Appendix B

Lake Worth Lagoon Habitat Restoration and Stormwater Projects

Palm Beach County
Department of Environmental Resources Management
2300 North Jog Road
West Palm Beach, Florida 33411

HABITAT RESTORATION PROJECTS

Palm Beach County Board of County Commissioners

Peanut Island Environmental Restoration

Project Cost: $13,000,000

Peanut Island is a 79 acre spoil island located in north Lake Worth Lagoon. The Peanut Island Environmental Restoration project created significant upland and wetland habitats by removing over 60 acres of exotic vegetation and excavating and removing over 1.2 million cubic yards of sand spoil material. Wetland features include a 1.3 acre snorkeling reef system that is 10' deep and contains rock ledges for fisheries; 3.0 acres shallow-water lagoon habitat; tidal channels and ponds were created to flush an existing 3.0 acre mangrove system. Upland features include 8.1 acres dune habitat; 4.0 acres of coastal strand habitat; and 7.1 acres of maritime hammock. In addition, breakwaters and jetties have been constructed to help protect the integrity of the island, providing excellent reef habitat and snorkeling opportunities. Public access features include a mangrove boardwalk, a series of pedestrian bridges, boat docks and snorkeling platforms. The $13 million restoration project was constructed between 2003-2005. Funding partners include Palm Beach County (PBC), Florida Inland Navigation District (FIND), U.S. Army Corps of Engineers (USACOE), South Florida Water Management District (SFWMD), Florida Department of Environmental Protection (FDEP) & Florida Fish and Wildlife Conservation Commission (FWC). The perimeter of the island is a Palm Beach County Park that provides many public amenities including camping, docks, restrooms and showers. A 1.25 mile brick walking path surrounds the island and provides easy access to all the island's features. Besides being a major boating destination, the island retains its function as a dredged material management area (DMMA) for landowners: FIND and Port of Palm Beach. Note: FIND's DMMA was "down-loaded" and reconstructed with a levee (cost $2 million) during the restoration project. The material generated was barged 11 miles south and used to create Snook Island's Natural Area.

Palm Beach County Board of County Commissioners

Snook Islands Natural Area

Project Cost: $18,000,000

The wetland restoration project at the Lake Worth Golf Course will help to re-establish wildlife habitat and partially offset the effects of shoreline bulkheading that has occurred

in Lake Worth Lagoon over the years. Approximately 1.2 million cubic yards of fill were delivered to the site and graded to wetland elevations, and 28,000 tons of boulder rip-rap was placed as wavebreaks and oyster reefs. Four mangrove islands and three shoreline mangrove planters were constructed resulting in 10.1 acres of red mangrove habitat. Additionally, 2.8 acres of Spartina marsh and 2.3 acres of oyster reefs were created. Oysters are already growing on the reefs. Threatened seagrass *Halophila johnsonii* has already begun to recruit to the newly placed fill. Approximately 57 acres of submerged habitat that may be suitable for seagrass recruitment has been created. Fish and wildlife have begun regular use of the new habitat.

The Spartina marsh will help stabilize sediments and filter nutrients out of the system, contributing to increased water quality. The rock revetment will serve to protect the planted areas and also act as a shallow water reef that is conducive as a substratum for oysters and other attaching organisms. Funding partners include PBC, FIND, USACOE, SFWMD, FDEP & FWC.

Palm Beach County Board of County Commissioners

Munyon Island Restoration

Project Cost: $2,500,000

Munyon Island is located in the north end of Lake Worth Lagoon and wasthe site of major restoration efforts from 1992 to 1997. Historically, Munyon Island was a 15 acre island, which was used for dredged material deposition in the 1930's and 1960's in association with the construction and maintenance of the Intracoastal Waterway. The material was deposited on and around the Island's wetlands, tripling the size of the area to 45 acres. Palm Beach County has successfully restored 20 acres of mangrove/spartina wetland habitat on through ongoing restoration efforts between 1992 and 1997. Wetland restoration involved exotic plant removal, grading down to wetland elevations by removing dredged spoil material, excavating tidal channels and ponds, and planting native wetland and upland vegetation using hundreds of volunteers. Additionally, 23

acres of upland was restored to native maritime hammock. The project is designed to provide habitat for fisheries and wildlife to rejuvenate Lake Worth Lagoon by increasing habitat and food supply for estuarine dependent fauna and flora. Dredged spoil material generated through project construction was removed from the island and placed in a nearby anoxic dredge hole (12 Oaks Dredge Hole) to enhance nine acres of submerged land by capping muck sediments and building the bottom elevation to -8' NGVD to provide benthic and seagrass habitat. The restorations were conducted in three phases at a total cost of $2.5million. Partners include: PBC, FIND, USACOE, FDEP, Department of Agriculture & Consumer Services (DACS) and West Palm Beach Fishing Club (WPBFC).

