

MEMORANDUM

TO: Governing Board Members

FROM: Kenneth G. Ammon, P.E., Deputy Executive Director,
Everglades Restoration and Capital Projects 

DATE: October 1, 2009

SUBJECT: Monitoring of Hydrology, Aquatic Vegetation and Prey-Base Fauna in the Southern Everglades Mangrove Transition Zone – Contract 4600001851

Background: The transition area between the southern Everglades and Florida Bay is one of the most productive habitats in the region. This transition zone is widely recognized for its variety of fauna such as wading birds, endangered crocodiles and fish. A portion of this transition zone habitat will be modified as a result of the C-111 Spreader Canal Phase I project. Specific performance measures have been developed to measure project-induced changes resulting from more natural sheetflow to Florida Bay and to assess long-term water management and restoration objectives.

To assist in the effort, this multiyear contract with Audubon of Florida's Tavernier Science Center will involve a coordinated approach to collect and analyze hydrologic and biological data in the transition zone and nearby bay areas. Monitoring will be performed before, during and after implementation of the C-111 Spreader Canal Phase I project to assess ecological changes. The analyses will improve the understanding of how water management activities affect salinity and water level and how these hydrologic variables influence the distribution and density of vegetation and fauna. Long-term monitoring is essential for such analyses as it allows for hydrologic relationships to be described across a range of climatic conditions and helps to differentiate water management effects from natural variability. Resource managers will be able to use these data to address ecosystem-response issues on a near real-time basis and evaluate performance measures of the project.

How this helps meet the District's 10-Year Strategic Plan: Implementation of the C-111 Spreader Canal Western Project is a high priority within the District's Strategic Plan. Successful implementation of the project requires monitoring of project-driven ecological changes in order to provide a feedback mechanism for adaptive management actions on which project operations will depend.

Funding Source: This is a three-year and four-month contract with Audubon of Florida's Tavernier Science Center to monitor hydrology, aquatic vegetation and prey-base fauna in the southern Everglades mangrove communities as a waiver of competition as an exception to the general standards of competition in the amount of \$610,000 of which dedicated funds (Comprehensive Everglades Restoration Plan Fund) in the amount of \$200,000 are budgeted and the remainder is subject to Governing Board approval of the FY11-FY13 budgets.

This Board item impacts what areas of the District, both resource areas and geography: This monitoring effort will take place in Southern Miami-Dade County. Staff from Water Resources will manage the contract.

What concerns could this Board item raise? This contract is being recommended for approval by the Governing Board as a waiver of competition, because sampling in the mangrove transition zone is very challenging and standard methods are not readily available. Audubon of Florida's Tavernier Science Center already has an established monitoring network of stations across this region and has a track record for providing data on hydrology and biological components. During the past decade, submerged aquatic vegetation has also been surveyed by Audubon across the transition zone areas. Because of its longevity and breadth of sampling experience to date, Audubon of Florida's Tavernier Science Center is uniquely poised to measure the effects of this Comprehensive Everglades Restoration Plan project.

Given the accelerated schedule of the C-111 Spread Canal Project Phase I, there is an urgent need to begin the collection of pre-construction data for the Florida Bay transition zone to have sufficient baseline information to assess restoration efforts. Submerged aquatic vegetation and small prey-base fish in the transition zone are appropriate ecological indicators, because they serve as important links in the Everglades food web.

Why should the Governing Board approve this item?

The District has committed to the expedited construction and operation of the C-111 Spreader Canal Western Project. This monitoring is necessary to in order to provide a feedback mechanism for adaptive management actions on which project operations will depend. The monitoring will also help quantify overall project success.

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Attachments – Resolution, Map