

INDIAN RIVER LAGOON - SOUTH | IRL-S

COMPREHENSIVE EVERGLADES RESTORATION PLAN



U.S. ARMY CORPS OF ENGINEERS



JULY 2011

FACTS & INFORMATION

Restoring a National Estuarine Treasure

The Indian River Lagoon and St. Lucie Estuary are two of the country's most productive and most threatened estuaries. Martin and St. Lucie counties - Florida's "Treasure Coast" - encompass some of the state's most productive and most threatened estuarine treasures, the Indian River Lagoon and St. Lucie Estuary. 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 the past few years, excessive rains required additional floodwater releases to the estuary from Lake Okeechobee. These freshwater releases, combined with large volumes of stormwater runoff, introduced contaminants and altered salinity levels. This caused enormous stress on the estuary's sensitive ecosystem. In addition, neighborhoods and farms emerged all around the estuary's 827-square mile watershed. Outdated stormwater management systems and runoff from fertilizers caused increases in fresh water and pollutants entering the estuary and lagoon.

A huge effort, called the Indian River Lagoon-South (IRL-S) Restoration Project, is underway 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.

IRL-S Restoration Project features and benefits:

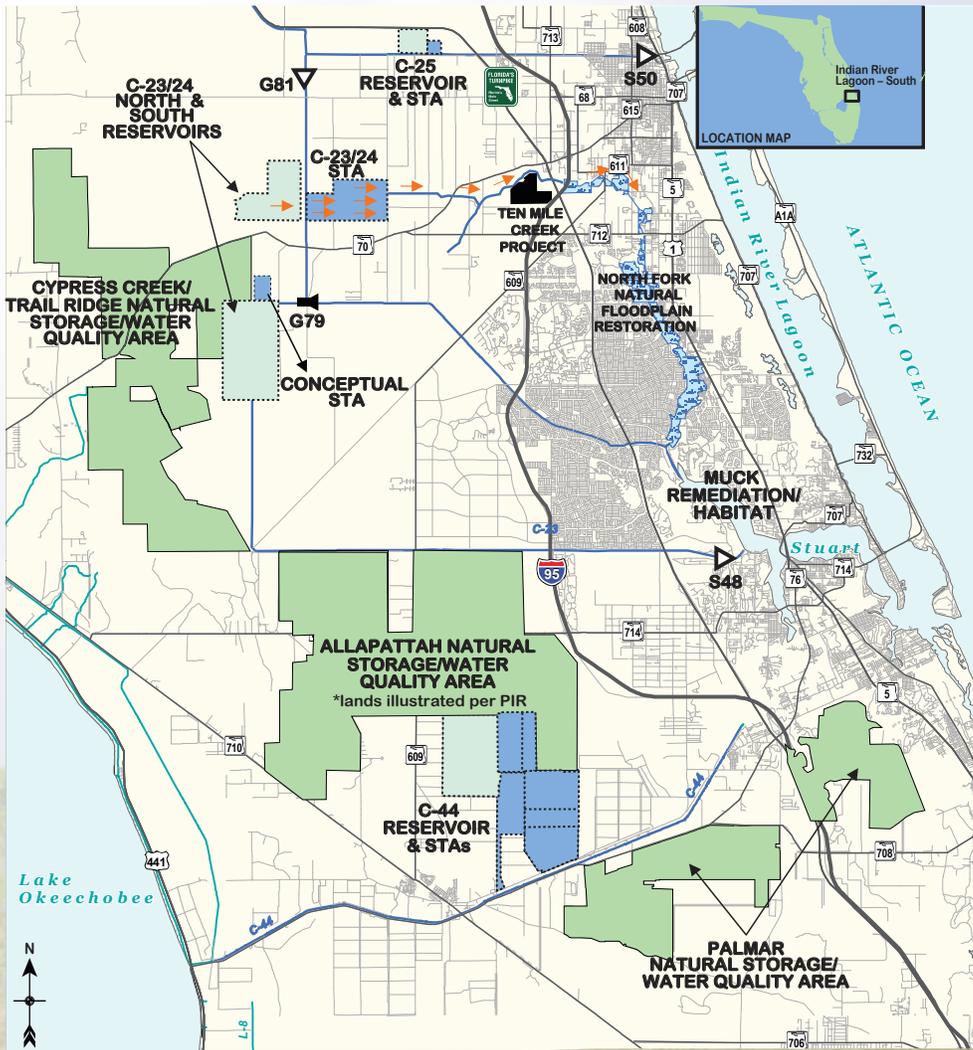
- 12,000 acres of above ground storage
- 9,000 acres of manmade wetlands
- 90,000 acres of natural areas, including 53,000 acres of restored wetlands providing additional water storage
- 90 acres of artificial submerged habitat created for aquatic vegetation
- 922 acres of submerged aquatic vegetation 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 freshwater supplies