Palm Beach County Board of County Commissioners

Ocean Ridge Natural Area Restoration

Project Cost: $3,000,000

This habitat restoration project removed 5.0 acres of exotic vegetation within a spoil area created from dredging the Intracoastal Waterway. In addition, the project restored 7.0 acres of mangrove wetlands, 0.6 of tidal ditches/ponds and 0.8 acres of transitional/coastal strand uplands. Installation of an 800' long rock revetment and two 50' groins provides stratum for the recruitment and colonization of oysters, sponges, and algae, as well as provide nooks and crannies for many species of fish and shellfish. These new structures protect mangroves and results in increased habitat for many species of fish and wildlife. The project also provides for public access and environmental education opportunities. Funding partners include PBC, SFWMD, and FDEP.

Palm Beach County Board of County Commissioners
John's Island Natural Area Restoration
Project Cost: $1,100,000

John's Island is an approximately 7 acre spoil island located in the Lake Worth Lagoon just north of the C-51 Canal discharge. As a result of material placement from dredging activities, most of the island became heavily impacted by exotic species such as seaside mahoe (*Thespesia populnea*), Australian pine (*Casuarina* spp.), and Brazilian pepper (*Schinus terebinthifolius*). Restoration included removal and chipping of all exotic species, excavation of a tidal channel, removal of spoil material, and grading to wetland elevation. Approximately 13,800 red mangrove seedlings (*Rhizophora mangle*), 11,400 plugs of smooth cordgrass (*Spartina alterniflora*) and 500 maritime hammock trees and shrubs were planted. Success of the project will be measured through a biological monitoring program which will include vegetative sampling to determine plant survivorship, fish sampling using a seine net in the tidal channel system, and wildlife surveys to document utilization by wildlife species. Funding partners include PBC, USACOE, and FDEP.

Palm Beach County Board of County Commissioners
Boynton Beach/Ocean Ridge Mangrove Riprap
Project Cost: $450,000

The mangrove riprap project is designed to protect an approximate 30-acre mangrove area, including a 2,400-foot mangrove fringe that has slowly eroded from boat wakes. The project will consist of the placement of approximately 6,400 tons of limestone boulders along the mangrove fringe and, where practical, construction of a linear mangrove planter between the rock and existing mangroves consisting of filter fabric filled with sand and soil amendments and planted with red mangroves and Spartina. These mangroves provide important habitat for many species of fish and wildlife and improve water quality. The riprap, by nature of its makeup and location, will serve not only as fortification of the mangroves but also act as a shallow water artificial reef that is

conducive as substratum for oysters and other attaching organisms. Funding partners include PBC and FDEP.

Town of Palm Beach Par 3 Golf Course Habitat Restoration
Project Cost: $400,000

This project is located at the Town of Palm Beach Par 3 golf course, 2345 South Ocean Boulevard, Palm Beach. It consists of a rock berm constructed 8-10 feet away from the seawall, lined with filter fabric and fill, with red mangroves planted at approximately three feet on center. Total project length is 2,000 feet. This environmental enhancement project restores valuable mangrove habitat, most of which has been previously lost to development. Funding partners include Town of Palm Beach and FDEP.


Before Mangrove Planting


1 Year After Mangrove Planting

Town of Lantana Lantana Cove Enhancement
Project Cost: $20,000

The goal of this project is to enhance the marine habitats of the Lake Worth Lagoon's Lantana Cove. A prototype mangrove planter was constructed to meet the biological and environmental needs of the mangroves and the Lake Worth Lagoon. The planter is located at the northern end of the seawall at Bicentennial Park. It butts against the existing seawall and is approximately 32 linear feet in length and 4 feet in width. Funding partners include Town of Lantana and FDEP.

