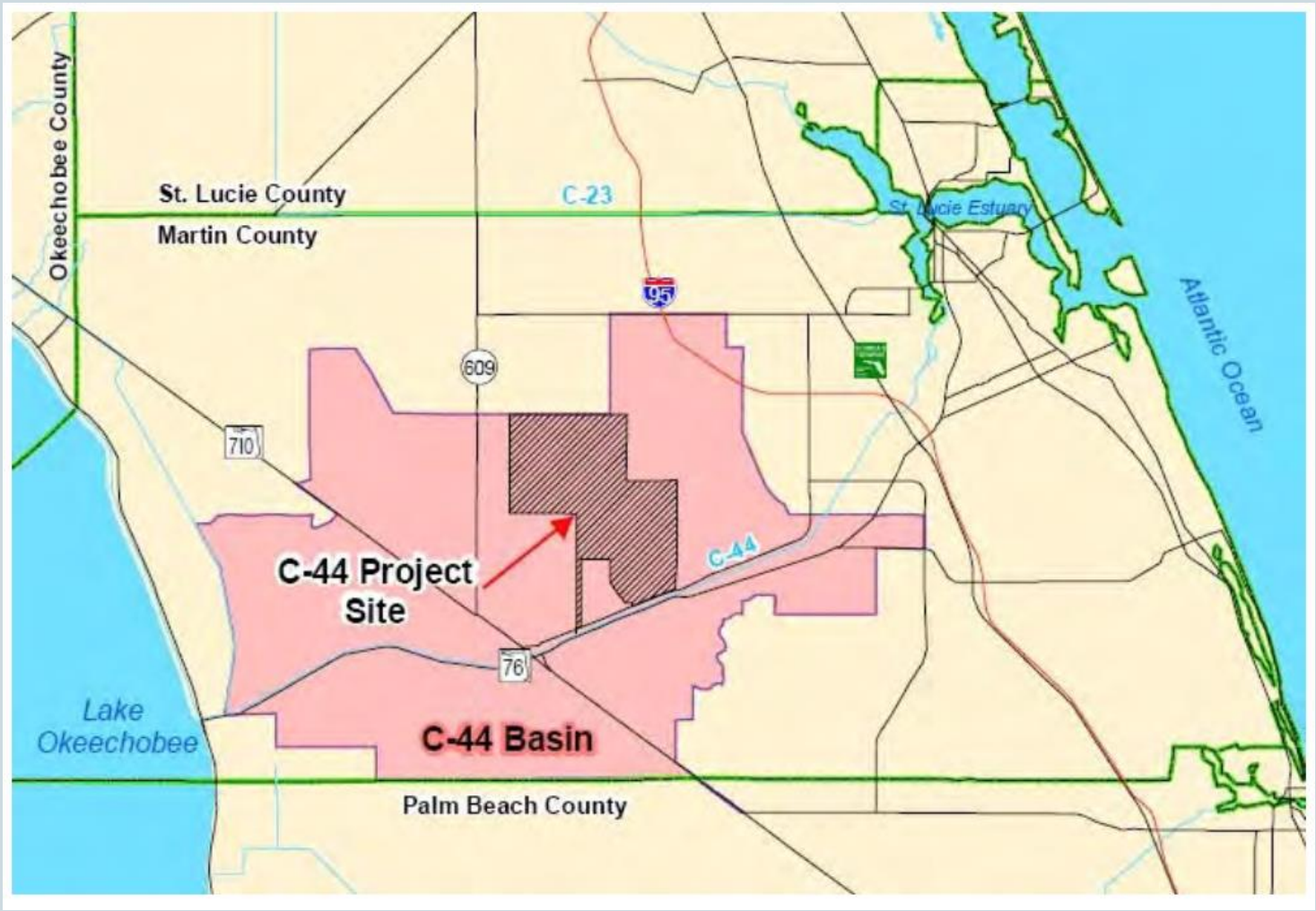
C-23/C-24 Basins

C-23/C-24 - North Reservoir
C-23/C-24 - South Reservoir
C-23/C-24 - Stormwater Treatment Area
Allapattah Complex – Natural Storage and Water Quality Area

