



Biscayne Bay Coastal Wetlands (BBCW) Project Update

Water Resources Advisory Commission (WRAC)
July 2, 2009

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Planning Project Management Division
South Florida Water Management District

Project Constraints

- The project cannot adversely impact
 - the level of flood protection provided to existing agricultural and urban lands
 - existing legal users (or sources) of water
 - the level of flood protection provided to existing agricultural and urban lands



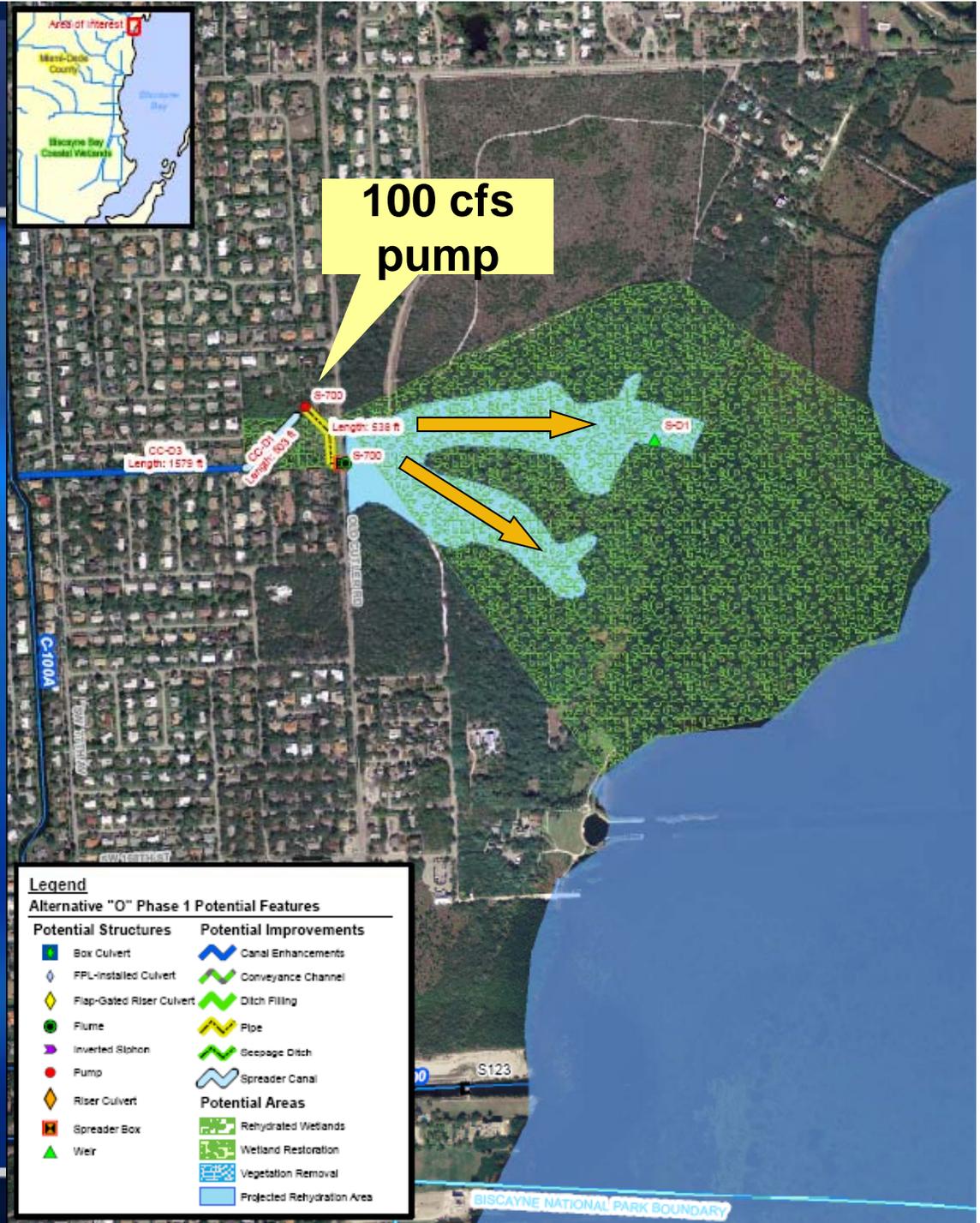


Project Benefits - Phase 1

