



NOVEMBER 2019

## RESTORING BISCAYNE BAY COASTAL WETLANDS AND BISCAYNE NATIONAL PARK

Biscayne Bay, a shallow estuarine lagoon extending nearly the entire length of Miami-Dade County in southeastern Florida, is home to over 500 species of fish and other marine organisms. A large area of the south-central portion of Biscayne Bay is contained within Biscayne National Park, the largest marine park in the national park system; 95% of its 172,000 acres is underwater. The park contains four distinct ecosystems: Biscayne Bay, the mangroves along the shore, the coral limestone keys, and the offshore Florida Reef. The longest stretch of mangrove forest remaining on Florida's eastern seaboard occurs within Biscayne Bay. Extensive areas of seagrasses in Biscayne Bay serve as an important food source for the endangered Florida manatee, and as nursery areas for many ecologically and commercially important estuarine species, such as shrimp, crabs, lobster, and sponges.

The purpose of the Biscayne Bay Coastal Wetlands (BBCW) project is to rehydrate coastal wetlands and reduce damaging point-source freshwater discharge to Biscayne Bay and Biscayne National Park. The BBCW project will restore wetland and estuarine habitats, and divert an average of 59 percent of the annual coastal structure discharge into freshwater and saltwater wetlands instead of direct discharges to Biscayne Bay and Biscayne National Park.



Aerial View of Deering Estate Pump Station and Wetland

### PROJECT BENEFITS

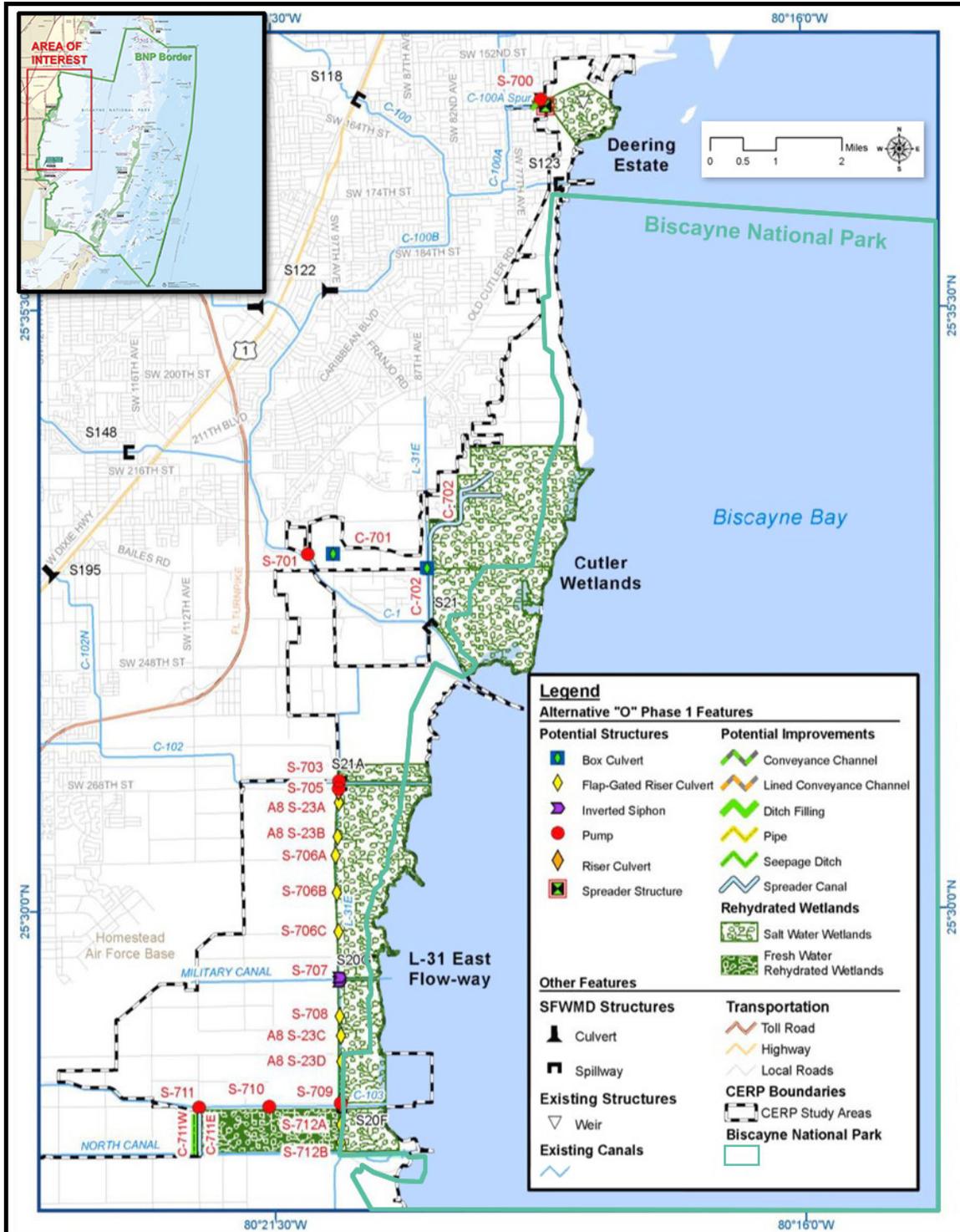
- 190 acres of freshwater wetlands will benefit from freshwater rehydration.
- Hydroperiods in the target freshwater wetlands will increase from approximately 70 to 200 days per year.
- Improved oyster bars, submerged aquatic vegetation, wetland vegetation, and associated biota.
- Increased abundance of fish and abundance and diversity of seagrasses.
- Improved habitat for alligators and juvenile crocodiles.
- Produce high-functioning grassy wetlands that will serve as critical habitat to prey fish and wading birds.
- Out of the total available 22,500 acres of saltwater wetlands, this project will increase saltwater wetland function from 1,002 habitat units to 7,398 habitat units (net of 6,396 acres of functionality).