Twelve Oaks Dredge Hole
Project Cost: Included with Munyon Island Cost

The Twelve Oaks Dredge Hole, a 25-acre area, is located in the northwest corner of LWL near the entrance to Little Lake Worth Lagoon. Dredged to provide spoil for upland development in the 1940's, the dredge hole was filled in 1997 as part of the Munyon Island restoration. Spoil material was barged to the hole with approximately 110,000 cubic yards of material placed over 9.0 acres of submerged bottom. The material consisted of fine to medium-find sand with several detrital and shell layers present. The hole was raised to -8.0 ft. NGVD. Post-construction monitoring indicates that benthic biodiversity has increased. A recent study by FWCC (2005) found that pink shrimp (*Farfantepenaeus duoraram*) dominated the catch from 12 Oaks Hole followed by a flatfish, the bay whiff (*Citharycthys spilopterus*), and a drum, the Atlantic croaker (*Micropogonias undulatus*). Four species of portunid crabs were collected, three in the genus *Callinectes* and a forth in the genus *Portunus*.

Currie Park Mangroves
Project Cost: $2,000

One of the early mangrove volunteer events, this project was a precursor to many successful volunteer mangrove planting events in LWL. It is located at Currie Park in West Palm Beach, which is within the central segment of LWL. The project was constructed using masonry blocks, sand, and filter fabric. Although very small in scope, it helped the community come together and test out planting ideas. The mangroves and the block substrate provide benefit to LWL. Funding partners include PBC and WPBFC.

Palm Beach Isles
Project Cost: $50,000

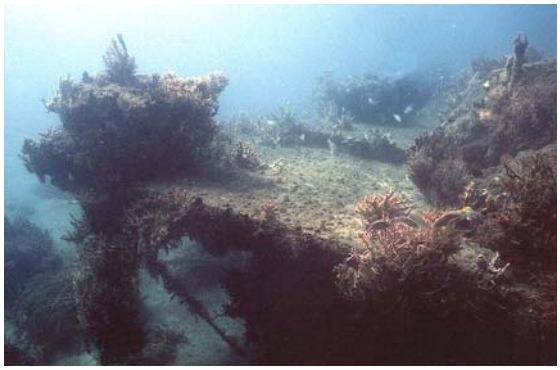
The Palm Beach Isles include Fisherman's Island, Government Lot 6, and Hunter's Island. The spoil isles are centrally located within LWL and are found straddling the Southern Boulevard Causeway that connects West Palm Beach and the Town of Palm Beach. The islands are owned/leased by the Audubon Society of Florida and are utilized for conservation purposes. Exotic vegetation has been removed from the more remote islands and they are periodically visited for exotic removal and maintenance.

Additionally, native maritime hammock species have been planted on the isles. The islands are home to many species of birds found in LWL and serve as important rookery habitat. Work still remains to be done on the largest islands just south of Southern Boulevard and could begin once agreements are signed.

ARTIFICIAL REEF PROJECTS

Sugar Sands Ledges
Project Cost: $1,000,000

Sugar Sands Ledges (SSL) consists of a series of ledges that were constructed in a deep dredge hole on the eastern side of the Lagoon approximately ¼ mile north of Phil Foster Park. The ledges (17 of them) were built using concrete twin-T roof trusses set on top of Jersey barriers and were constructed in three groups in 1995, 1996, and 1998. Additionally, over 4000 tons of limerock rubble has been added on and around the ledges to increase habitat complexity. At the northern end of this reef, limerock boulders were deployed a year later and west of some pyramids that were placed in 1991. Typically, 50 to 60 species of fish can be encountered while diving on SSL and generally 50% of the fish observed will be juveniles. Funding partners include PBC, FIND, FDEP & FWC.



Rybovich Reef (aka Jewfish/Snook Ledges)
Project Cost: $500,000

Rybovich Reef consists of a variety of materials all deployed on the eastern side of the Lagoon south of Peanut Island, approximately due east of the Rybovich Marina. Concrete pyramids and prototype reef balls were deployed in 1991. Subsequently two ledges constructed with concrete twin-T roof trusses set on top of Jersey barriers. Limerock rubble was placed on top of and around the ledges to increase habitat complexity. A barge was deployed beside the south ledge and trammel screens sit atop the barge. A

stack of Jersey barriers was added north of the north ledge in 1998. South of the south ledge a row of trammel screens and two rows of piled up limrock boulders were added in 2000. When visibilities are good, 50 plus species can be observed on this reef, and juveniles make up 50% or more of the fish seen. Funding partners include PBC and FIND.

