



# Biscayne Bay Coastal Wetlands Project

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# Project Objectives



- Improve delivery efficiency within Biscayne National Park
  - Redistribute freshwater flow and minimizes point source discharges
  - Preserve and restores natural coastal wetlands habitat
  - Re-establish connectivity between the coastal and adjacent wetlands
  - Delivers fresh water to historical tidal creeks
  - Hydrate areas (tidal wetlands) susceptible to hypersaline conditions during extended dry periods
  - Improve near shore salinity regimes and re-establishes productive nursery habitat

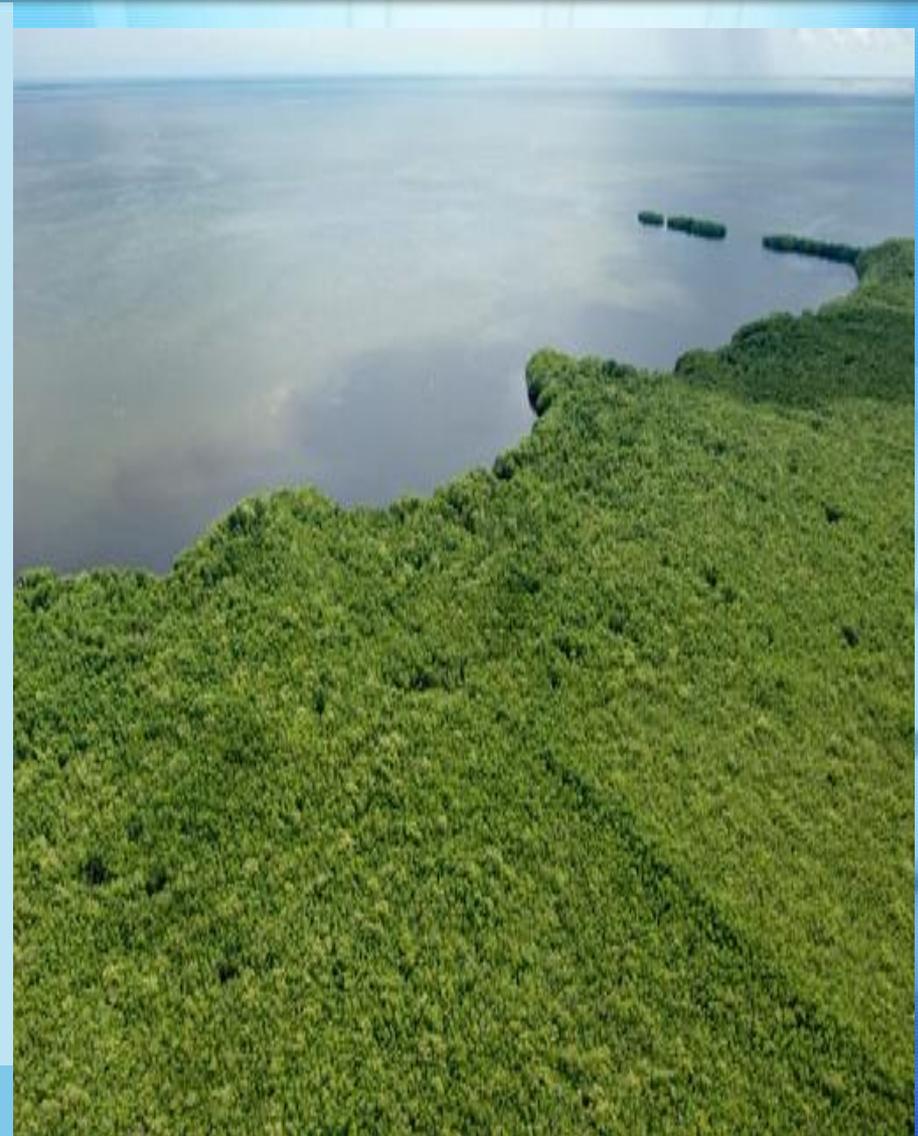
# Alternative O – Phase I



- Identified as the National Ecosystem Restoration plan
- Plan that reasonably maximizes the production efficiency for each of the ecological zones
- Contains the lowest average cost per unit of output
- Is cost effective for all ecological zones
- Logical first step towards achieving restoration of the study area, given the currently available quantity of water that is usable for the project
- Provides a substantial improvement in restoration of the Biscayne Bay nearshore and saltwater wetlands

