Biscayne Bay Coastal Wetlands
Project Update

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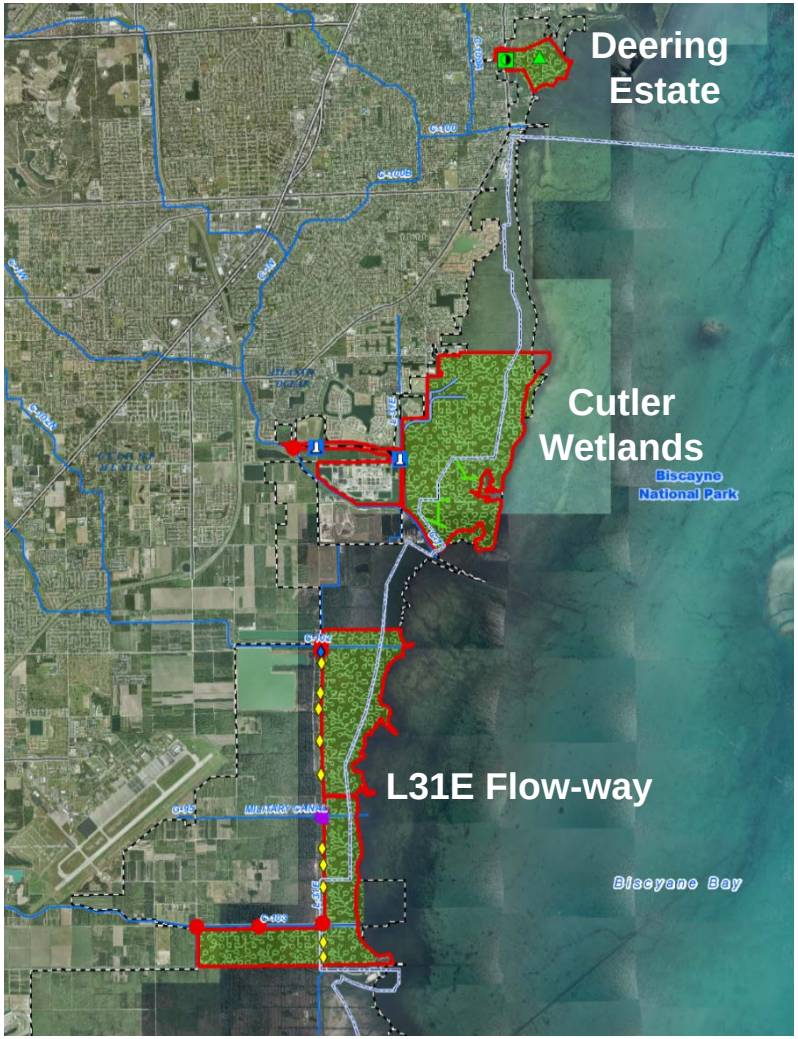
Project Objectives

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

SFWMD Phase I Expedited Projects

- Expedited design, construction and pilot testing on several Phase I project components
  - L-31E Tidal Restoration Components
  - Deering Estate
  - Cutler Wetlands
  - L-31E Interim Pump
- Provides for early ecosystem restoration benefits by distributing flows along coast and near shore including Biscayne National Park