Kelsey Park Reef (including Falcon Reef)
Project Cost: $200,000

Approximately 3,300 tons of limerock boulders were placed in 10 ft. of water about 100 feet waterward of Kelsey Park in the Lagoon in 2005. Just south of the limerock was placed about 200 tons of concrete rubble. This concrete came from demolition of Forest Hill High School and had a tiled face with a falcon, the school mascot, emblazoned on it and set in a prominent location. Funding partners include PBC, FIND, and Palm Beach County School District (PBCSD).

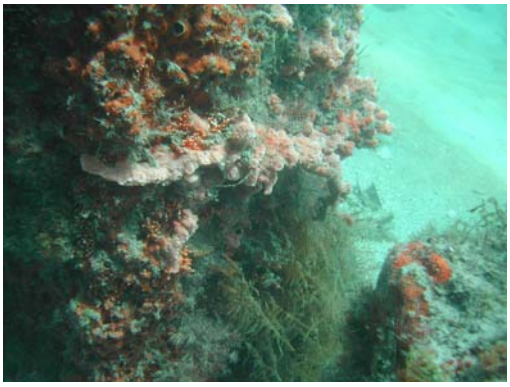
Boynton Beach (Ocean Inlet Park) Reef
Project Cost: $25,000

In 1994, approximately 900 tons of limerock boulders were placed in 14 ft. of water about 150 ft. west of the Park in the Lagoon. This small reef attracts lots of snappers. This project was funded by PBC.

Lantana (Bicentennial Park) Reefs
Project Cost: $45,000

This reef was constructed close to shore on the west side of the Lagoon in 2002. It consists of about 400 tons of concrete Reef Balls and concrete storm catch basins and light poles. Some of these reefs were constructed by the School District and were discussed earlier in the LWLPG section. Large schools of snook and snappers can be regularly seen there. Funding partners include PBC and the Kiwanis Club.

Peanut Island Reefs
Project Cost: $200,000



Several habitat and snorkel reefs were part of the Peanut Island redevelopment. Limerock boulders provide breakwaters and reef habitat on the eastern side of the island, and limerock boulders were used to create reefs in the swimming/snorkel area. Additionally, concrete pyramids were placed under and adjacent to the

fishing pier. Some of these reefs were constructed by the School District and were discussed earlier in the LWLPG section. Many fish and benthic invertebrates have colonized these structures around Peanut Island. Funding partners include PBC, FDEP, and PBCSD.

STORMWATER PROJECTS

Town of Palm Beach D-12 Stormwater Pump Station

Project Cost: $4,585,000

The stormwater management system included the replacement and/or addition of approximately 41 inlets and manholes and approximately 12,300 linear feet of pipe, which conveys runoff to a 204 cfs (91,400 gpm) pump station. The pump station is located on Everglade Avenue in Palm Beach which incorporates a wet well to retain storm sewer debris (oils, trash, sediments, etc.) from being discharged into the Lake Worth Lagoon and an erosion prevention system which consists of a rip-rap armored sump area for energy dissipation. The six existing gravity outfalls were plugged/abandoned as part of this plan. The project will result in a net improvement to the water quality of the Lake Worth Lagoon. Funding partners include Town of Palm Beach and FDEP.

West Palm Beach 54th Street, Cordova Road and Arkona Court PCDs

Project Cost: $1,026,000

The City of West Palm Beach's Stormwater Master Plan includes several measures to be taken to reduce pollutants discharged to the Lake Worth Lagoon via stormwater runoff.

The project included installation of three pollution control devices located on three of the City's primary drainage systems that outfall directly to the lagoon. Pipe improvements immediately upstream and downstream of the structures were included along with a by-pass structure that diverts flows to the devices. The pollution control devices were installed at 54th Street, Cordova Road, and Arkona Court. Funding partners include the City of West Palm Beach and FDEP.