- The project is anticipated to divert 59% of the annual average discharge from four coastal structures (S-123, S-21, S-21A, S-20F) into freshwater and saltwater wetlands
 - predicted to reduce future nitrate loading to the bay by 50%
 - predicted to increase the acres of saltwater wetlands with salinity below 20 parts per thousand (ppt) from approximately 2,000 acres to 3,600
- The project is expected to re-hydrate 190 acres of freshwater wetlands
- The project includes 500 acres of invasive exotic vegetation management
- The project is predicted to result in a 10% increase (78 acres) in the amount of near-shore habitat meeting desired target salinity conditions

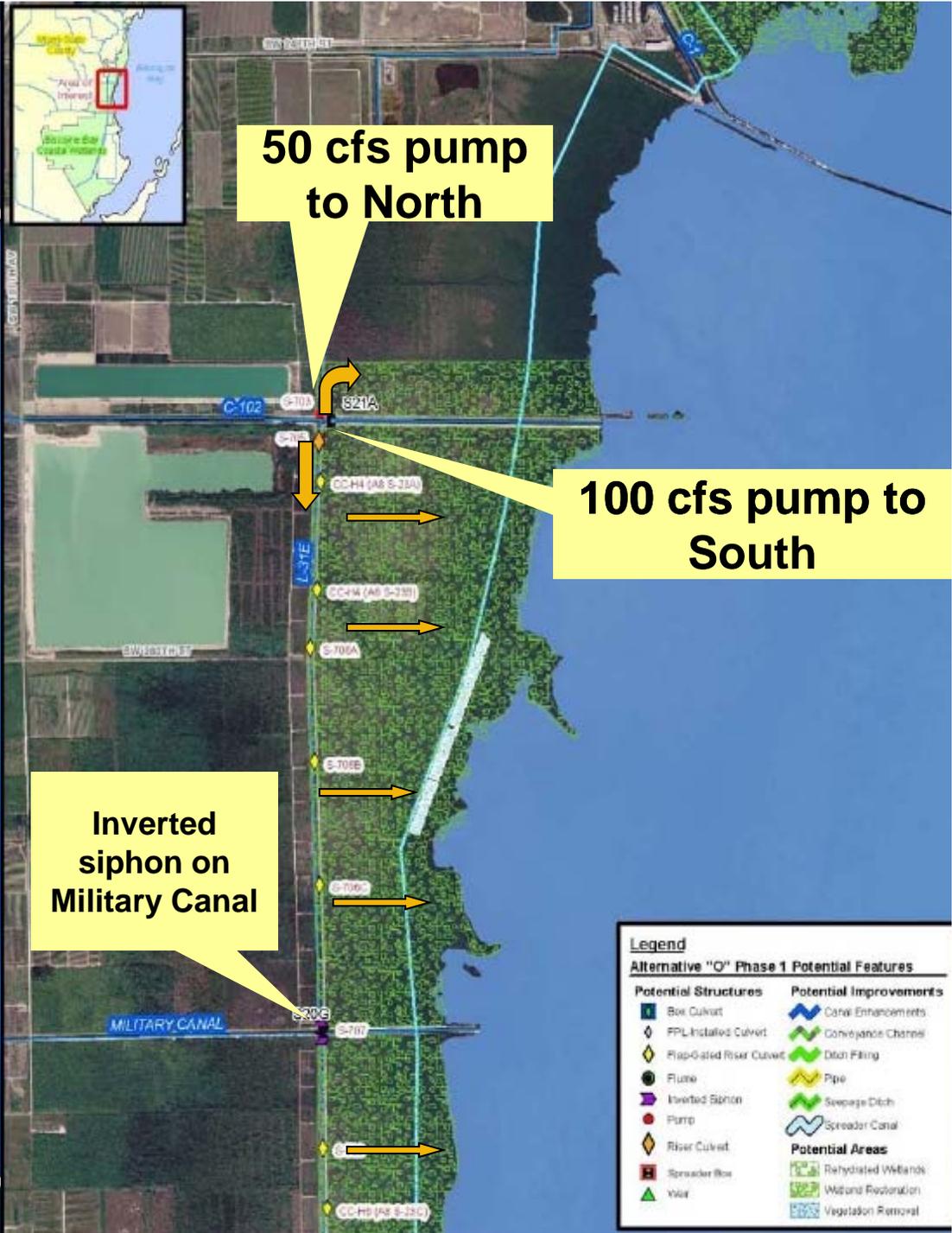
Deering Estate Project Features Alt O Phase 1