SFWMD Expedited Project

L-31E Tidal Restoration

- Construction completed June 2010

SFWMD Expedited Project

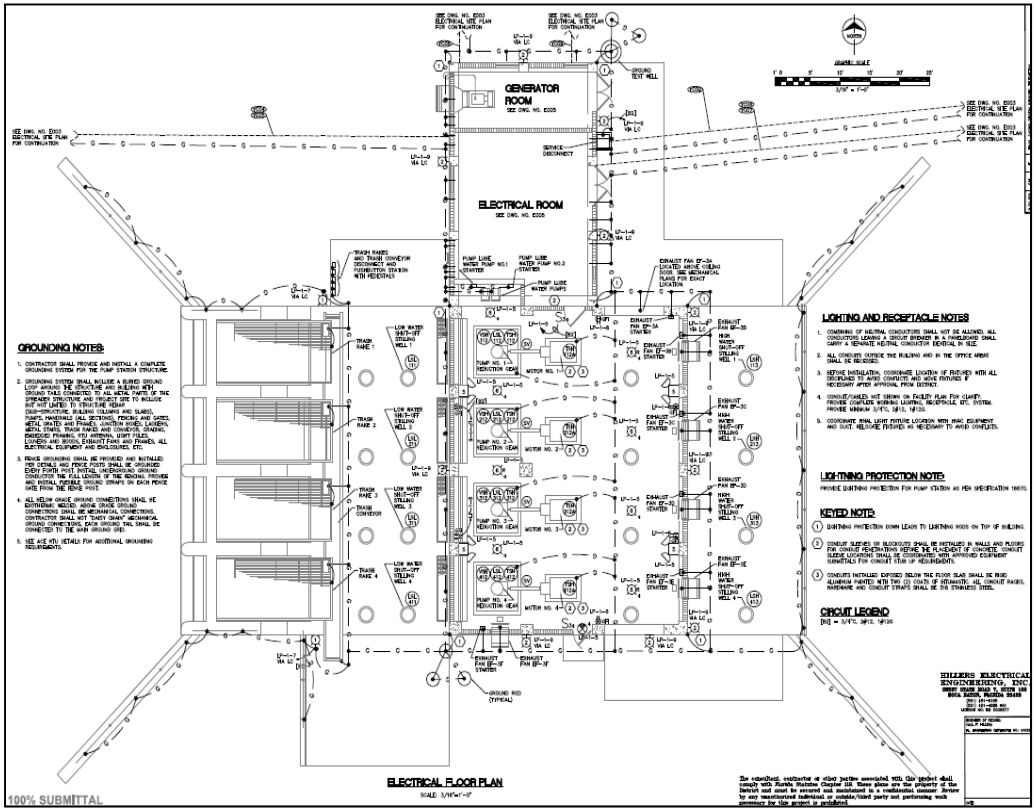
Deering Estate Features

- Construction completed April 2012

SFWMD Expedited Project

Cutler Flow Way

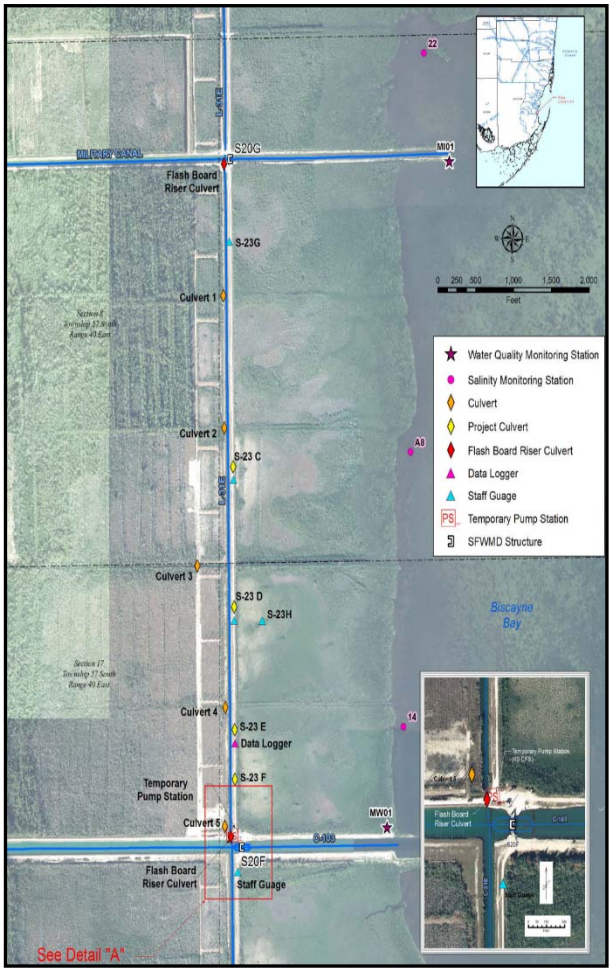
- Design completed November 2009
- Design update scheduled for 2019
- Construction scheduled 2020 to 2021