West Palm Beach Stormwater Project – Datura, 3rd Street, Lakewood & Edmor PCDs

Project Cost: $1,050,000

The City of West Palm Beach has embarked on an aggressive plan to improve the Lake Worth Lagoon. The City's recent Stormwater Master Plan outlines several measures to be taken to reduce pollutants discharged to the Lagoon via the City's stormwater runoff. These measures include installation of pollution control devices (Suntree Nutrient Separating Baffle Box), drainage and sanitary pipe replacements, exfiltration systems and lake detention systems. This project includes the installation of stormwater Pollution Control Devices (PCD's) on Lakewood Road, Edmore Road, Datura Street and 3rd Street, four of the City's primary drainage system pipes that outfall directly to the Lake Worth Lagoon.

The purpose of the Pollution Control Devices is to reduce the amount of trash, oils, greases and suspended solids entering the Lagoon in an attempt to reverse the adverse impacts caused by decades of untreated stormwater runoff. Each of these project sites will be surveyed to determine the appropriate locations for these devices. It is anticipated that the devices will be located near the outfall discharge point of each drainage system and within the City's right of way for easy access and cleaning. Required pipe relocations and or replacements/improvements immediately upstream of the structures and downstream to the outfall discharge point are also included in the project scope of work. The project will enhance water quality of runoff from a 451.1-acre watershed before it enters Lake Worth Lagoon. Pollution Control Devices have been reported to have the following treatment efficiencies: 75-90% removal of total suspended solids, 45-70% removal of nutrients (phosphorous and nitrogen) and 75-90 % removal of heavy metals. The City will estimate the pollutant load reduction of the installed storm water

improvements in accordance with accepted design methods. Funding partners include the City of West Palm Beach and FDEP.

West Palm Beach Stormwater Project – 23rd, 26th,and 33rd Street PCDs

Project Cost: $1,050,000

The City's recent Stormwater Master Plan outlines several measures to be taken to reduce pollutants discharged to the Lagoon via the City's stormwater runoff. These measures include installation of Suntree Technologies Nutrient Separating Baffle Boxes (NSBB), drainage and sanitary pipe replacements, exfiltration systems and lake detention systems. This project includes the installation of stormwater NSBBs on 23rd, 26th, and 33rd Streets, three of the City's primary drainage system pipes that outfall directly to the Lake Worth Lagoon. The project will enhance water quality of runoff from a 451.1-acre watershed before it enters Lake Worth Lagoon. Funding partners include the City of West Palm Beach and FDEP.

Westgate/Belvedere Homes CRA North Westgate Infrastructure Improvements Project

Project Cost: $3,400,000

The North Westgate Infrastructure Improvements Project – Phase III will improve the existing drainage basin within a residential neighborhood which was developed prior to the requirements for water quality treatment. Improvements to the approximate 64.7-acre basin during Phase III include construction of detention areas, regrading of swales, and replacement of the existing septic sewer system with a sanitary sewer system. Benefits of the project include a reduction in groundwater and surface water loadings of pollutants such as metals, nutrients, oxygen depleting materials and sediments within the contributing drainage area of the C-51 Canal.

The improvement project will benefit the Lagoon system in two ways. First, the retrofitting of the stormwater retention system which includes improving the swales, and constructing retention areas with new control structures, will help provide better water quality for the runoff which enters the Lagoon. Water quality requirements and pretreatment methods will be met prior to discharge into the adjacent canal system. Second, the infrastructure improvements will provide the residents with a sanitary sewer system which will replace the current septic system. The addition of a sanitary sewer

system will convey all the sewage generated by the area to a wastewater treatment plan. This will eliminate the sewage which is being discharged by the septic systems into the groundwater which seeps into canals. The stormwater detention will also attenuate stormwater discharge rates and thereby reduce flooding potential to the area. The discharge attenuation will also help reduce peak discharges to the C-51 canal and LWL. Funding partners include the Westgate CRA, PBC and FDEP.

Boynton Beach - Downtown Watershed Regional Stormwater Facility Phase 1

Project Cost: $2,250,000

Phase 1 of this project includes the construction of a Regional Stormwater Collection and Treatment System to collect stormwater from a 49 acre area in Boynton Beach's Central Business District. Stormwater is directed to a 3-acre detention pond including influent structures with skimmers and sediment removal. The project utilizes conventional, proven treatment methods to reduce the discharge of oil, grease, floating debris, suspended solids, BOD, turbidity, and nutrients to the Lake Worth Lagoon in an area which previously received no pretreatment. Funding partners include the City of Boynton Beach and FDEP.