# BISCAYNE BAY COASTAL WETLANDS PROJECT | BBCW

The BBCW Project was one of the components of the 1999 Restudy. In the 2012 BBCW PIR/EIS, the project was broken into two phases. Congress authorized the BBCW Phase I project in Section 7002(5)6 of the Water Resources Reform and Development Act of 2014, in accordance with the recommendations of the Chief of Engineers Report dated 2 May 2012.

## PHASE I PROJECT COMPONENTS LOCATION MAP

The project is located along the lower east coast of Florida in Miami-Dade County. Phase I encompasses a footprint of approximately 3,761 acres and includes features in three of the project's four sub-components (hydrologically distinct regions of the study area): Deering Estate, Cutler Wetlands, and L-31 East Flow-way. All components in Phase I are located north of North Canal. The features in the fourth region, Model Land Basin, will be a component of Phase II. Recreational features are also a component of the project.



## BBCW PHASE I PROJECT FEATURES

### DEERING ESTATE

This region, in the northern part of the project area, includes a 500-foot extension of the C-100A Spur Canal through the Power's Parcel and delivery of fresh water to Cutler Creek and coastal wetlands along Biscayne Bay.

### L-31E FLOW-WAY

The L-31E Flow-way/North Canal Flow-way features include pumps, spreader canals, and several culvert structures to manage flow between the C-102 Canal, the L-31E Canal, Military Canal, the C-103 Canal, and the nearby restoration activities.

### CUTLER WETLANDS

The features include a 400 cfs pump, culverts, a canal, and restoration of the Lennar Flow-way.

