

Dean Powell
Bureau Chief, Water Supply Bureau

Water Resources Advisory Commission
September 27, 2012

Water Supply Projects for the Natural System

Minimum Flows and Levels

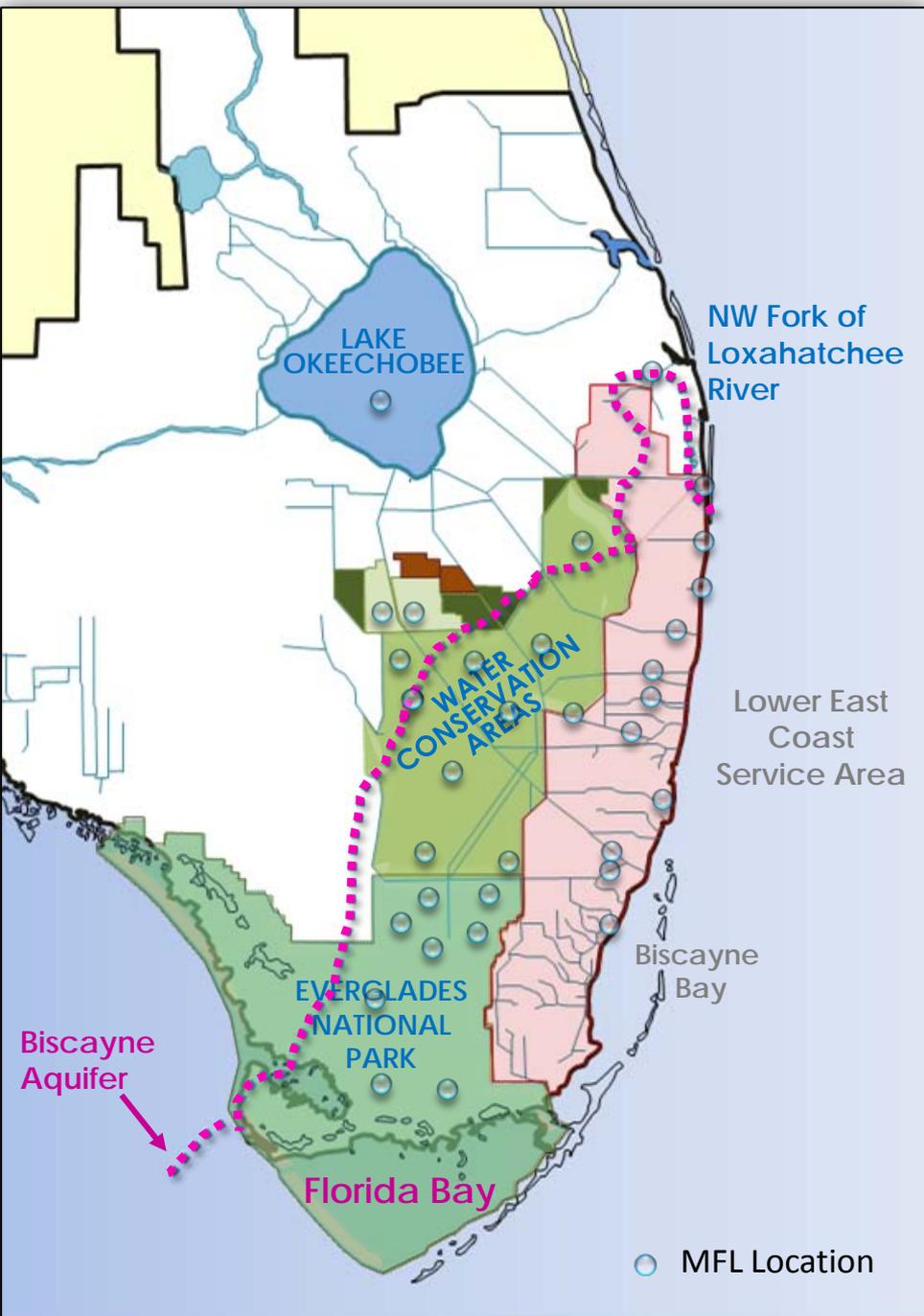
LEC Water Bodies

MFL PREVENTION WATER BODIES

- Biscayne aquifer
- Northeastern Florida Bay

MFL RECOVERY WATER BODIES

- Lake Okeechobee
- Everglades
- Northwest Fork of Loxahatchee River

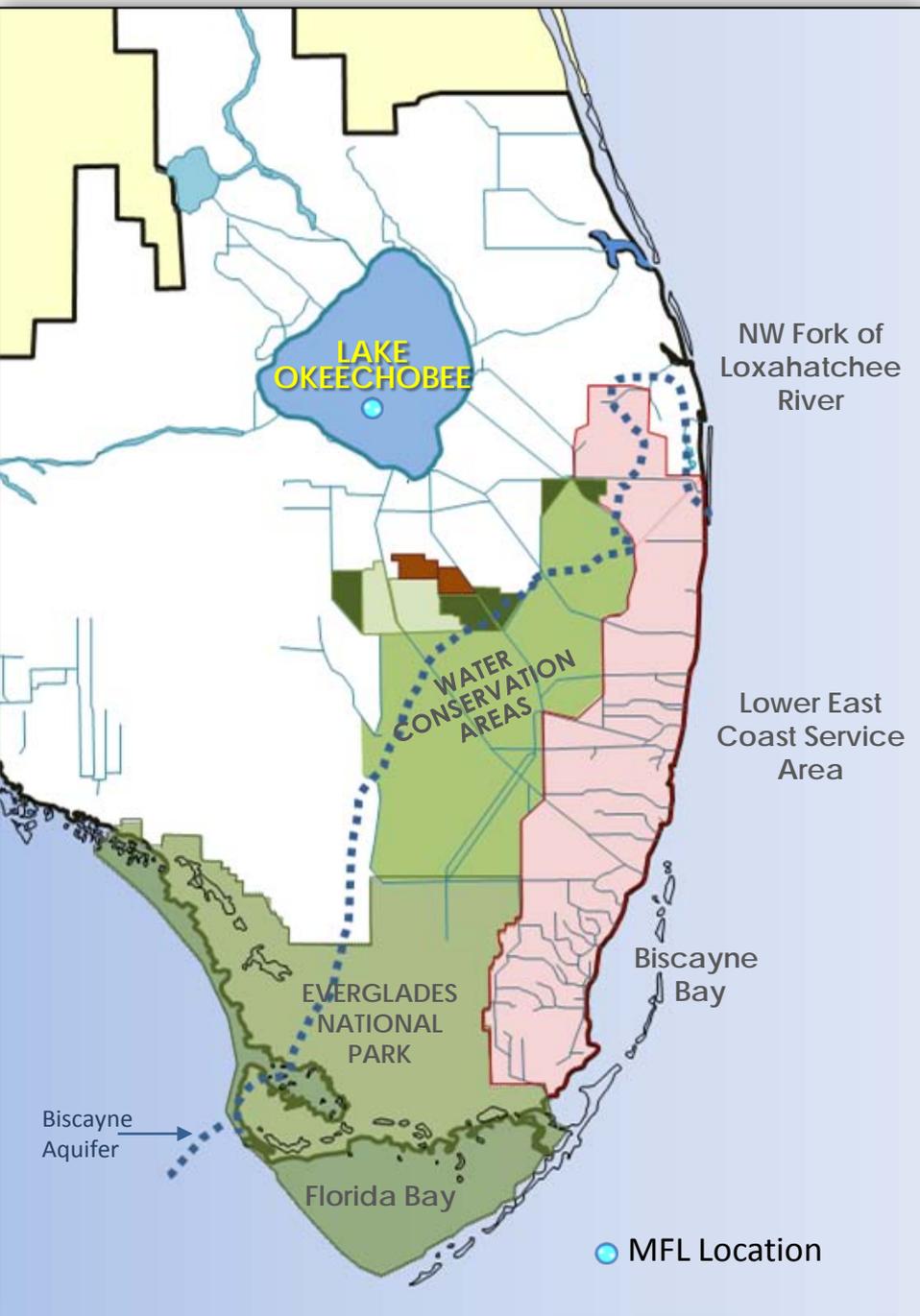


Lake Okeechobee

Existing

MFL Recovery Strategy:

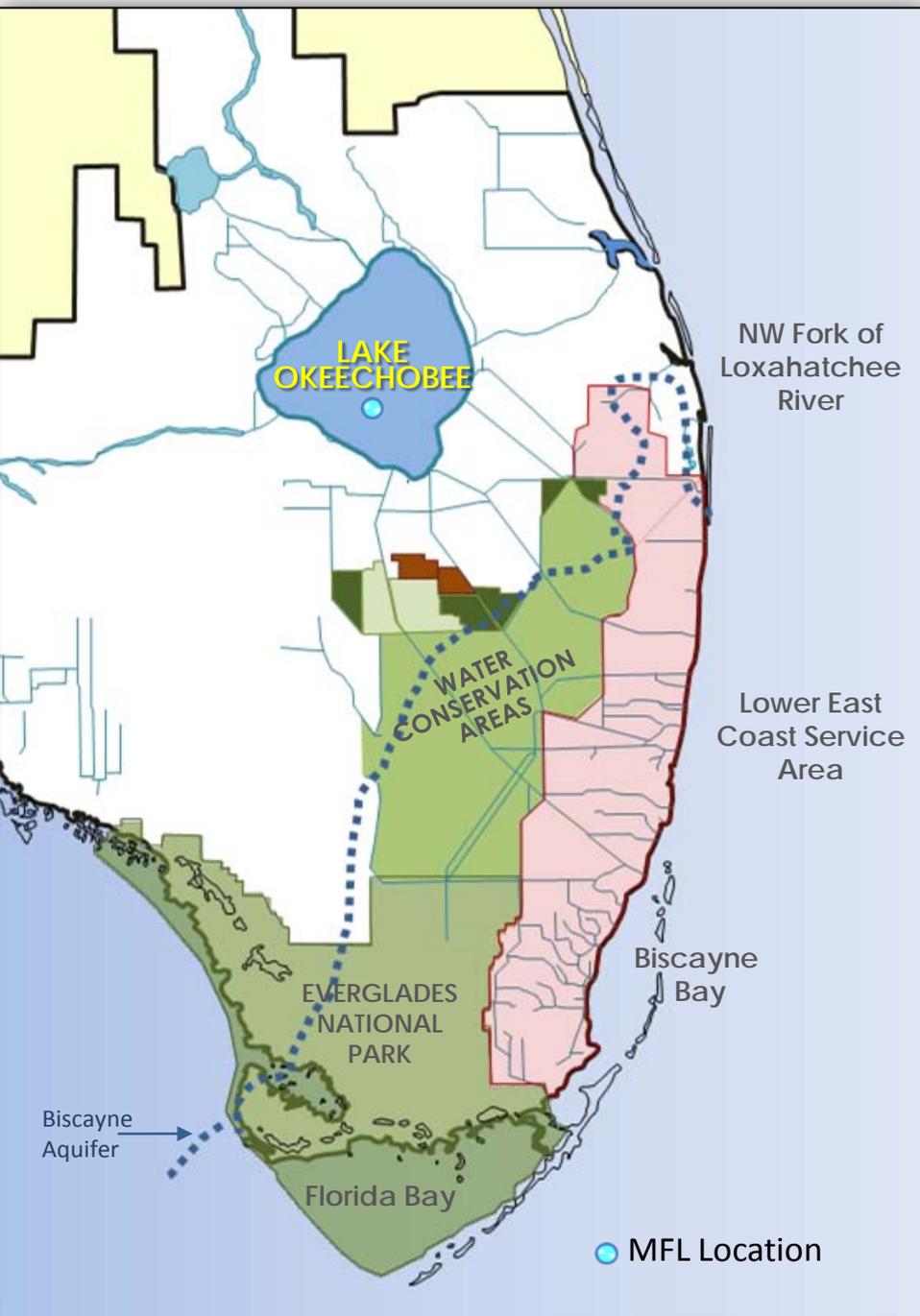
- Updated in 2008
- Storage Projects
 - CERP Lake Okeechobee Watershed Project
 - USACE Hebert Hoover Dike Repairs
- Lake habitat enhancements
- Lake Okeechobee Service Area Restricted Allocation Area Rule



Lake Okeechobee

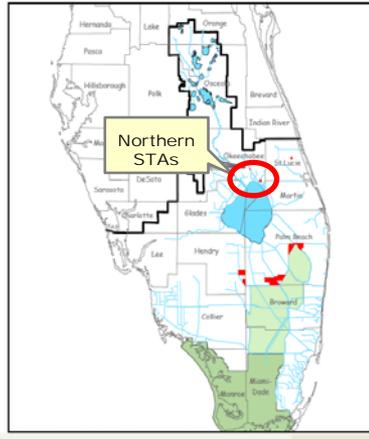
Recent Efforts:

- ✓ Lake habitat enhancements
- ✓ Adopted Lake Okeechobee Service Area Restricted Allocation Area Rule
- ✓ Adopted rule to transition from Supply-Side Management to Lake Okeechobee Water Shortage Management
- ✓ Constructed Taylor Creek, Nubbin Slough and Lakeside Ranch STA's



