



Restoration Projects Prioritization – Federal Projects, Part 1

Governing Board Meeting

November 14, 2013

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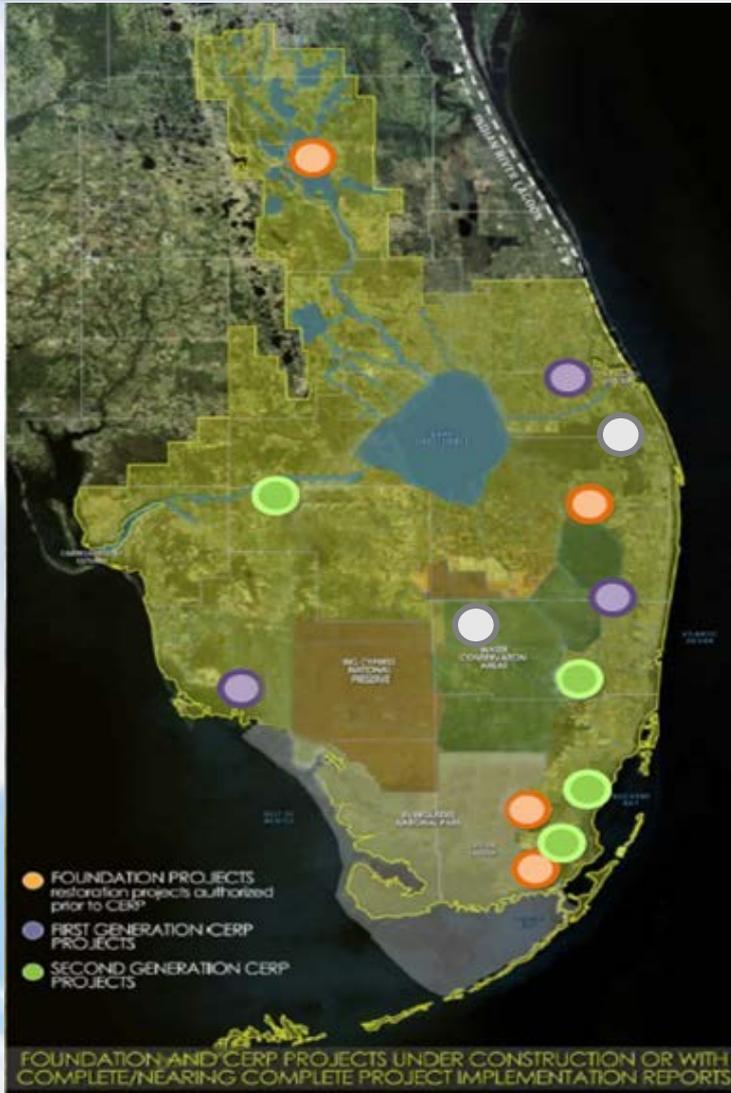
Restoration Projects Prioritization

- Part 1 - Overview of Federal Restoration Projects
 - Pre-CERP Foundation Projects
 - CERP
- Part 2 - Overview of State Restoration Projects
 - Everglades Long Term Plan/Restoration Strategies
 - Northern Everglades
- Part 3+ - Discussion of obligations and priorities

Presentation Overview

- Pre-CERP Foundation Projects
- Comprehensive Everglades Restoration Plan (CERP)
 - The Restudy
 - First Generation Projects

Federal Restoration Projects



Pre-CERP Foundation Projects

- ▶ Kissimmee River
 - ▶ C-111 South Dade
 - ▶ Modified Water Deliveries
- } Nearing Completion

1st Generation CERP

- ▶ Picayune Strand
 - ▶ IRL-South
 - ▶ Site 1 Impoundment
- } Under Construction

2nd Generation CERP

- ▶ C-43 Reservoir
 - ▶ Broward County WPA
 - ▶ C-111 Spreader Canal
 - ▶ Biscayne Bay Coastal Wetlands
- } Pending Authorization

3rd Generation CERP

- ▶ Central Everglades Planning Project
 - ▶ Loxahatchee River Watershed Restoration Project
- } Project Planning



Pre-CERP Foundation Projects



Kissimmee River Restoration Project

Kissimmee River Restoration (KRR) Purpose and Authorization

- Purpose
 - Kissimmee River Channelization
 - Completed between 1962 and 1971 to improve navigation
 - Resulted in pronounced negative environmental impacts to the river/ floodplain
 - KRR - Restore ecological integrity by restoring 40 miles of meandering river and more than 12,000 miles of wetlands through the design and construction of physical project features coupled with application of optimized hydrologic conditions
- Authorization
 - Authorized in 1992 Water Resources Development Act (WRDA)
 - 50/50 Capital Cost Share - Federal/ SFWMD
 - USACE: Design, engineering and construction
 - SFWMD: Land acquisition and restoration evaluation
 - O&M Cost Share – 100% SFWMD
 - Project Cooperative Agreement (PCA) signed in March 1994

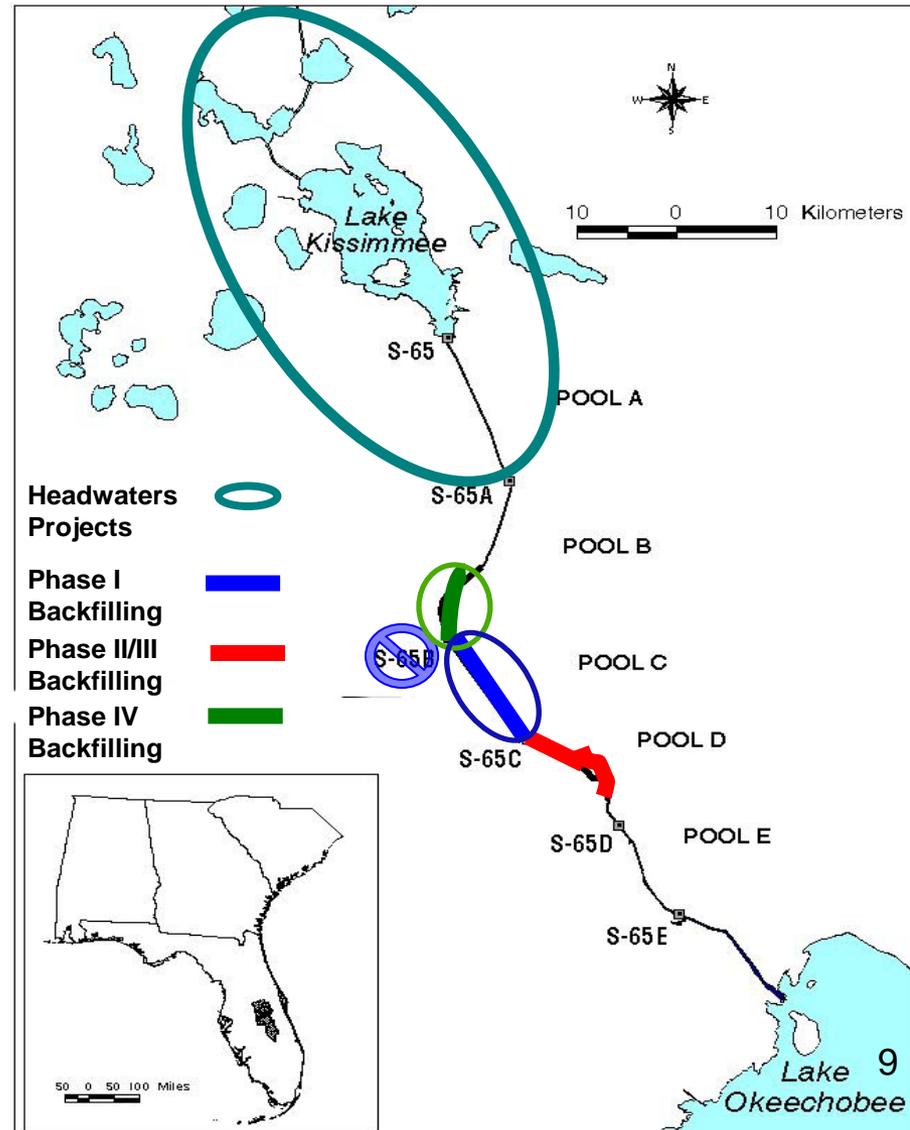
Kissimmee River Restoration Project (1994 – 2013) Components



- Acquire lands needed in the historical river floodplain
- Remove 2 large water control structures
- Backfill 22 miles of canal
- Recarve 9 miles of remnant river channel
- Reconnect 45 miles of river channel
- Rehydrate 26,500 acres of river floodplain
- Restoration Evaluation Program to evaluate project success

Kissimmee River Restoration Project Status

- Acquire lands needed in the historical river floodplain
 - Nearly complete; \$250M invested
- Remove 2 large water control structures
 - S-65B removed
- Backfill 22 miles of canal
 - ~ 65% complete (Phases I and IV)
- Recarve 9 miles of remnant river channel
 - ~ 60% complete
- Rehydrate 26,500 acres of river floodplain
 - ~ 60% complete
- Restoration Evaluation Program thru 2020
 - Evaluate environmental responses and use info for adaptive management



Kissimmee River Restoration

1954



Looking south in the Phase I restoration area from the Oak Creek floodplain. This photo of the natural historic Kissimmee River and floodplain was taken in 1954 before the river was channelized.