Town of Lake Park - Stormwater Management System

Project Cost: $160,000

During 1998, the Town of Lake Park embarked on an initiative to revitalize the Town's waterfront. Included in the marina improvements portion of the revitalization is the replacement of the existing drainage system serving the marina and surrounding developed commercial lands with a state-of-the-art storm water management system. The new system is designed to capture and treat stormwater prior to being discharged to Lake Worth Lagoon. Previously, storm water runoff from the marina and surrounding area, which was constructed during the 1960s, received no treatment prior to discharge. The new plan has dry retention areas that will improve

water quality prior to discharge to the lagoon. In addition the Town has reduced the paved area and created a large pre-treatment area in the center of the marina peninsula, along with several small treatment areas throughout the marina. Funding partners include the Town of Lake Park and FDEP.

City of Boynton Beach ICW Stormwater Outfalls

Project Cost: $725,000

This project entailed installing pollution removal devices into existing outfall lines, at 31 separate locations along the Intracoastal Waterway in Boynton Beach. The original scope of work only included 20 separate locations. No pretreatment of stormwater runoff, other than some limited swale technology usage was provided to these outfalls prior to the implementation of this project. The City is utilizing CDS technology, drainpacs with PVC mesh liner, and type "C" ditch bottom inlets. Funding partners include the City of Boynton Beach and FDEP.

Port of Palm Beach Master Drainage Plan Improvements

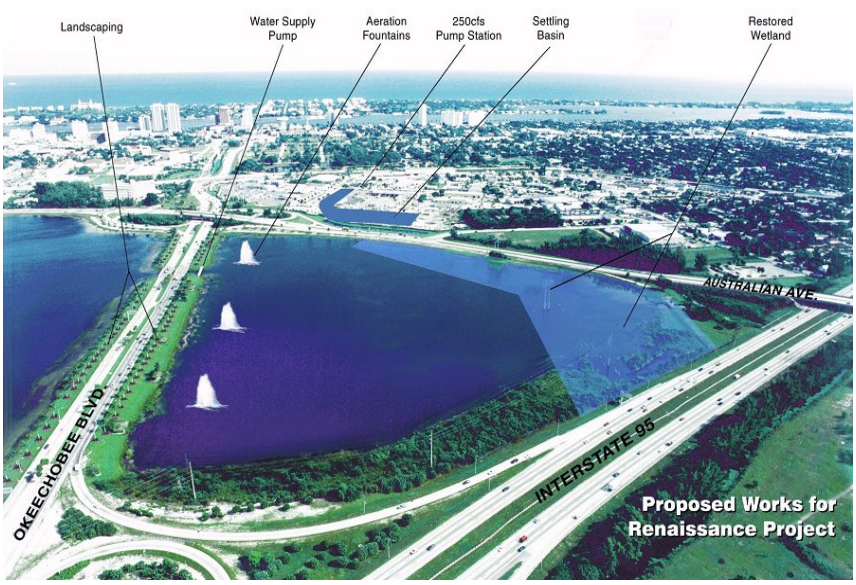
Project Cost: $295,000

The Port of Palm Beach has undertaken the construction of retention areas, exfiltration trenches, oil/water separators and weirs to improve the quality of water discharging into the Lake Worth Lagoon. These enhancements also reduce the quantity of water discharged to the lagoon. A water quality monitoring program will allow for the analysis of improvements and measure their effectiveness.

Funding partners include the Port of Palm Beach and FDEP.

West Palm Beach Renaissance Project

Project Cost: $3,400,000



The Renaissance Project is an integrated water resource management plan for diverting runoff from a 375-acre urban watershed and conveying the water through a settling basin and wetlands eventually to become part of the City of West Palm Beach's potable water supply. Phase 1 of the Project, consists of an upstream diversion and treatment facility to redirect storm water that would otherwise be discharged into the lagoon. Phase 1 includes facilities necessary to pre-treat the first 0.5 inch of runoff through dry retention. Phase 2 of the Renaissance Project includes facilities to collect and treat all runoff from the watershed and store it within the southern lobe of Clear Lake. Funding partners include the City of West Palm Beach and FDEP.