SFWMD Expedited Project

L-31E Flow Way Interim Pump Project

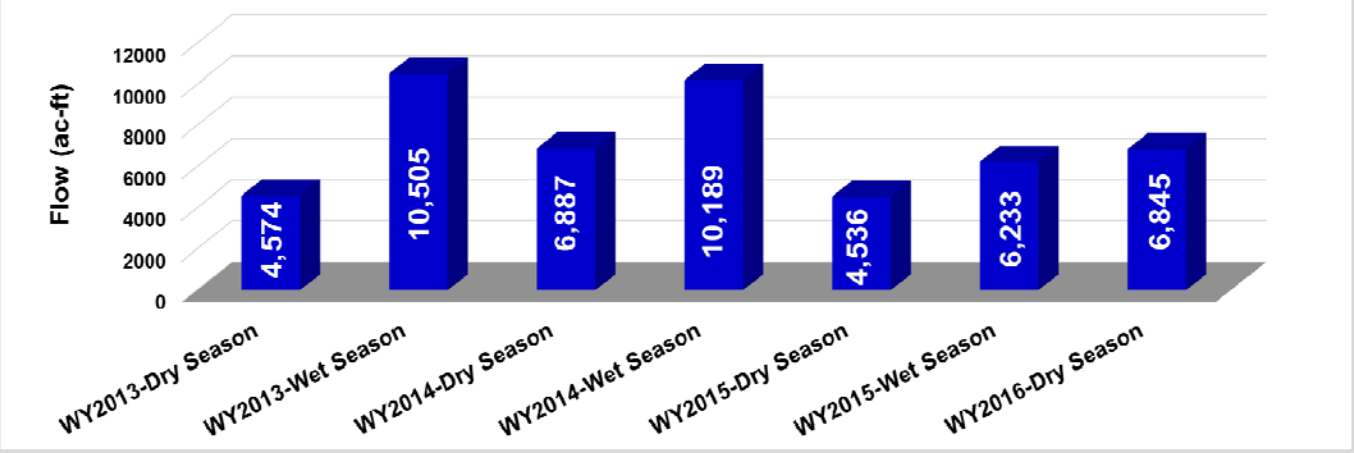
- Temporary diesel pump operation October 2014 to April 2015
- Temporary electric pump currently being installed



Expedited Project Benefits

Deering Estates

- Approximately **45,233 ac-ft.** of freshwater redirected to historic remnant wetlands
- Timing of flows to the wetlands at Deering Estate has been improved