## PHASE 1 CONSTRUCTION SEQUENCE

### Planned Design, Construction, and Operational Testing and Monitoring Period (OTMP)

L-31E Flow-way Contract 4 (USACE)	L-31E Flow-way Contract 5 (USACE)	Cutler Wetlands Contract 6 (SFWMD)
<ul style="list-style-type: none"> <li>• Pump Station S-709.</li> <li>• Ready to be awarded in FY20.</li> </ul>	<ul style="list-style-type: none"> <li>• Pump Station S-703 (50 cfs).</li> <li>• Pump Station S-705 (100 cfs).</li> <li>• Pump Station S-710 (40 cfs).</li> <li>• Pump Station S-711 (40 cfs).</li> <li>• InDesign stage with USACE.</li> <li>• S-703 spreader canal.</li> <li>• S-711 spreader canal.</li> <li>• S-711 seepage canal.</li> </ul>	<ul style="list-style-type: none"> <li>• Intake Canal, S-701 (40 cfs).</li> <li>• Pump Station, S-701 (400 cfs).</li> <li>• Cement-lined Channel, C-701.</li> <li>• Spreader Channel, C-702.</li> <li>• Culvert crossing at 87th Avenue and 97th Avenue.</li> <li>• Mosquito control ditch plugs.</li> <li>• In Design stage with SFWMD.</li> </ul>

FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024							
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
				Design				Construction																							
				Design								Construction																			
						Design				Construction																					

### Completed Design and Construction

Deering Estate Contract 1 (SFWMD)	L-31E Flow-way Contract 2 (SFWMD)	L-31E Flow-way Contract 3 (USACE)	Recreation (SFWMD)	L-31E Flow-way Contract 4 (SFWMD)
<ul style="list-style-type: none"> <li>• Pump Station S-700 (100 cfs).</li> <li>• Canal Extension (580 lf).</li> <li>• Pipe (60-foot pipe / 560 lf).</li> <li>• Spreader Structure.</li> <li>• Transferred to O&amp;M phase July 2019.</li> </ul>	<ul style="list-style-type: none"> <li>• Culverts S-23A, B, C, and D (36 inch).</li> <li>• Transferred to O&amp;M phase July 2019.</li> </ul>	<ul style="list-style-type: none"> <li>• Culverts S-712A, S-712B (36 inch).</li> </ul>	<ul style="list-style-type: none"> <li>• Deering Estate walkway constructed adjacent to project wetland feature.</li> </ul>	<ul style="list-style-type: none"> <li>• Culverts S-706 A, B, and C and S-708.</li> <li>• Construction completed.</li> </ul>

## PHASE 2 PLANNING STUDY

During the development of the BBCW PIR EIS, Alternative O was determined to be the initial Tentatively Selected Plan. Further analysis determined that the project would be planned and recommended through two PIRs. Phase II will consider the remaining features in Alternative O including 7,551 acres, approximately 13 pump stations, 10 culverts, four miles of spreader canals, one mile of conveyance canal, and plugging 5,500 feet of mosquito control ditches. The CERP Integrated Delivery Schedule indicates that the planning study for Phase II will begin in 2021.





## INTERAGENCY COLLABORATION

The BBCW project team is made up of members from many federal, state, and local agencies who have extensive regional knowledge of the project area and function.

Within the project area, Biscayne National Park makes up 937 acres (25%) of the 3,761 total acres. Miami-Dade County owns and provides the use 1,254 acres of land for the project via an agreement with South Florida Water Management District.

The National Park Service and the National Oceanic and Atmospheric Administration (NOAA) lead ecological monitoring activities that measure the restoration project from the implementation of the project and other components of CERP on Biscayne Bay and Biscayne National Park.

## ENVIRONMENTAL MONITORING

Ecological monitoring will detect improvements in the nearshore area and the wetlands area, including both freshwater and saltwater wetlands. The nearshore bay component will monitor oysters, submerged aquatic vegetation, estuarine fishes, and salinity. The wetland component will include wetland macro vegetation and wetland algae. Wetland hydrology monitoring will capture water levels and water flow rates. The project monitors water quality of component and measures, chemical constituents, temperature, pH, dissolved oxygen, and other physical parameters. The project also monitors for nuisance and exotic vegetation.

## FOR MORE INFORMATION



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