# Expedited Project Features

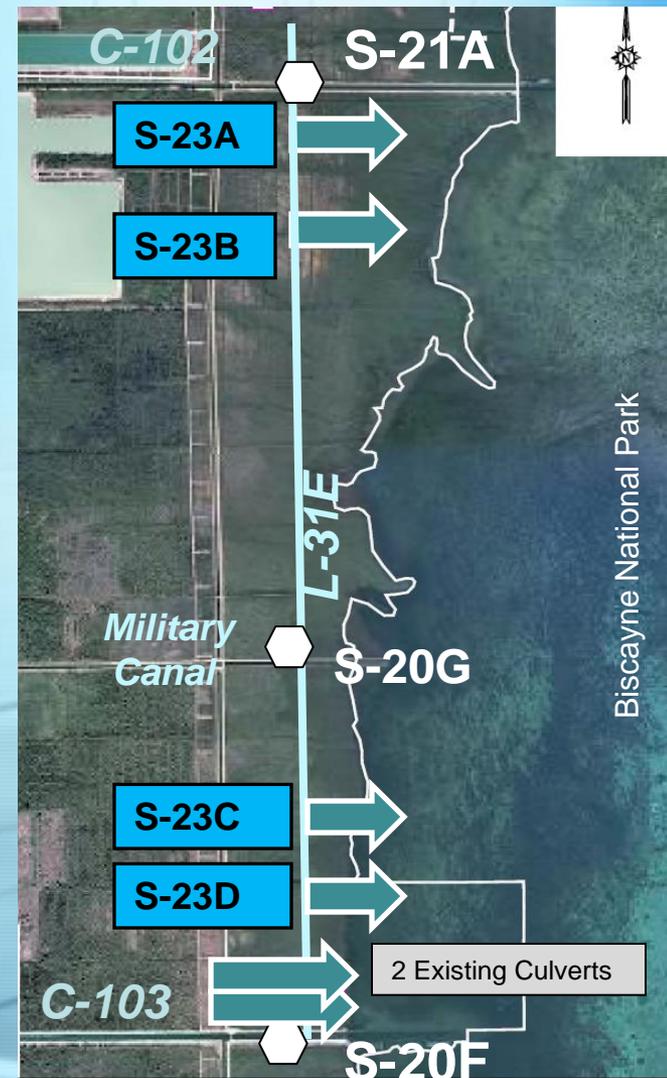
- Expedited design, construction, operation and pilot testing on some project components
  - Cutler Flow Way
  - L-31E Tidal Restoration Components
  - Deering Estate Features
  - L-31E Flow Way Pilot Project
- Expedited project elements meet all project “Study Objectives”
- Provides early ecosystem restoration benefits by distributing freshwater flows along the coast and near shore including Biscayne National Park