2013



Looking south in the Phase I restoration area from the Oak Creek floodplain from the same exact view as the previous historical slide.

Pre and Post Restoration

Pre-restoration



Floodplain
Vegetation

Post-restoration

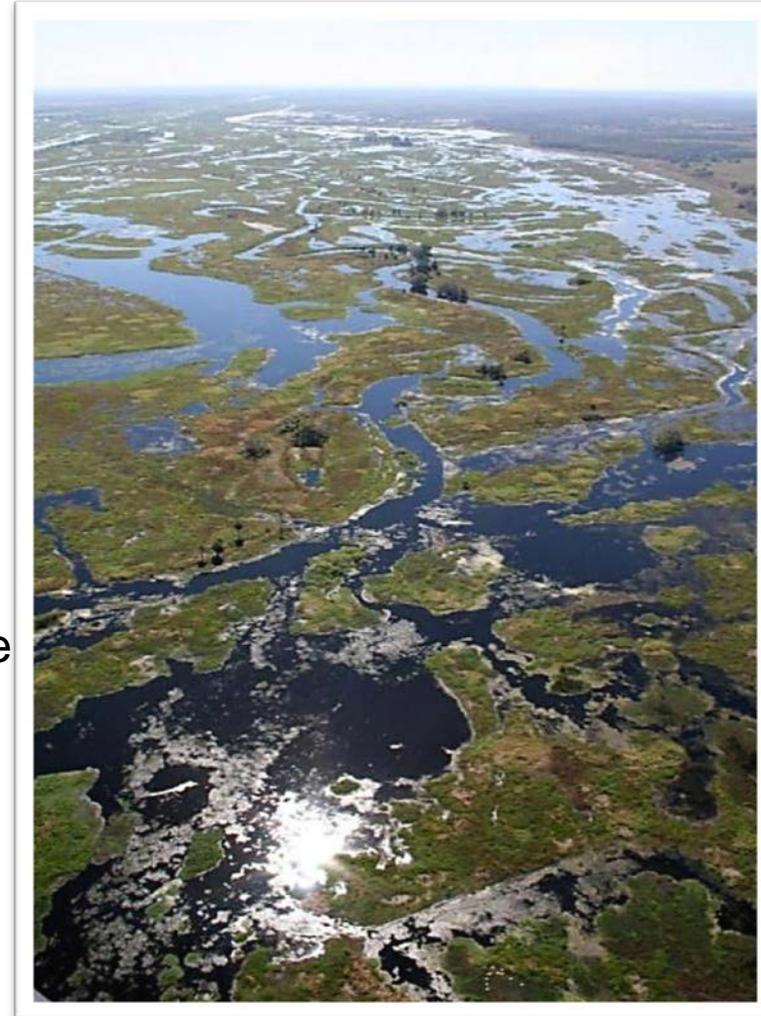


River
Channel
Vegetation



Kissimmee River Restoration Status

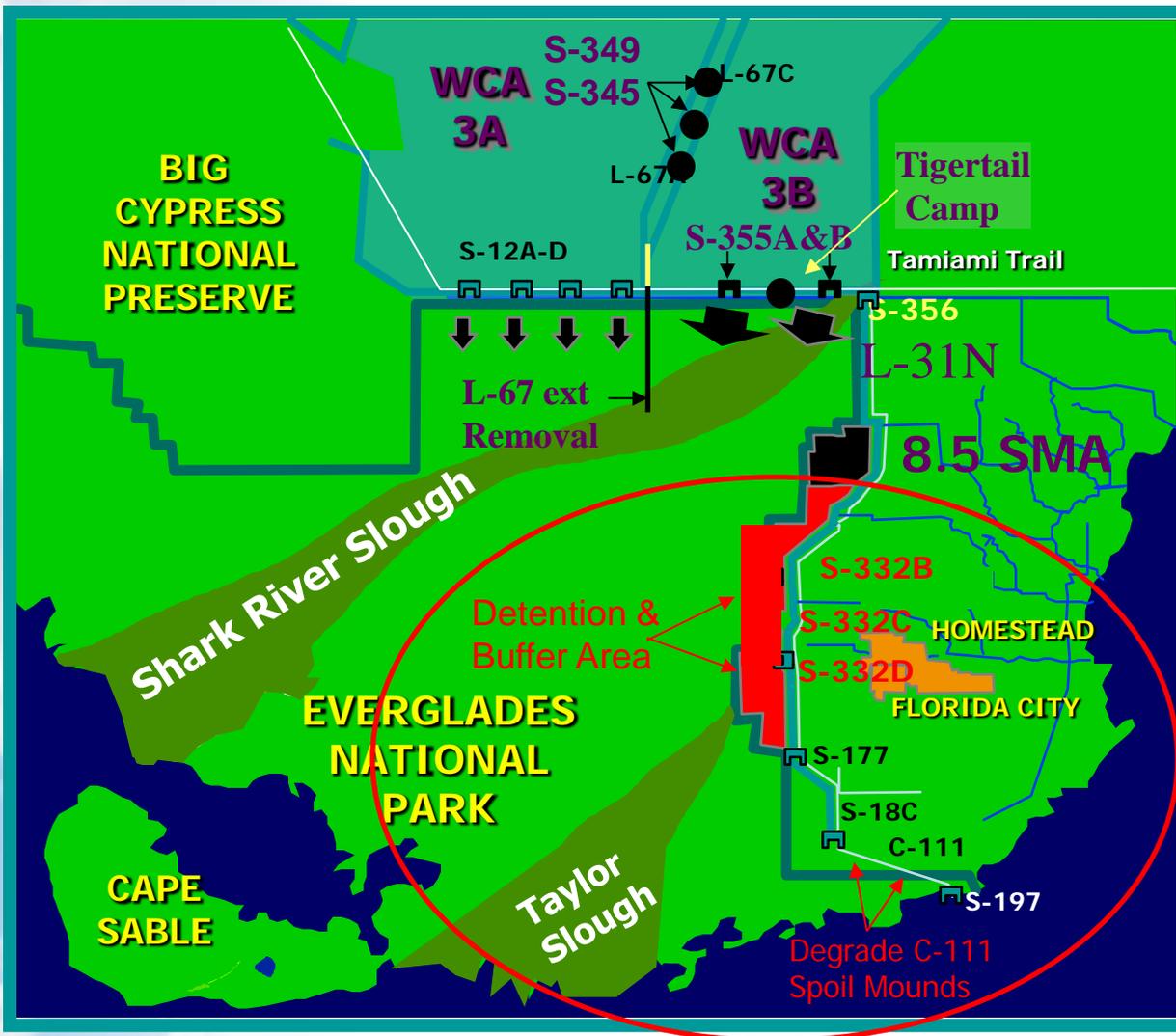
- Major features to be completed
 - Phase 2/3 Backfilling & remove S-65C
 - S-69 Weir
- Response by many ecosystem components on trajectory to target values
- Bulk of environmental benefits expected following
 - Construction completion
 - Implementation of new Headwaters Schedule
- \$780M estimated total cost
 - State/ SFWMD investment to date - \$345M
 - Federal investment to date - \$315M





C-111 South Dade Project

C-111 South Dade Project Overview



Goal is to restore more natural hydrologic conditions in Taylor Slough and the panhandle of Everglades National Park

C-111 South Dade Project Authorization and Status

■ Authorization

- Originally authorized in Flood Control Act of 1962, amended in 1968
 - 80/20 Capital Cost Share - Federal/ SFWMD
- WRDA 1996 modified to 50-50 Capital Federal/ SFWMD and added new features
 - Assumption of excess land credits to cover local sponsor share
 - Federal decisions have diminished local sponsor land credits
- 60/40 O&M Cost Share - Federal/ SFWMD
- PCA signed in January 1995