C-25, North Fork & South Fork Basins

C-25 Reservoir
C-25 Stormwater Treatment Area

C-44 Project Overview



C-44 RSTA Components

- Key components include:
  - A 3,400-acre, deep-storage reservoir capable of holding 50,600 acre/feet (16 billion gallons) of water
  - 6,300 acres of stormwater treatment area to cleanse water before it flows to the river and estuary
  - A 1,100 cfs Pump Station and spillway to bring water into the reservoir from the C-44 and send it back to the canal after it is treated

SFWMD C-44 Construction Progress

- Stormwater Treatment Area: 70 percent complete
  - Final completion: June 29, 2018
- Pump Station: 70 percent complete
  - Final completion: September 30, 2018

C-44 Pump Station construction aerial view 2016

C-44 Pump Station construction 2017

C-44 STA East Collection Canal

U.S. Army Corps C-44 Construction Progress

- Reservoir: 8 percent complete
  - Final completion: April 2020

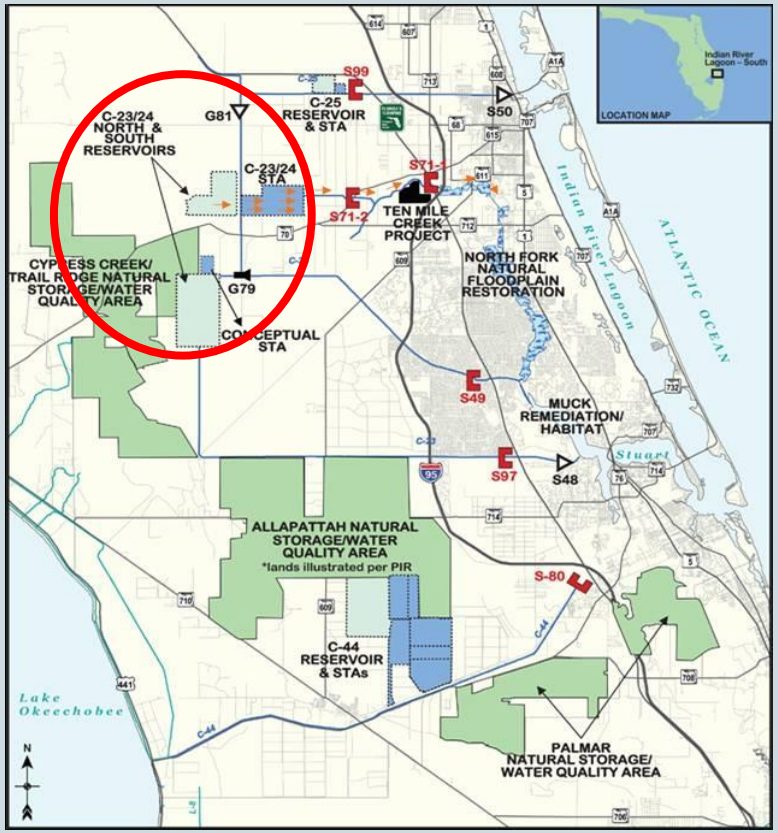
Toe trench drain test

Dewatering system and survey stake

Toe trench drain test

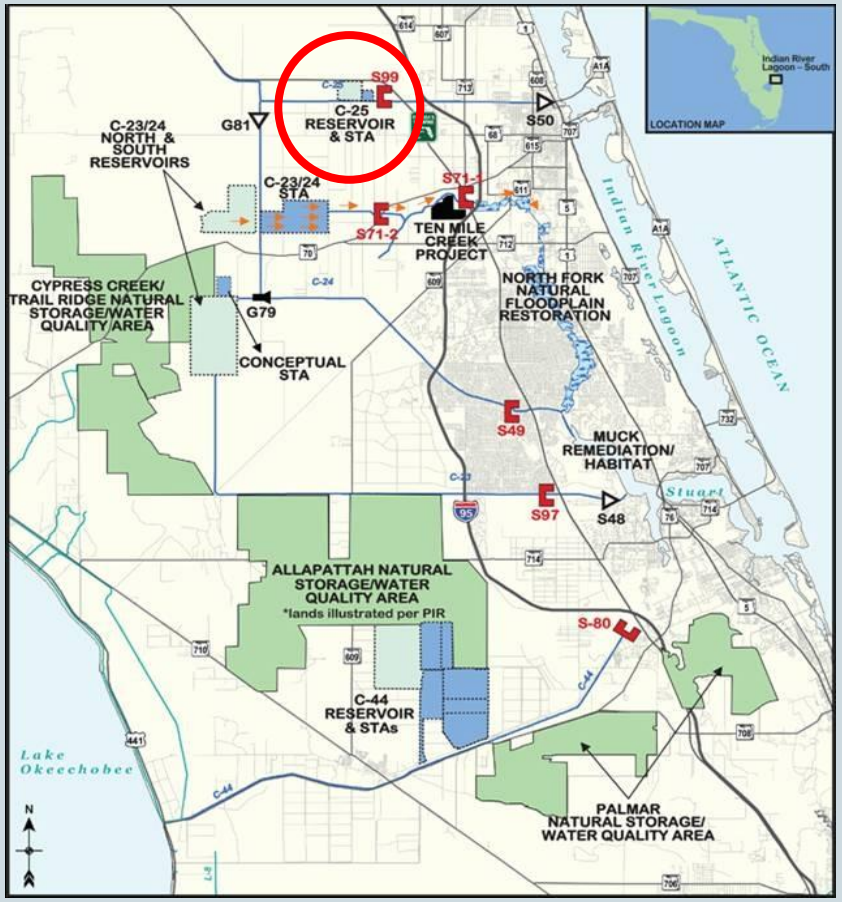
C-23/24 Reservoirs and STAs

- 4,399-acre north reservoir with capacity to store 48,500 acre feet of local stormwater runoff before it reaches the St. Lucie River.
- 4,155-acre south reservoir with capacity to store 43,500 acre feet of local basin stormwater runoff before it reaches St. Lucie River.
- 2,568-acre Stormwater Treatment Area designed to remove phosphorus from stormwater entering the C-23/24 reservoirs
- Project will capture and treat local runoff from the C-23 and C-24 Basins, helping to control salinity and improve water quality in the estuary



