# OTHER PROJECT COMPONENTS

## C-25 RESERVOIR & STORMWATER TREATMENT AREA (STA)

This feature is located in St. Lucie County and includes a 741-acre above ground reservoir with a maximum depth of 8 feet and a 163-acre STA. The reservoir will capture the first 0.4 inches of runoff from both the C-25 Basin and the Ft. Pierce Farms Basin (approximately 147,225 acres). The STA will treat 80 percent of the phosphorus load entering the STA from the reservoir. The total storage capacity of the reservoir and STA is approximately 5,392 acre-feet and is located north of and adjacent to C-25 at the S-99 structure.

## NATURAL STORAGE & WATER QUALITY TREATMENT AREAS

Natural storage and water quality treatment areas include acquisition of approximately 90,000 acres of upland/wetland mosaic; plugging of existing secondary drainage ditches to remove discharge into the Central and South Florida (C&SF) Project system canals; an effective storage capacity of 30,000 acre-feet or about 10 billion gallons of water; and phosphorus and nitrogen reduction in the St. Lucie River and Estuary and Indian River Lagoon prior to runoff into east coast canals. The South Florida Water Management District (SFWMD) has acquired approximately half of the land needed to restore the Allapattah natural area to its historically natural condition. It has also completed contracts for ditch filling and structure upgrades. The property has been opened to the public for passive recreation usage. Contract work will continue with berming, ditch filling and structure upgrade throughout this project feature.

## DIVERSION OF EXISTING WATERSHED FLOWS

Diversion of existing watershed flows, an operational constraint, has two goals: diversion of C-23 and C-24 discharges into the north fork rather than near the middle estuary of the St. Lucie River, and diversion of C-23 flows to the C-44 canal where they will be directed to the St. Lucie River's south fork. Artificial habitat muck remediation will remove 7.9 million cubic yards of muck from a total of four "hot spots" located in the north fork, south fork and middle estuary of the St. Lucie River. This will provide 1,300 acres of new substrate for organisms to recolonize.

## FOR MORE INFORMATION

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INDIAN RIVER LAGOON - SOUTH | IRL-S

FACTS & INFORMATION

JANUARY 2015

# RESTORING A NATIONAL ESTUARINE TREASURE

The Indian River Lagoon and St. Lucie Estuary in Martin County are two of the country's most productive and most threatened estuaries. Home to more than 4,300 species of plants and animals, and supporting an annual economic contribution of more than $730 million, the lagoon region will benefit from careful restoration and protection of these water bodies.

The lagoon and estuary have suffered from altered water flow patterns and degraded water quality. In recent years, excessive rains required additional floodwater releases to the estuary from Lake Okeechobee. These fresh water releases, combined with large volumes of stormwater runoff, introduced contaminants and altered salinity levels, stressing the estuary's sensitive ecosystem. Over time, neighborhoods and farms emerged around the estuary's 827-square mile watershed. Outdated stormwater management systems and runoff from fertilizers caused both fresh water and pollutants to enter the estuary and lagoon.

The Indian River Lagoon-South (IRL-S) Restoration Project is now under way to reverse the damaging effects of pollution and unnaturally large fresh water discharges into these ecologically vital water bodies. The delicate balance of fresh and salt water in the lagoon and estuary will be restored, polluted water will be treated and degraded habitats will be revitalized.