■ Status

- 7 contracts have been completed, 2 are pending

C-111 South Dade Project

**Contract #8
Northern
Detention Area**

**S-331 Command
and Control
Station**

**Detention
Area**

**Temporary S-332B
Pump Station**

**S-332D Pump
Station & High
Head Cell**

**Temporary S-332C
Pump Station**

**Contract #9
L-31W Plugs**

**Taylor
Slough
Bridge**

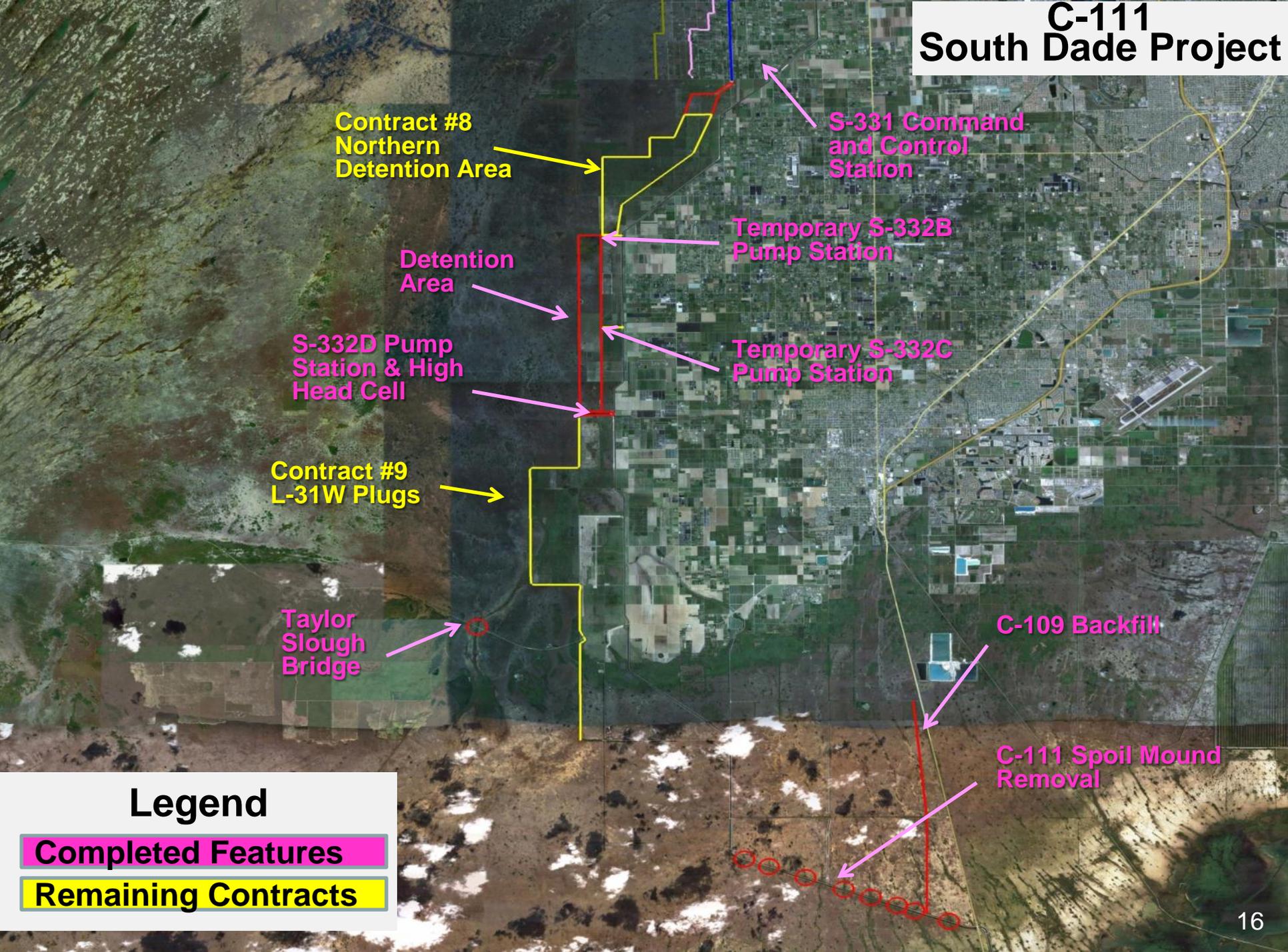
C-109 Backfill

**C-111 Spoil Mound
Removal**

Legend

Completed Features

Remaining Contracts



C-111 South Dade Project Pump Stations and Detention Areas



S-332D Permanent Pump Station



S-332B Temporary Pump Station



S-332C Temporary Pump Station



C-111 Southern Detention Area

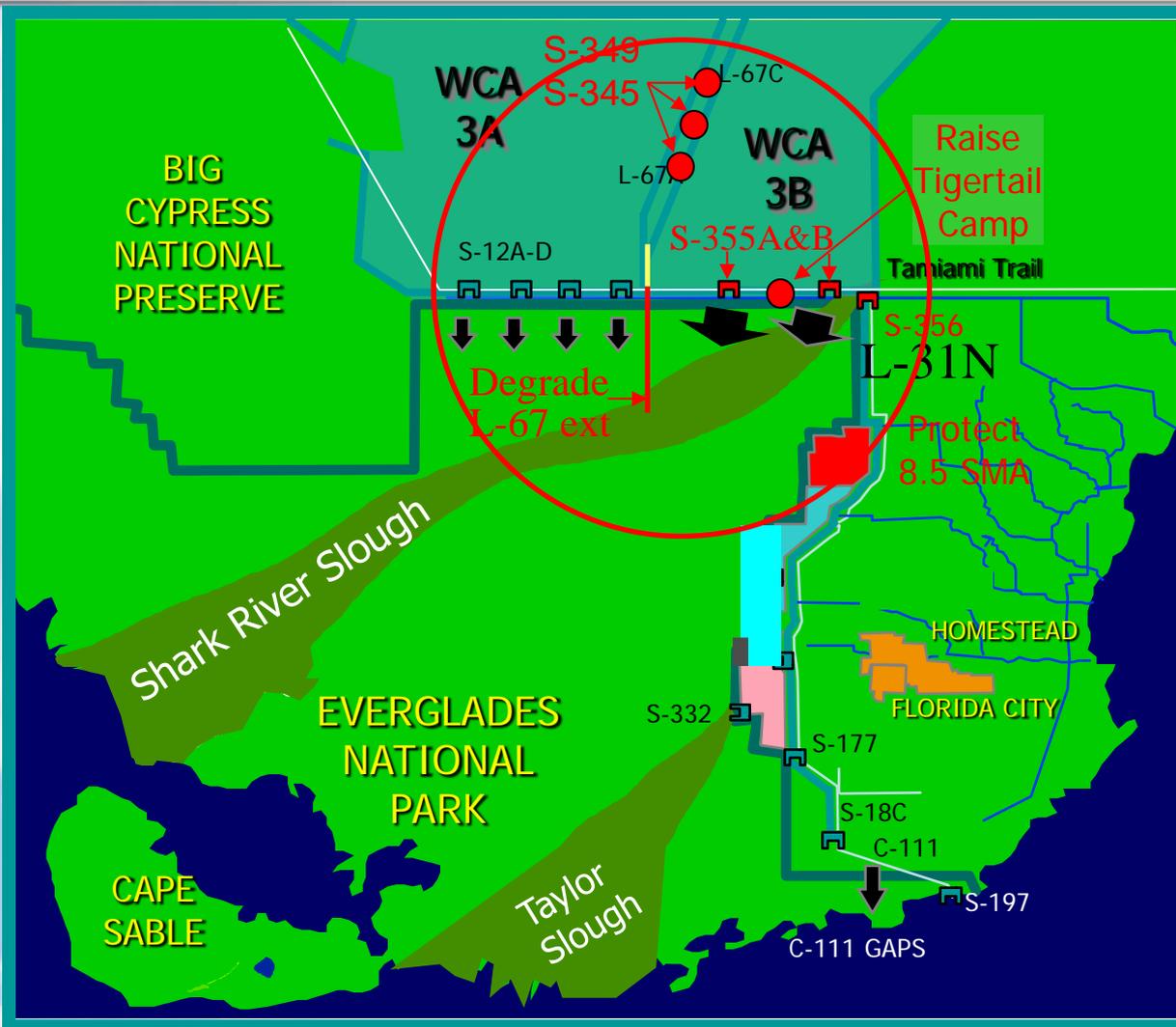
C-111 South Dade Project Status

- 2 contracts pending
 - Contract 8 - Northern Detention Area
 - Contract 9 - L-31W canal plugging
- Completion of Contract 8 is necessary to allow full operations of the Modified Water Deliveries project
- Working with Assistant Secretary of the Army – Civil Works to resolve policy issues for PCA Amendment to allow completion of Contracts 8 and 9
- Estimated total cost = \$290M
 - SFWMD investment to date - \$115M
 - Federal investment to date - \$120M



