



Restoring Freshwater Flows to Biscayne Bay: Biscayne Bay Coastal Wetlands Phase 1

Introduction

Biscayne Bay is part of the Greater Everglades Ecosystem. Historically, freshwater would flow from the Everglades over and through the Miami Rock Ridge and out through Biscayne Bay. Unintended consequences of drainage and development have cut off freshwater flow from the Everglades to Biscayne Bay. As a direct consequence of these changes, the Bay receives very little freshwater during the dry season, and too much freshwater during the wet season, when water is diverted away from farm fields to the Bay to allow optimal conditions for growing crops. Such abrupt changes in the salinity regimes seriously impact this otherwise thriving estuarine habitat crucial to coastal and wading bird colonies roosting along Biscayne Bay and Biscayne National Park.

The Biscayne Bay Coastal Wetlands (BBCW) Project is a component of the Comprehensive Everglades Restoration Plan (CERP). The main goal of BBCW is to increase historic natural freshwater flows to Biscayne Bay and Biscayne National Park in Miami-Dade County, through the restoration and rehydration of freshwater and tidal wetlands. BBCW will increase freshwater deliveries to Biscayne Bay during the dry season, limit freshwater releases during the wet season and recreate the overland flow that historically fed the estuarine waters of Biscayne Bay and Biscayne National Park.



Photo by Mac Stone

Biscayne Bay Coastal Wetlands, Phase 1

Because of the large amount of new land required for part of the project, the Biscayne Bay Coastal Wetlands project has broken into two phases. BBCW Phase 1 was authorized by Congress in the Water Resources Reform and Development Act (WRRDA) of 2014. Once complete, BBCW Phase 1 will restore approximately 400 acres of freshwater wetlands and restore overland flow to an area of up to 11,000 acres, greatly improving ecological conditions for Biscayne Bay and Biscayne National Park. Phase 1 will reroute existing water in the system to recreate the historic overland flow of water to the freshwater and saltwater wetlands contiguous to Biscayne Bay and Biscayne National Park. There are three subcomponents in BBCW Phase 1: the Deering Estate Flow-way, the Cutler Wetlands and the L-31 East Flow-way (L-31E).

Recent Progress

The Deering Estate Flow-way feature and portions of the L-31E Flow-way were constructed in 2012 by the South Florida Water Management District (SFWMD). Both of these components are currently in operation and already delivering some freshwater to Biscayne Bay. Monitoring efforts by the SFWMD reflect that the BBCW project is trending towards success.

During the dry season of 2015, the SFWMD operated a pilot pump along the L-31E canal in collaboration with Miami-Dade County, Biscayne National Park, and Florida Power & Light. Results from the six month pilot test

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showed improved short-term hydrologic conditions, including enhanced tidal creek and sheet flow and better nearshore salinity concentrations.

As a result of improved freshwater flows, expansion of sawgrasses was observed east and west of the L31E rehydrated wetlands with an increase in bird species, amphibians, invertebrates, fish and reptiles present in the system. Especially encouraging was the increased number of Great Egrets, Wood Storks and White Ibis utilizing the rehydrated mangrove wetlands east of the L-31E canal.

Biscayne Bay Responds Positively to Restoration Efforts

The success of the pilot test ensures that continued use of this pump, coupled with the completion of the remaining pending structures in Phase 1 of the Biscayne Bay Coastal Wetlands project, will improve ecological conditions in Biscayne Bay and Biscayne National Park.

In order to achieve full ecological restoration of Biscayne Bay, additional water is required. Phase 2 of the BBCW project will focus on expanding wetland habitat and explore alternative water sources for the Bay.

Immediate efforts should focus on completing Phase 1 of BBCW. Specifically, Audubon recommends:

- ⇒ **Acquiring the remaining 622 acres of land needed to implement BBCW Phase 1 components L-31E Flow-way & Cutler Wetlands**

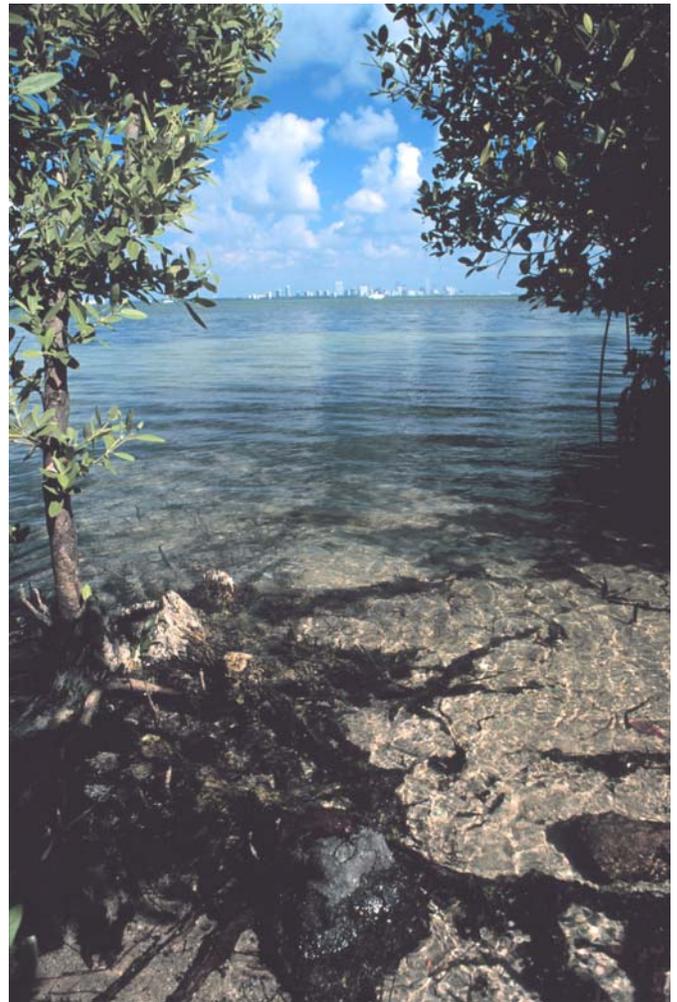
Funding is available. The 2016 legislative session included \$5.8 million dollars for acquisition of privately owned lands needed for BBCW Phase 1. Additional funding to finalize land acquisition for this project is anticipated to be included in the upcoming legislative session budget.

- ⇒ **Accelerating the design update & construction of Cutler Wetlands**

A design for the Cutler Wetlands portion of the project was completed in 2009. Because construction of the project is not yet underway, the design needs to be updated. But an update is not scheduled to occur until 2018. Restoration agencies should immediately complete this update and begin construction of this key element of BBCW to provide additional ecological relief to the stressed Biscayne Bay.

- ⇒ **Signing the Project Partnership Agreement (PPA)**

By signing a PPA, the SFWMD and U.S. Army Corps of Engineers commit to completing the project, and the project becomes eligible for federal construction funding. In addition, the State would receive credits for work completed before signing the PPA that could be applied to further advance restoration projects.



Biscayne Bay