Expedited Project Benefits

Deering Estate
Vegetation changes within Cutler Creek

Deering Transverse Glade and Addison Hammock
2014

Deering Transverse Glade and Addison Hammock
2015

Expedited Project Benefits

L-31E Flow Way Culverts

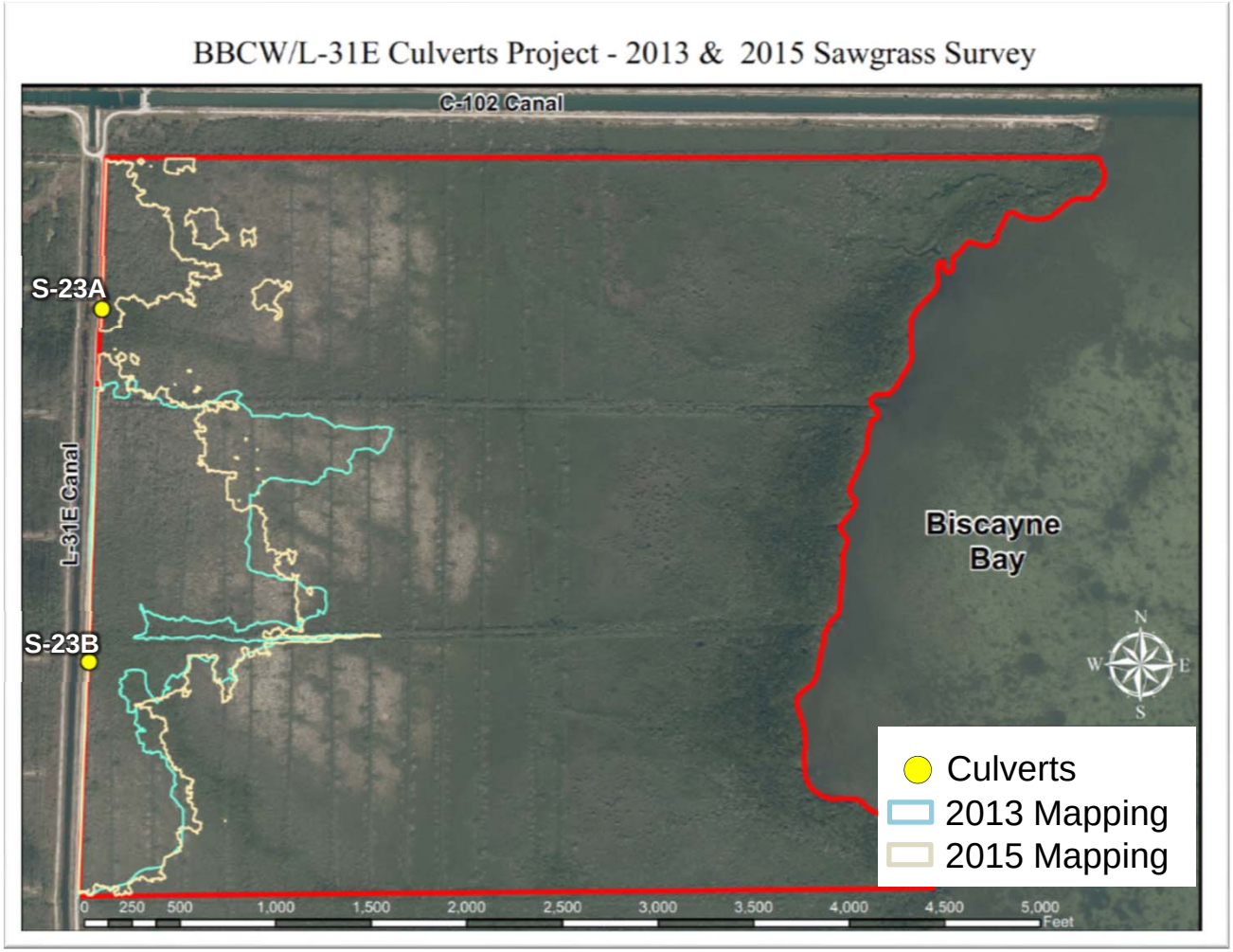
- L-31E Culverts diverted approximately **20,186 ac-ft.** of water from the C-102 and C-103 canals since November 2010
- Increased flows in WY2015 dry season during L-31E Pilot Pump Test

Station	WY2011	WY2012		WY2013		WY2014		WY2015	
	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season
S-23A	0	957	141	785	32	444	17	433	0
S-23B	0	232	13	487	0	390	16	918	26
S-23C	0	1610	183	1265	93	129	13	1057	1557
S-23D	0	2190	70	2043	0	865	70	1681	2571
Total	0	4988	406	4580	125	1828	116	4089	4154

Expedited Project Benefits

L-31E Culverts

- Sawgrass expansion observed within project boundary east and west of L-31E Canal
- Sawgrass mapped within Miami-Dade County Preserve wetlands near S-23A and S-23B