Modified Water Deliveries to Everglades National Park Project

Modified Water Deliveries to Everglades National Park Project

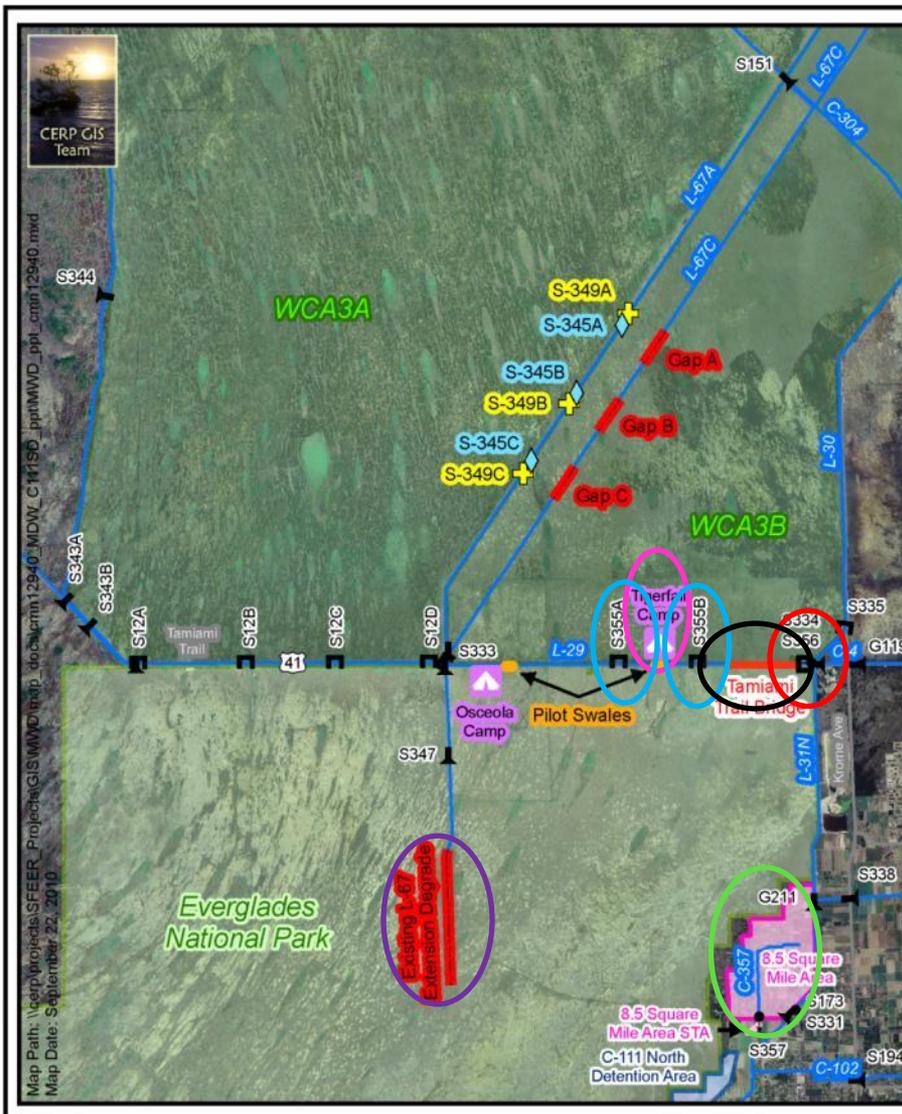


Goal is to improve water deliveries to Everglades National Park and restore more natural hydrological conditions in Northeast Shark River Slough

Modified Waters Project Authorization

- Authorization
 - Section 104 of the 1989 Everglades National Park Protection and Expansion Act
 - Project Cooperation Agreement signed in September 1994
 - Corps responsible for construction
 - 100% Federal funding for land and construction
 - 75/25 O&M Cost Share - Federal/ SFWMD
 - Agreement amended in July 2001 and August 2008
 - Amendment 1 modified 8.5 Square Mile Area features
 - Amendment 2 modified Tamiami Trail features

Modified Waters Project Components



- Constructed S-355A & S-355B
- Raised Tigertail Camp
- Degraded the lower 4 miles of L-67 extension & levee
- Constructed temporary S-356 pump station
- Completed construction of 8.5 Square Mile Area flood mitigation features
- One-mile Tamiami Trail bridge constructed

Modified Waters Project Status



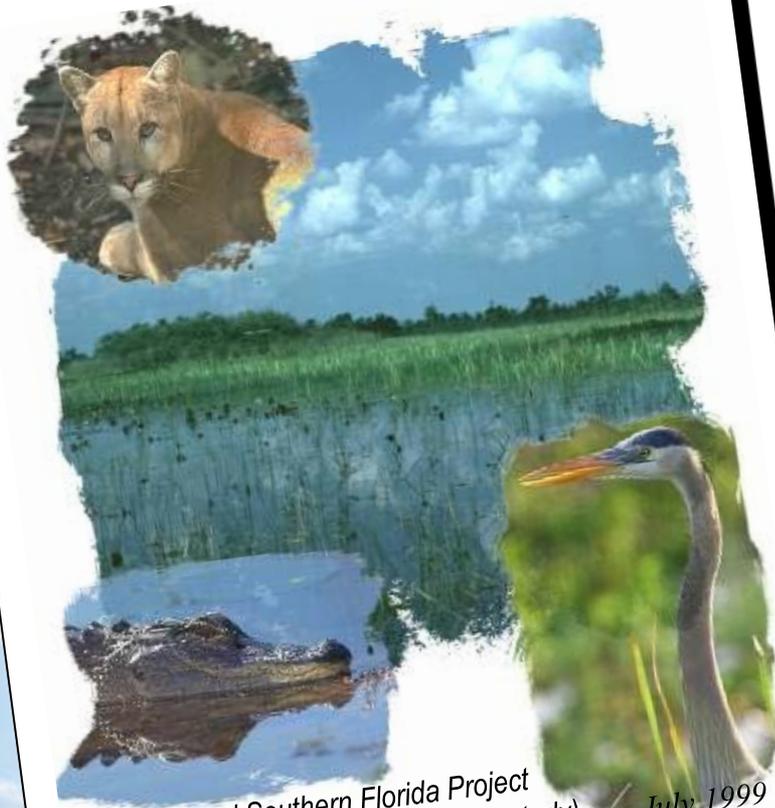
- Tamiami Trail bridge completed in 2013
- Modified Waters operations dependent on
 - Completion of C-111 SD Contract 8
 - Resolution of water quality issues
 - Development of operations plan
 - Lands and easements



CERP

Comprehensive Everglades Restoration Plan

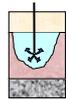
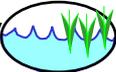
Rescuing an Endangered Ecosystem: The Plan to Restore America's Everglades

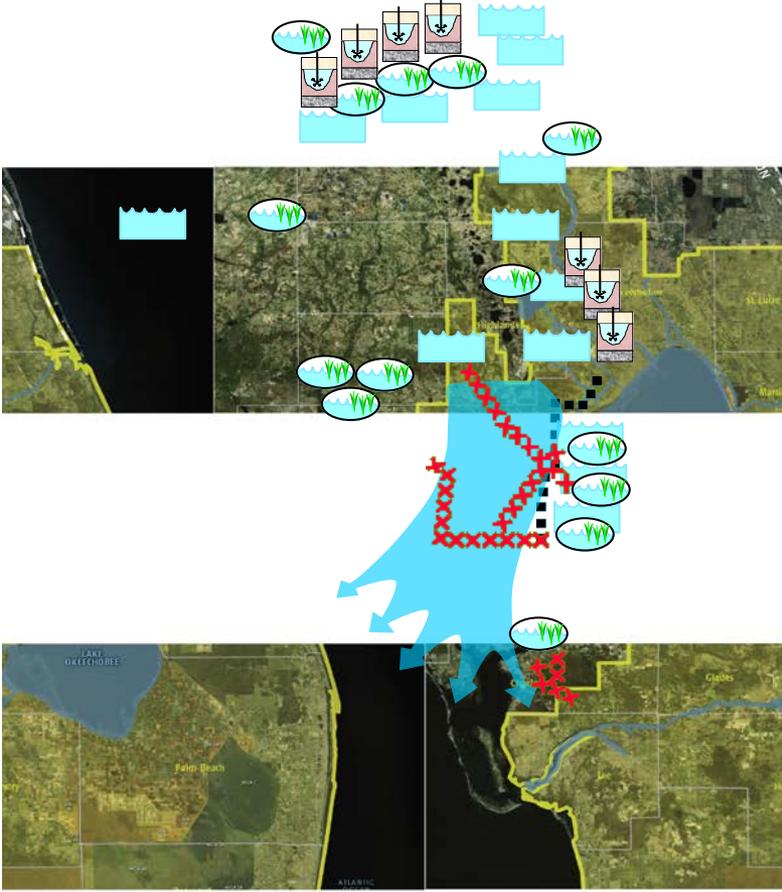


The Central and Southern Florida Project
Comprehensive Review Study (The Restudy) July 1999