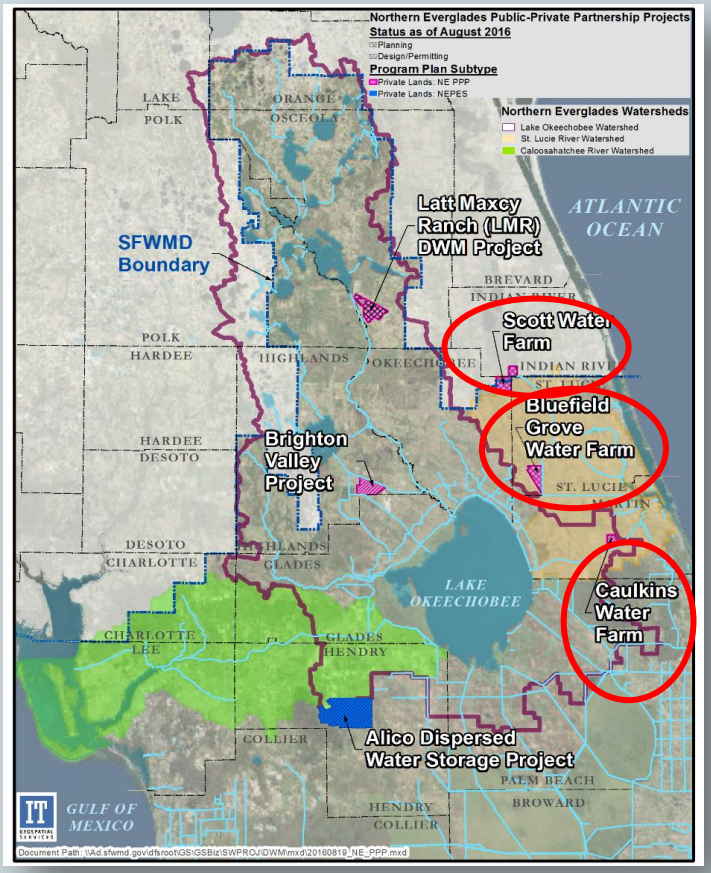
C-25 Reservoir and STA

- 741-acre above ground reservoir and 163-acre STA
- Reservoir will capture runoff from the C-25 Basin and the Ft. Pierce Farms Basin
- STA will treat discharges from the reservoir. The total storage capacity of the reservoir and STA is approximately 5,392 acre-feet



Northern Everglades Public-Private Partnerships (NE P3)

- NEEPP promoted P3 concept
- Florida Legislature directed Florida Department of Environmental Protection (FDEP) and SFWMD to implement projects on private agricultural lands to store and treat water
- Projects will retain rainfall and store excess surface water from the regional system to help address nutrient loads in Lake Okeechobee and the Caloosahatchee and St. Lucie rivers and estuaries
- Six Northern Everglades Public-Private Partnerships



Northern Everglades-Public Private Partnership: Caulkins Water Farm

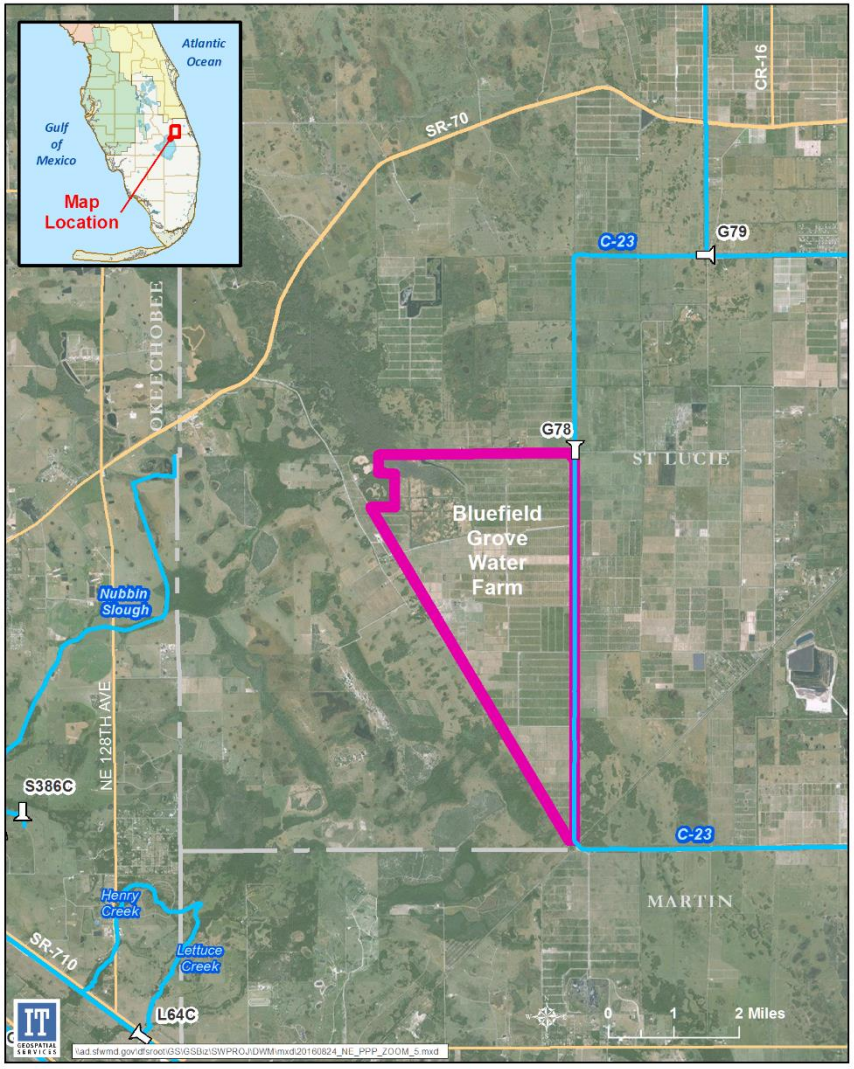
- Project area: 3,274-acre fallow grove
- Primary benefit: retention of onsite rainfall and storage of regional surface waters
- Status: Under construction
- Estimated construction cost: $5,205,507

