

C-111 South Dade Project: Maximizing Restoration Results in the Southern Everglades and Florida Bay



Photo by Mac Stone

A Sub-Tropical Wilderness

Florida Bay is a shallow, subtropical estuary nestled between the coastal wetlands of the Southern Everglades and the Florida Keys. This unique area is home to a wide diversity of wildlife including Roseate Spoonbills and other wading birds, crocodiles, lobster, and pink shrimp. Florida Bay is also critical habitat for young and adult gamefish like tarpon, bonefish, snook, and redfish.

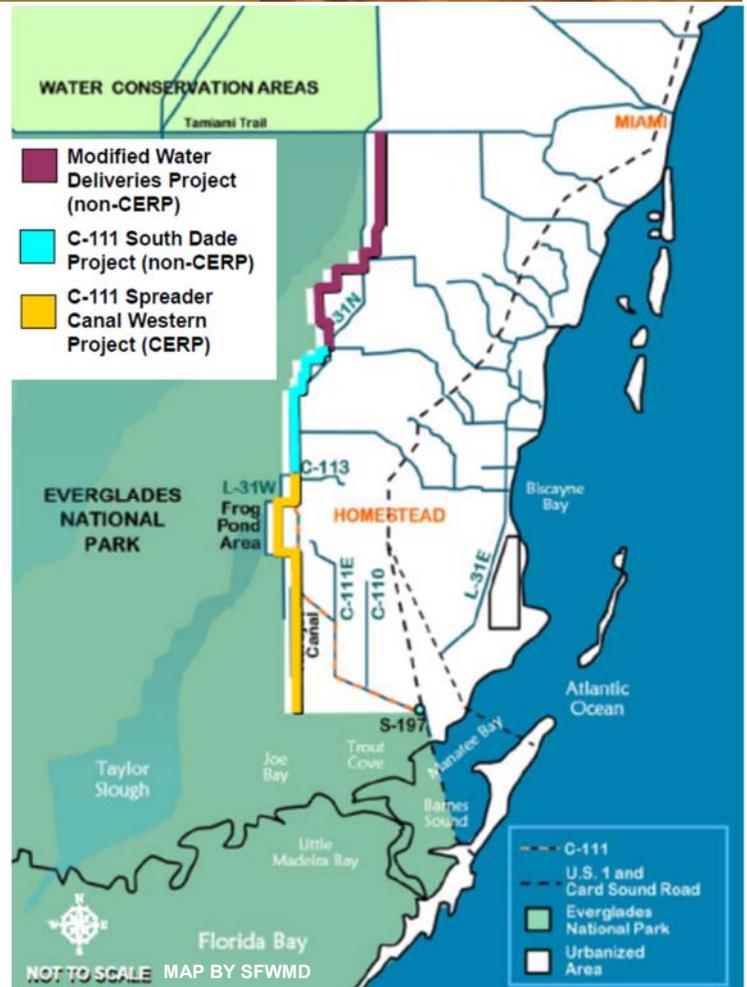
The historical flow of water in South Florida was a slow, uninterrupted movement from Lake Okeechobee south to Florida Bay. But the natural hydrology of the Greater Everglades Ecosystem began to change in the early 1900s as developers constructed canals, roads, and other structures to drain wetlands. Water pushed to the coast through new canals was no longer able to reach its natural destination of Florida Bay in the south.

The alterations to the historic pattern reduced the amount of water flowing into the Everglades and Florida Bay, leading to ecological decline across the region. Populations of wading birds, like Roseate Spoonbills, have dropped because these changes to hydrology hurt food supply. Once nesting by the thousands, only 365 spoonbill nests were recorded by Audubon scientists in Florida Bay in 2015.

Reestablishing the flow of freshwater through the Greater Everglades is key to restoring the ecosystem and the historic level of wading birds and wildlife. In the Southern Everglades, this means reconnecting Shark River Slough and Taylor Slough to sources of more freshwater. Sloughs are deeper areas in the marsh that remain flooded nearly year-round. Taylor and Shark River Slough serve as the primary pathway for water moving south towards Florida Bay.

C-111 South Dade Project Features

The C-111 South Dade Project impacts the 158 square mile Taylor Slough Basin within Everglades National Park (ENP) and 100 square miles of additional lands outside of the park. The C-111 South Dade Project was initially authorized in 1962 as part of the Central & South Florida Project. In its original form, the C-111 South Dade Project had unforeseen ecological consequences. The project included canals and other structures that would drain water off wetlands and into Florida Bay to the south, and Barnes Sound and southern Biscayne Bay to the southeast. This



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change in flow pattern caused ecological damage to Taylor Slough which became too dry. At the same time, Barnes Sound and Biscayne Bay suffered ecological damages as releases of freshwater upset the salinity balance of their waters.