Project Components Location Map

The Indian River Lagoon-South Project defines a regional approach to the problems of the Martin and St. Lucie county portion of the lagoon. The plan identifies the 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 Northfork of the St. Lucie River attenuating freshwater 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-25, Northfork and Southfork Basin Components

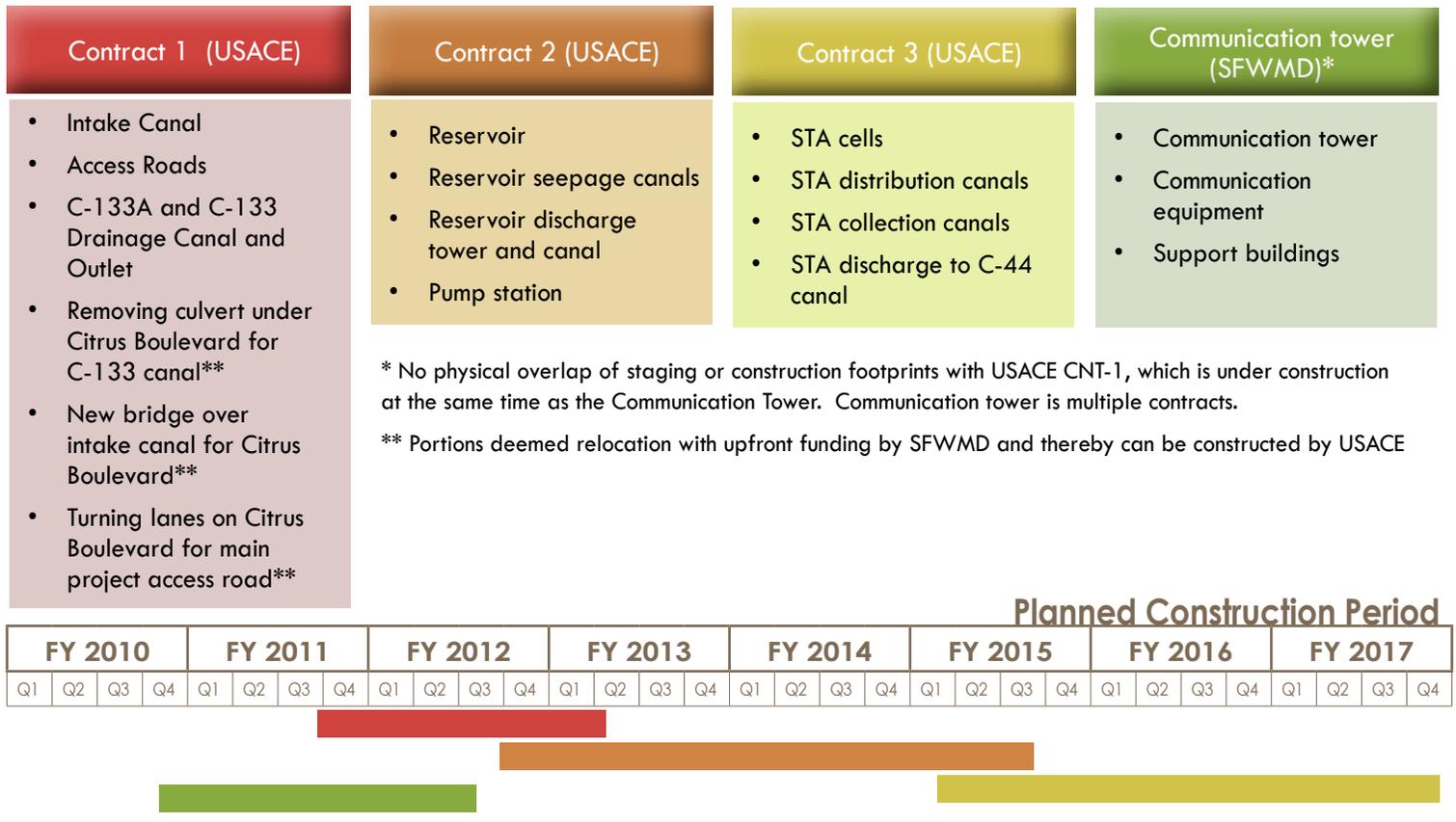
- C-25 - Reservoir
- C-25 - Stormwater Treatment Area
- Northfork Natural floodplain Restoration
- Muck Remediation and Artificial Habitat