Caulkins Citrus WFPP, Martin County (2016)

Northern Everglades Public Private Partnership: Bluefield Grove Water Farm

- Evans Properties, Inc.
- St. Lucie County
- St. Lucie River Watershed
- Project area: 6,603-acre fallow grove
- Primary benefit: retention of onsite rainfall and storage of regional surface waters
- Status: Planning

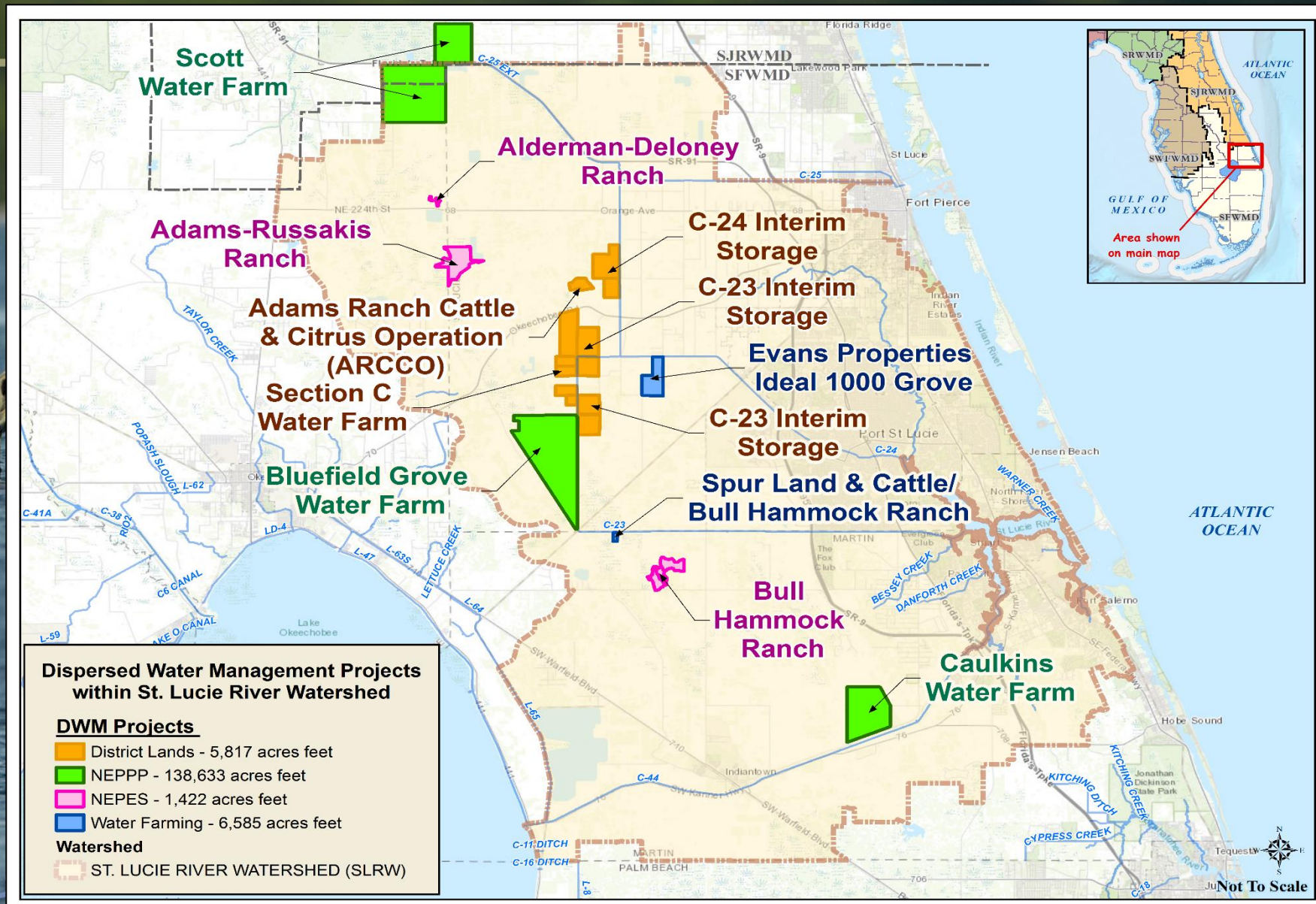
Bluefield Grove, St. Lucie County (2016)



