

The Great Northern Everglades Debate

July 22, 2014

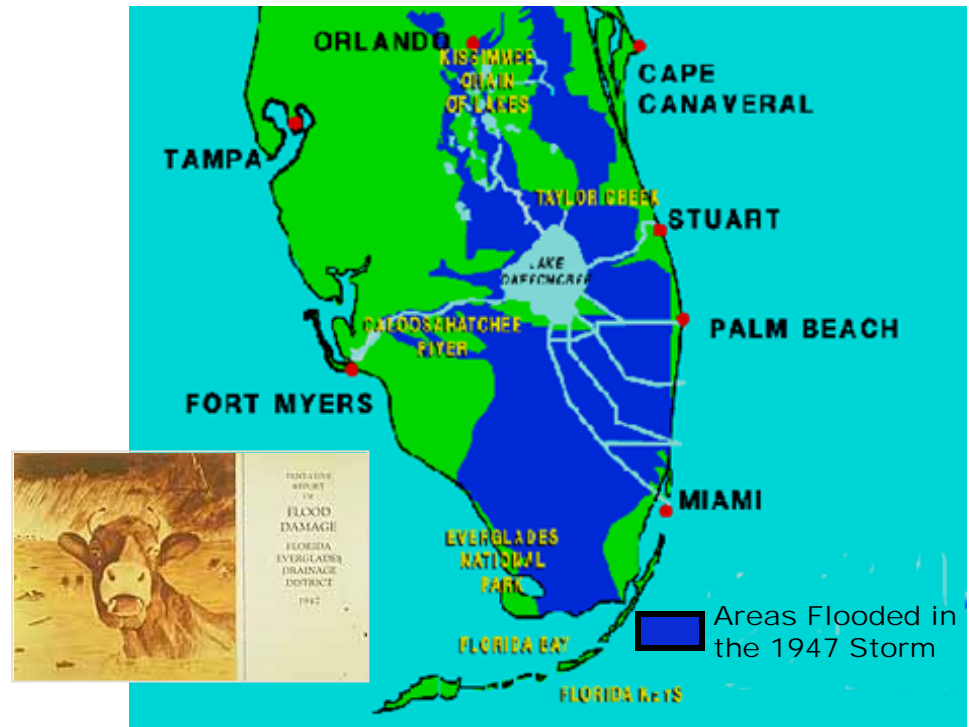
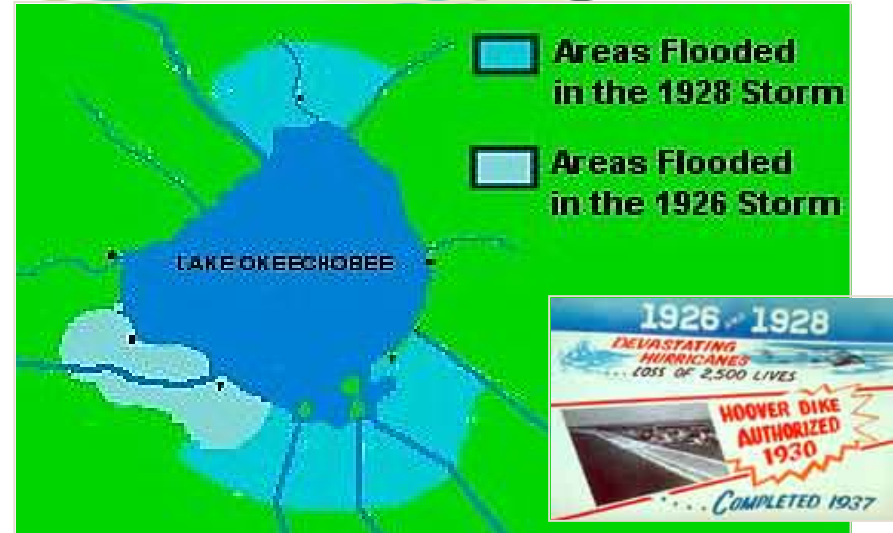
Temperince Morgan

*Director, Office of Everglades Policy & Coordination
South Florida Water Management District*