- Construct 500-foot extension of the C-100A Spur Canal through the Power's Addition Parcel
- Construct 100 CFS Pump Station (S-700) on the Power's Addition Parcel to withdraw water from C-100A Spur Canal
- Install 538 linear feet (LF) of 60" pipe to the Cutler Drain and ultimately to coastal wetlands located within the Deering Estate



L-31 E Flow way (North Portion) Project Features Alt O Phase 1

- Construct 50 CFS pump station (S-703) on L31E (just north of C-102) with outlet spreader
- Construct 100 CFS pump station (S-705) on L-31E (just south of C-102) to discharge south to L-31E
- Install eight flap-gated culverts (S-23A, S-23B, S-706A, S-706B, S-706C, S-708, S-23C, & S-23D) to discharge from L-31 to saltwater wetlands east of L-31E
- Install inverted siphon at Military Canal to isolate it from L-31E



L-31 E Flow way (South Portion) Project Features Alt O Phase 1

Construct 40 CFS pump station (S-709) to discharge water from C-103 north to L-31E

Construct 40 CFS pump station (S-711) and spreader canal (C-711) to deliver water from C-103 to freshwater wetlands south of C-103

Construct 40 CFS pump station (S-710) to deliver water from C-103 to freshwater wetlands south of C-103 (via spreader structure)

Install two flap-gated culverts (S-712A & 712B) to discharge from L-31 to saltwater wetlands east of L-31E



First Phase Construction Cost

Biscayne Bay Coastal Wetlands

Item	Total
Design/ Construction*	\$ 84,260,000
Real Estate	\$41,560,000
Total Cost	\$125,820,000

Anticipated Phase 1 Construction (Subject to Funding)