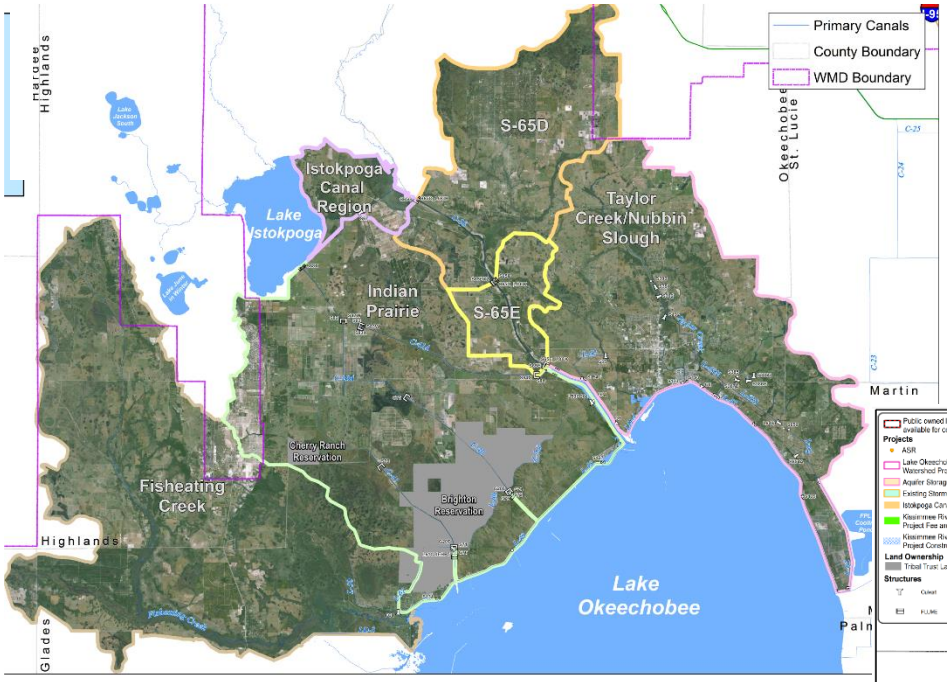
Northern Everglades Public Private Partnership: Scott Water Farm

- Evans Properties, Inc.
- Okeechobee, Indian River Counties
- St. Lucie River and Indian River Lagoon Watersheds
- Project area: 7,788 acres
- Primary benefit: retention of onsite rainfall and storage of regional surface waters
- Status: Planning