Town of Ocean Ridge Stormwater Improvements

Project Cost: $2,900,000

The Stormwater Improvement project provides a new stormwater system to treat water from a 70-acre residential area in the southeast portion of the Town prior to discharge to Lake Worth Lagoon.

Water quality treatment will be achieved by utilizing a 2.5-acre wet detention system on Town property, as well as a new system of structures and piping designed to improve the gravity flow of stormwater and reduce contamination to the groundwater. The stormwater is captured and pumped to the detention area where a reduction in suspended solids, BOD, and nutrients occurs. Pollution control devices were installed to trap pollutants prior to discharge to the lagoon. Funding partners include the Town of Ocean Ridge and FDEP.

Boynton Beach NE 7th Street Stormwater Improvements Project

Project Cost: $1,700,000

The NE 7th Street Stormwater Improvements Project provides stormwater management and water quality improvements for a 34-acre neighborhood located adjacent to the Lake Worth Lagoon in Boynton Beach. The project routes stormwater from a residential neighborhood to four stormwater retention ponds for treatment and peak flow attenuation prior to discharge to the Lake Worth Lagoon. A mangrove wetland area was purchased by the City and incorporated into the stormwater management system design. Upgraded interconnecting piping was installed under NE 7th Street as required by the South Florida Water Management District to enhance tidal flushing of the mangrove area. Funding partners include the City of Boynton Beach and FDEP.

West Palm Beach Garden Avenue Drainage-Phase I

Project Cost: $1,130,000

The Garden Avenue Drainage Project utilizes a combination of storm water exfiltration trench, swales, and dry retention ponds to treat stormwater runoff from the Garden Avenue watershed. The project includes installation of over 4,600 linear feet of exfiltration trench and 2,200 linear feet of grass swales. The stormwater treatment system provides a minimum of 1.3 inches of rainfall treatment. Funding partners include the City of West Palm Beach and FDEP.

SEDIMENT MANAGEMENT

C-51 Canal Sediment Management Project

Project Cost: $3,000,000

The 1998 LWLMP and the North Palm Beach County Comprehensive Everglades Restoration Plan (NPBC-CERP) project each have a component which recommends that muck sediments be addressed by either dredging or capping. Realizing that a comprehensive effort was needed to achieve the objectives of both restoration plans, PBCERM, the SFWMD and the City of West Palm Beach (City) signed a tri-party agreement on January 24, 2006, to conduct a sediment management (muck dredging) project within the C-51 Canal, in an effort to manage the muck deposits. The $3 million project was constructed between May 2006 to December 2007 and removed over 100,000 cubic yards of muck deposits, up to 20' thick, from the bottom of the canal. An estimated 480 tons of nitrogen and 52 tons of phosphorus were removed from the system during this project. The decrease in nutrient loading to the LWL and the inferred water quality and habitat benefits are currently studied in other projects. Several alternatives for the beneficial reuse of the muck have created additional partnerships with local and State agencies for public use projects such as FDOT right of ways and PBC Parks.

Since it is very difficult to manage the muck sediments once they have reached the LWL, dredging the muck on the freshwater side of S-155 provides the most effective way of dealing with the sediments. The C-51 Canal Sediment Management Project provides a tangible management tool to effectively remove existing muck within the C-51 Canal and creates a sediment trap, to reduce the amount of sediment loadingto LWL. The final project evaluation will include periodic post-construction surveys of the sediment trap to assess sediment accumulation rates and determine dredging frequency.

SEPTIC PROJECTS

Town of Hypoluxo Installation of Sewers

Project Cost: $900,000

With this project, all septic tanks east of U.S. 1 in Hypoluxo were eliminated, with 99 single-family homes connected to the municipal sewer line. Over sixty of these homes are directly on the Lake Worth Lagoon or a canal leading to it. Some of these homes had septic tanks within 10 feet of the lagoon. Having sewers throughout the Town of Hypoluxo is a goal in the Town's Comprehensive Plan. Funding partners include the Town of Hypoluxo and FDEP.