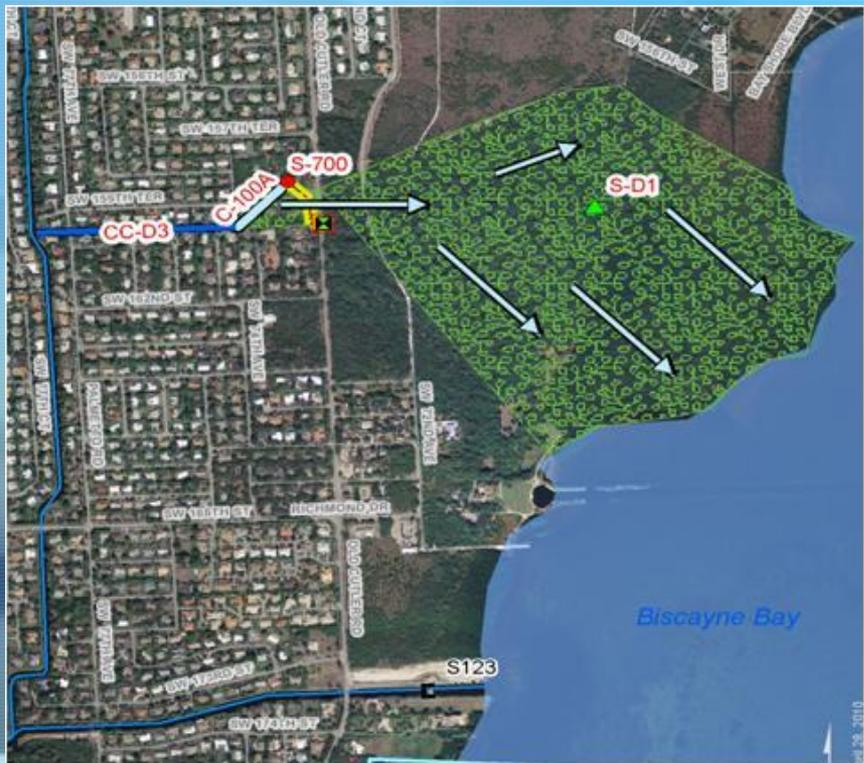
# Expedited Project

**L-31E Tidal Restoration  
Construction Completed  
June 2010**



# Expedited Project

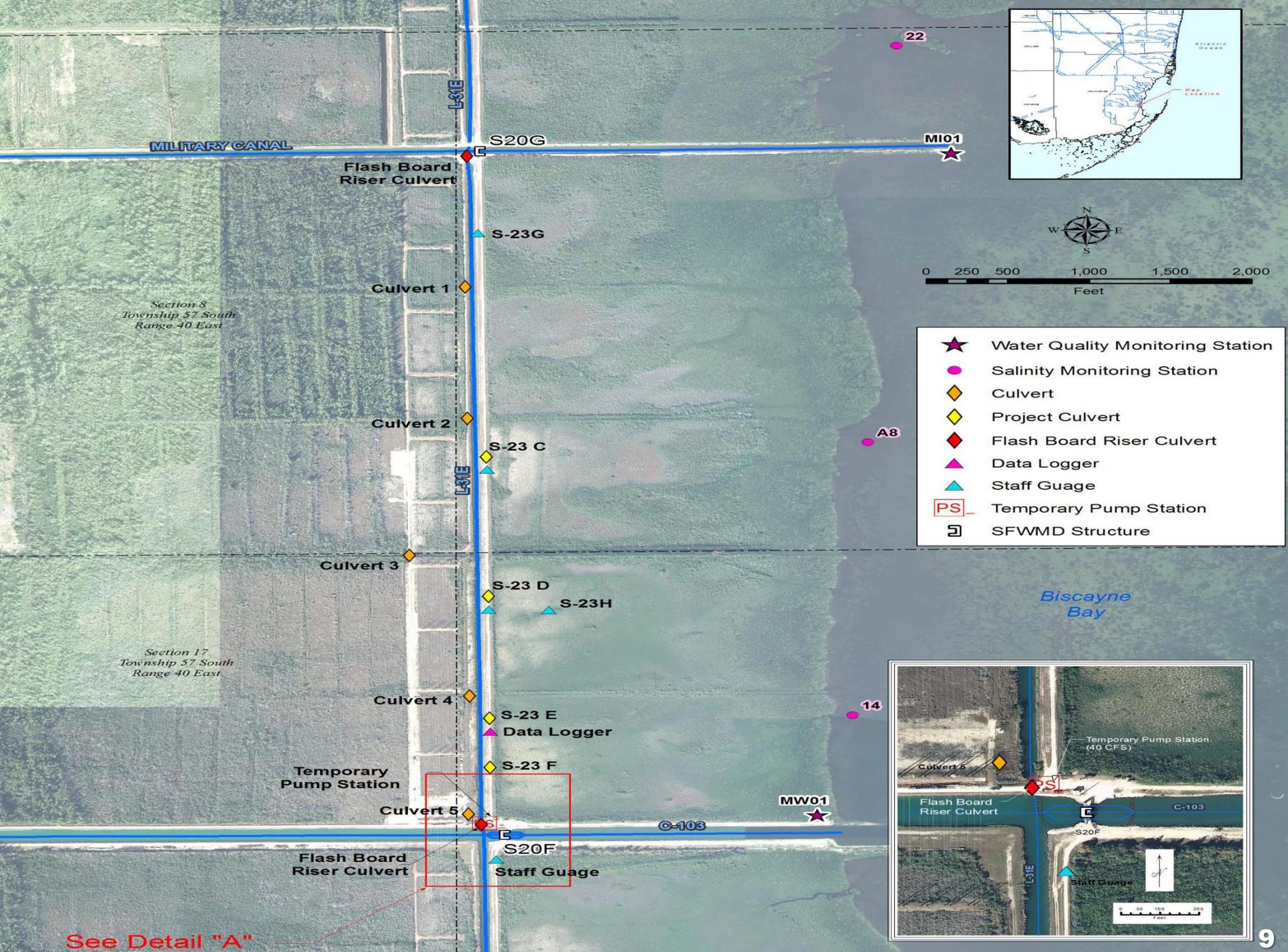
**BBCW Deering Estate Features  
Construction Completed April 2012**



