NORTH PALM BEACH COUNTY - PART 1 PIR
LAKE WORTH LAGOON SEDIMENT MANAGEMENT ALTERNATIVES

Client Name: *South Florida Water Management District*
Type of Service: *GIS Database Management, EIS & Feasibility Study*

The North Palm Beach County - Part 1 - Project Implementation Report (PIR) is the NEPA process documentation (Environmental Impact Statement) for the North Palm Beach County – Part 1, Comprehensive Everglades Restoration Project. The project area is nearly 850 square miles and encompasses the northern half of Palm Beach County and the southern half of Martin County.

Milian, Swain & Associates, Inc. (MSA) maintains a lead role in the research of management measures designed to reduce sediment loads to the Lagoon and remove or stabilize the muck sediments that are causing light attenuation and anoxic conditions at the bottom of the Lagoon.

Muck Sediment Mapping – This project involved mapping the muck locations within the lagoon using dual frequency sonar and GIS, characterizing the muck's physical and chemical properties by reviewing sediment chemistry data, and evaluating dredging, capping and disposal options based on the results. Comparisons were made to the FDEP's Soil Cleanup Target Levels in order to determine appropriate disposal methods for these sediments. Metal to aluminum distributions were analyzed to determine anthropogenic sources of the sediments. Both upland and submerged land disposal locations were evaluated.

Management Measures and Alternative Selection – Sediment removal, sediment trapping, sediment capping, substrate improvement, and habitat restoration are the major management measures that were considered for this project. Coordination with Federal, State, and Local agencies resulted in the screening out of many measures. The remaining management measures were selected for implementation, thus becoming fully developed alternatives. Reports recommending these nine alternatives have been submitted to the SFWMD and the USACE for review.

GIS Database Construction and Management – MSA constructed and currently maintains the GIS database (Arc/GIS 9.2) containing all the GIS data to represent the entire 850 square mile project area with its mapping needs. The overall goal was to ensure that a high quality, well-documented CERP GIS database was built and maintained.