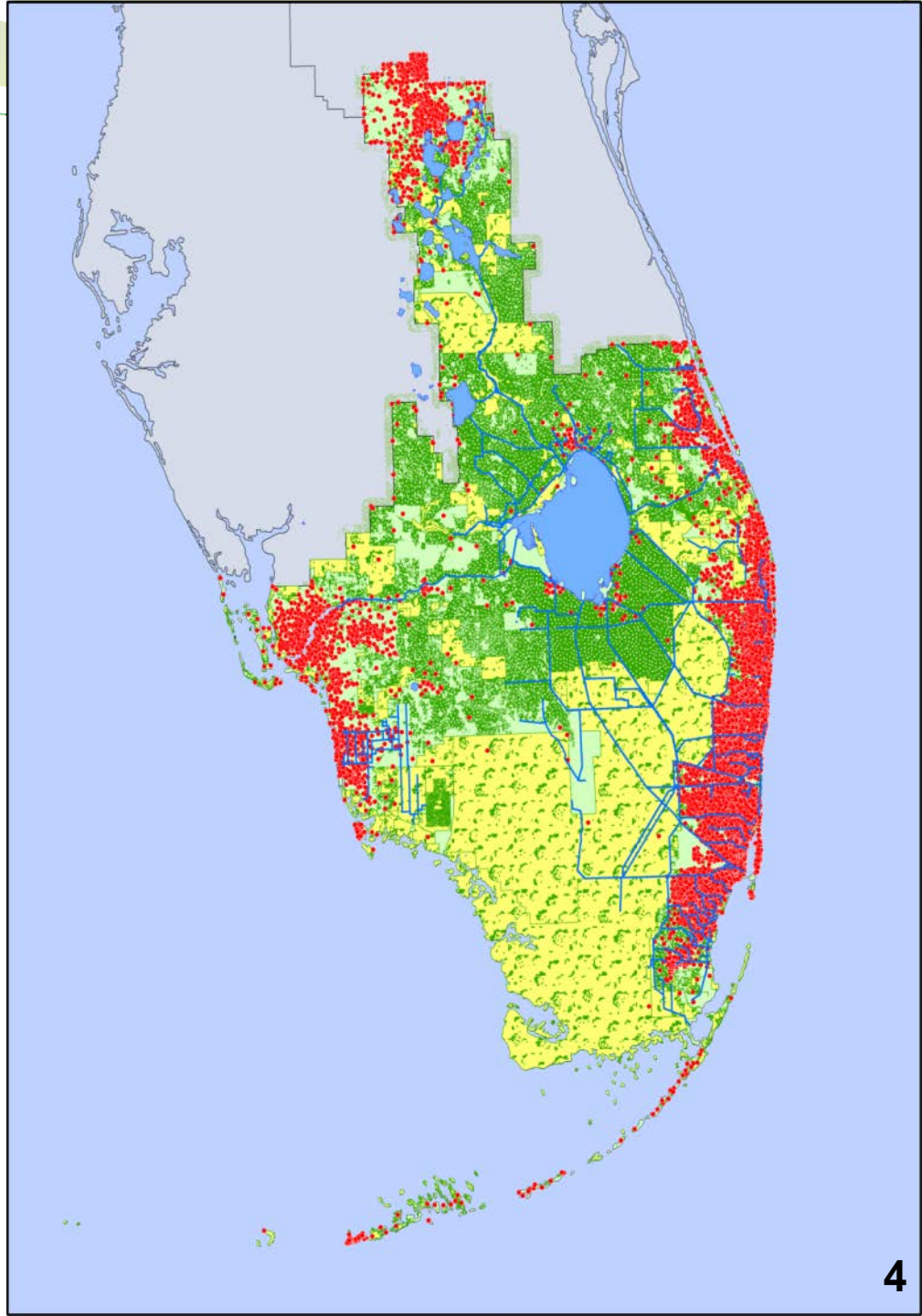
Historical Problems Leading to Construction of C&SF Project

- Hurricanes in 1926 and 1928 resulted in failure of the levee around Lake Okeechobee
- Hurricane in 1947 resulted in wide-spread flooding throughout South Florida