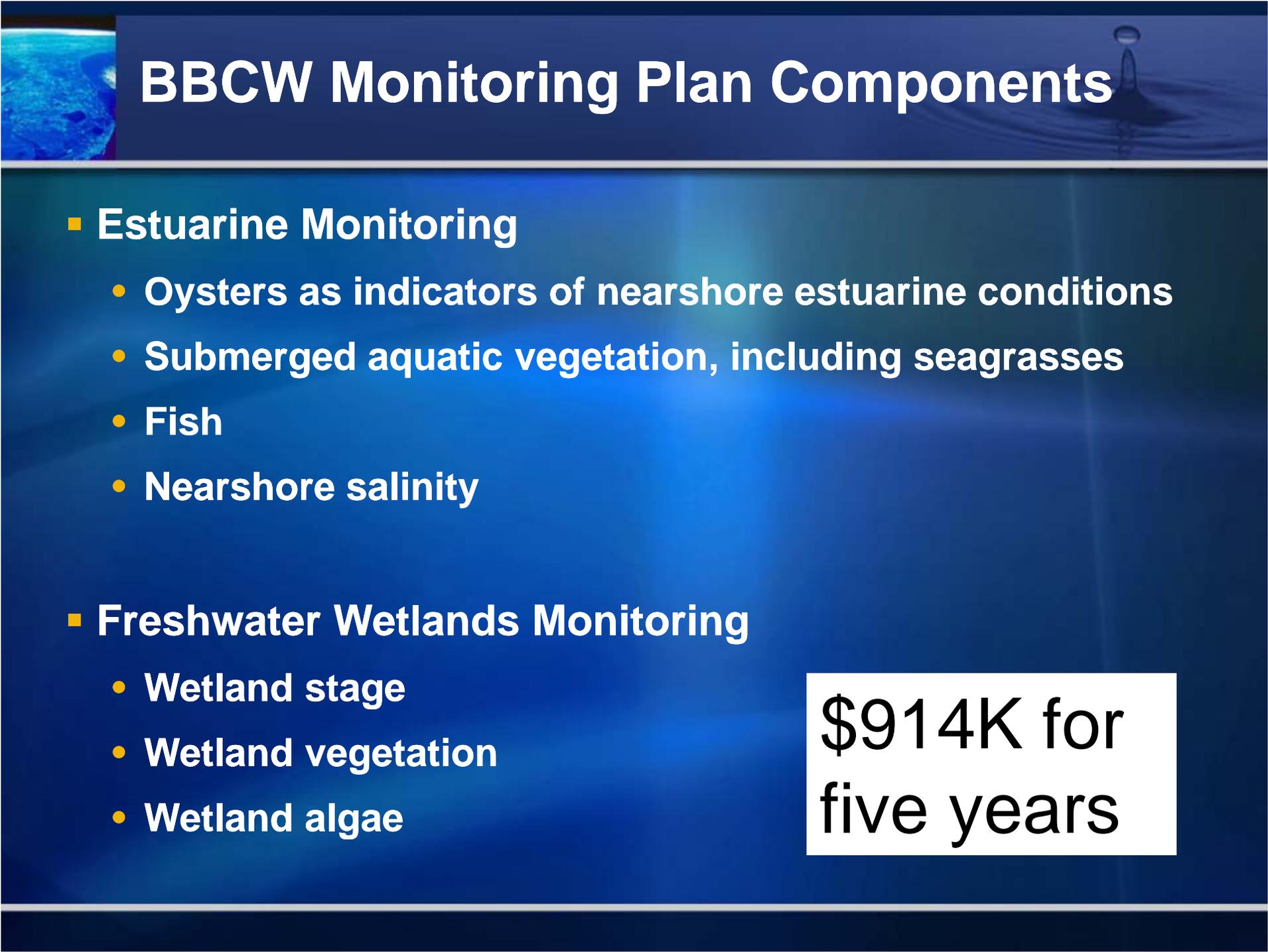
- L-31 E Culvert Component
 - Fall 2009
- Cutler Wetlands/Deering Estate
 - May/June 2010





CERP Project Monitoring

- **Regional System Monitoring – RECOVER**
- **Project Level Monitoring – PIR**
- **Monitoring Plan Constraints**
 - **BBCW first of PIRs to recommend specifics**
 - **Current monitoring plan is limited to five years, but some recommendations exceed this limit**
 - **Modified by WRDA 2007 to a 10-year limit, but policy not yet adopted**
 - **Monitoring to continue until restoration targets are achieved**
 - **Unrealistic requirement; targets typically set high**
 - **Exceeds USACE policy**
 - **Overall Funding Cap – What is necessary vs. nice to have**
 - **Must be linked to baseline monitoring (pre-construction)**

The slide features a dark blue background with a subtle image of a water droplet on the right and a satellite view of Earth on the left. The title 'BBCW Monitoring Plan Components' is centered at the top in white. Below it, two main categories are listed with bullet points. A white box in the bottom right corner contains the cost information.