C-23/24 Basin Components

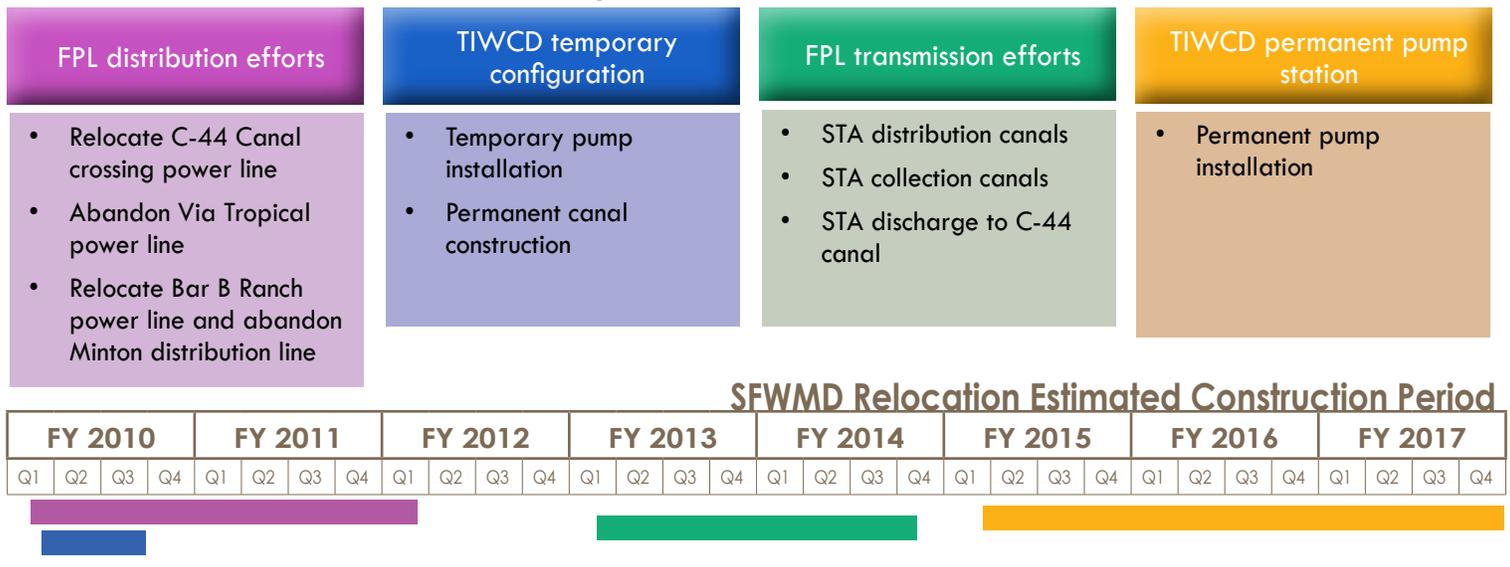
- C-23/C-24 - North Reservoir
- C-23/C-24 - South Reservoir
- C-23/C-24 - Stormwater Treatment Area
- Allapattah - Complex Natural Storage and Water Quality Area
- Cypress Creek/Trail Ridge Complex - Natural Storage and Water Quality

C-44 Construction Sequence

C-44 RSTA Construction Sequence



SFWMDC Relocation Construction Sequence



Completed Components

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

INDIAN RIVER LAGOON - SOUTH | Other Project Components



C-25 Reservoir and Stormwater Treatment Area

This feature is located in St. Lucie County and includes a 741-acre aboveground 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 was sized to treat 80% 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 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 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, 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. Muck Remediation for Artificial Habitat Muck remediation for artificial habitat 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 in order for organisms to recolonize.

FOR MORE INFORMATION



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For more detailed information on IRL-S please visit
http://www.evergladesplan.org/pm/projects/proj_07_irl_south.cfm

You may also find additional information pertaining to
upcoming meetings and workshops on
<http://www.evergladesplan.org/calendar/calendarIndex.cfm>

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Scan this QR code with your smartphone to view
a video about the Indian River Lagoon - South
(IRL-S) project.