- State of Florida requested Federal assistance in 1947
- Congress authorized the C&SF Project in 1948



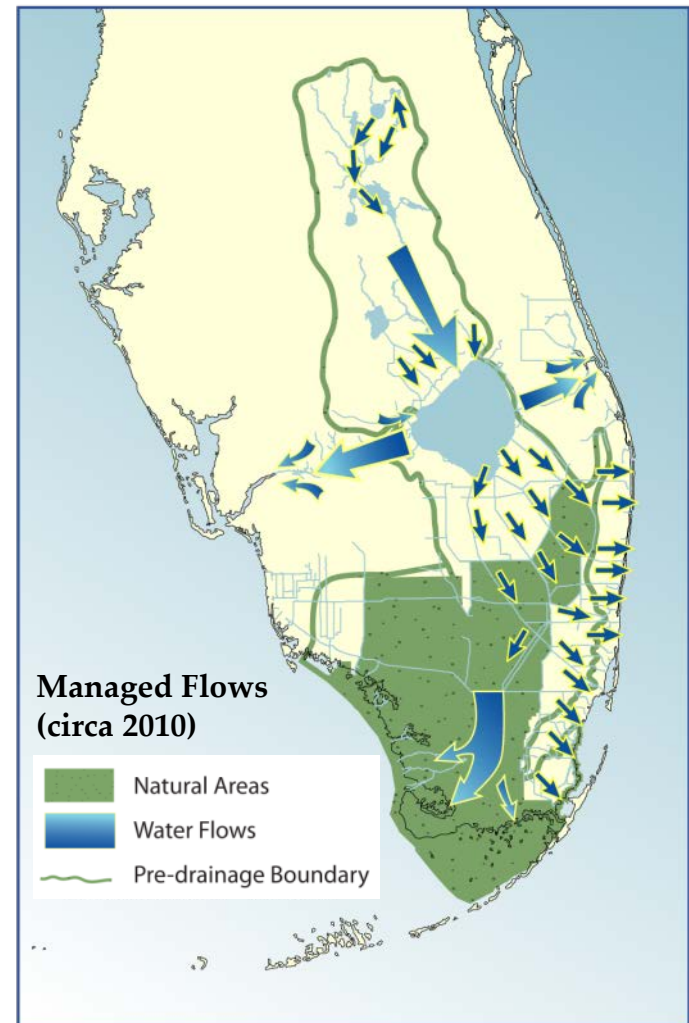
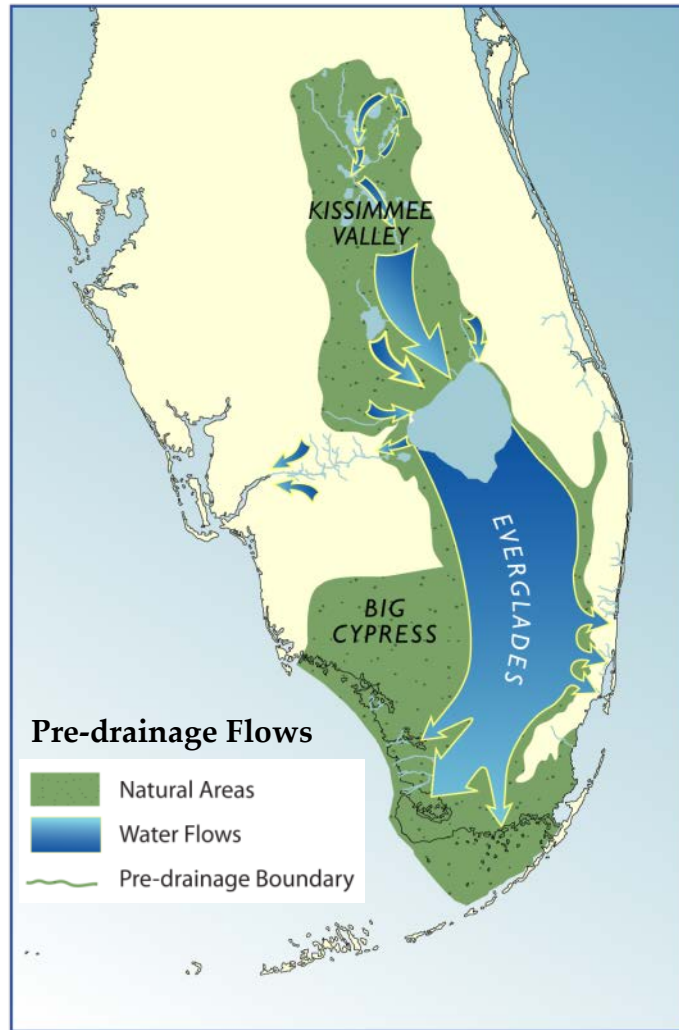
South Florida