BBCW Monitoring Plan Components

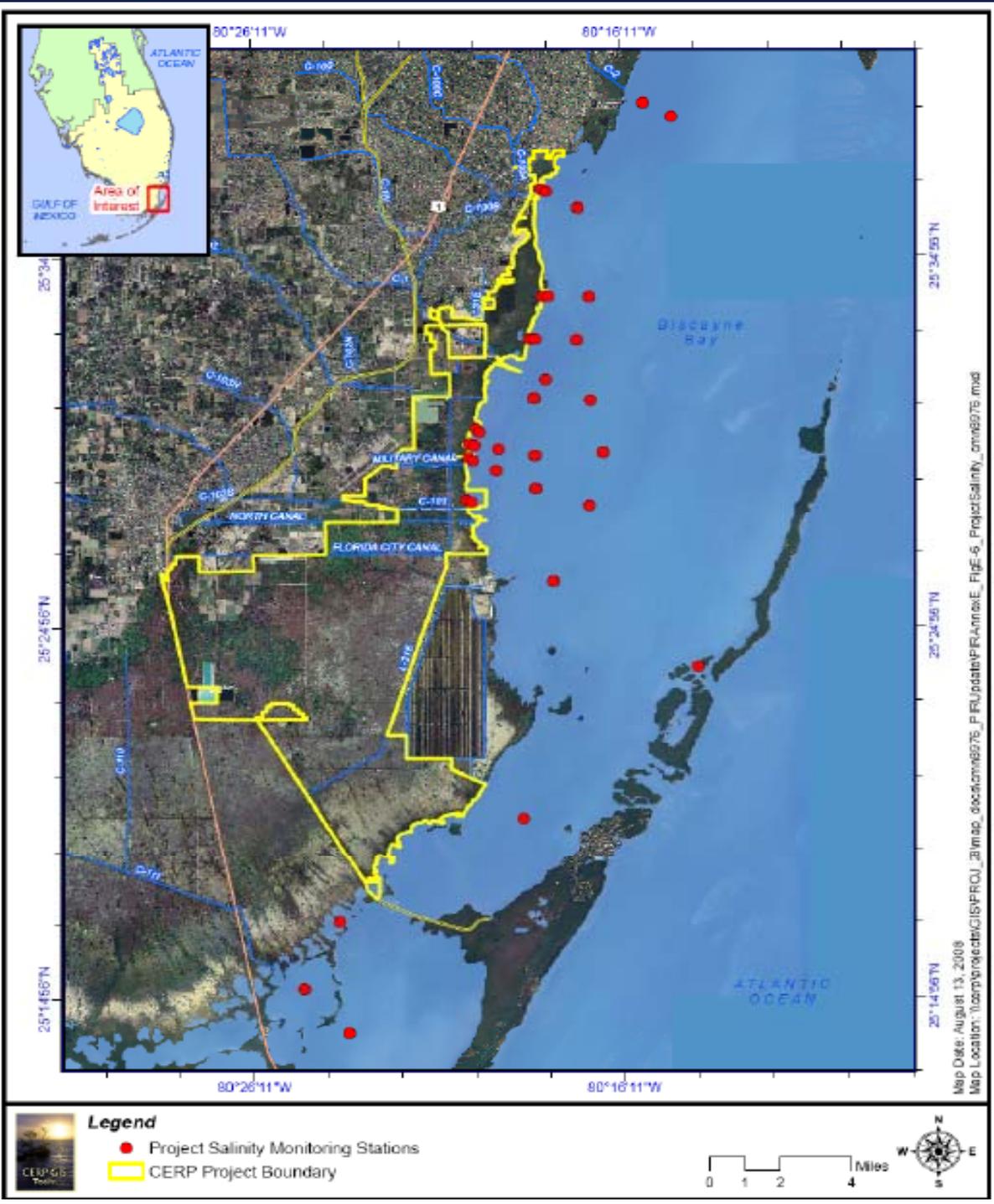
■ Estuarine Monitoring

- Oysters as indicators of nearshore estuarine conditions
- Submerged aquatic vegetation, including seagrasses
- Fish
- Nearshore salinity