Lake Okeechobee

Location Map



- Lakeside Ranch STA – 1,707 acres



- Taylor Creek STA – 118 acres

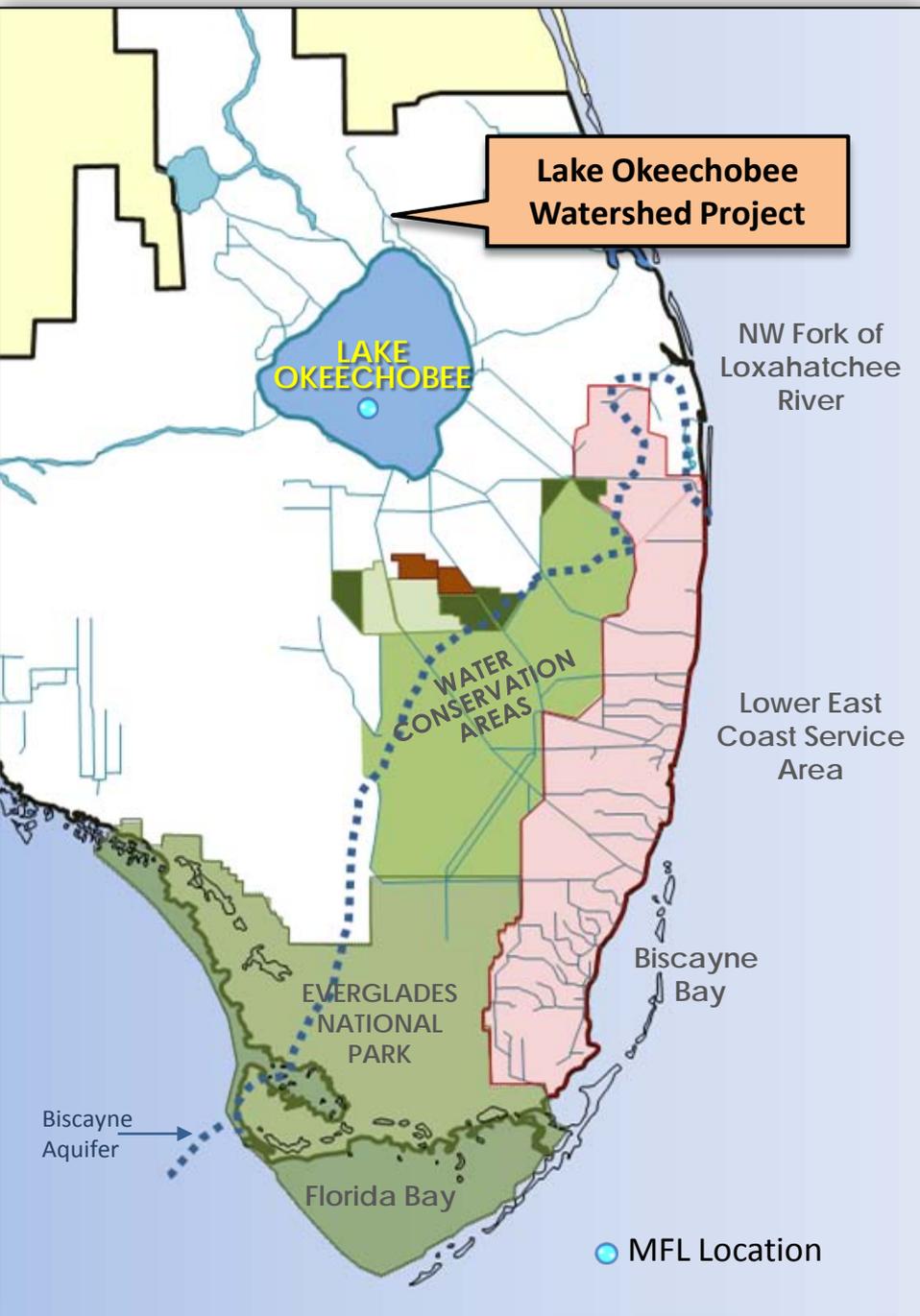


- Nubbin Slough STA – 809 acres

Lake Okeechobee Updated

MFL Recovery Strategy:

- Storage Projects
 - CERP Lake Okeechobee Watershed Project
- Lake habitat enhancements
- Implementation of LOSA Restricted Allocation Area Rule

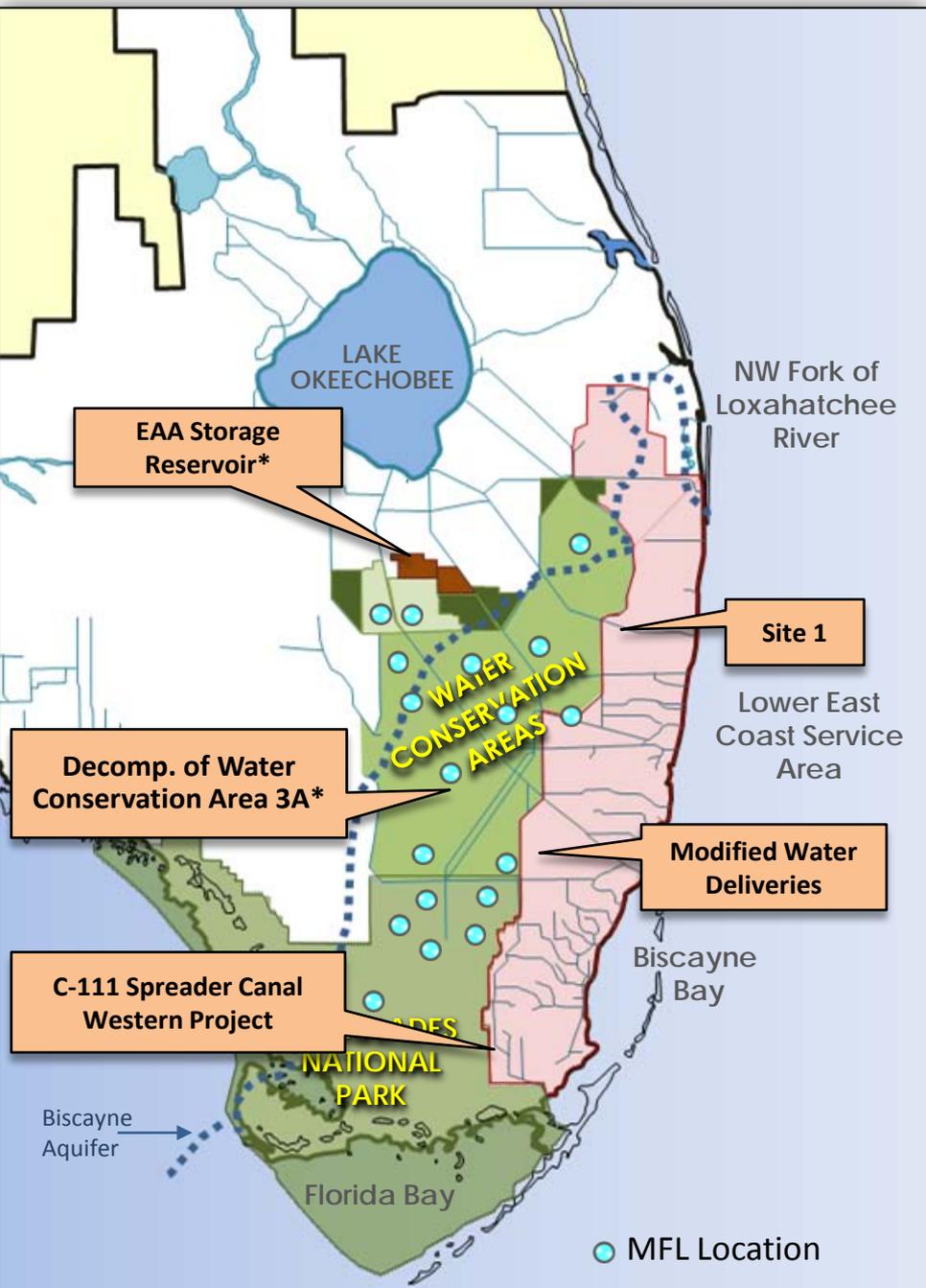


Everglades

Existing

MFL Recovery Strategy:

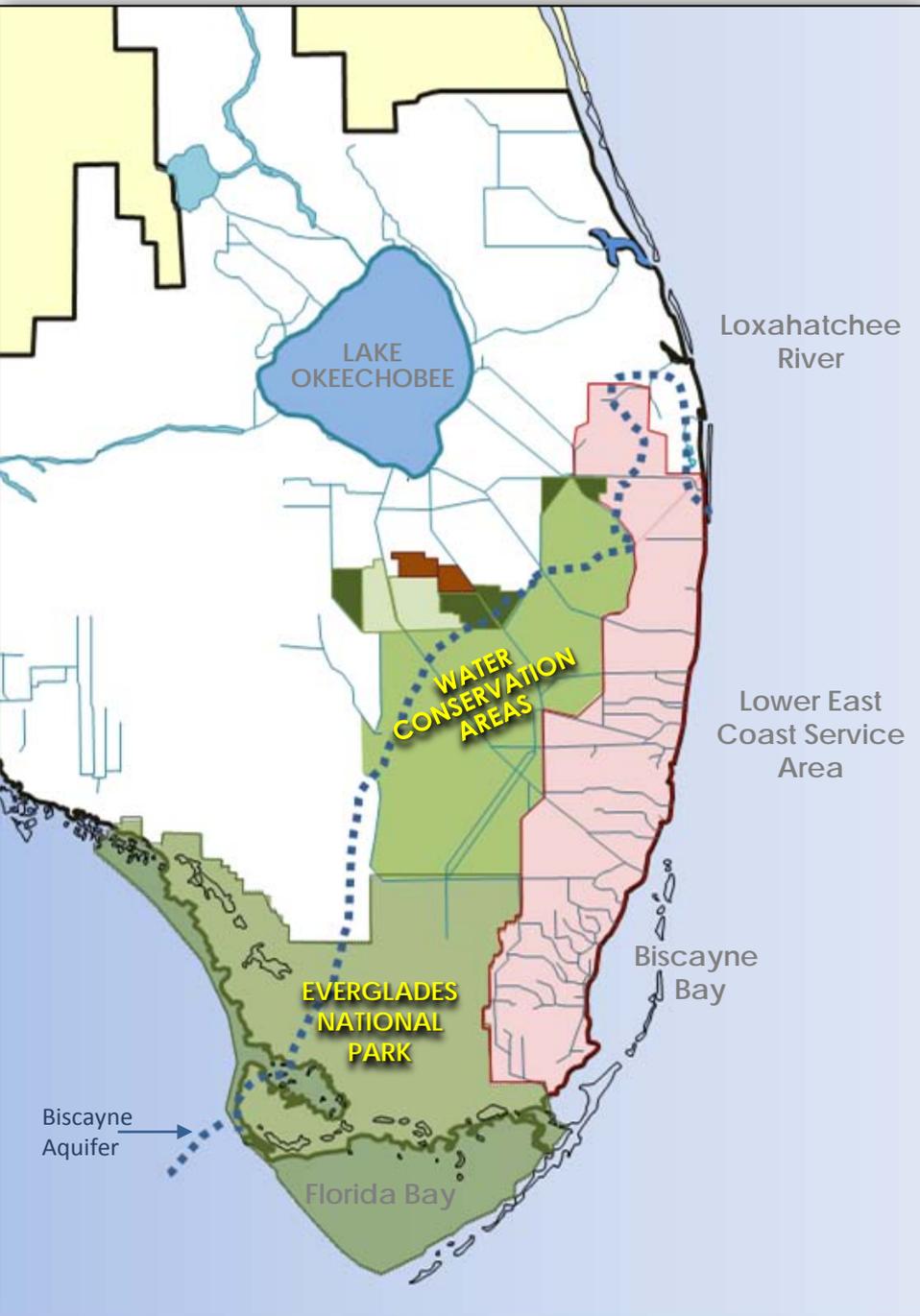
- Modified Waters Deliveries to ENP
- CERP Projects
 - EAA Storage Reservoirs
 - Fran Reich Preserve (Site 1) Reservoir
 - Broward County Water Preserve Areas
 - Decompartmentalization of WCA 3A
 - C-111 Spreader Canal Western Project
- Restricted Allocation Area Rule for Everglades and Loxahatchee River



Everglades

Recent Efforts:

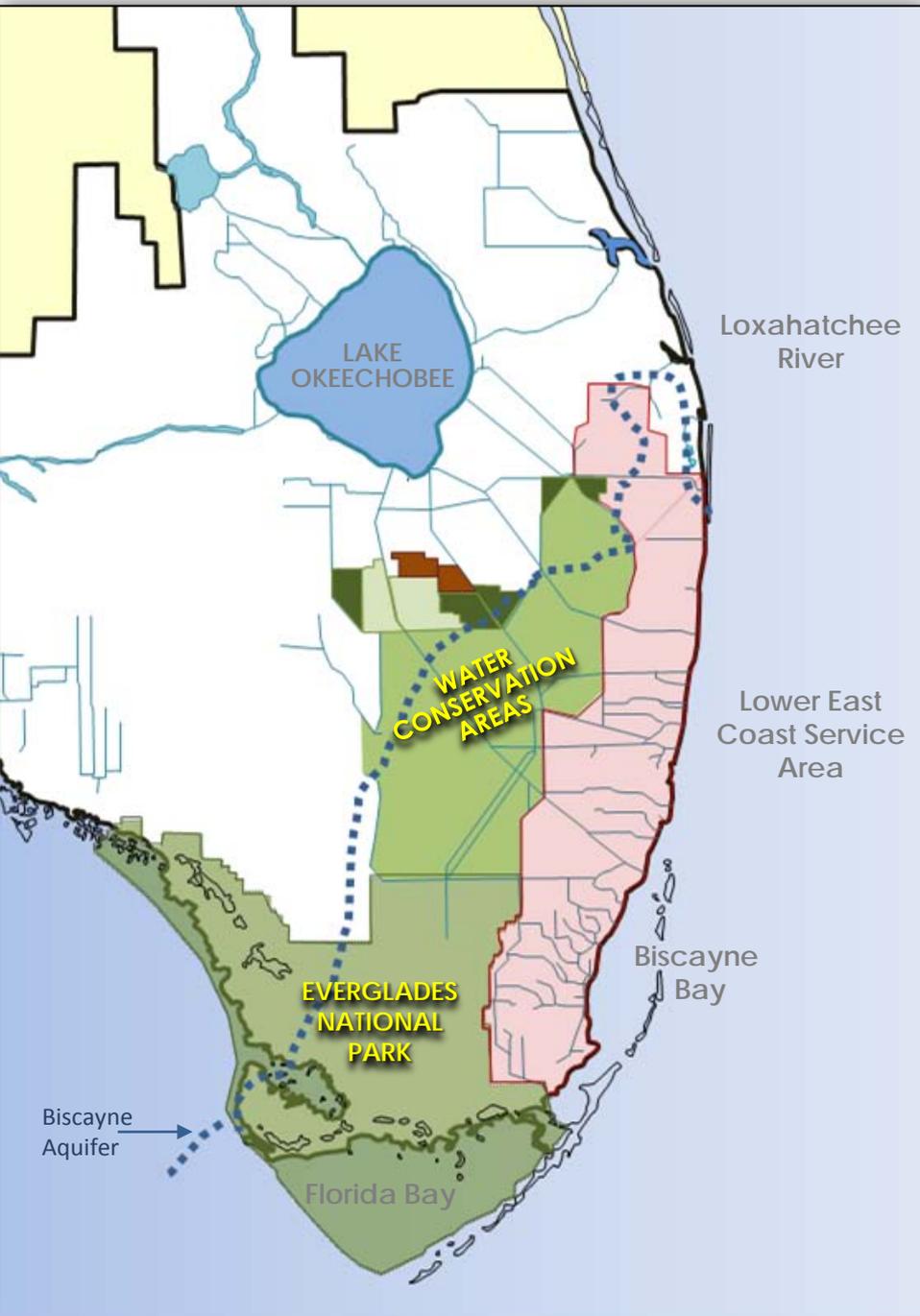
- ✓ CERP - Project Implementation Reports
 - ✓ Fran Reich Preserve (Site 1) Reservoir
 - ✓ Broward County Water Preserve Areas
 - ✓ CERP C-111 Spreader Canal Western Project
- ✓ Site 1 ASR Pilot Project
- ✓ USACE started construction on Fran Reich Preserve (Site 1) Reservoir and SFWMD Constructed CERP C-111 Spreader Canal Western Project
- ✓ Constructed majority of Modified Waters Deliveries to ENP + C-111 South Dade Project
- ✓ Adopted Restricted Allocation Area Rule for Everglades



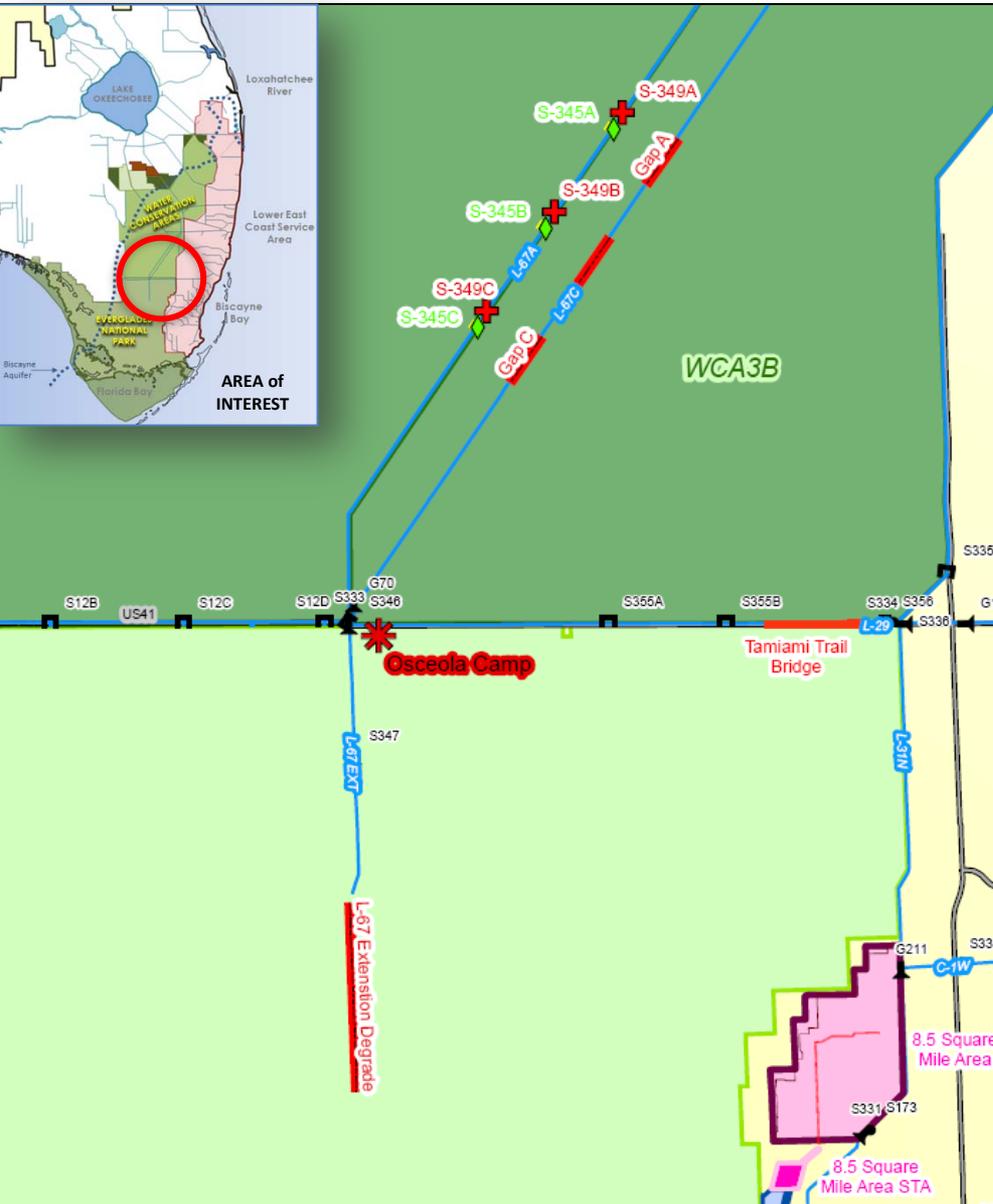
Everglades

Recent Efforts Continued:

- ✓ Initiated Central Everglades Planning Project
- ✓ Rock Miners completed 2-mile seepage barrier along L-31-N
- ✓ Decomp Physical Model
- ✓ Wading Bird Monitoring Report
- ✓ Tree Island Mapping



Modified Water Deliveries to ENP



Completed Components

Conveyance Features

- S-355A (L-29)
- S-355B (L-29)
- S-333 Modification
- L-67 Extension- 4 of 9 miles complete
- Tamiami Trail – under construction

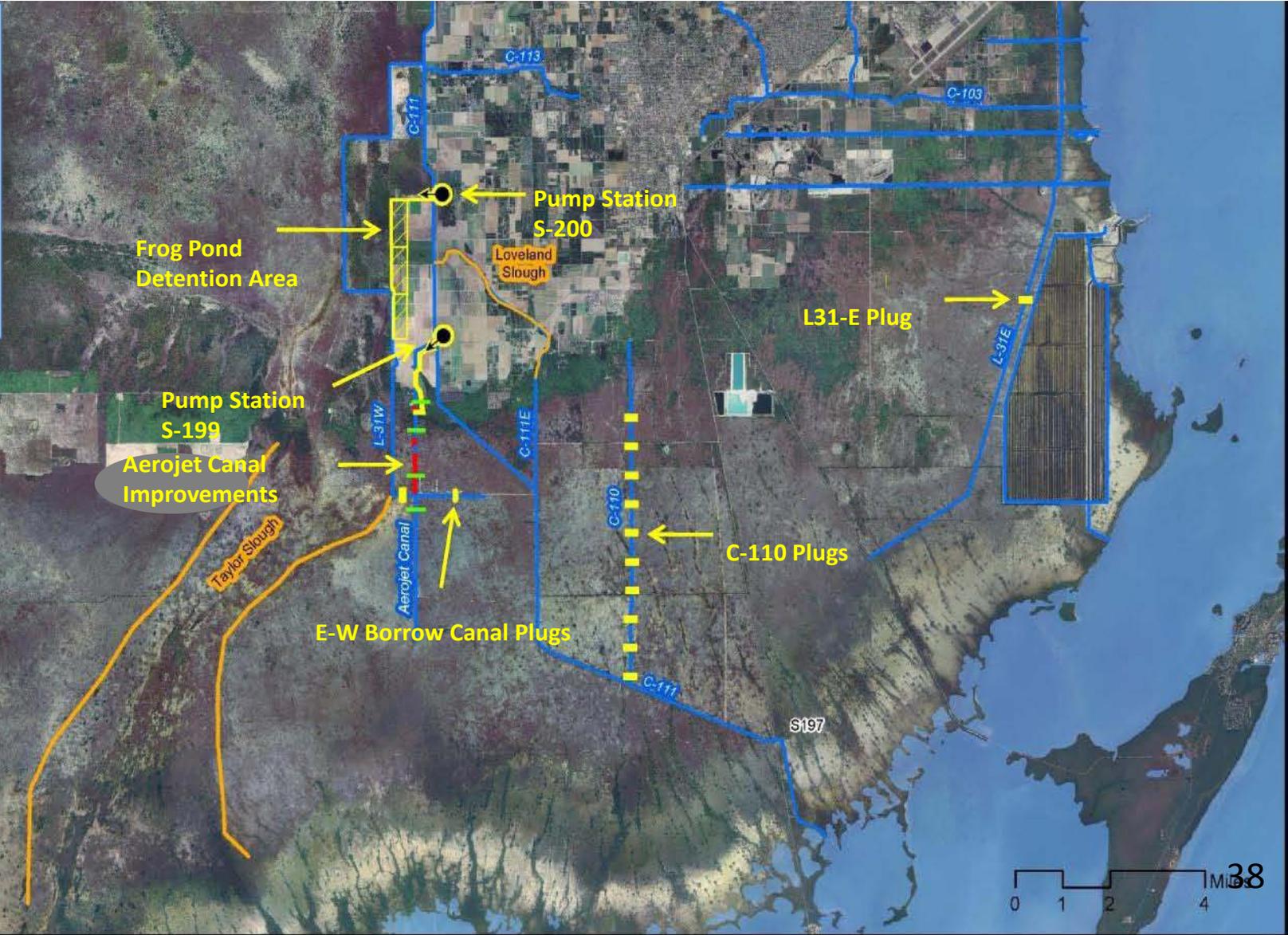
Seepage Control Features

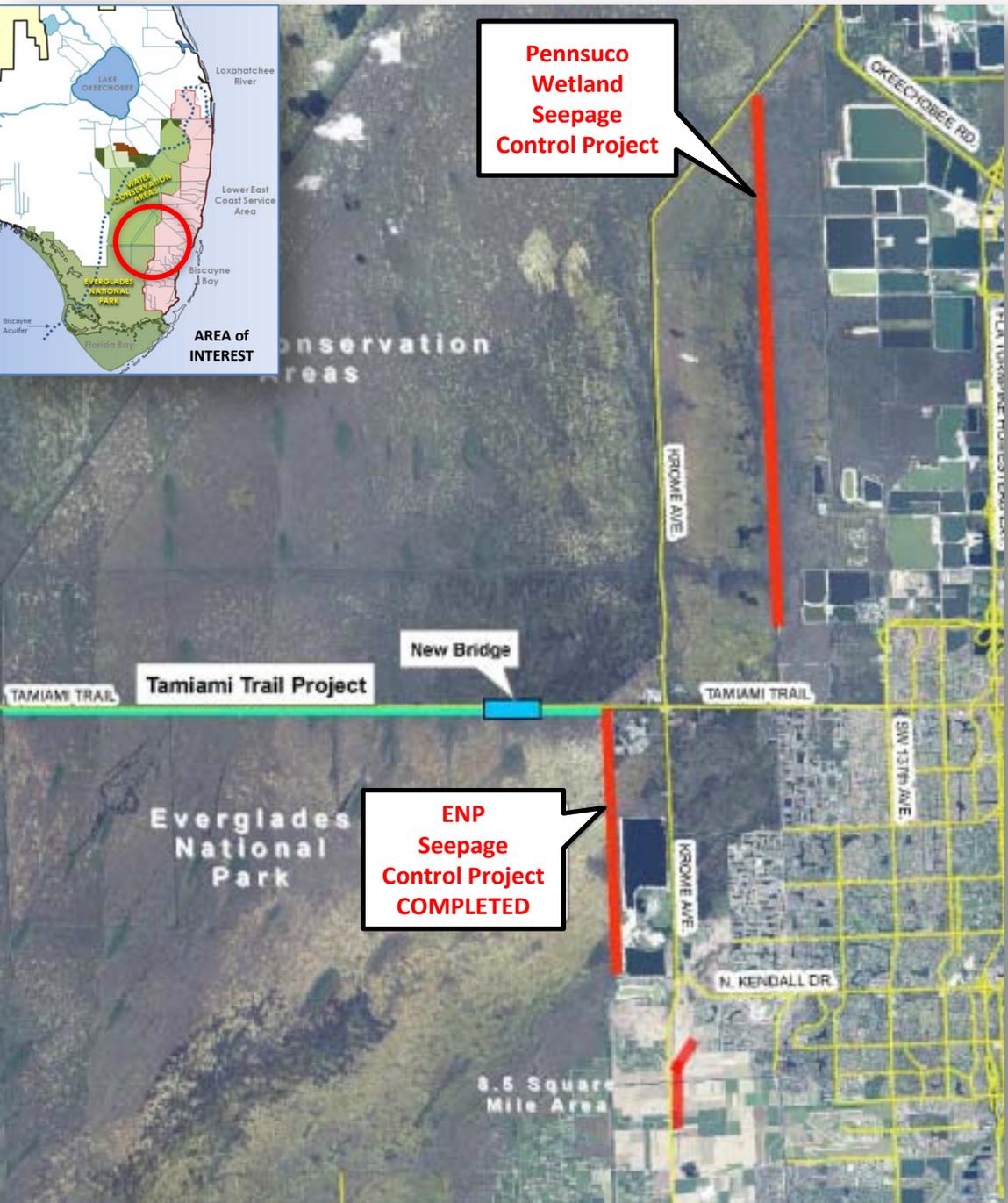
- S-356 (L-31N)