- Purpose
 - Restore and improve quality, quantity, timing and flow of water
 - Provide sustainable water supply to meet environmental, agricultural and urban needs
- On July 1, 1999, the Secretary of the Army and the State of Florida presented the Plan to Congress
- Approved by Congress as the Framework for Everglades Restoration in the Water Resources Development Act of 2000 (WRDA-2000)

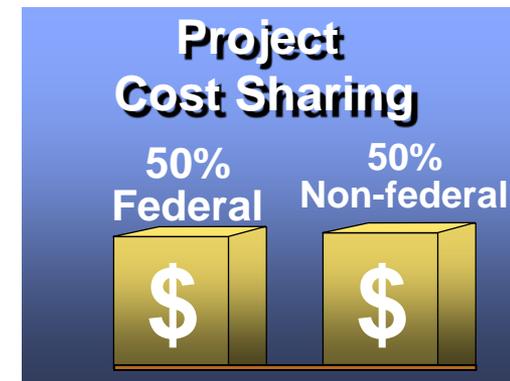
Comprehensive Everglades Restoration Plan (CERP)

- 68 Components
 - ▶ Storage  Surface  ASR
 - ▶ STAs for water quality 
 - ▶ Seepage management ■■■■
 - ▶ Removing barriers to flow 
 - ▶ Revised operations



WRDA-2000 CERP Authorizations

- Approved CERP as the framework for Everglades restoration
 - Required approval of a project implementation report for each project
- Authorized 50-50 Federal/ Non-federal cost share for all project phases
 - Planning
 - Design
 - Construction (and lands)
 - Operations and Maintenance
- Authorized Corps to credit the Sponsor for “in-kind work” on planning, design and construction
- Authorized Corps to carry-over credits between projects to balance the 50-50 cost-share programmatically



CERP Implementation



- Pre-CERP Foundation Projects**
 - ▶ Kissimmee River
 - ▶ C-111 South Dade
 - ▶ Modified Water Deliveries} Nearing Completion

- 1st Generation CERP**
 - ▶ Picayune Strand
 - ▶ IRL-South
 - ▶ Site 1 Impoundment} Under Construction

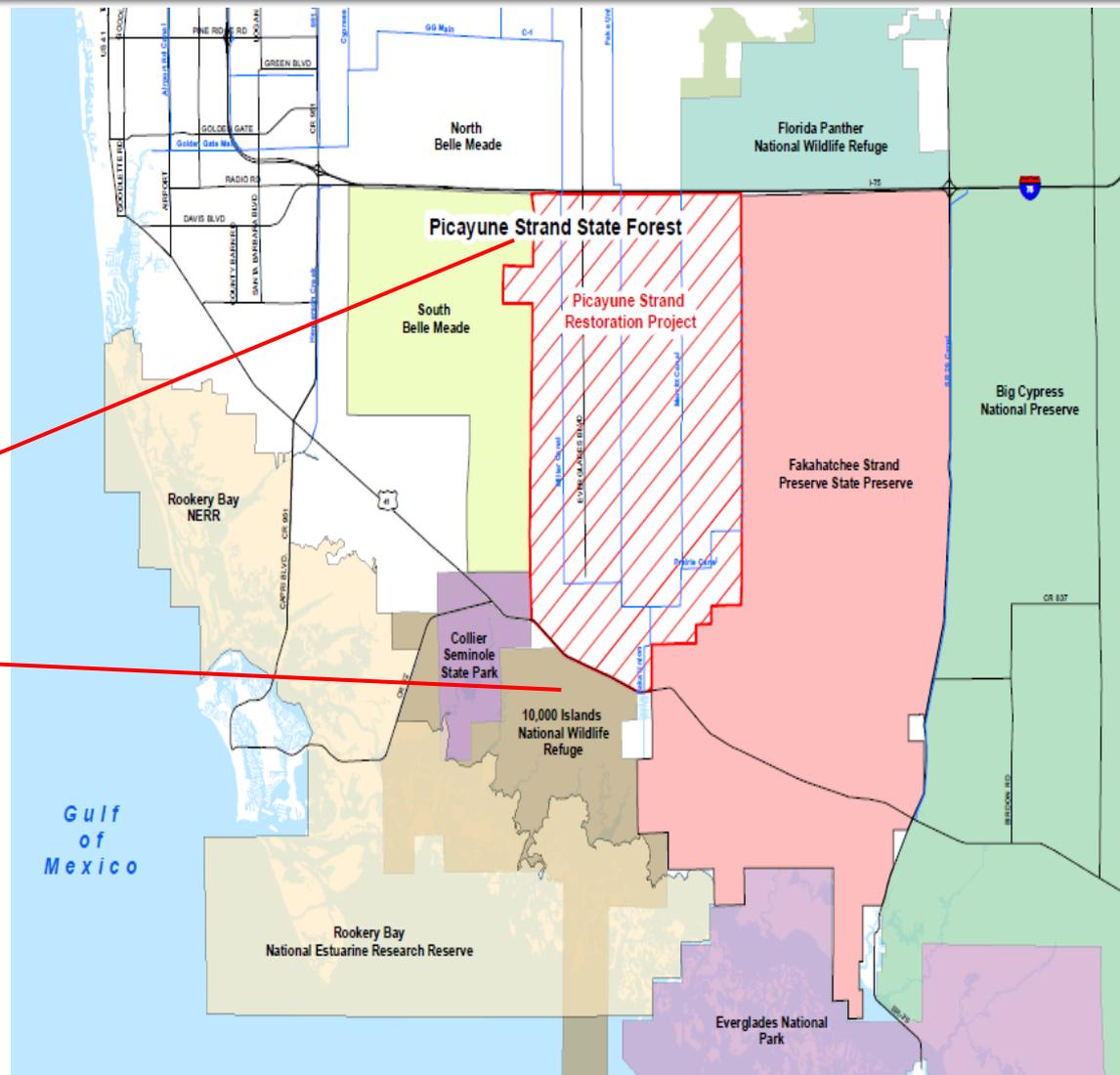
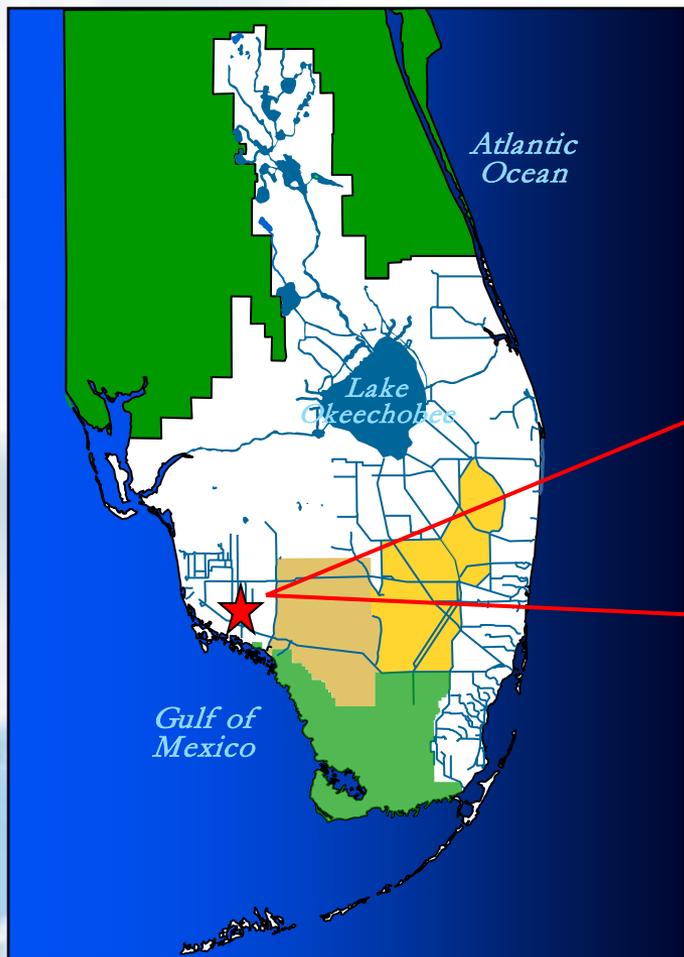
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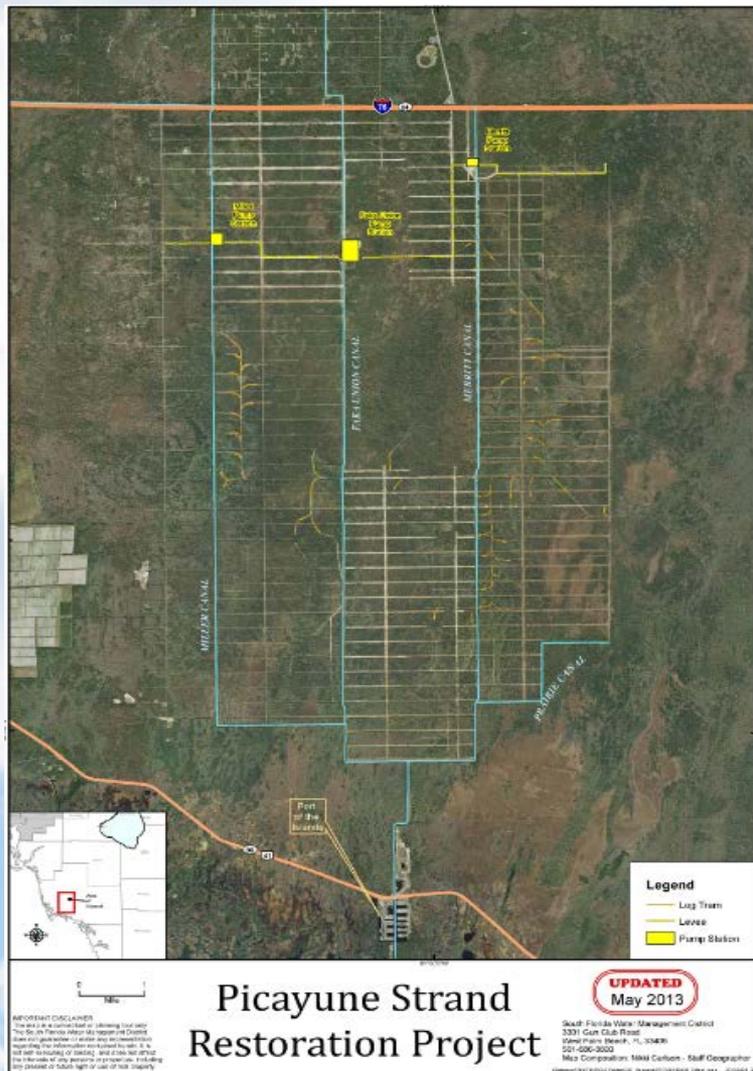