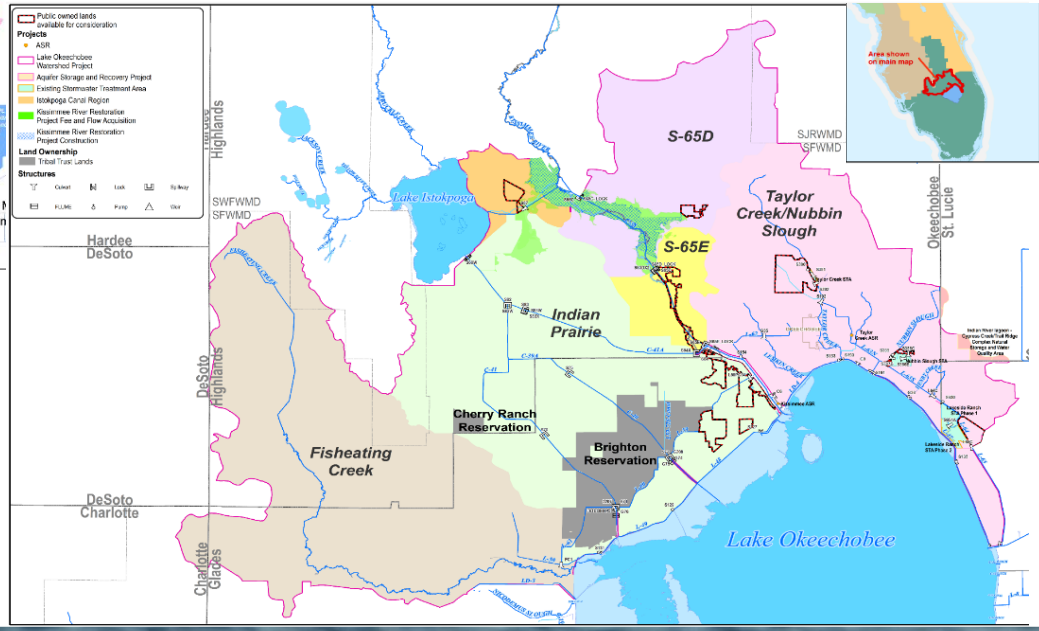
Dispersed Water Management



Lake Okeechobee Watershed Restoration Project Study Area



- Approximately 950,000 acres
- Historically dominated by wetlands
- Current land use include:
  - Agriculture
  - Natural/Open Land and Water
  - Urban/Infrastructure



Lake Okeechobee Watershed Restoration Project Study Scope

- Increase water storage capacity in the watershed, resulting in improved Lake Okeechobee water levels
- Reduce the quantity and timing of discharges to the St. Lucie and Caloosahatchee estuaries
- Restore/create habitat to increase the spatial extent and functionality of wetlands
- Improve existing and future water supply

Lake Okeechobee Watershed Restoration Project Components Under Consideration

- Above Ground Storage
- Aquifer Storage and Recovery (ASR) wells
- Wetland and Floodplain Restoration

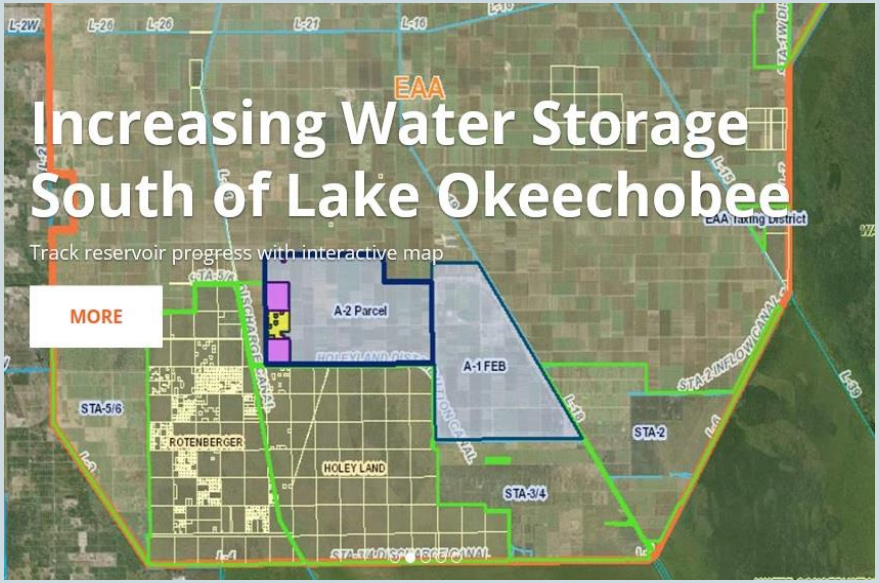
Benefits of LOWRP Northern Storage Approach