- SFWMD lands stretch 240 miles from Orlando to the Keys
- 18,000 sq. miles, encompassing one of the most diverse ecosystems in the world
- ~2,000 miles of canals
- ~2,800 miles of levees
- More than 650 water control structures and 700 project culverts
- Nearly 70 pump stations
- 8.1 million residents
- More than 3 million acres of agriculture
- Florida's commitment: Protected/Managed natural areas



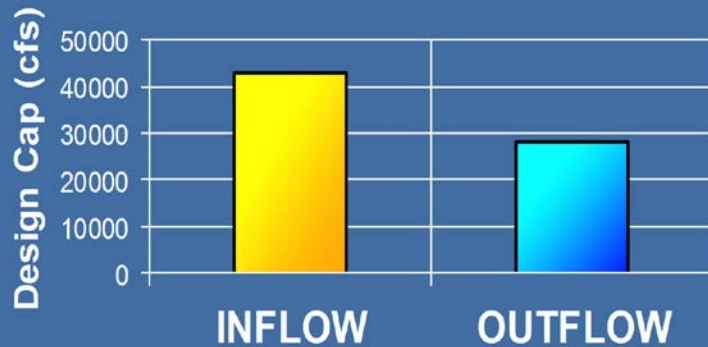
Changes in Hydrology

The Need for Increased Flows to South

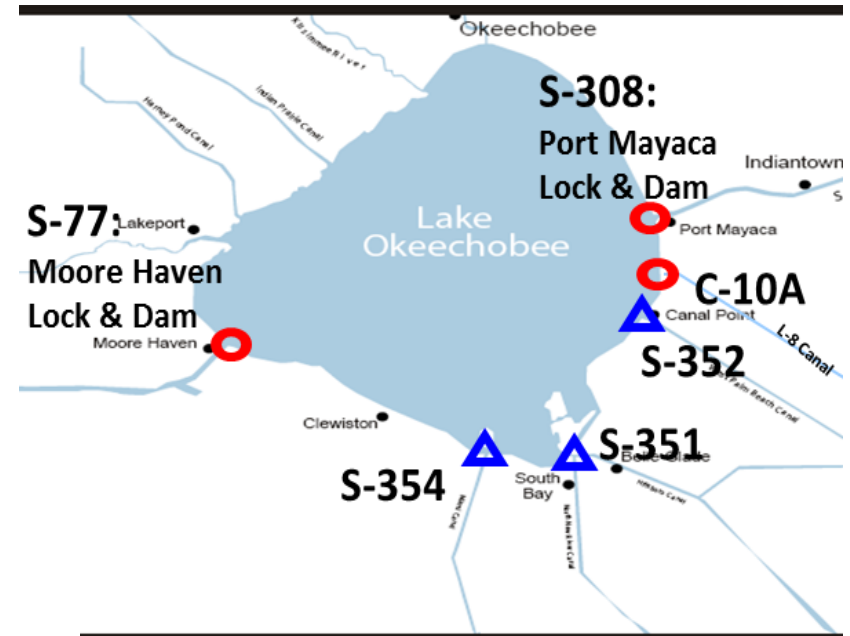
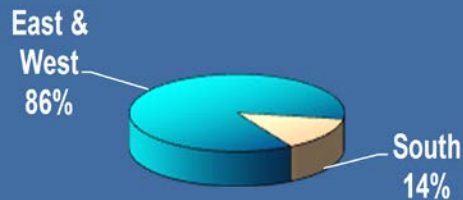