Mitigation Features

- 8.5 Square Mile Area
- Tigertail Camp

C-111 Spreader Canal Western Project





Lake Belt Rock Mining Mitigation Proposals

Everglades

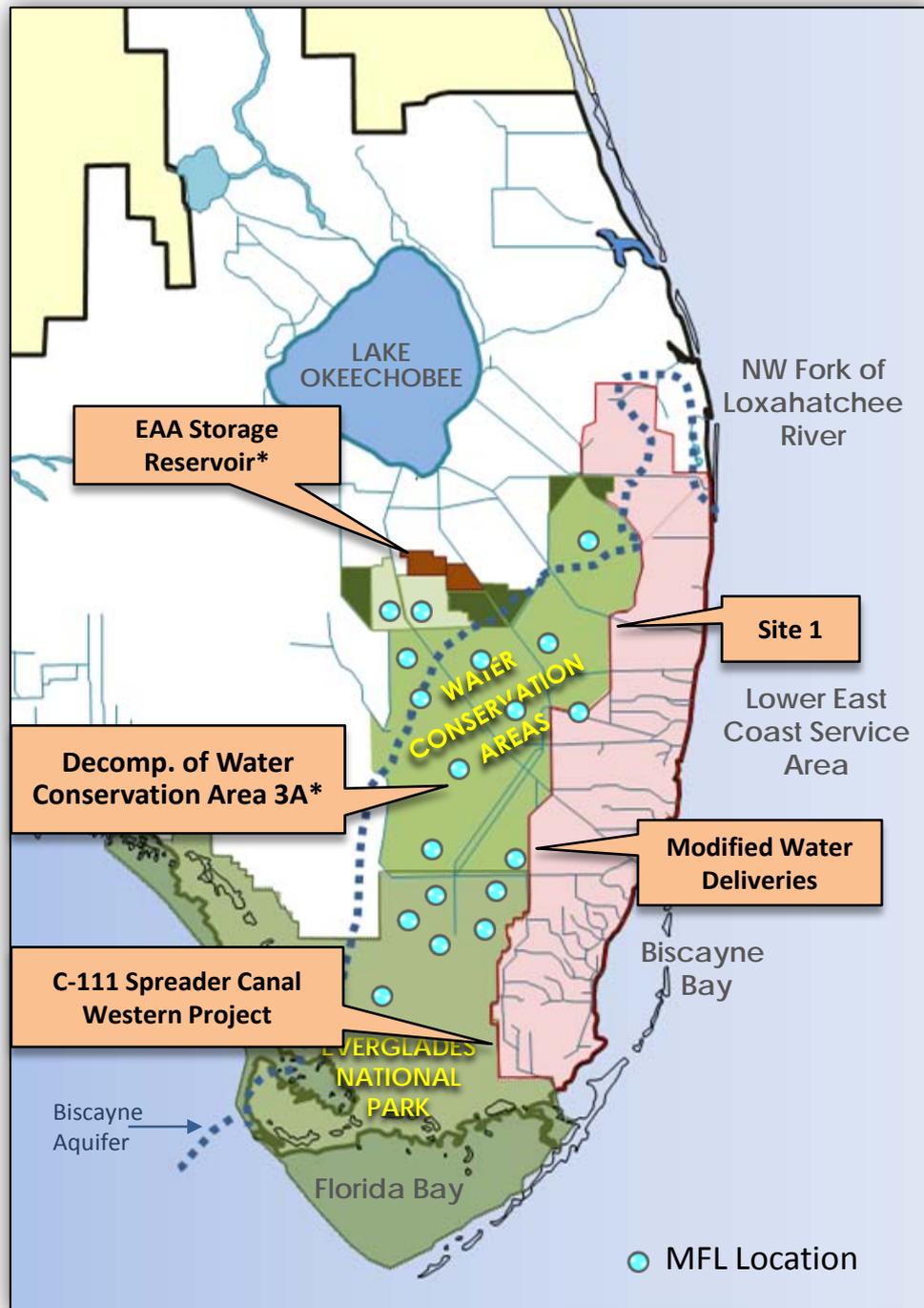
Updated

MFL Recovery Strategy:

- Modified Waters Deliveries to ENP + C-111 South Dade Project
- CERP Projects
 - EAA Storage Reservoirs*
 - Fran Reich Preserve (Site 1) Reservoir
 - Broward County Water Preserve Areas**
 - Decompartmentalization of WCA 3A*
 - C-111 Spreader Canal Western Project**
- Implementation of Restricted Allocation Area Rule for Everglades and Loxahatchee River

**Project will be modified by Central Everglades Planning Project*

*** Next step for CERP Projects is US Congressional Authorization*



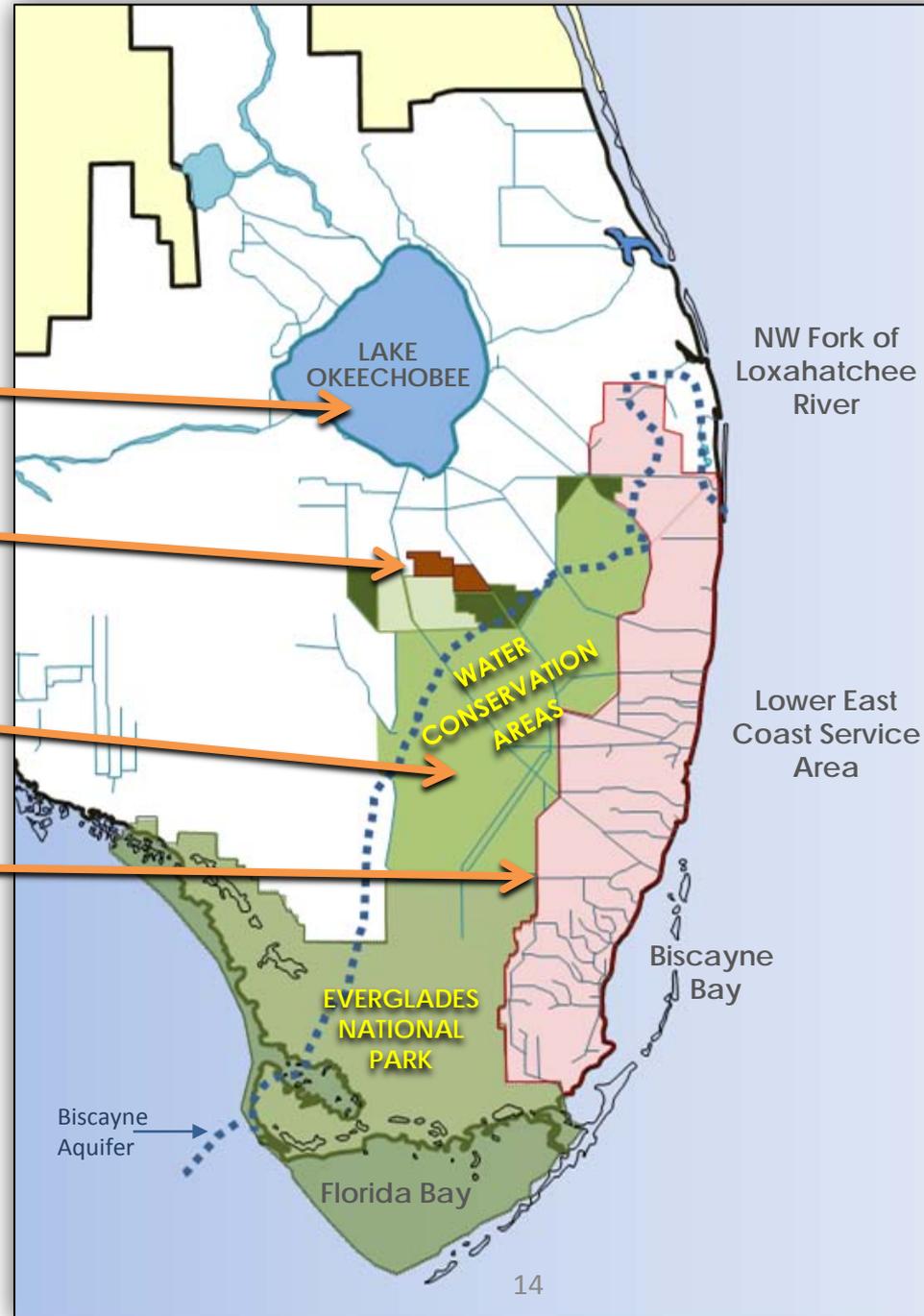
Central Everglades Planning Project

Revised Lake Okeechobee Regulation Schedule

Everglades Agricultural Area (EAA)
Storage and Treatment

Decomartmentalization of Water
Conservation Area 3 and Everglades
National Park

Seepage Management



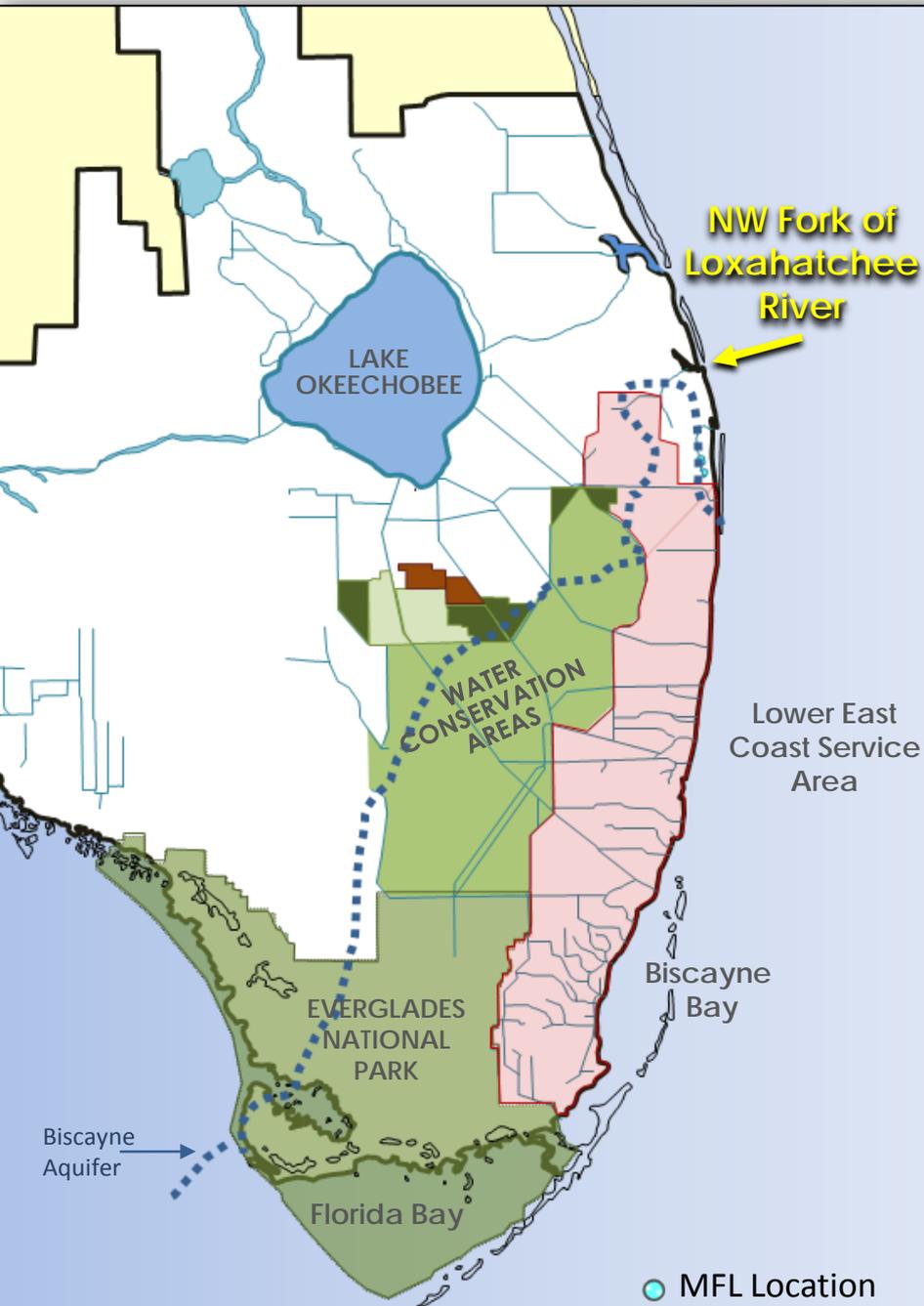
NW Fork of Loxahatchee River Existing

MFL Recovery Strategy:

- Southern L-8 Reservoirs
- G-160, G-161 Structures



NW Fork of Loxahatchee River



Recent Efforts:

- ✓ L-8 Reservoir Acquired
- ✓ Built G-160, G-161 Structures
- ✓ Completed Restoration Plan for the NW Fork of the Loxahatchee River
- ✓ 22,000 acres acquired by Martin County, Palm Beach County & SFWMD to protect and restore river watershed
- ✓ Slough Structures Replaced
- ✓ 2011 Addendum to the North West Fork Loxahatchee River Restoration Plan
- ✓ Pilot Project to deliver water from L-8 Reservoir