1st Generation CERP Projects

Picayune Strand Restoration



Picayune Strand Restoration Purpose and Authorization



■ Purpose

- Restore and enhance wetlands in Picayune Strand and adjacent public lands by reducing over-drainage
- Improve the water quality of coastal estuaries by moderating the large salinity fluctuations caused by point discharge of freshwater from the Faka Union Canal

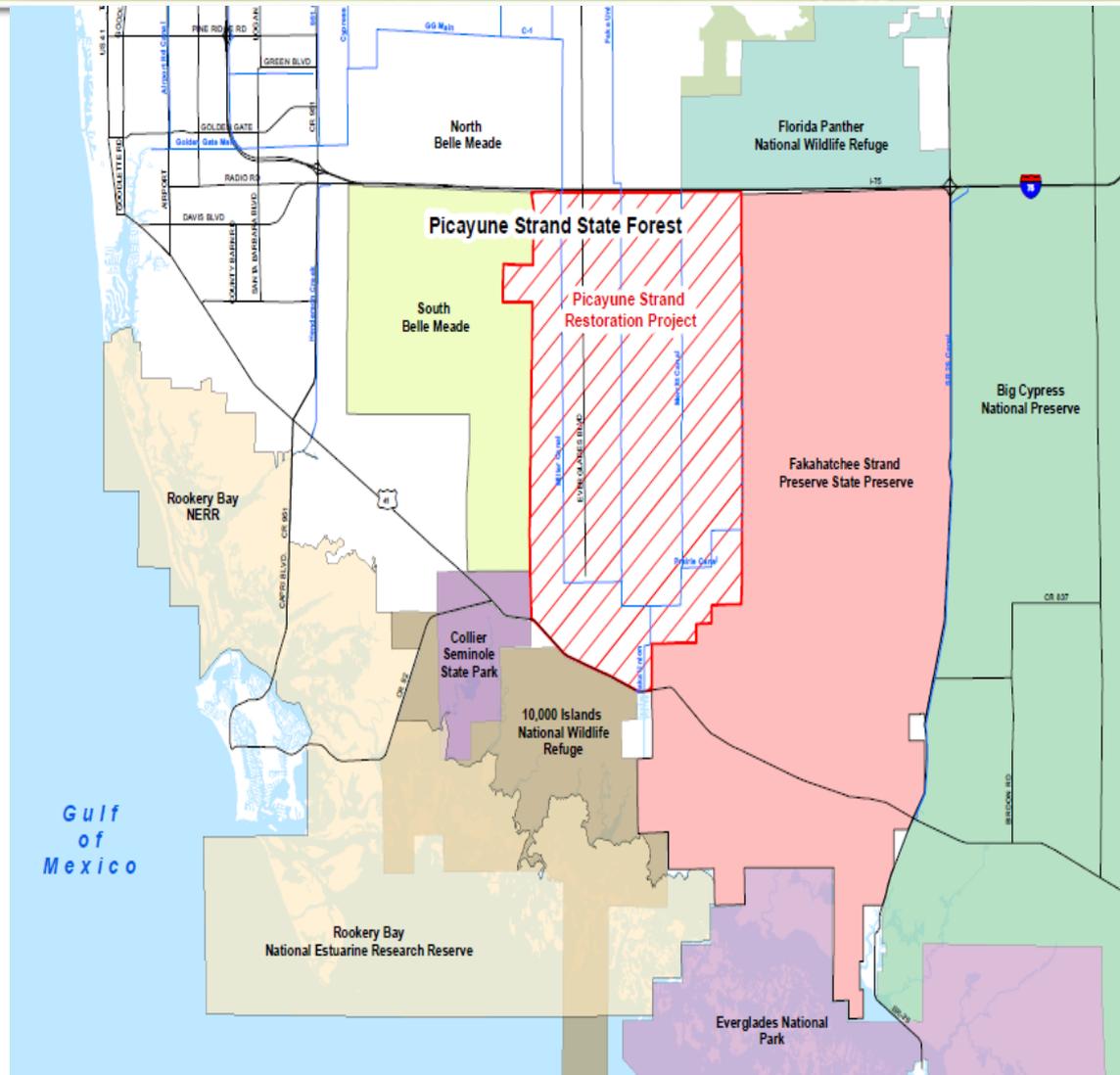
■ Authorization

- WRDA 2007
- Project Partnership Agreement (PPA) for all project features signed in August 2009

Picayune Strand Restoration Background

Picayune Strand Restoration will help to close the "hole in the donut" of publicly owned and protected lands in the area, including:

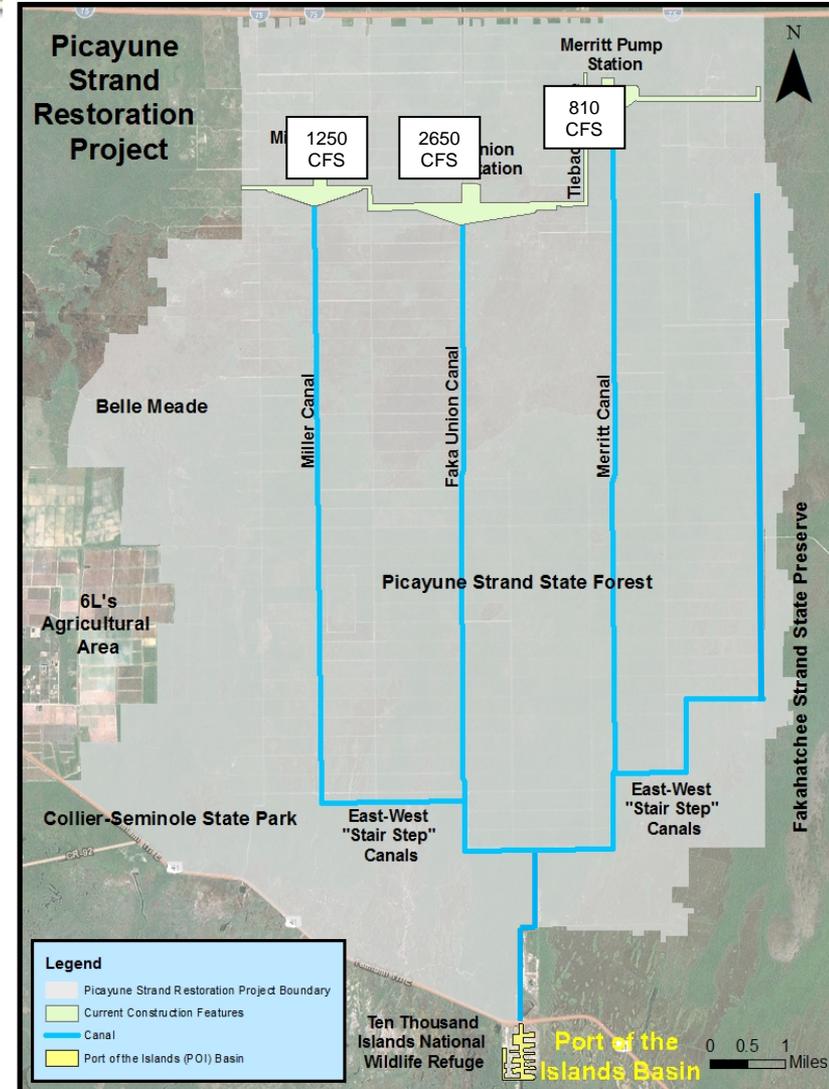
- Big Cypress National Preserve
- Fakahatchee Strand State Preserve
- Florida Panther National Wildlife Refuge
- Collier-Seminole State Park
- Ten Thousand Islands National Wildlife Refuge