Lake Okeechobee Design Discharge Capacities

**Lake Okeechobee
Structure Capacity**

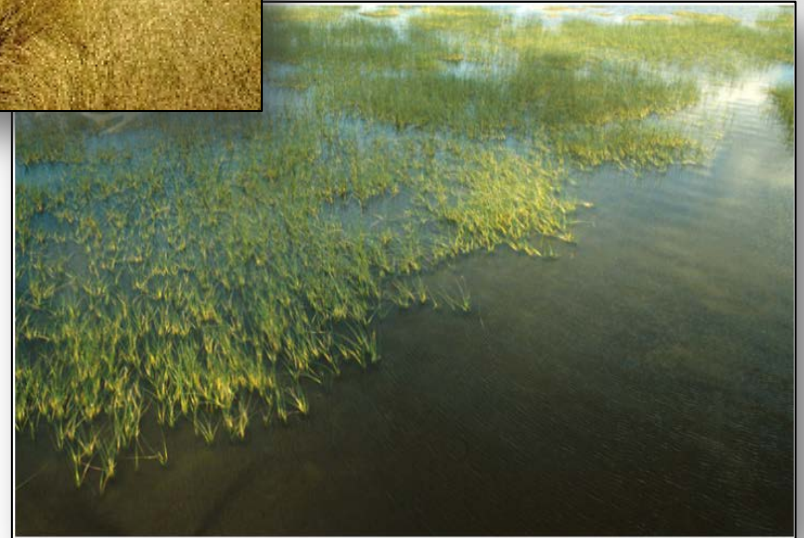


**Lake Okeechobee
Outflow Capacity**

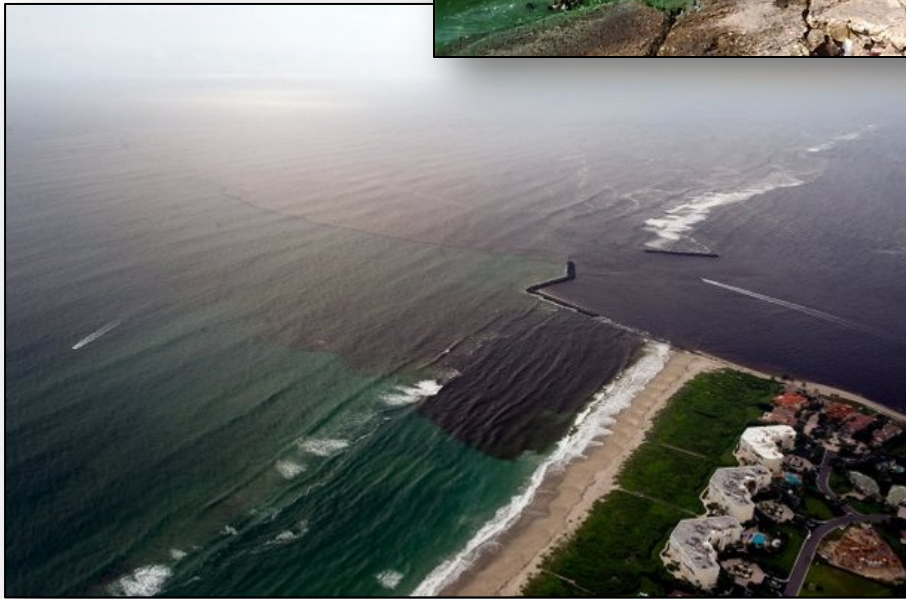


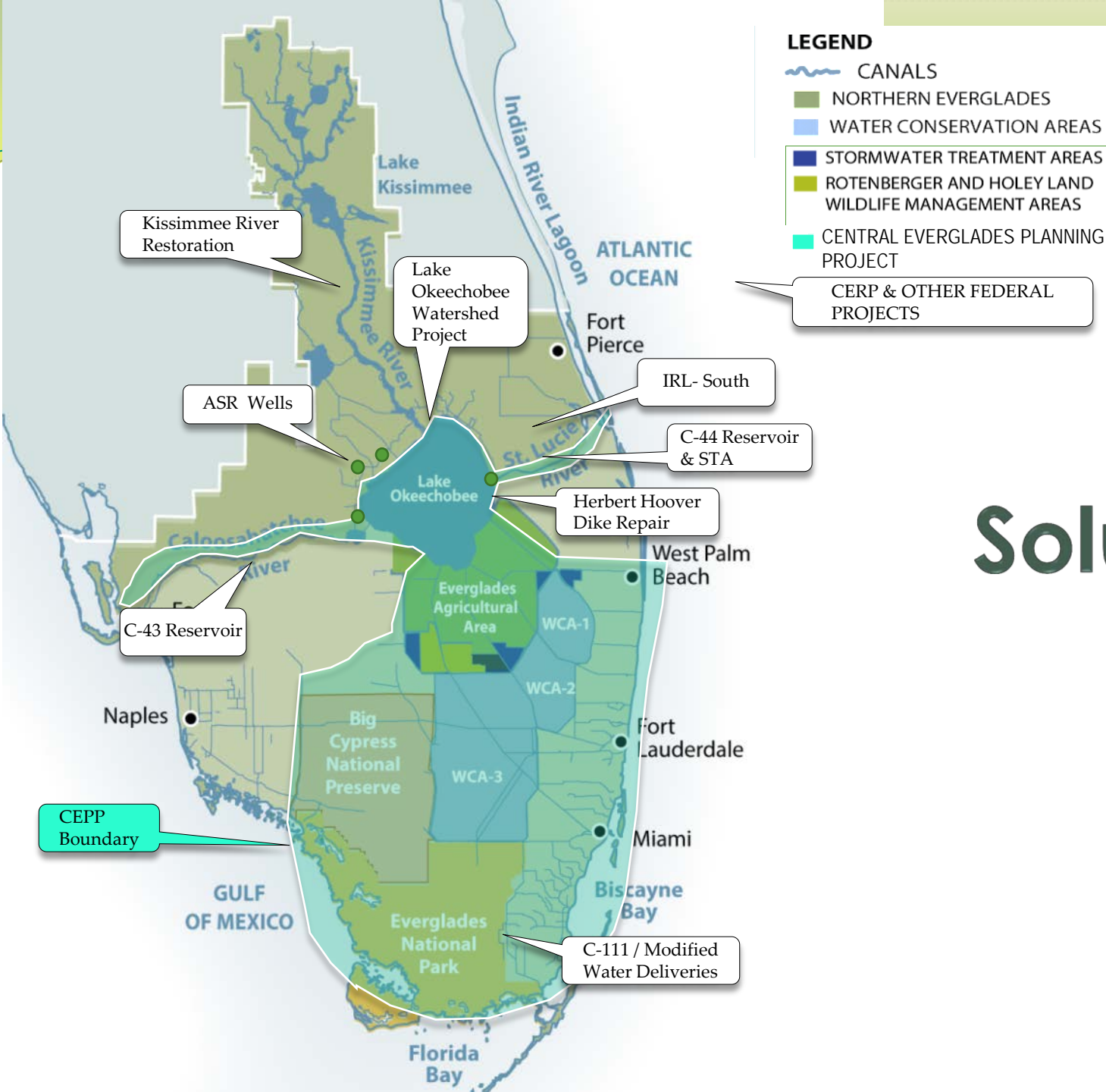
Lake Okeechobee outlet structures managed
by the **USACE** (red○) and the **SFWMD** (blue△)