- Maximizes the benefits of all Comprehensive Everglades Restoration Plan efforts
- Water stored north of the lake provides flexibility for operating the water management system to balance and improve missions of flood control, water supply and natural systems
  - Reduces damaging releases to the Caloosahatchee and St. Lucie estuaries
  - Provides flexibility for delivering water when and where it is needed for water supply
  - Allows for releases into the Caloosahatchee River and Estuary during the dry season to protect the health of the river and estuary

Everglades Agricultural Area Storage Reservoir (SB10)

- Senate Bill 10, passed during the last legislative session, and signed into law by Governor Scott, calls for a storage reservoir in the Everglades Agricultural Area south of Lake Okeechobee
- SFWMD is currently in pre-planning for this reservoir, which will utilize District-owned land
- Taxpayers can follow our progress on the reservoir project at:

www.sfwmd.gov/eaareservoir



Learn More About Everglades Restoration Efforts

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Everglades
Restoration Progress

2016

BACKGROUND

America's Everglades was once a vast, free-flowing River of Grass, extending from the Kissimmee Chain of Lakes near Orlando to the southern tip of the peninsula and Florida Bay. Over time, significant ecological alterations, combined to an unintended environmental consequences

Recognizing that a healthy ecosystem is vital to a healthy economy, a number of initiatives were underway to improve water quality, increase storage and reestablish more historic flows.

The South Florida Water Management District is a regional government agency that manages the water resources in the southern part of the state. It is the oldest and largest of the state's five water management districts.

Our mission is to manage and protect water resources of the region by balancing and improving flood protection, water supply, water quality and natural systems

Improving Water Quality

Since 1994, the state of Florida and the State Legislature, several deadlines to reduce levels in Everglades through a combination of source control Best Management Practices (BMPs) and constructed wetlands, known as Stormwater Treatment Areas (STAs). BMPs involve actions to prevent or reduce phosphorus in discharges from the source and STAs use natural biological processes to remove

- Five Everglades STAs in operation with an effective treatment area of 57,000 acres, including 12,000 acres completed in 2012
- In Water Year 2016, these wetlands treated approximately 1.4 million acre-feet of water, reducing phosphorus loads by 85 percent. To date, the STAs have treated more than 17 million acre-feet of water and removed approximately 2,330 metric tons of phosphorus.
- Since its 1994 implementation, SFWMD's regulatory source control program on agricultural lands south of Lake Okeechobee has resulted in a long-term average

reductions totaling greater than 50 percent, more than twice what is required by state law.

- To date, these controls and regional STAs together have prevented approximately 5,475 metric tons of phosphorus from entering the Everglades.
- **Restoration Strategies** - The SFWMD is creating more than 6,470 acres of new STAs and 78,000 acre-feet of additional water storage through construction of six flow equalization basins (FEBs). These FEBs capture runoff during storm events and provide a more steady flow of water to the STAs, helping to maintain desired water levels needed to achieve optimal performance.
  - **A-1 FEB** construction is complete and operational (~30,000 acre-feet of storage)
  - **A-2 FEB** construction is ongoing and is expected to be complete in the mid-to-late 2017 (40,000 acre-feet of storage).
  - **STA-1 West Expansion #1** construction is ongoing and is expected to be complete by December 2016 (approximately 4,300 acres of effective treatment area).
  - Conveyance improvements required for

Aerial view of Everglades

www.sfwmd.gov/sites/default/files/documents/spl_everglades_progress.pdf