Picayune Strand Restoration Project- Components

Project features include:

- Three pump stations
 - Merritt – 810 cfs
 - Faka Union – 2650 cfs
 - Miller – 1250 cfs
- Plugging 48 miles of canals
- Removing 227 miles of roads
- Removing 61 miles of tram roads
- Flood protection features for adjacent lands
- Manatee mitigation feature



Picayune Strand Restoration Status

■ Road removal

- Phases I-III complete
- Phase IV-On hold pending additional spending authorization

■ Canal Plugs

- Prairie – complete 2007
- Merritt – complete 2014
- Faka Union and Miller – pending additional spending authorization

■ Pump stations

- Merritt complete December 2013
- Faka Union and Miller under construction

■ Mitigation and protection features

- Manatee Mitigation Feature is in design



- Estimated total cost = \$600M
 - State/ SFWMD investment to date - \$175M
 - Federal investment to date - \$305M



Indian River Lagoon South

IRL-S Purpose and Authorization

■ Purpose

- To construct storage and water quality improvement features to help reduce harmful freshwater discharges and reduce nutrient loading to the St. Lucie Estuary and Indian River Lagoon, and to increase wetland/upland habitat for threatened and endangered species



■ Authorization

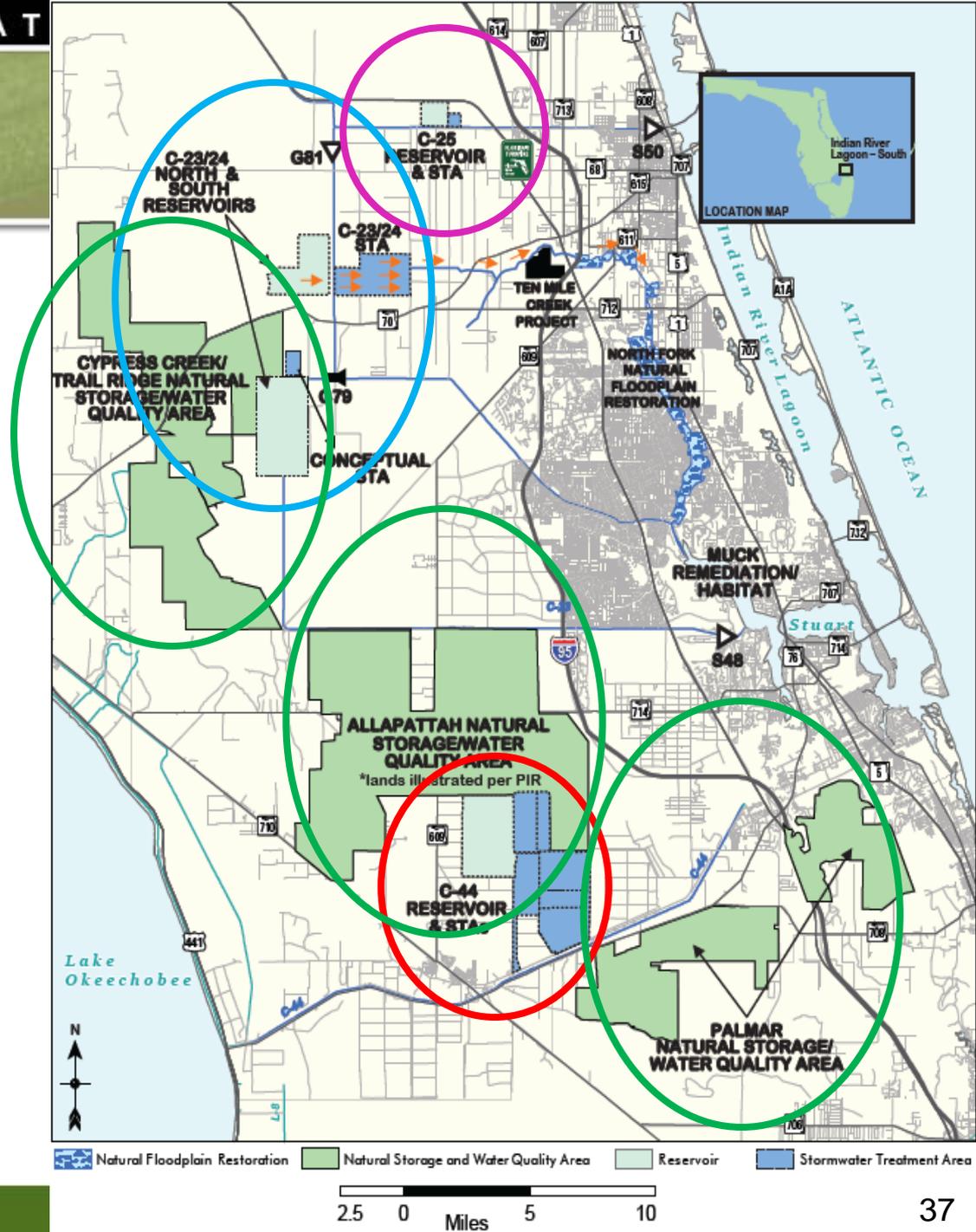
- WRDA 2007
- PPA signed in September 2010 for:
 - C-44, C-23/24 and C-25 Reservoirs and STAs



IRL – South

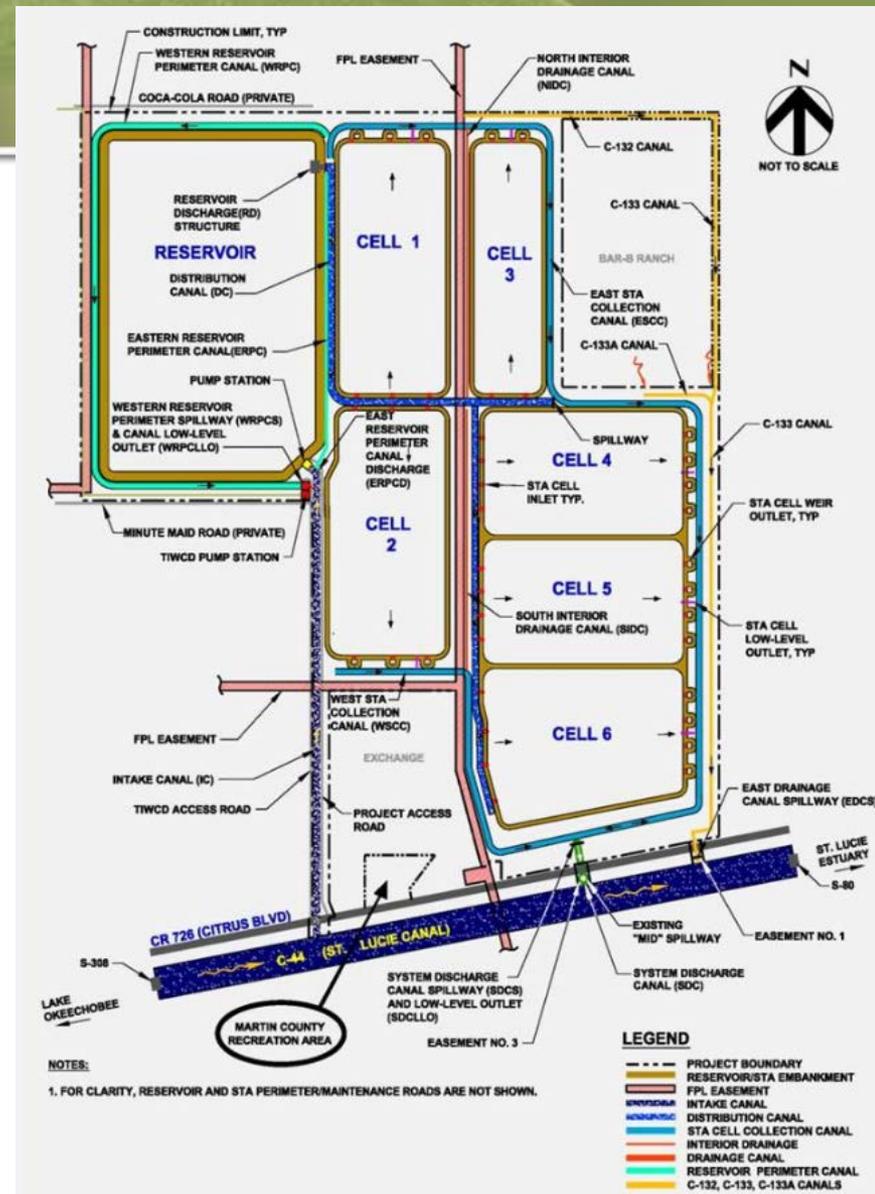
Authorized Components:

- C-44 Reservoir & STA
 - 3,400 acre reservoir – 50,600 acre feet
 - 6,300 acre STA (6 cells)
- C-23/24 Reservoirs & STA
 - N/S Reservoirs - ~100,000 acre feet
 - 2,500 acre STA – 4 cells
- C-25 Reservoir/STA
 - 741 acre Reservoir – 5,900 acre feet
 - 163 acre STA
- ~ 90,000 acres Natural Water Storage & Treatment Area (NWSTA)
 - Allapattah - C-23 Basin
 - Palmar/SouthFork – C-44 Basin
 - Cypress Creek/Trail Ridge – C-23/24 Basin



IRL South Phase 1 Status

- **C-44 Reservoir and STA**
 - SFWMD has acquired 100% of lands needed for C-44 reservoir and STA
 - Corps is the lead on construction of reservoir
 - SFWMD pursuing construction of STAs/ reservoir discharge canal and pump station
 - Anticipated construction start of June 2014
- **C-23/24 Reservoir and STA**
 - 100% of land acquired for north reservoir and STA
 - 78% of land acquired for south reservoir
- **C-25 Reservoir and STA**
 - No lands acquired to date



C-44 Reservoir and STA

IRL South Phase 1 Status

- Estimated total cost = \$1.45B
 - State investment to date - \$365M
 - Federal investment to date - \$55M



C-44 Intake Canal



Site 1

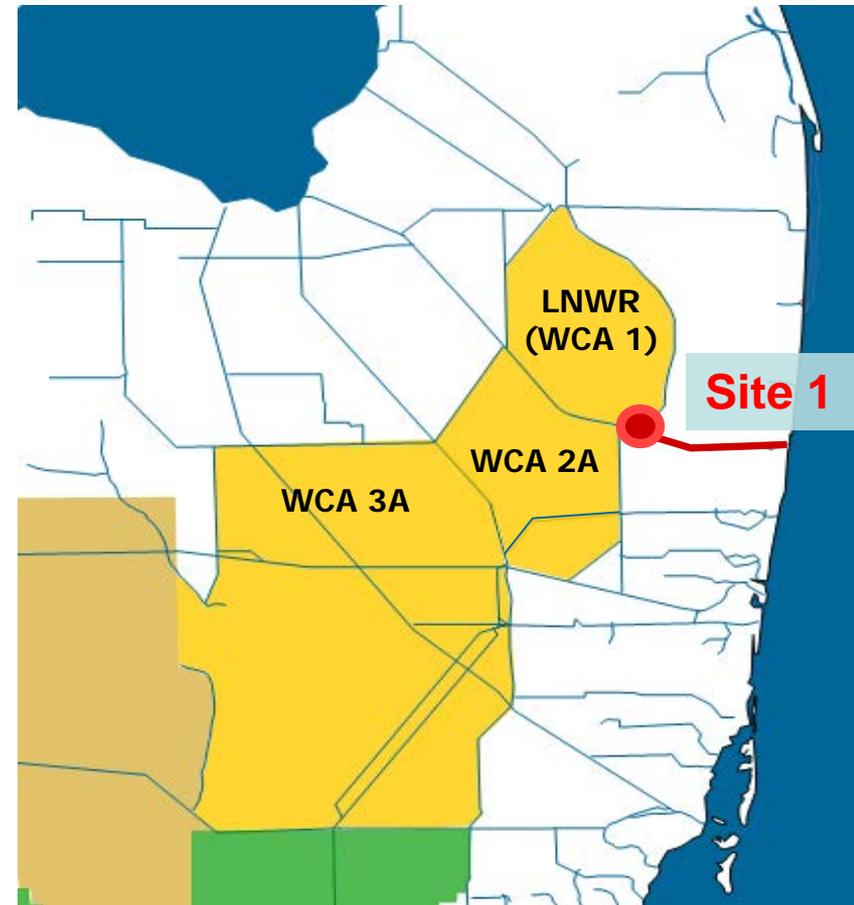
Site 1 Purpose and Authorization

■ Purpose

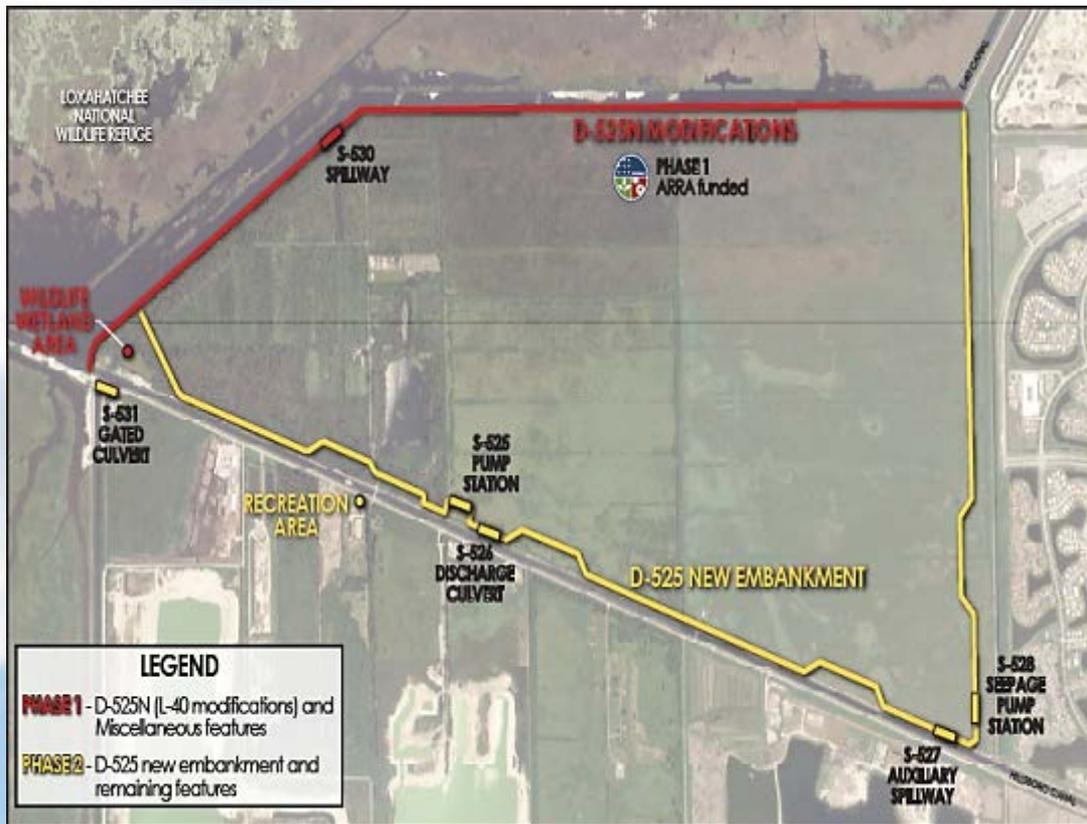
- Improve hydroperiods and hydropatterns in Loxahatchee National Wildlife Refuge and WCA-2A by capturing and storing excess water currently discharged to tide via Hillsboro Canal

■ Authorization

- WRDA 2007
- PPA signed in June 2010



Site 1



- Phase 1 components

- L-40 modifications, seepage management measures and construction of a six-acre wildlife wetland area and an auxiliary spillway

- Phase 2 components

- Site work, construction of inflow and seepage pump stations, associated impoundment structures, canal improvements and D-525 embankment improvements

Site 1 Status

- Phase 1
 - Construction scheduled for completion in 2014
- Phase 2
 - Requires additional planning and authorization
- Estimated Phase 1 total cost = \$85M
 - State/ SFWMD investment to date - \$8M
 - Federal investment to date - \$68M



Summary of WRAC Member Comments

- Appreciated the information
- Requested additional information including
 - Matrix of all federal and state projects
 - More information on project benefits
 - Projects that are prerequisites/predecessors to other projects
- Should review prior prioritizations/sequencing (e.g., Master Implementation Sequencing Plan, Integrated Delivery Schedule)



Questions?