Unintended Consequences Lake Okeechobee



Unintended Consequences - Estuaries





Solutions

Short-term/Emergency Measures

Maximizing Storage on Public and Private Lands

Public

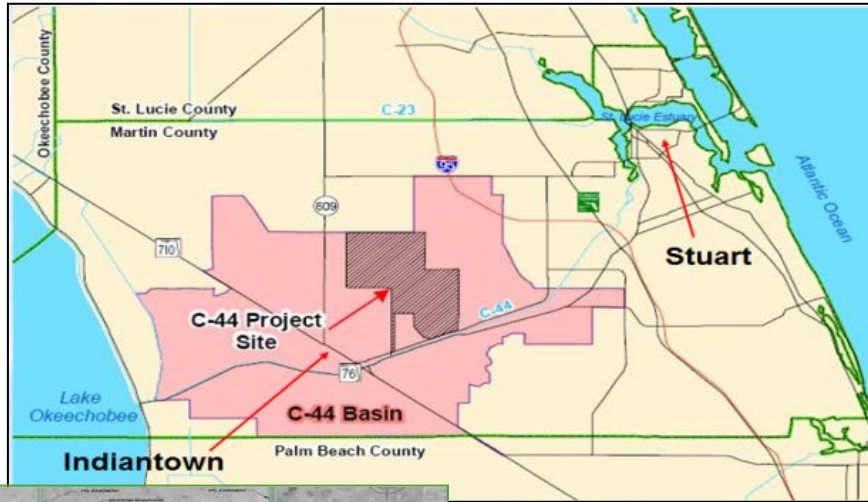


Private

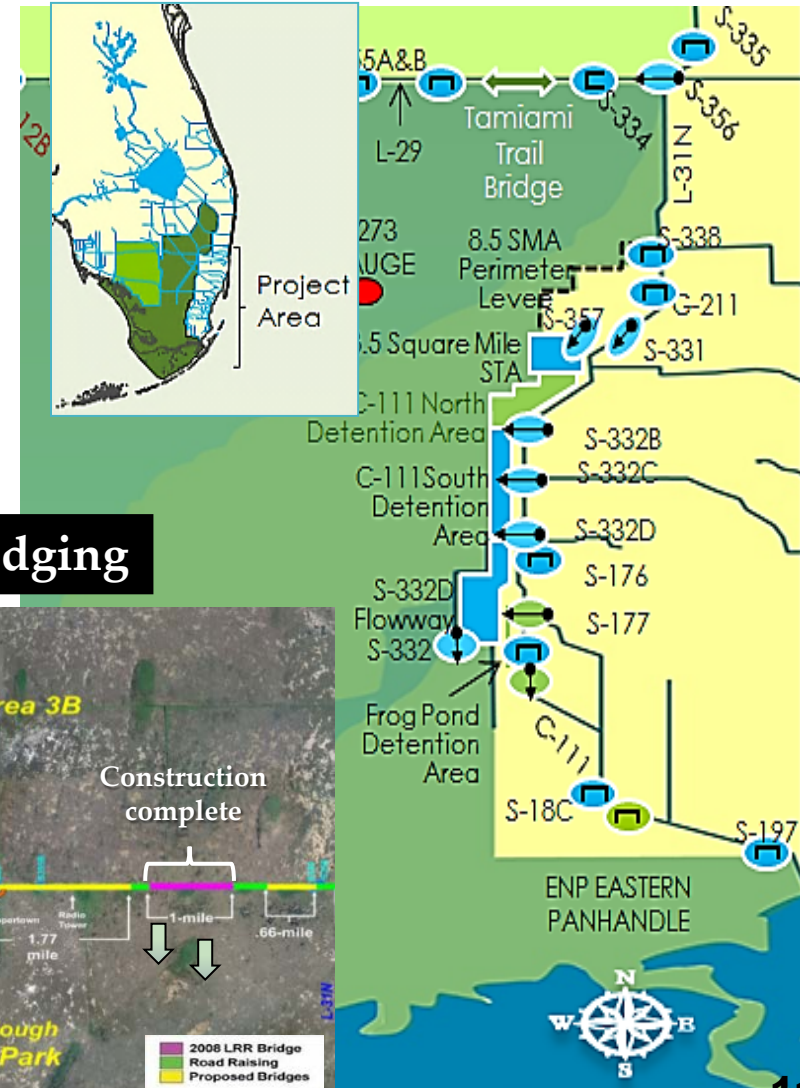


Near-Term Restoration Projects

C-44 Reservoir and STA



Central and Southern Projects C-111 South Dade / Mod Waters



Tamiami Trail Bridging



Northern Everglades & Estuaries Protection Program

Kissimmee River Restoration Lake Okeechobee Watershed

An aerial photograph showing a vast, intricate wetland landscape. A central, dark blue waterway winds through the scene, branching out into numerous smaller channels and pools. The surrounding land is a mosaic of green, brown, and grey, indicating different types of vegetation and soil. The overall impression is one of a complex, interconnected ecosystem.

IRL-S Project St. Lucie Watershed

The map displays the St. Lucie Watershed with various water quality and storage areas highlighted. Key features include:

- C-3054 NORTH & RESERVOIRS** (circled in blue)
- CYPRESS CREEK TRAIL RIDGE NATURAL STORAGE/WATER QUALITY AREA** (circled in green)
- CONCH TUAL STA** (circled in blue)
- ALLAPATTAH NATURAL STORAGE/WATER QUALITY AREA** (circled in green)
- G-41 RESERVOIR & STA** (circled in red)
- PALMAR NATURAL STORAGE/WATER QUALITY AREA** (circled in green)
- MUCK REDEMPTION HARBOR**
- Indian River Lagoon**
- Atlantic Ocean**
- Lake Okechobee**

Legend:

- Natural Floodplain Restoration (light green)
- Natural Storage and Water Quality Area (dark green)
- Reservoir (light blue)
- Stormwater Treatment Area (dark blue)

Scale: 0 to 10 Miles

Inset Map: Indian River Lagoon Basin

Map of Lake Okeechobee Watershed and Surrounding Areas. The map shows the Lake Okeechobee Watershed in orange, the St. Lucie/Lake Okeechobee Watershed Overlap in yellow, the Caloosahatchee/Lake Okeechobee Watershed Overlap in purple, the Caloosahatchee Watershed in blue, and the St. Lucie River Watershed in green. The map also shows the Atlantic Ocean to the east and various counties including Lake, Orange, Polk, Hardee, DeSoto, Highlands, Okeechobee, St. Lucie, Martin, Glades, Hendry, Collier, and Palm Beach.

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Central Everglades Planning Project