# Expedited Project

- L-31E Flow Way Pilot Pump Project
  - Started October 15, 2014 for 3 months
  - Water conditions allowed test to be extended from 3 months to 6 months
  - Operational Period 6 months from Oct 15, 2014 to April 15, 2015





- ★ Water Quality Monitoring Station
- Salinity Monitoring Station
- ◇ Culvert
- ◇ Project Culvert
- ◆ Flash Board Riser Culvert
- ▲ Data Logger
- ▲ Staff Gauge
- PS Temporary Pump Station
- ☐ SFWMD Structure

Section 8  
Township 57 South  
Range 40 East

Section 17  
Township 57 South  
Range 40 East

Biscayne Bay



See Detail "A"

# Pilot Pump Test Results



- Approximately 6,655 ac-ft of fresh water diverted
- Monitoring results demonstrated
  - Redistribution of freshwater flow
  - Reduced point source discharges
  - Improvements in hydrologic conditions
  - Improved tidal creek and sheet flow
  - Improved tidal and nearshore salinity conditions
  - Reduced groundwater salinity and increased groundwater levels
  - Expansion of sawgrass
  - Various species of birds, amphibians, invertebrates, fish, and reptiles present
- Assessment Report available August 2015



## Next Steps

# Remaining Phase I Project Features

- Five pump stations
  - S-303 (50 cfs)
  - S-705 (100 cfs)
  - S-709 (40 cfs)
  - S-710 (40 cfs)
  - S-711 (40 cfs)
- Inverted siphon (S-707)
- Ten L-31 Culverts
- Freshwater wetland between C-103 Canal and North Canal



# Alt O Phase I Real Estate Acquisition

Remaining Acres to be Acquired

Private 429 acres

FPL 193 acres

Total 622 acres



Estimated Cost ~ \$5.3M



# Working Schedule

- Fiscal Year 2016
  - Continue temporary pumping at Pilot Project location
  - Complete and obtain Transfer Plan, Integral Determination Report and Project Partnership Agreement approvals
  - Design and Construct L-31E project culverts S- 712 A and S-712B
- Fiscal Year 2017
  - Continue temporary pumping at Pilot Project location
  - Design and Construct Pump Station S-709 and Culvert S-708
- Fiscal Year 2018
  - Design and Construct Pump Stations S-705 and S-703, and Culverts S-706A, S-706B and S-706C
  - Design and Construct Pump Stations S-710 and S-711, and North Canal Wetland Features including Spreader Canal south of C-103 Canal
- Fiscal Year 2019
  - Update design of the C-1 Cutler Flow Way project features

**Working schedule affords an opportunity to complete project construction by 2022 but is dependent upon PPA execution and project funding**



## Discussion