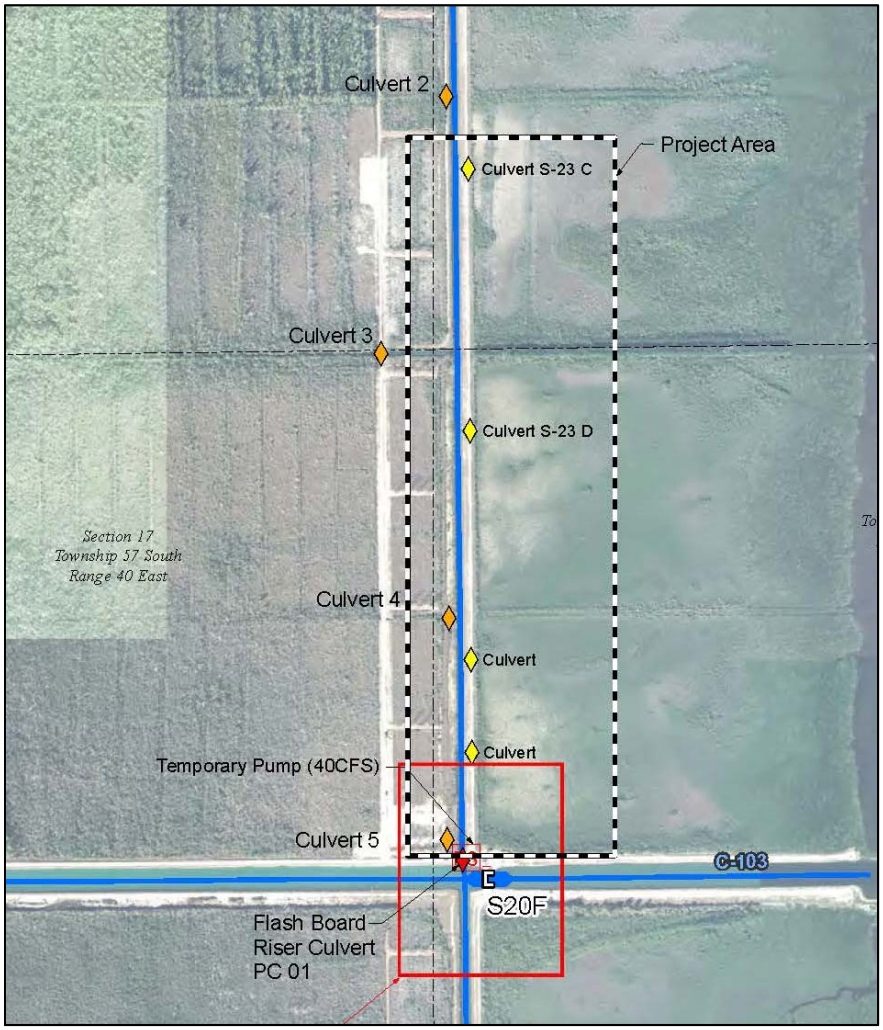


L-31E Interim Operations

L-31E Interim Operations

- Will allow for year-round operations during various conditions
- Continue benefits observed during the pilot test
- Anticipate operations to begin May 2016
- Interim operations to continue up to 5 years or until the permanent pump station S-709 is constructed by the USACE

L-31E Interim Operations



L-31E Interim Operations

L-31E Interim Pump Installation

Remaining Phase I Project Features

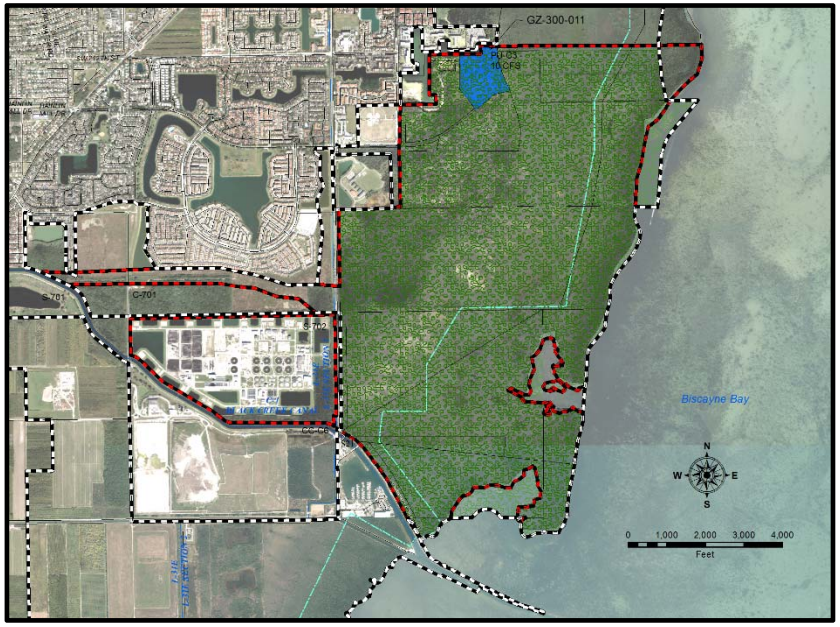
- U.S. Army Corps of Engineers is the lead agency for design and construction of remaining L-31E Flow-way Phase I features
  - $2.6 million for design in FY16
- Five pump stations
  - S-703 (50 cubic feet per second)
  - S-705 (100 cubic feet per second)
  - S-709 (40 cubic feet per second)
  - S-710 (40 cubic feet per second)
  - S-711 (40 cubic feet per second)
- Inverted siphon (S-707)
- Six L-31E Culverts
- Spreader Canal in freshwater wetland between C-103 Canal and North Canal