NW Fork of Loxahatchee River

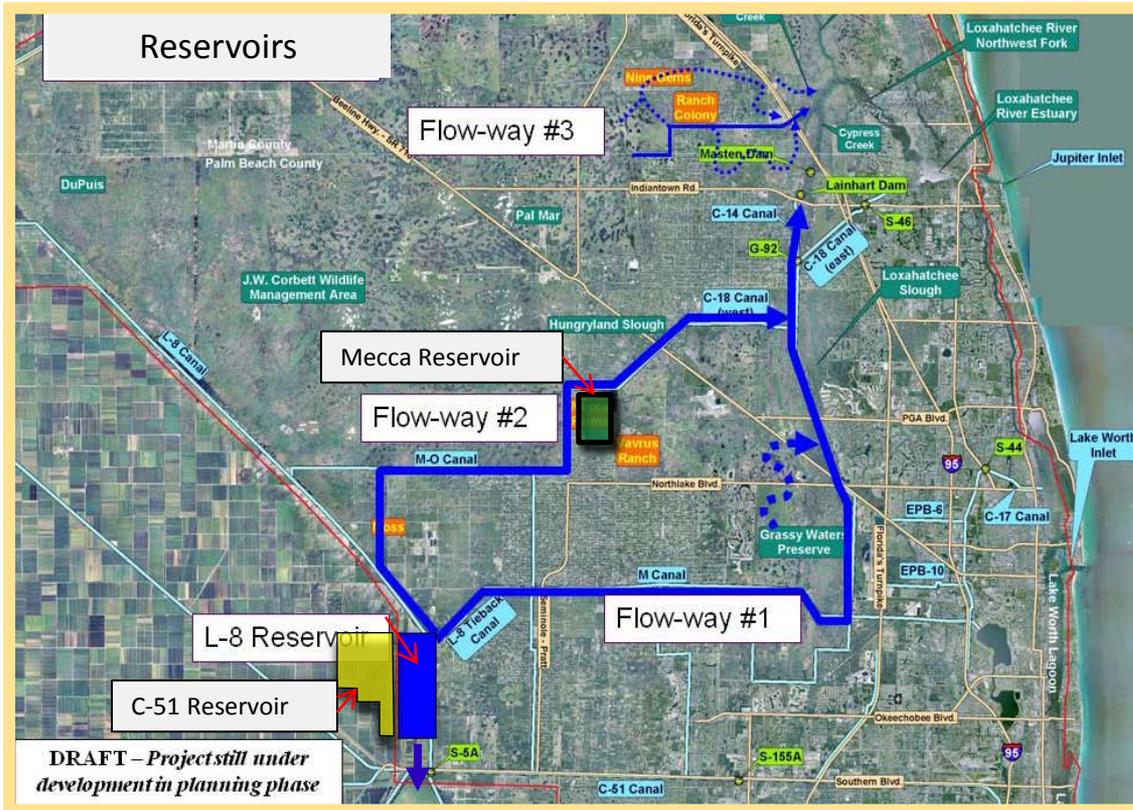
Recent Efforts, cont:

- Loxahatchee River Preservation Initiative
- 50 – 50 match grant funding program
- More than \$34 million in restoration projects
- Legislative appropriations 2003 – 2009



NW Fork of Loxahatchee River

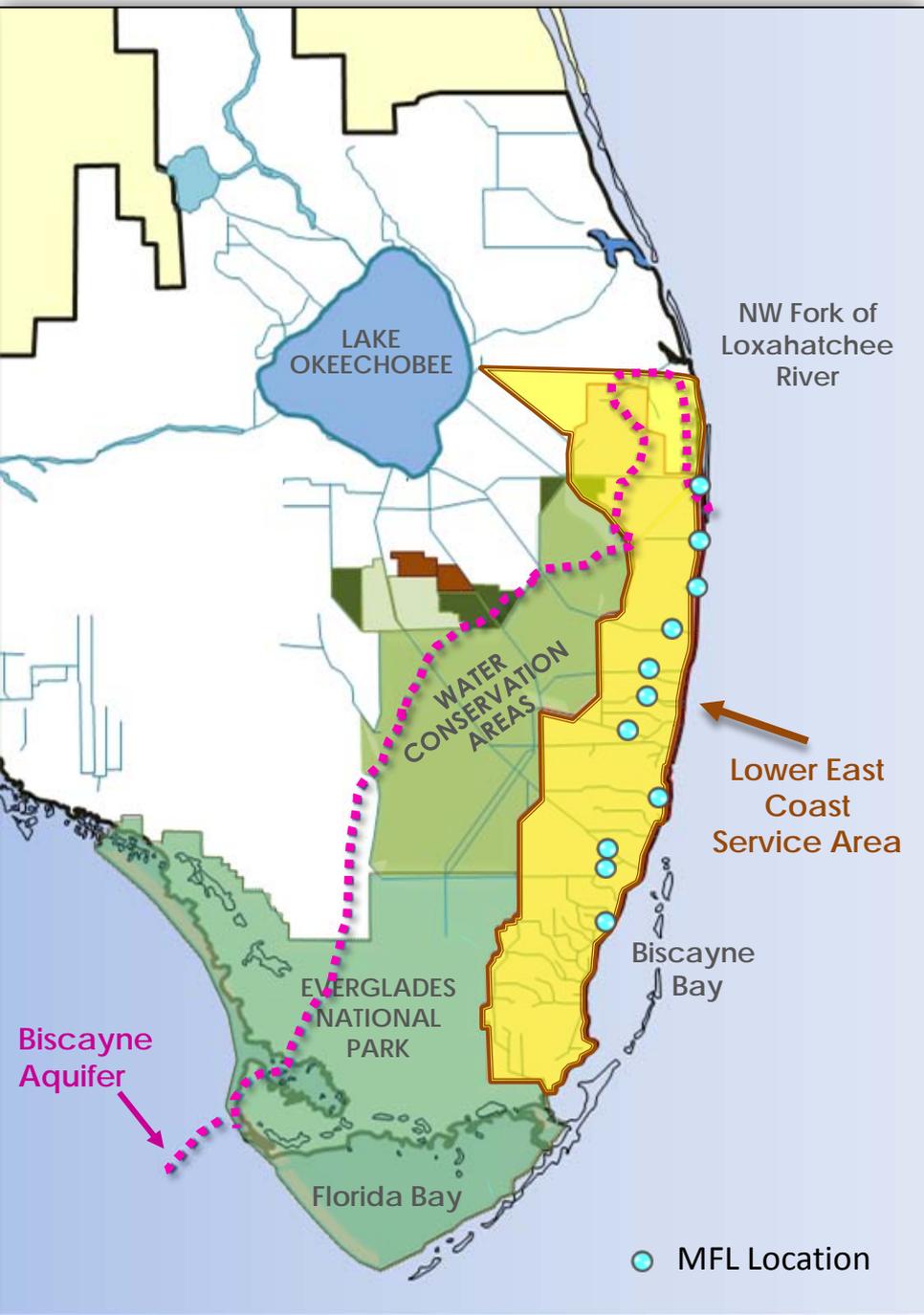
Updated



MFL Recovery Strategy:

- Continue CERP Project Implementation Report
 - Formulate for all three flow ways
- In the interim, L-8 serves multiple functions while Mecca Reservoir is constructed
- Provide supplemental flow via G-160 and G-161

Lower East Coast Service Area Existing



MFL Prevention Strategy:

Biscayne aquifer

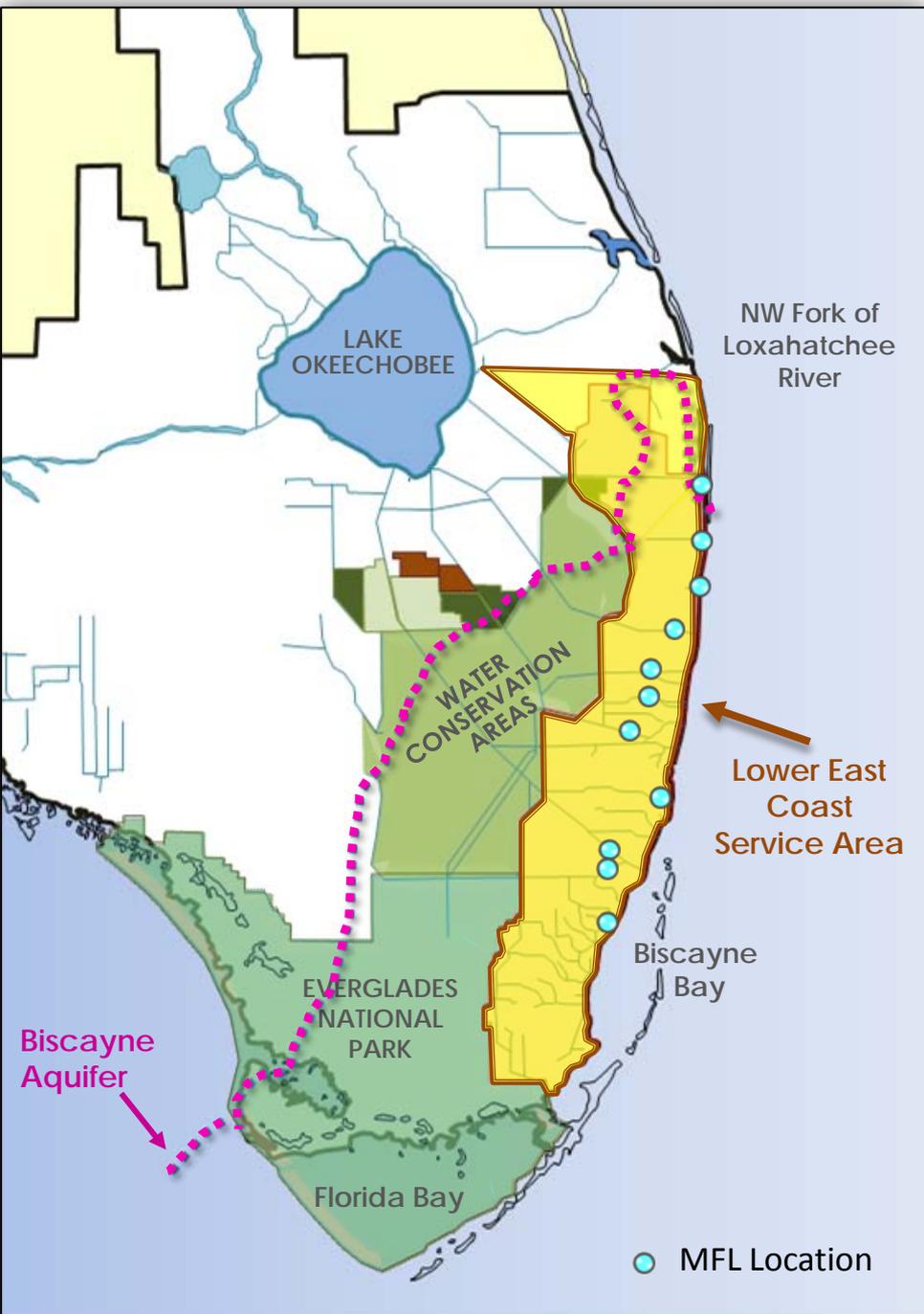
- Maintain coastal canals
- Maintain groundwater monitoring network and use data to initiate water shortages
- Conduct research in high risk areas

Lower East Coast Service Area

Recent Efforts:

Biscayne aquifer MFL Prevention Strategy

- ✓ Maintain coastal canals
- ✓ Maintain groundwater monitoring network and use data to initiate water shortages
- ✓ Conduct research in high risk areas

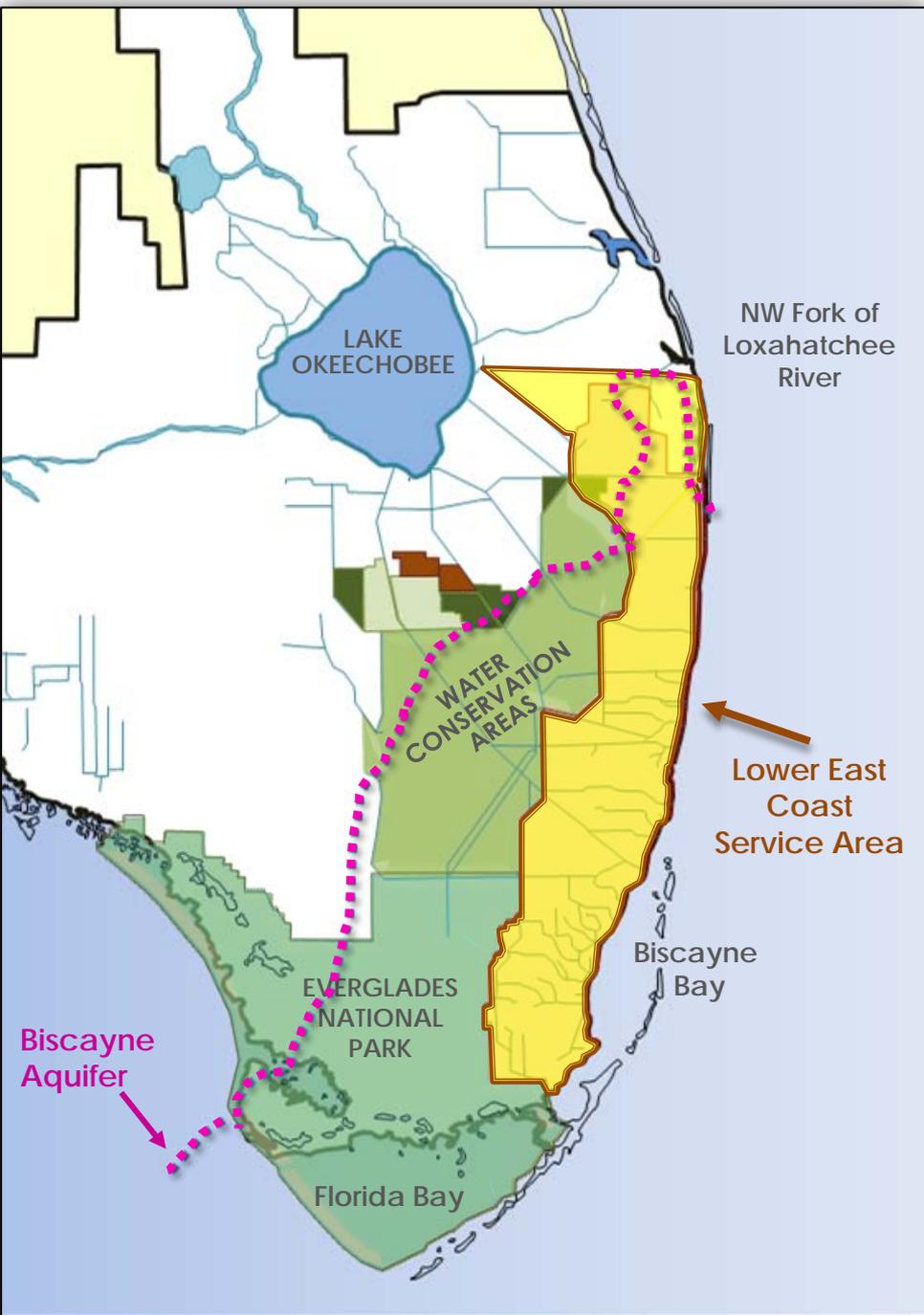


Lower East Coast Service Area

Recent Efforts continued:

Focus on reducing withdrawal pressure on regional system

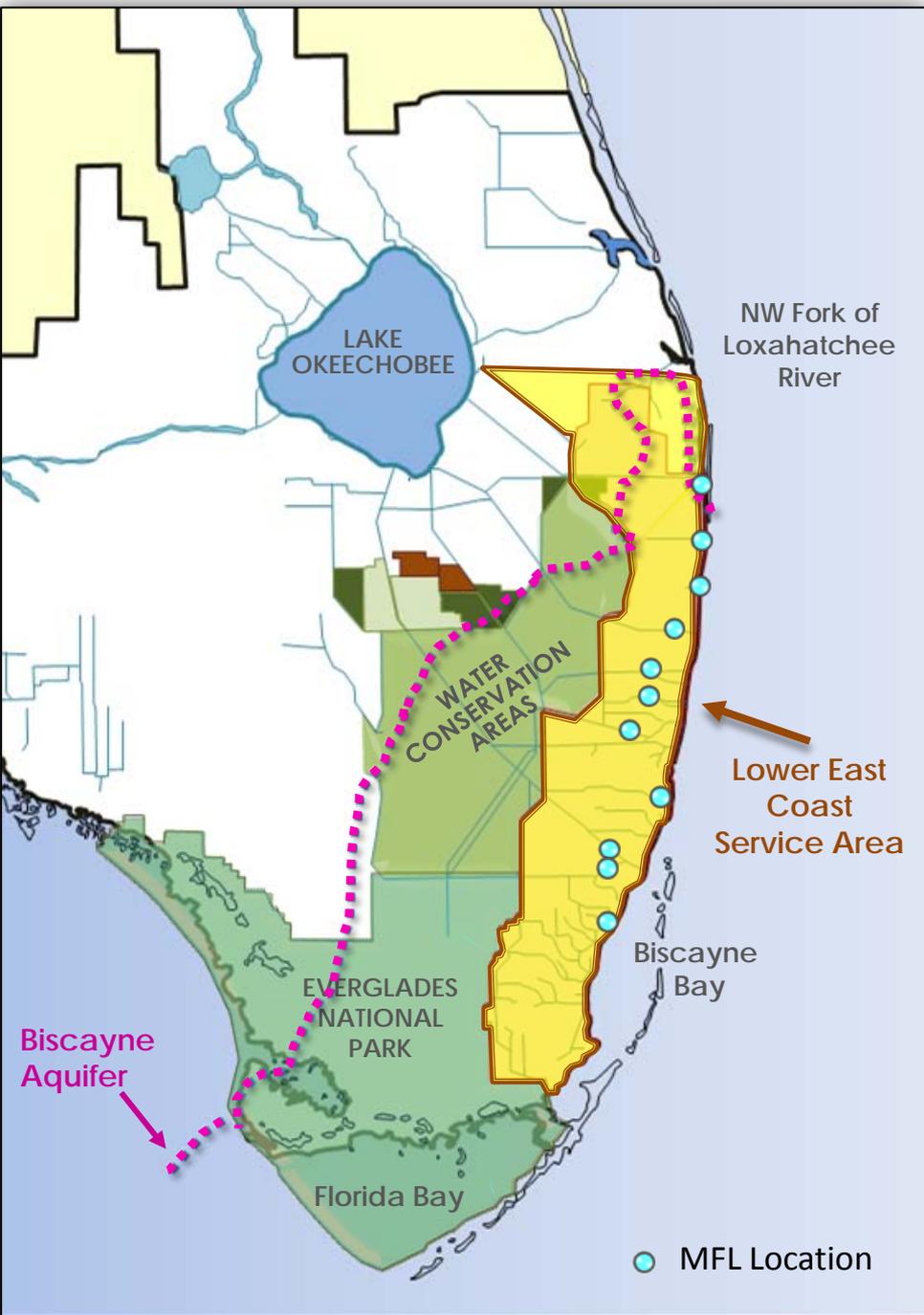
- ✓ Renewed permits consistent with Restricted Allocation Area Rule
- ✓ 20 yr permits
- ✓ \$ for AWS projects
- ✓ Completed and peer reviewed Floridan Aquifer Model
- ✓ Increased water conservation
- ✓ Adopted year-round landscape irrigation rule



Lower East Coast Service Area

Upcoming Efforts:

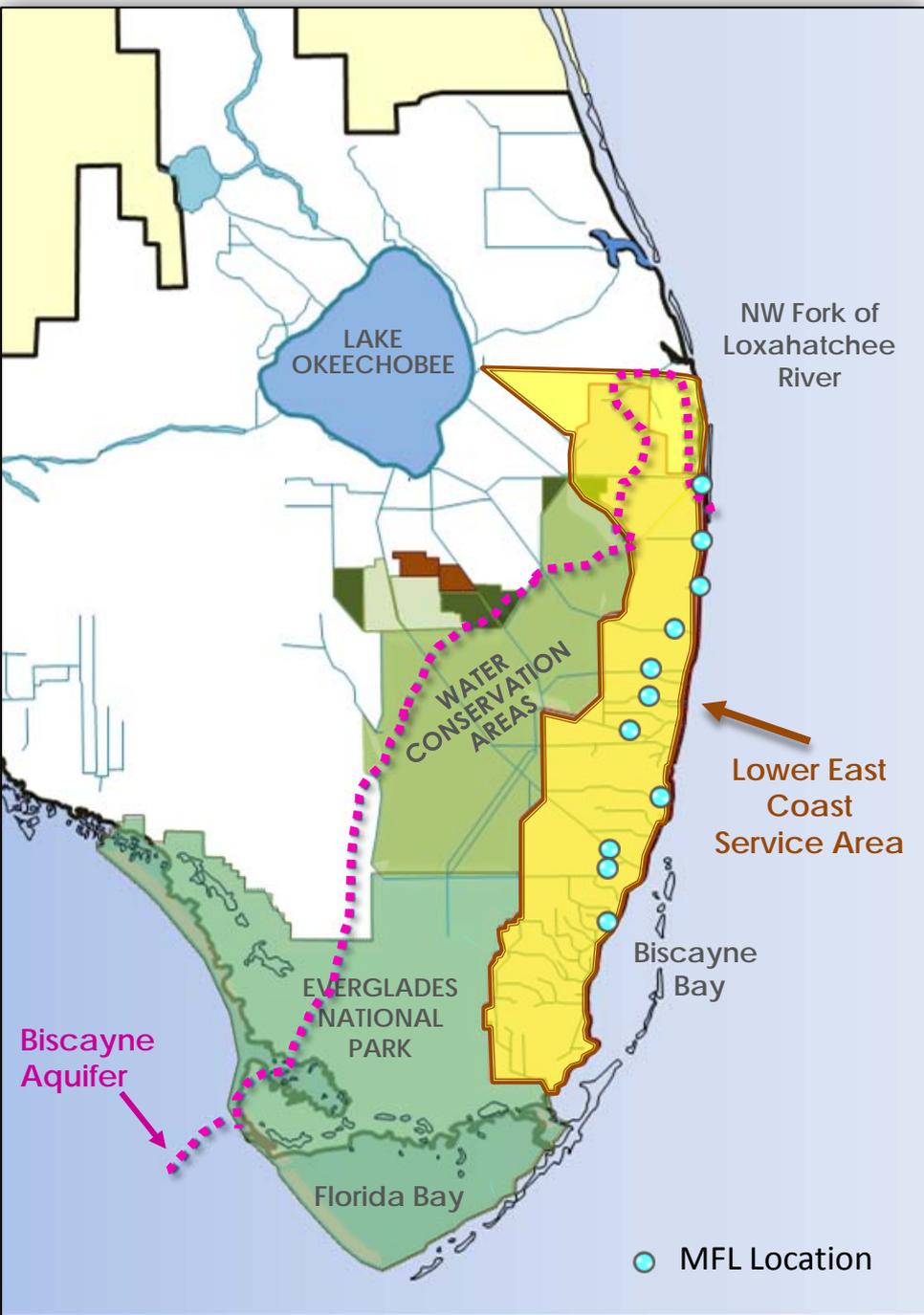
- Initiate rule development based on CUPCon, a Statewide effort to improve consistency across consumptive use permitting programs
- Apply Floridan Aquifer Model
- Continue implementing Biscayne aquifer MFL Prevention Strategy



Lower East Coast Service Area Updated

Biscayne aquifer MFL Prevention Strategy

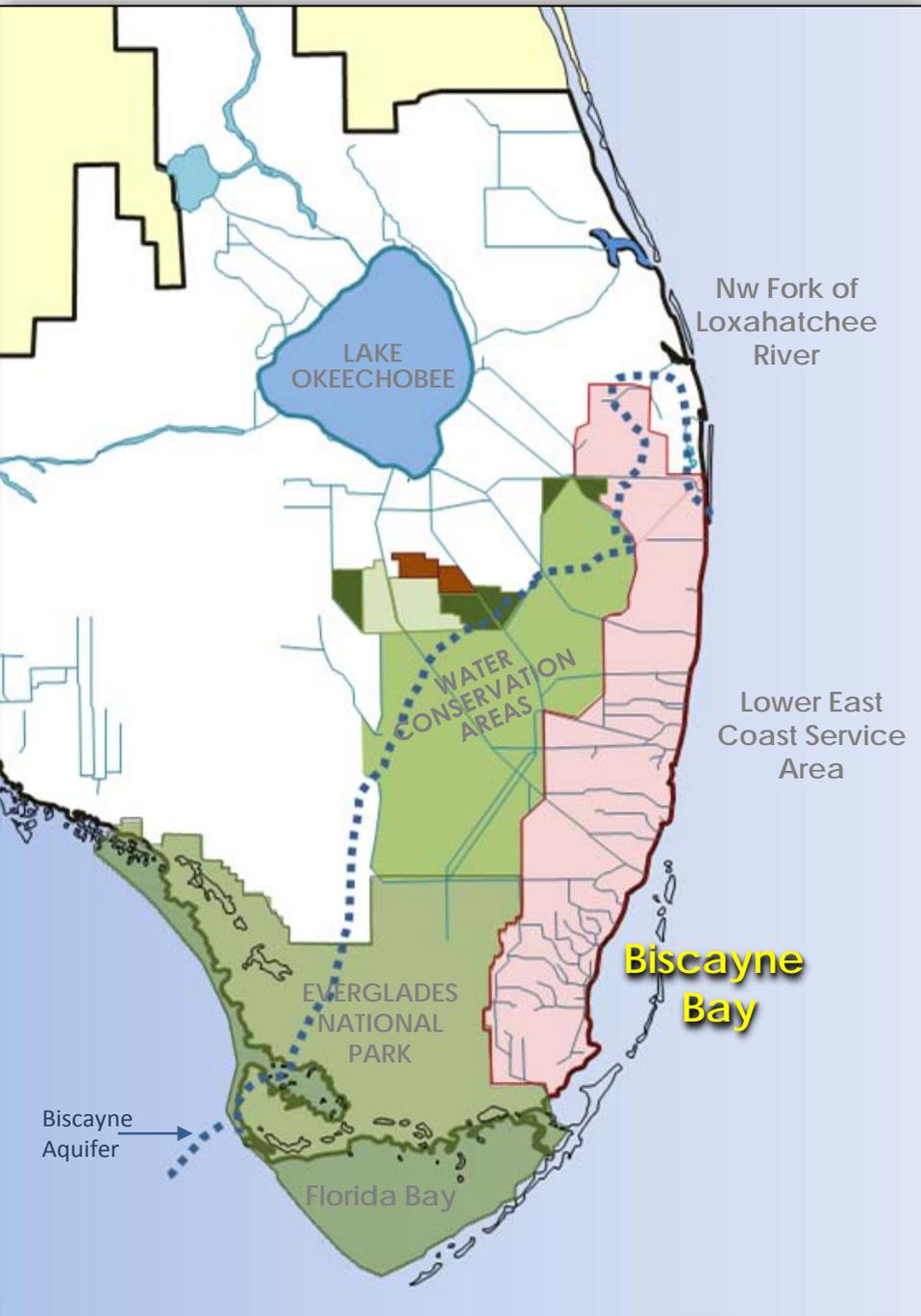
- ✓ Maintain coastal canals
- ✓ Maintain groundwater monitoring network and use data to initiate water shortages
- ✓ Conduct research in high risk areas