Kissimmee River Restoration

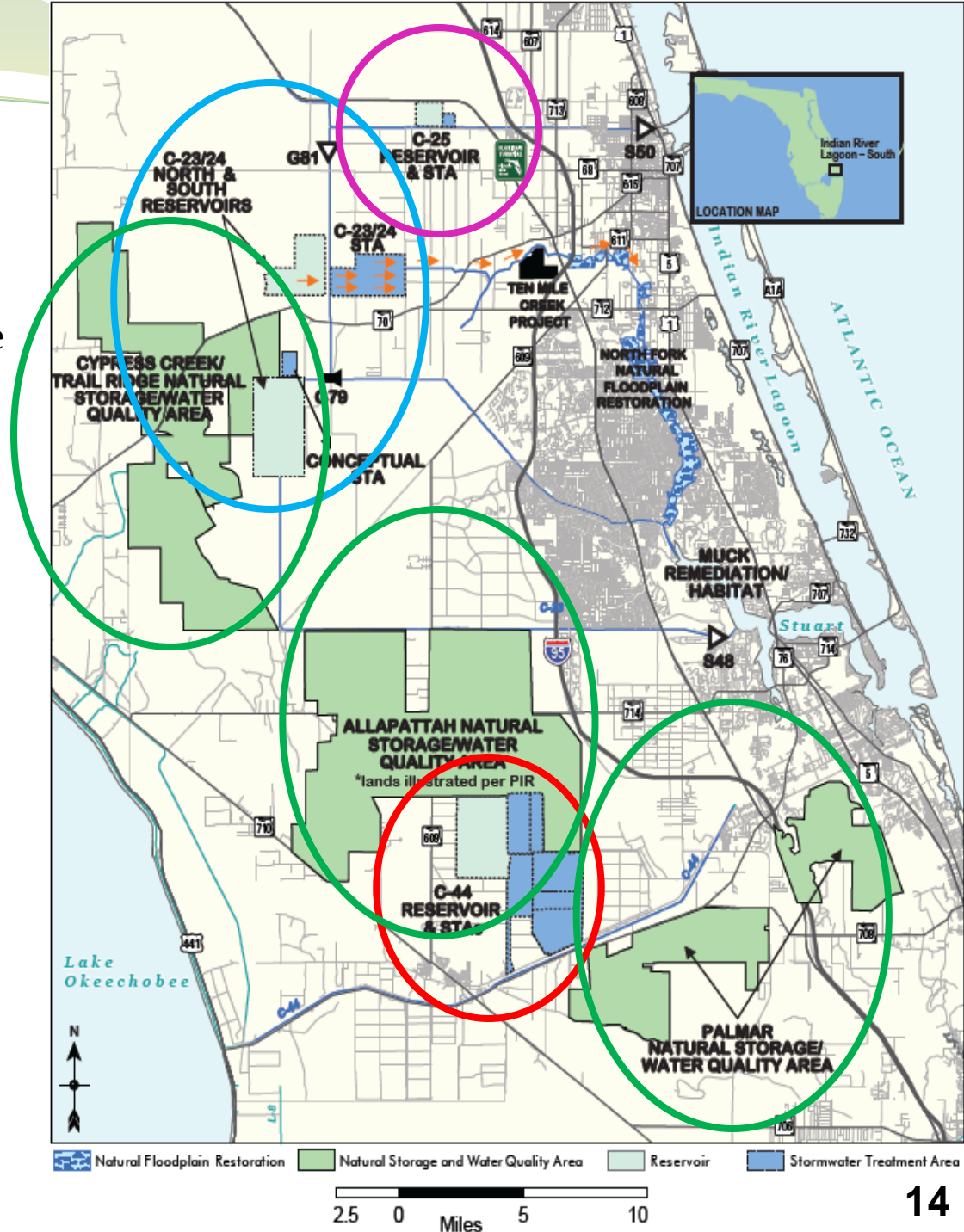
- Lower Basin Construction Project
 - Three construction phases complete, two remaining
 - Last backfill phase will store an additional 20,000 ac-ft of water in floodplain
- Upper Basin (Headwaters)
 - Restoration construction substantially complete; 97% land acquired
 - Provides up to 100,000 ac-ft of storage