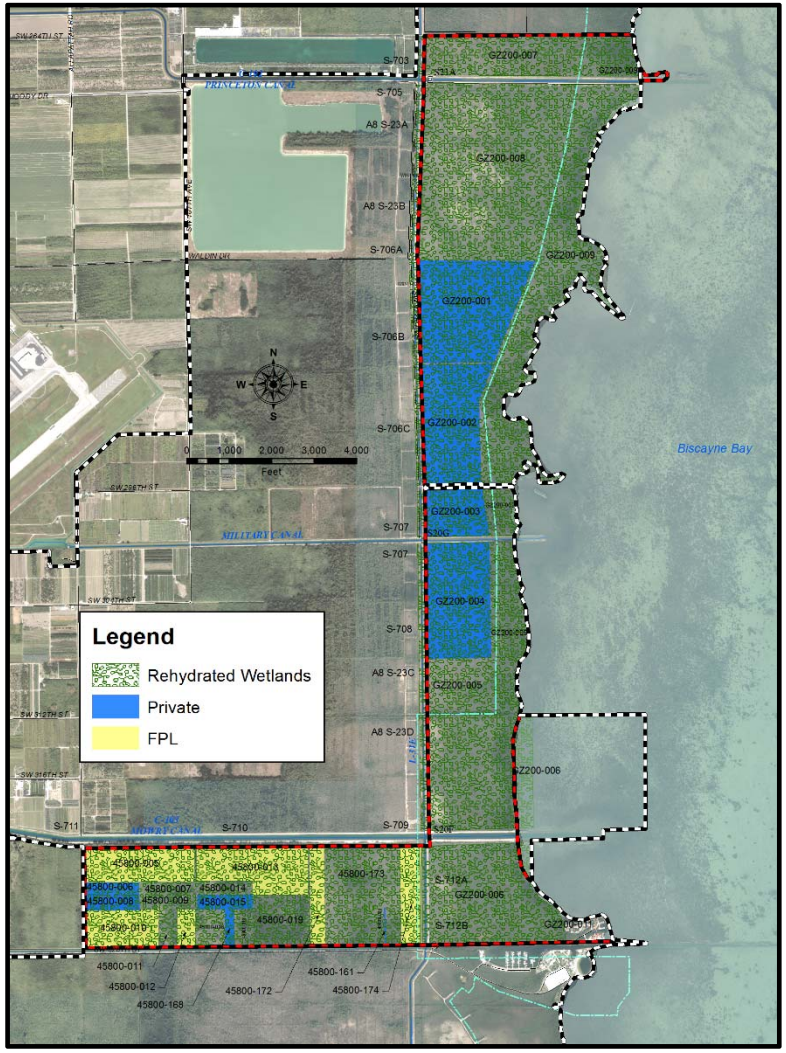
Phase I Real Estate Acquisition

Remaining Acres to be Acquired

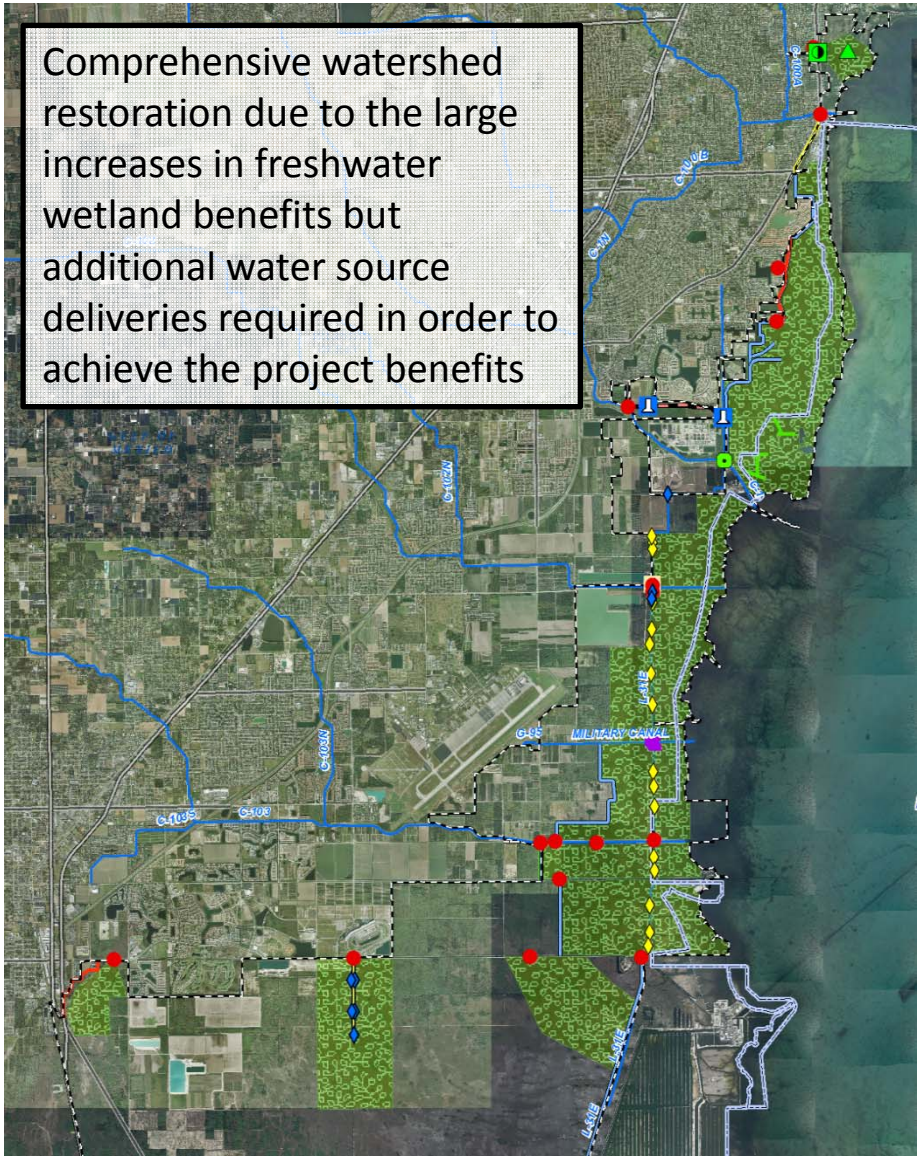
Private	429 acres
FPL	193 acres
Total	622 acres

FY17 Legislative Budget Request
$5.8 million





Biscayne Bay Coastal Wetlands - Alternative O Phase II*



Comprehensive watershed restoration due to the large increases in freshwater wetland benefits but additional water source deliveries required in order to achieve the project benefits

Phase II Planning

- Integrated Delivery Schedule has BBCW Phase II planned for 2020 – 2023
- Estimated real estate acquisition approximately 4,501 acres
- Estimated PIR project cost approximately $350 million*

*Does not include the cost of providing additional water source deliveries to realize the full utility of the Phase II components

Summary

L-31E Flow Way Culverts and Pilot Pump Test

- Reduced point source discharges
- Pump Test monitoring results demonstrated an improvement of hydrologic conditions, improved saltwater wetlands salinity regimes, enhanced sheet flow, rehydration of freshwater and saltwater wetlands
- Pumping maintained the stage within the L-31E Canal at the optimal level of approximately 2.20 feet NGVD
- Interim Operations Project to begin this year

Deering Estates

- Reduced point source discharges
- Improved quantity of water and timing of flows to the wetlands
- Rehydration of historic coastal wetlands
- Upland plants have died off and new wetland vegetation species are emerging

Questions?