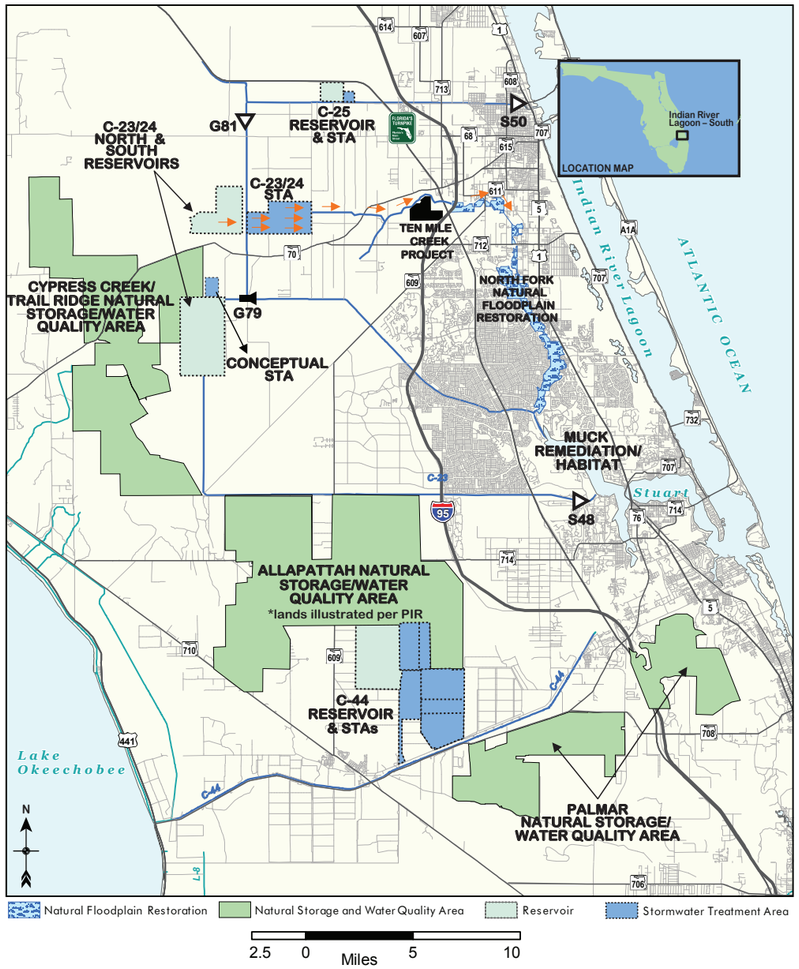
## FEATURES AND BENEFITS:

- 12,000 acres of above ground storage
- 9,000 acres of manmade wetlands
- 90,000 acres of natural areas, including 53,000 acres of restored wetlands providing additional water storage
- 90 acres of artificial submerged habitat created for aquatic vegetation
- 922 acres of submerged aquatic vegetation restored
- 7.9 million cubic yards of removed muck
- 41 percent long-term reduction in phosphorus
- 26 percent long-term reduction in nitrogen
- 2,650 acres of benthic habitat created in St. Lucie River and Estuary
- 889 acres of restored oyster habitat
- $6.1 million in improved agricultural productivity through improved fresh water supplies

# INDIAN RIVER LAGOON - SOUTH | IRL-S

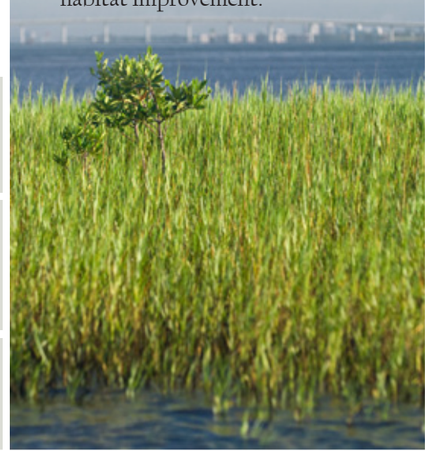
## PROJECT COMPONENTS LOCATION MAP

The Indian River Lagoon-South Project employs a regional approach to address the Martin and St. Lucie County portions of the lagoon. The plan identifies six features that will work together to protect and restore the lagoon and estuary.




Based on the Project Implementation Report approved by Congress in 2007, the IRL-S project is expected to include the following components:

- Construction and operation of four new above ground reservoirs and their connecting canals, control structures, levees and pumps to capture water from the C-44, C-23, C-24 and C-25 canals for increased storage.
- Construction and operation of three new stormwater treatment areas to reduce sediment, phosphorus and nitrogen going to the St. Lucie River estuary and the lagoon. STAs are planned for each of the C-44, C-23/24 and C-25 basins.
- Restoration of the upland/wetland mosaic and habitat with ditch plugging, berm construction, and periodic fire maintenance at three locations.
- Redirection of water from the C-23/24 basin to the north fork of the St. Lucie River attenuating fresh water flows to the estuary.
- Muck removal from the north and south forks of the St. Lucie River and the middle estuary.
- Oyster shell, reef balls and artificial submerged aquatic vegetation near muck removal sites will be added for habitat improvement.