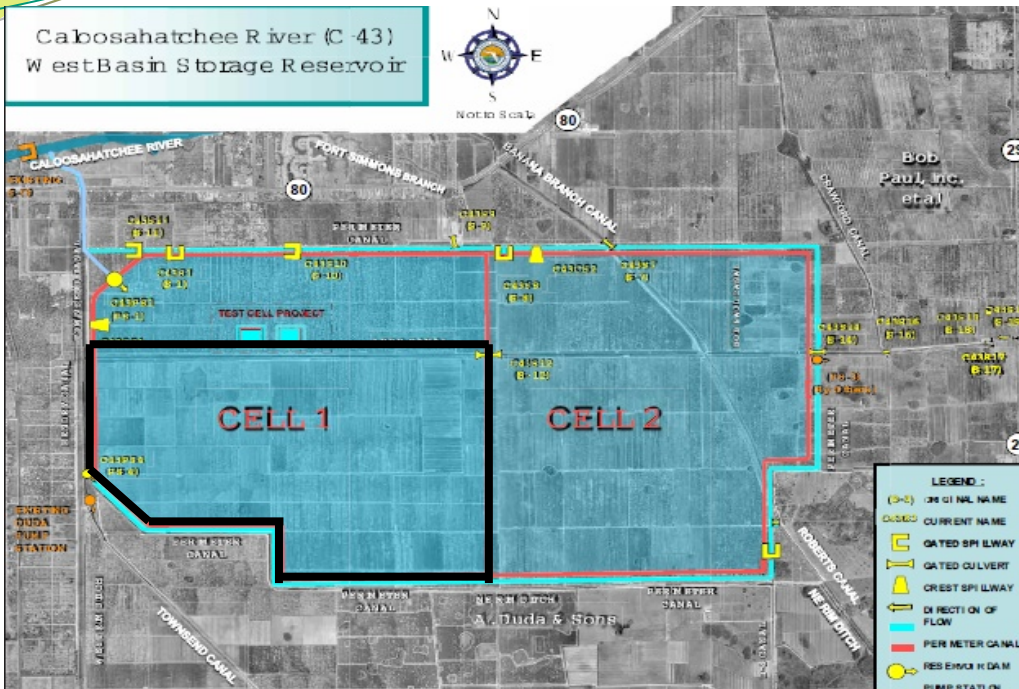
Indian River Lagoon – South

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



C-43 Projects



West Basin Reservoir

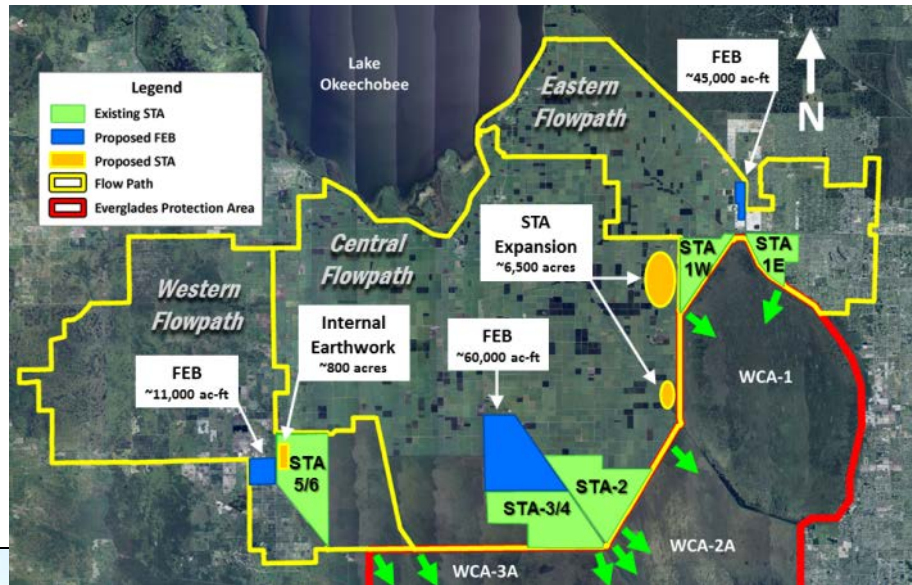
- Capacity – 170,000 ac/ft
- Authorized in WRRDA 2014; Pending Federal appropriations

Interim Storage

- Provides temporary shallow storage to help mitigate the impact of excessive flows to the Caloosahatchee Estuary
- 9,000 ac-ft of storage
- \$18M in state funding in FY15



Restoration Strategies



RESTORATION STRATEGIES

for Clean Water for the Everglades

A-1 Flow Equalization Basin

- Under construction ahead of schedule



L-8 Flow Equalization Basin

- Under construction ahead of schedule



Stormwater Treatment Area 1 West Expansion

- Conceptual design underway



Loxahatchee River Restoration

- Land acquired for shallow storage



Reducing Pollution at the Source

- Early start on 2 source control projects



Science Plan

- 8 key studies underway to further improve STA performance

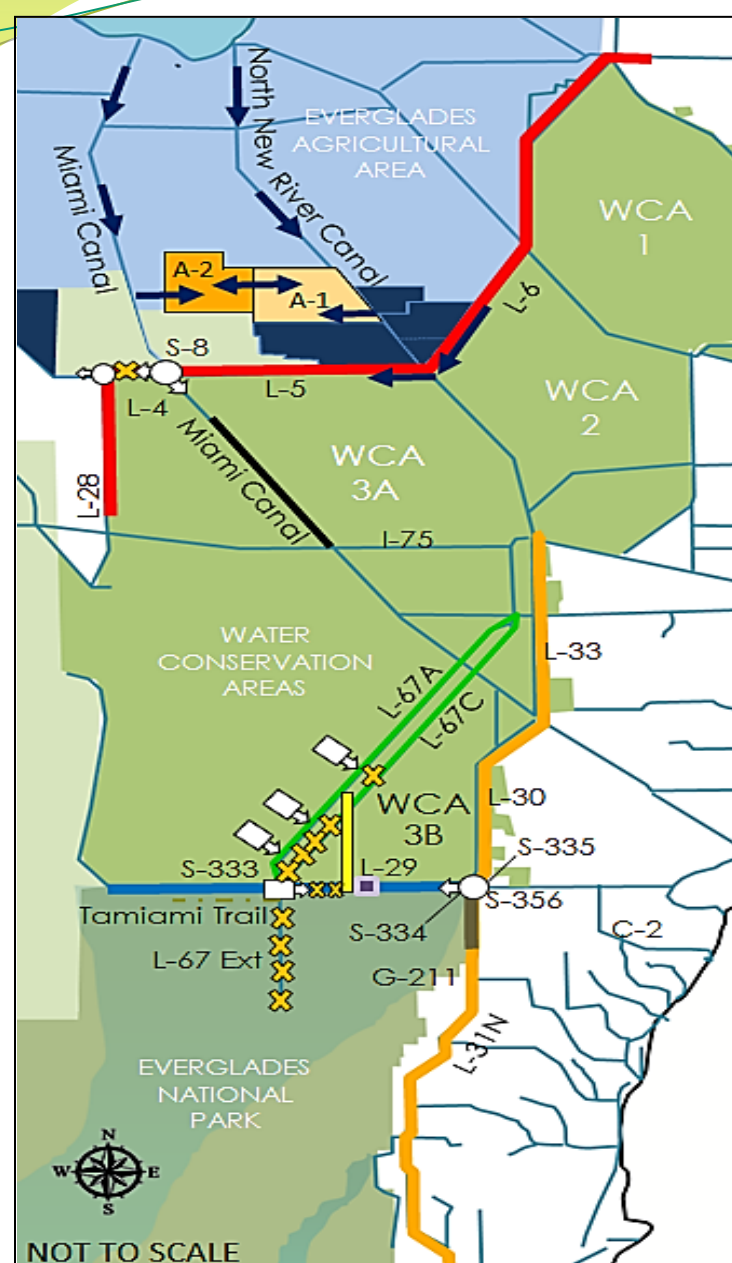


Additional Conveyance Features

- Detailed design underway ahead of schedule



Central Everglades Planning Project



- Increases storage, treatment and conveyance of water south of Lake Okeechobee
 - Sends ~200,000 ac-ft of water south from the Lake
- Removes and/or plugs canals and levees within the central Everglades
- Improves hydroperiod and flow through Everglades National Park while protecting urban and agricultural areas to the east from flooding



Questions?