Once the ecological damage caused by the project became more evident, plans were made by the US Army Corps of Engineers (USACE) to modify the initial design. Authorized in 1996, these modifications will allow more freshwater into the Everglades and help keep it there, by preventing water from draining out into Biscayne Bay or seeping into nearby developed areas. USACE and the South Florida Water Management District share the cost of project construction.



The C-111 South Dade Project now includes a series of detention basins that hold water from canals that would otherwise be released into areas where it is not needed. The detention basins also prevent groundwater from seeping out by holding more water inside the boundaries of Everglades National Park. The Project also includes backfilling canals and removing spoil mounds that block the flow of water to Taylor Slough and surrounding wetlands.

In total, the C-111 Project will remove 4.75 miles of barriers to flow. The project is nearly finished with only one remaining element to be constructed, the North Detention Area (NDA), broken into three Contracts: Contracts 8, 8a & 9. The NDA will prevent water from seeping out of Everglades National Park and in turn, protect agricultural and urban areas while restoration projects work to restore more natural hydrology. Once complete, the NDA will act as a critical piece of the puzzle to achieve the maximum benefits from other restoration projects. This feature is projected to be complete in two years.

Ecological Benefits

The C-111 South Dade Project will improve hydrologic conditions in Taylor Slough. Increased water flows will help rehydrate wetlands in the Southern Everglades and rebalance salinity levels in northeast Florida Bay. These changes will improve the quality of habitat, allowing natural areas to support larger populations of wildlife.

Wading birds will be able to nest in larger numbers, and embedded lakes in the coastal wetlands will be able to support more migratory waterfowl. Populations of forage fish, crabs, gamefish, and other marine animals will also increase.

Restoring the Flow—Linking Projects to Maximize Benefits

One of the added benefits of the C-111 South Dade Project is that it will enhance the benefits of two other nearby restoration projects. Since construction in the 1920s, Tamiami Trail has served as a dam, blocking the north to south flow of water into the Everglades. Modified Water Deliveries (Mod Waters) is a project located just to the south of this roadway.

The central component of the Mod Waters project was the Tamiami Trail one mile bridge. Now complete, this bridge will allow more water to flow south. The C-111 South Dade Project connects to Mod Waters and prevents this water from seeping out into canals, and facilitating its continued movement southward.

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To the south, the C-111 South Dade Project links to the C-111 Spreader Canal Western Project. This project also prevents water from seeping into urban areas and includes a detention basin that delivers water remaining in the canals to the north directly into Taylor Slough.

Each of these projects is part of a suite of solutions designed to provide ecological benefits by delivering more water to the Everglades. The C-111 South Dade Project will maximize the benefits of all three by linking the projects together. Completing the NDA will make the restoration investments by both the state and federal governments more valuable, ensuring that taxpayers will get the greatest return.

The EAA Reservoir—Connecting Florida Bay to its Historical Upstream Source of Freshwater

Unless Taylor Slough is connected to a source of freshwater from the upstream Everglades, Florida Bay will continue to suffer from a chronic lack of freshwater. The prediction for the Bay is a deeper collapse, including algae blooms and fish die-offs within a few years. Storing water south of Lake Okeechobee in the Everglades Agricultural Area (EAA) will provide an outlet for water being discharged to fragile coastal estuaries while concurrently holding water that can be sent south to Florida Bay, especially in the dry season.

The EAA Reservoir Project has long been part of Everglades restoration plans. For reasons that remain unclear, planning for the urgently needed EAA reservoir project was postponed until 2021. To address the recent crises in Florida's coastal waters, **planning for the EAA Reservoir Project must be accelerated to begin in 2016.**

If this project continues to be delayed, the St. Lucie and Caloosahatchee estuaries will remain the only outlets for the Lake Okeechobee discharges while Florida Bay suffers ecological impacts of being cut off from its natural upstream freshwater source.



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Audubon Recommendations for Restoring the Southern Everglades and Florida Bay:

- Finalize construction of the C-111 South Dade North Detention Area, including the two remaining construction contracts (Contracts 8A and 9).
- Expedite the timeline to develop and implement the Combined Operating Plan for the C-111 South Dade, Modified Water Deliveries, and C-111 Spreader Canal Western projects with a focus on achieving ecological benefits.
- Begin the planning effort for the C-111 Spreader Canal Eastern Project, the remaining half of the C-111 Spreader Canal Western Project.
- Expedite planning of the EAA Reservoir Project to begin in 2016.
- Authorize the Central Everglades Planning Project in the 2016 Water Resources Development Act.