### C-44 BASIN COMPONENTS

- C-44 – Reservoir
- C-44 – Stormwater Treatment Area
- Palmar Complex – Natural Storage and Water Quality Area

### C-23/24 BASIN COMPONENTS

- C-23/24 – North and South Reservoirs
- C-23/24 – Stormwater Treatment Area
- Allapattah, Cypress Creek and Trail Ridge Complex – Natural Storage and Water Quality Area

### C-25, NORTH FORK AND SOUTH FORK BASIN COMPONENTS

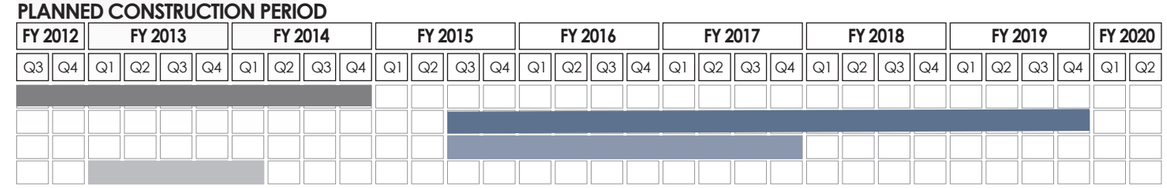
- C-25 – Reservoir
- C-25 – Stormwater Treatment Area
- North Fork Natural Floodplain Restoration Muck Remediation and Artificial Habitat

## C-44 CONSTRUCTION SEQUENCE

### C-44 RSTA CONSTRUCTION SEQUENCE

| Contract 1 (USACE) | Contract 2 (USACE) | Contracts 3-5 (SFWMD) | Communication Tower (SFWMD)* |
|---|---|---|---|
| • Intake Canal<br>• Access Roads<br>• C-133A and C-133 Drainage Canal and Outlet<br>• Removing culvert under Citrus Boulevard for C-133 canal**<br>• New bridge over intake canal for Citrus Boulevard**<br>• Turning lanes on Citrus Boulevard for main project access road** | • Reservoir<br>• Reservoir seepage canals<br>• Reservoir discharge tower and canal<br>• 1-2 years of testing and commissioning | • STA cells<br>• STA distribution canals<br>• STA collection canals<br>• STA discharge to C-44 canal<br>• Pump station<br>• 1-2 years of testing and commissioning | • Communication tower<br>• Communication equipment<br>• Support buildings |

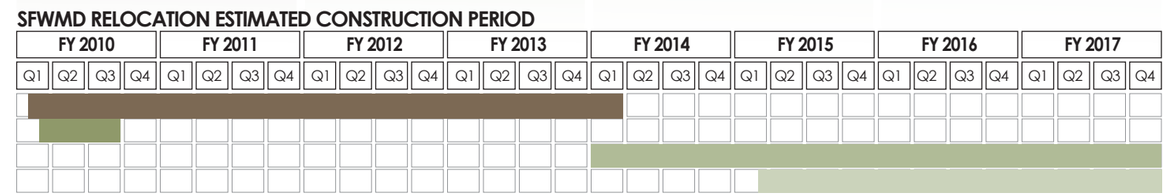
**PLANNED CONSTRUCTION PERIOD**




### SFWMD RELOCATION CONSTRUCTION SEQUENCE

| FPL Distribution Efforts | TIWCD Temporary Configuration | FPL Transmission Efforts | TIWCD Permanent Pump Station |
|---|---|---|---|
| • Relocate C-44 Canal crossing power line<br>• Abandon Via Tropical power line<br>• Relocate Bar B Ranch power line and abandon Minton distribution line | • Temporary pump installation<br>• Permanent canal construction | • Raise FPL transmission tower north-central of STA<br>• Power to reservoir and STA structures | • Permanent pump installation |

**SFWMD RELOCATION ESTIMATED CONSTRUCTION PERIOD**




### COMPLETED COMPONENTS

- Tree clearing phase I & II (SFWMD)
- Communication Tower (SFWMD)
- TIWCD temporary reconfiguration and testing (SFWMD)
- Remove all citrus trees from unoccupied lands
- Remove all remaining citrus trees
- Pump installation Minute Maid Road bridge and drainage relocation.