

## The Southern Everglades and Florida Bay

*C-111 Project Frees Flows for Increased Wildlife Abundance*



The Comprehensive Everglades Restoration Plan (CERP) was enacted in large part because of Florida Bay's decline and included a suite of many projects to help reconnect and rehydrate the Everglades ecosystem. Wading bird populations have decreased tremendously in the southern part of the ecosystem, and the C-111 Spreader Canal (SC) project completion is progress toward reversing ecological decline.

Now split into two smaller pieces, construction of the first or Western phase of the C-111 SC project is complete, although the spreader canal will not be built until the next phase. Seepage barriers near Everglades National Park will raise water levels and create a hydraulic ridge that will keep water within Taylor Slough, the natural entry point to Florida Bay. Increasing freshwater flow volumes to Florida Bay will rehydrate wetlands and increase the productivity of prey species which support wading bird, game fish and crocodile populations.

The goal of the C-111 SC project must not be to merely increase freshwater flows to Taylor Slough but to achieve interim restoration and prevent the southern Everglades and northeastern Florida Bay from experiencing further decline. Sufficient flows to Taylor Slough will create a spillover effect, rehydrating nearby wetlands and imbedded lakes that are now inundated with salt as a result of decades of diminished freshwater flows. The success of the first C-111 SC project will be determined by whether the project features are operated so that the ecosystem responds by exhibiting the following short and mid-term ecosystem goals. After other restoration projects come online, thus creating the opportunity for increased deliveries of freshwater, longer term ecosystem goals must be achieved.

### Southern Everglades Restoration Goals

#### Short-term Ecosystem Goals:

- Increase freshwater conditions across the southern mangrove zone
- Increase in coverage by brackish and freshwater submerged grass and algae species in the southern mangrove zone
- Lower salinities in Seven Palm Lake and Little Madeira and Joe Bays

#### Mid-term Ecosystem Goals:

- Increase in freshwater prey fish populations in the southern mangrove zone
- Increase in the productivity of the southern mangrove zone and northeastern Florida Bay, i.e. improved ability of the region to support more wildlife

#### Long-term Ecosystem Goals:

- Increase in nesting Roseate Spoonbills in northeast Florida Bay
- Increase in wintering waterfowl usage of the lakes imbedded in the southern mangrove zone

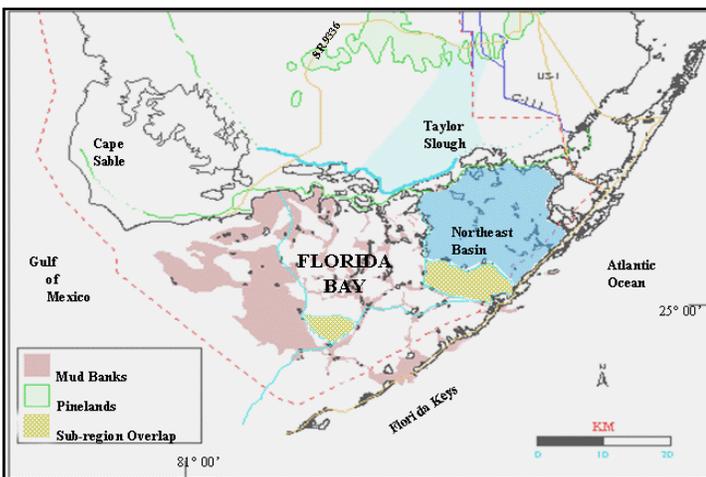


Figure 1. The massive C-111 diverts freshwater and delivers it to the wrong place where the mudbanks in Florida Bay prohibit circulation to the Northeast Basin, which historically benefited from greater flows through Taylor Slough. The C-111 SC project is designed to reduce the draining impact of this large canal and distribute flows more naturally.

If adequate freshwater flows are generated by the C-111 SC project operations, the southern mangrove zone and northeastern Florida Bay will begin to exhibit such ecosystem responses, which will become more dramatic as those flows are sustained for longer periods of time. For example, a rebound in submerged grasses should eventually lead to a greater food base allowing increased nesting efforts by Roseate Spoonbills.

Besides providing shelter for small fish, these once-abundant grasses also provided food for thousands of waterfowl such as American Coots and Blue-winged Teals that spent their winters in the lakes imbedded in the southern Everglades. Large numbers of waterfowl are no longer found wintering in these protected lakes near Taylor Slough, but could be expected again if more historical conditions are returned to the wetlands in the southern mangrove zone.

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### The Way Forward

Sufficient operation of the C-111 SC project will begin restoration in the southern end of the system, while completing Tamiami Trail bridging and Central Everglades projects will open up the system so that more freshwater can finally reach its intended destination: Florida Bay. In addition to the ability to convey more water to the southern end of the ecosystem, we must also increase the capacity for storage and treatment of water through future projects so sufficient quantities of clean, freshwater are available. Lessons learned from the first phase of the C-111 SC project will guide planning efforts for Phase II of this project, which will further restore freshwater flow patterns in the southern Everglades.

Despite the trend of overall spoonbill population decline in Florida Bay, data analysis by Audubon scientists reveals that spoonbills have exhibited a positive response to improved water management communications resulting from fine tuning operations in the C-111 canal system.

Combined with favorable weather patterns, avoiding out of season releases from canals in the southern Everglades appears to help the spoonbills nest more successfully. This response illustrates that restoration of wildlife abundance in the Everglades is still possible. The time for restoration in the southern Everglades and Florida Bay is now and we must move forward with the following actions:

### Audubon Recommendations

- Operate Western C-111 Spreader Canal project to achieve ecosystem benefits by moving forward with stage increases at S-18C
- Begin combined planning effort for Phases II of both the C-111 Spreader Canal and Biscayne Bay Coastal Wetlands Project immediately
- Finish all components of the federal C-111 South Dade project
- Operate Modified Water Deliveries project
- Fund and construct additional 5.5 miles of authorized Tamiami Trail bridging
- Implement most ecologically beneficial Central Everglades Planning Project alternative to deliver benefits to Florida Bay as soon as possible
- Begin planning for future phases of the Central Everglades Planning Project



*Blue-winged teal © D. Roach*

*A return of more freshwater conditions in the southern imbedded lakes will bring back submerged grass species favored by some species of waterfowl, such as Blue-winged Teals, which formerly wintered in this region in flocks of thousands.*