■ Freshwater Wetlands Monitoring

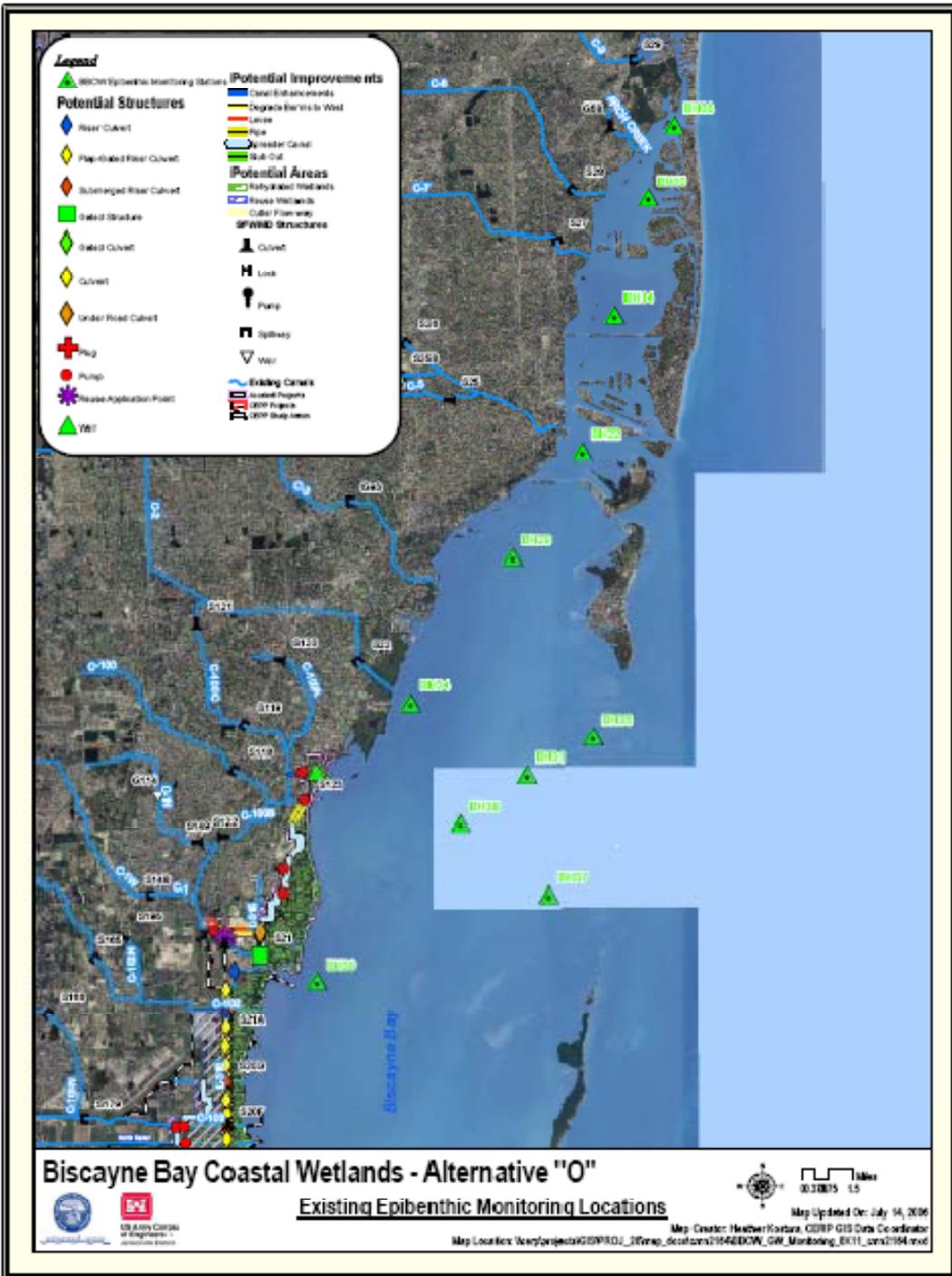
- Wetland stage
- Wetland vegetation
- Wetland algae

**\$914K for
five years**



Salinity Monitoring Stations

Seagrass and Benthic Monitoring Sites





Adaptive Management Recommendations in PIR

- **Improving habitat conditions**
 - **Redistribution of water for oyster disease control, improved seagrass growth, and fish habitat**
 - **Fire management for exotic and woody species control**

- **Improve operations to achieve restoration objectives**
 - **Evaluate and modify operations over time to enhance project performance**

- **Overall Funding - \$5 million during 15-year period**

L-31E Culvert Installation Sites

Miami-Dade DERM
Water Quality
Monitoring Stations



New Culvert Sites





Schedule to Record of Decision

- **Draft PIR to Headquarters for review** **June 24, 2009**
- **Headquarters policy review comments** **Aug. 18, 2009**
- **Publish Draft PIR in Federal Register** **Sep. 10, 2009**
- **Draft Final PIR** **Mar. 8, 2010**
- **Civil Works Review Board** **May 27, 2010**
- **Publish Final PIR in Federal Register** **June 28, 2010**
- **Record of Decision** **July 28, 2010**



Questions