Biscayne Bay

Recent Efforts:

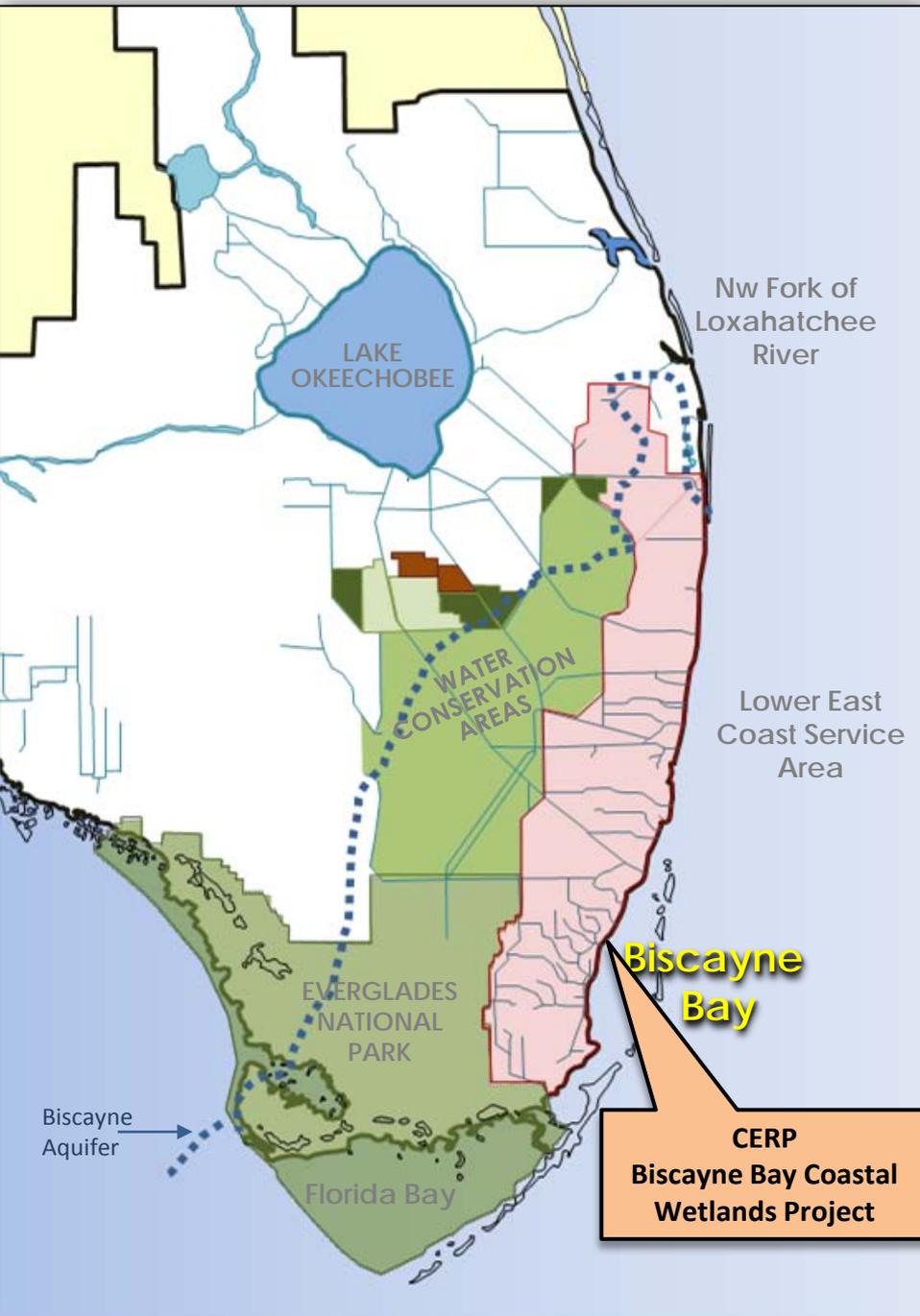
- ✓ Restricted Allocation Area Rule
- ✓ Acquired land for the BBCWP
- ✓ Seepage Study
- ✓ Nutrient load and land use analysis
- ✓ Storm event loading analysis
- ✓ Biscayne National Park oyster survey
- ✓ Characterization of nearshore epifauna
- ✓ Peer review of MFL technical information



Biscayne Bay

Recent Efforts continued: CERP Biscayne Bay Coastal Wetlands Project

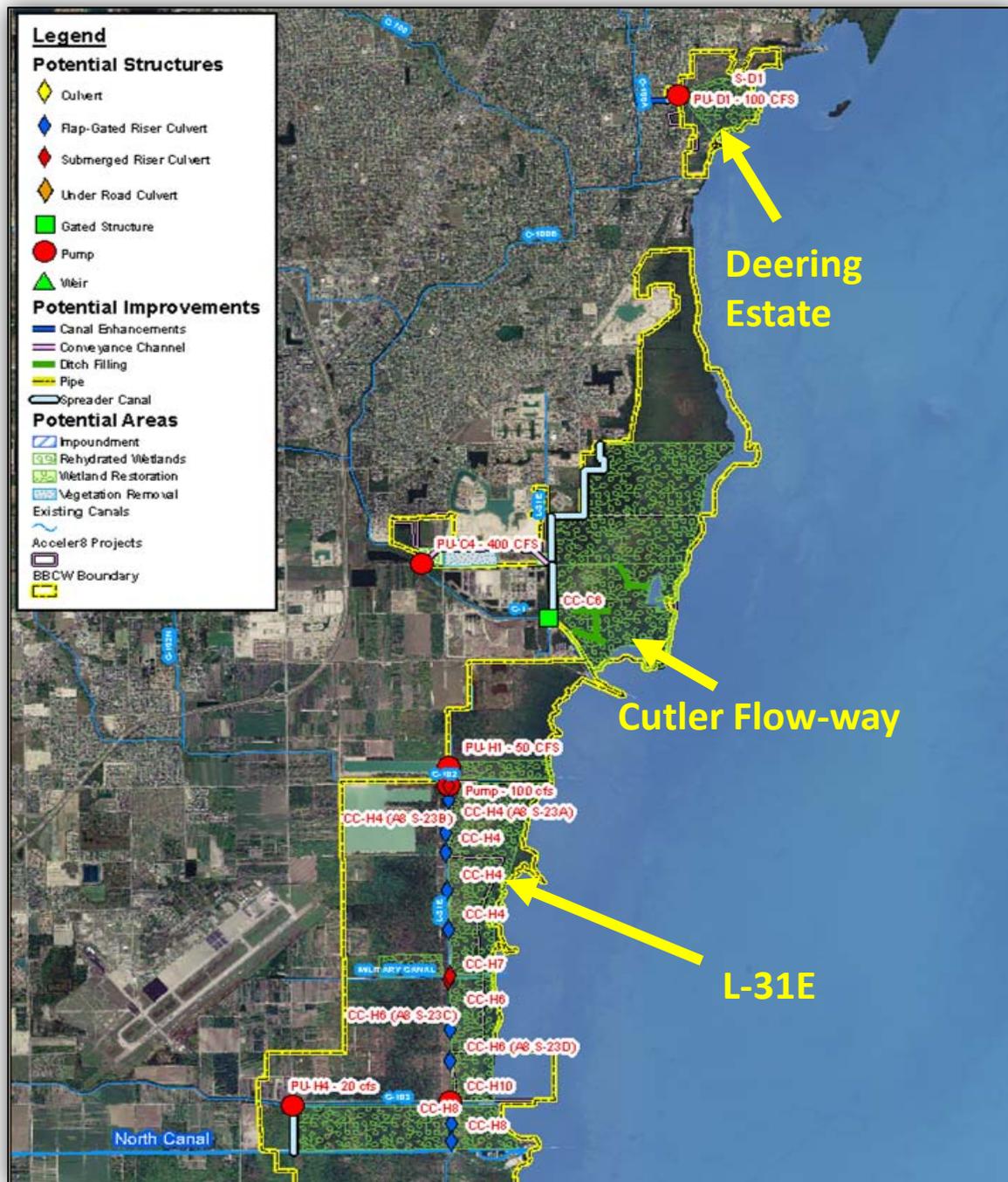
- ✓ Project Implementation Report
- ✓ SFWMD constructed some of the components
- ✓ Initiated water reservation rule



CERP Biscayne Bay Coastal Wetlands Project

Phase I Components:

- Deering Estate Flow-way
- Cutler Flow-way
- L-31E Flow-way



Biscayne Bay Coastal Wetlands Phase I Expedited Construction by SFWMD



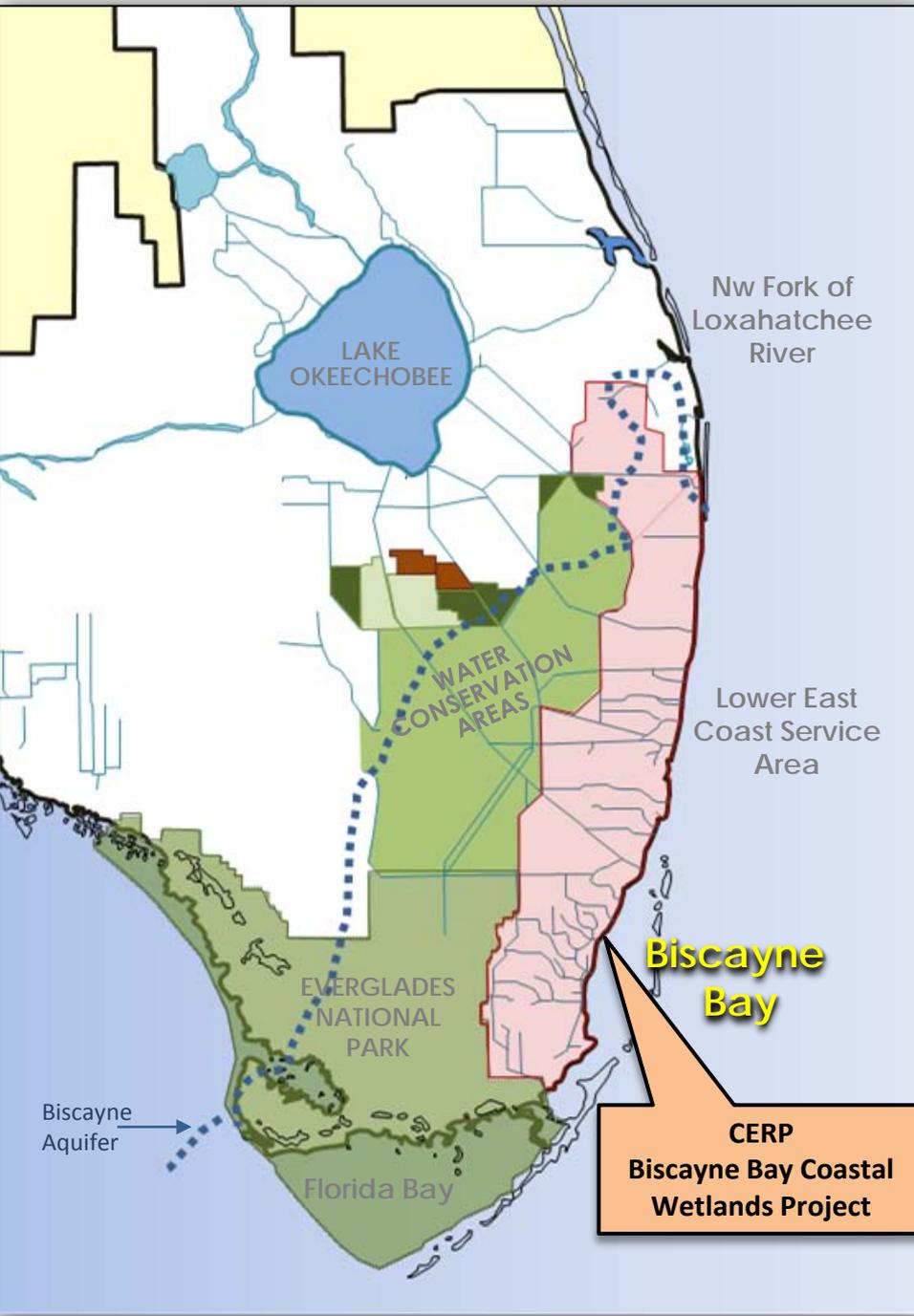
Deering Estate Pump Station



Biscayne Bay

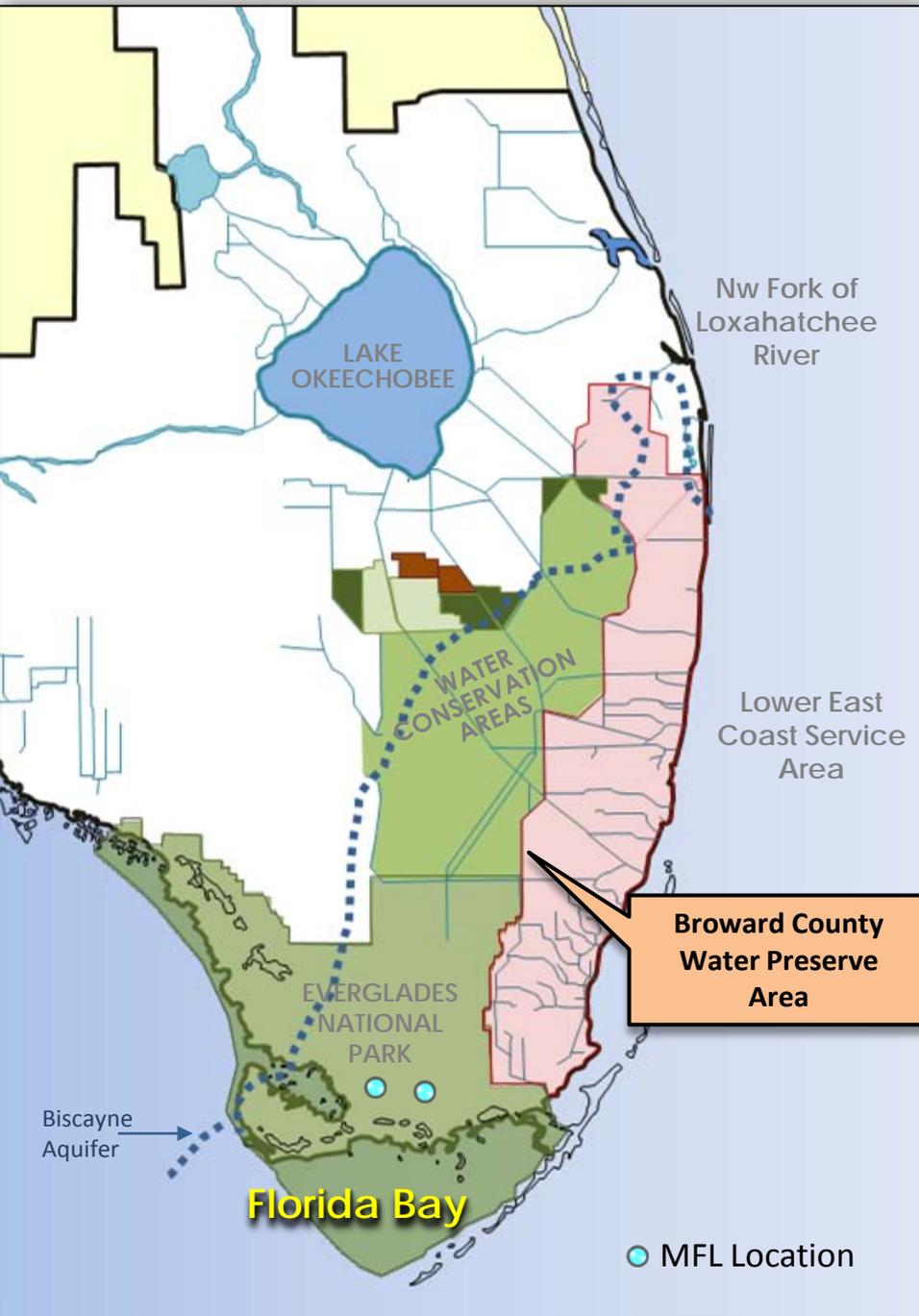
Future Efforts:

- Complete Cutler Wetlands Flow-way Component
- Adopt Water Reservation rule for Biscayne Bay to support CERP Project
- Seek US Congressional Authorization for CERP Project



Northeastern Florida Bay

Existing



MFL Prevention Strategy

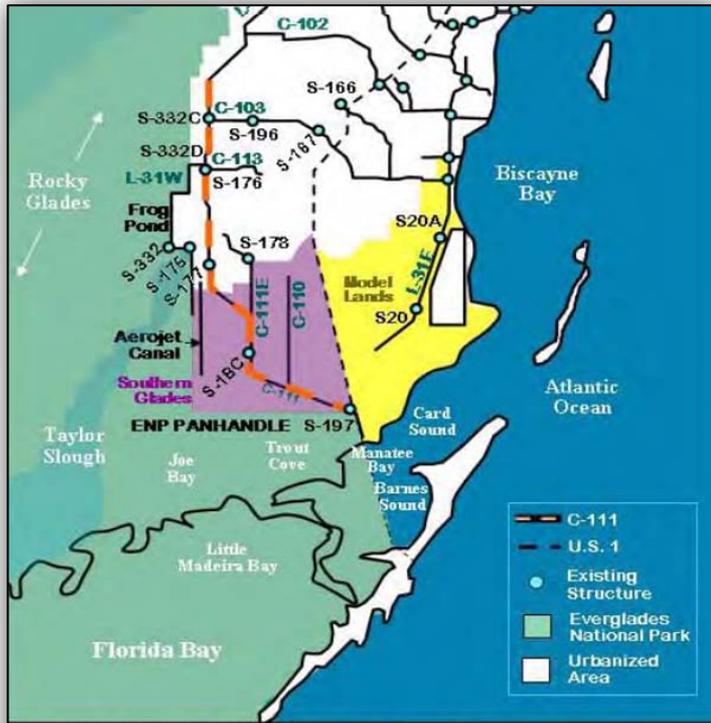
- Continue monitoring and research
 - To assess MFL exceedances
 - Validate MFL criteria
- CERP Broward County Water Preserve Area Project

Northeastern Florida Bay



Recent Efforts:

- ✓ Continued monitoring and research
 - To assess MFL exceedances
 - Validate MFL criteria
 - Update the MFL technical report
- ✓ Initiated new monitoring and research
 - To expand ecological information and broaden the area of study for the MFL update
 - Collect baseline and post-implementation data on the C-111 Spreader Canal Western Project to assess restoration impacts
- ✓ Project Implementation Report and SFWMD Constructed CERP C-111 Spreader Canal Western Project
- ✓ Project Implementation Report for Broward County Water Preserve Areas



C-111 SPREADER CANAL WESTERN PROJECT AREA

Northeastern Florida Bay Updated



MFL Prevention Strategy:

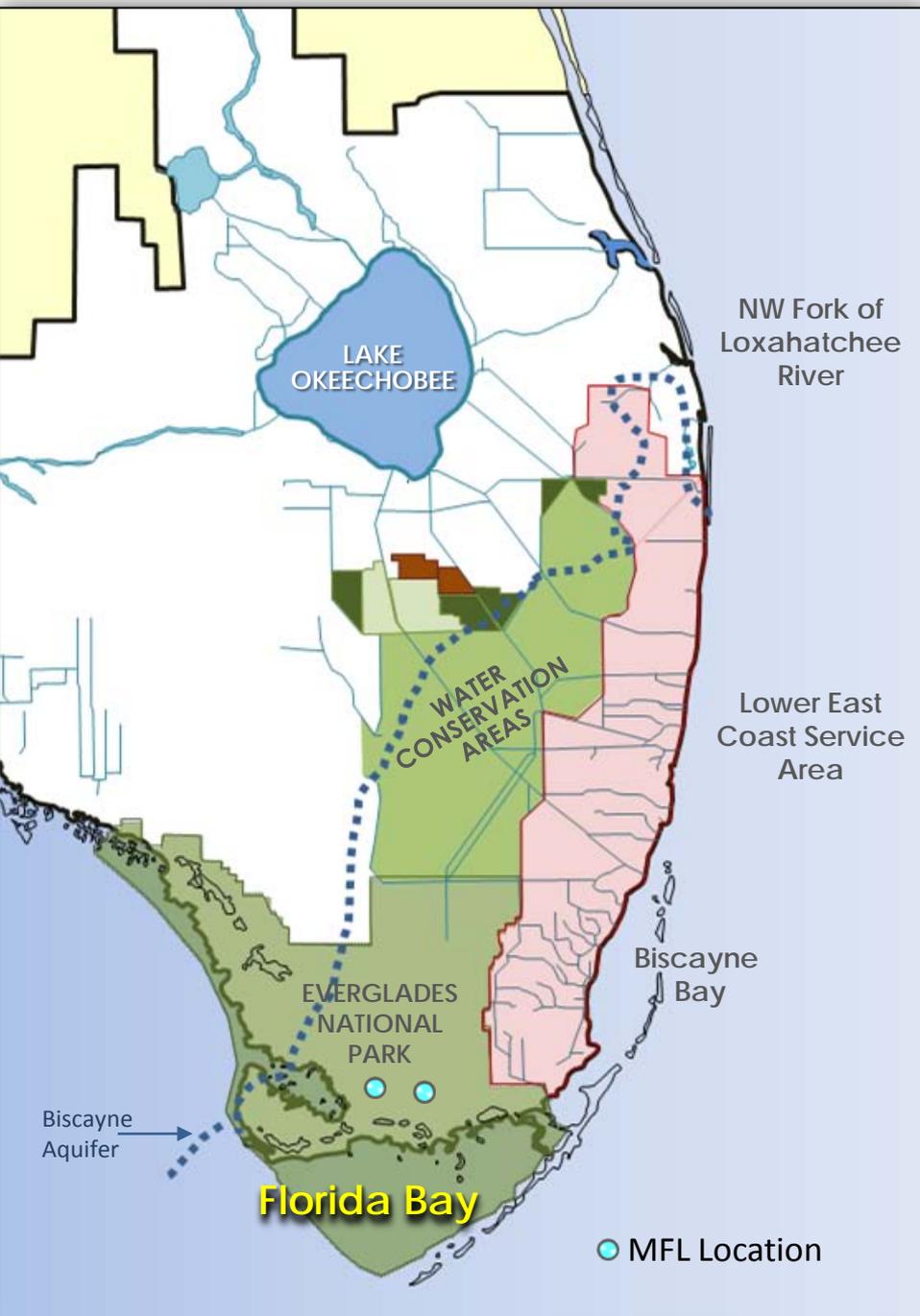
- CERP Broward County Water Preserve Area*
- CERP C-111 Spreader Canal Western Project*

* Next step for CERP Projects is US Congressional Authorization

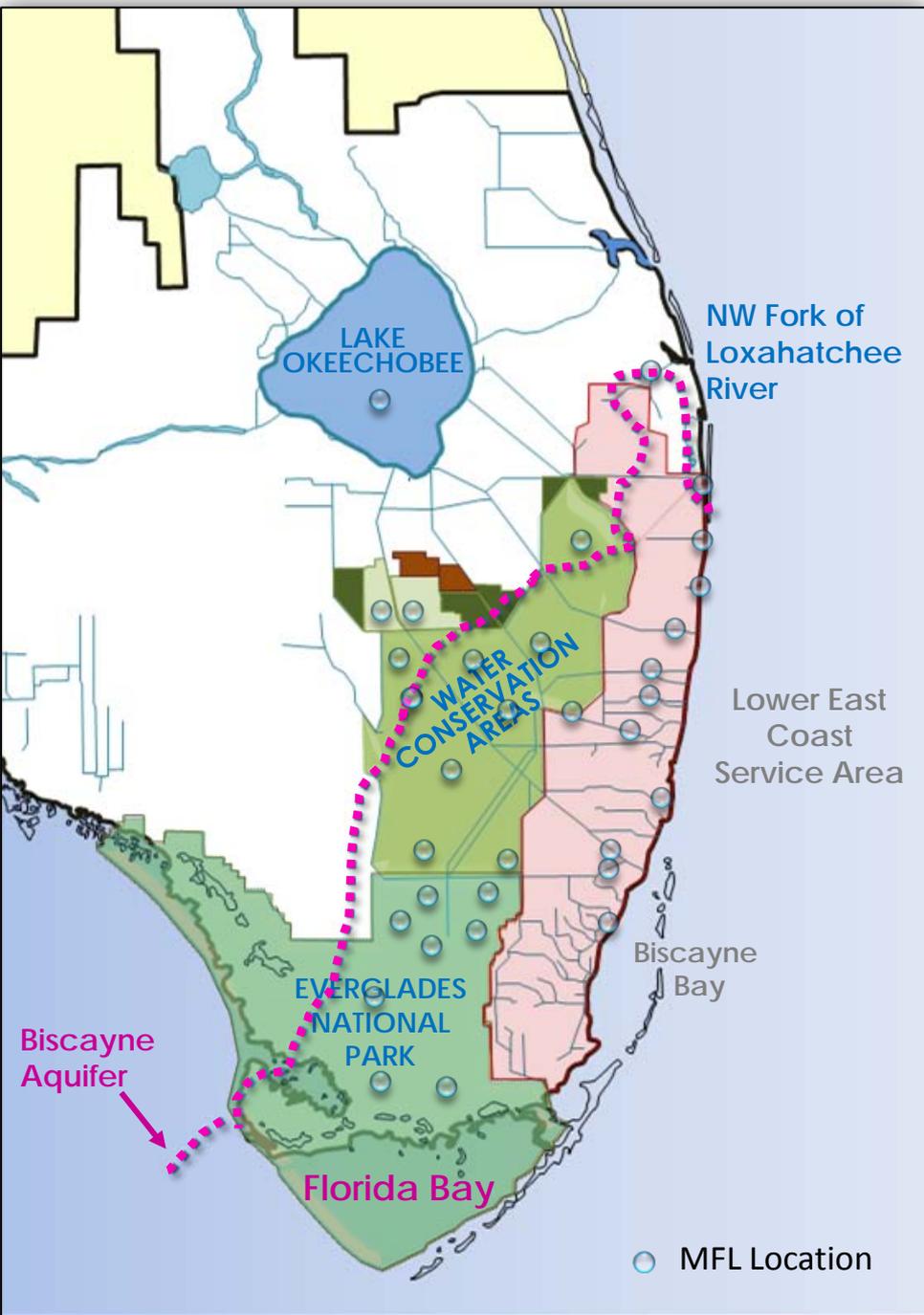
Northeastern Florida Bay Updated

MFL Prevention Strategy (cont.)

- Continue monitoring and research
 - To assess MFL exceedances and complete the technical report to provide a basis for recommendations for rule updates
 - Assess restoration impacts/success of the C-111 Spreader Canal Project
- Initiate new monitoring and research
 - To assess effects of E RTP implementation and Tamiami Trail Bridge Project, and possible effects of CEPP



Current Status of MFL Prevention and Recovery Strategies



- MFLs for Lake Okeechobee and the Everglades were projected to have continued violations
- Water from Lake Okeechobee, Everglades, and Loxahatchee River for consumptive use is capped by Restricted Allocation Area rules
- Storage is key to recovering MFLs
- Several projects will be modified by Central Everglades Planning Project
- Next step for CERP Projects is US Congressional Authorization

Questions?