Town of Lake Park - Marina Pumpout Facility

Grant Award: $125,000

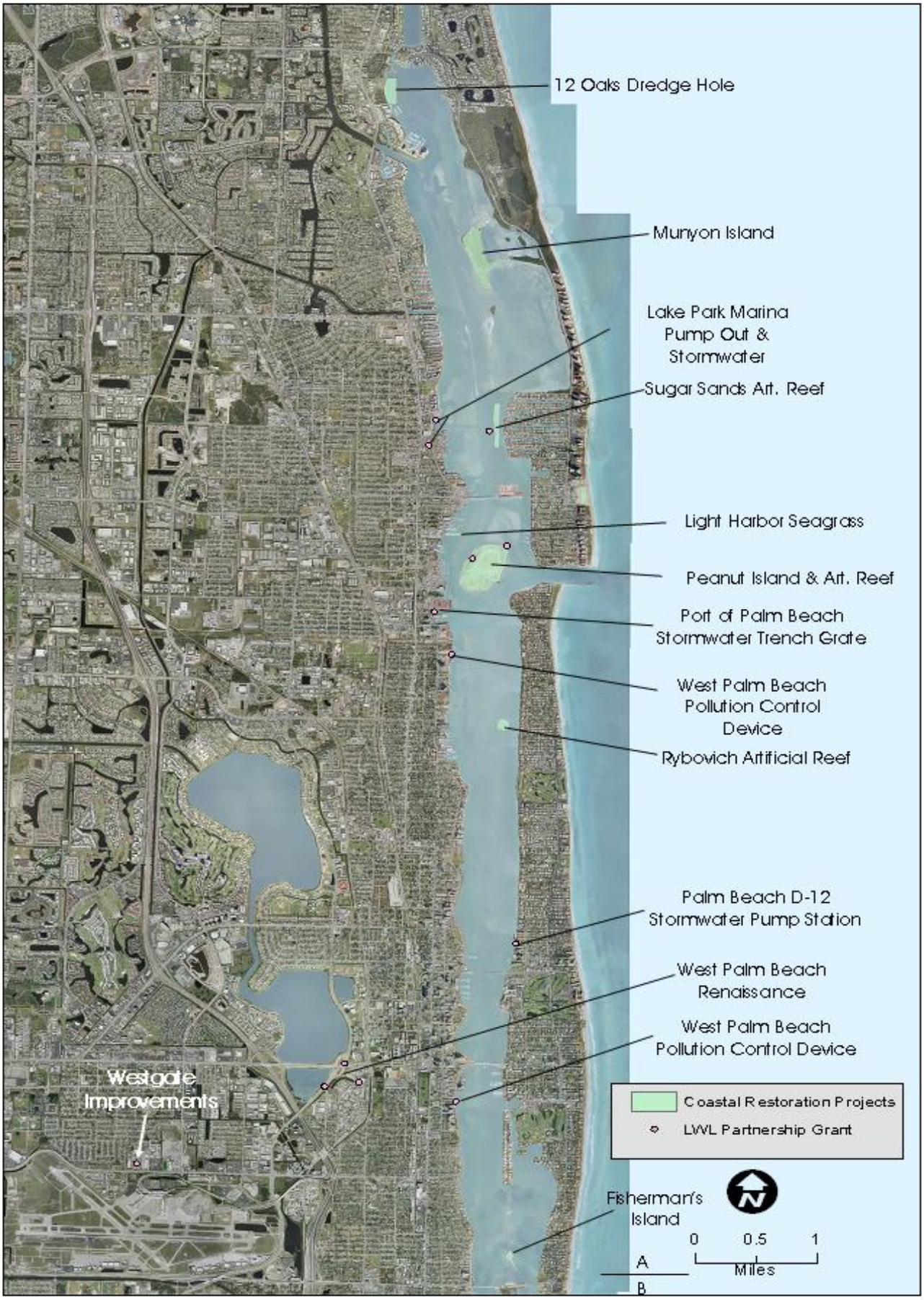
The Lake Park Municipal Marina, originally constructed in the early 1960's, was upgraded to include pumpout services for vessels using the marina including 70+ wet slips and transient dock. This was accomplished by installing pumps, constructing pumpout lines and connecting the system to the existing municipal sanitary sewer system. This project benefits the Lake Worth Lagoon by reducing the occurrence of overboard discharges from vessel holding tanks. Funding partners include the Town of Lake Park and FDEP.

Town of Hypoluxo Sewering of Hypoluxo Shores

Project Cost: $800,000

The Town of Hypoluxo is located on Lake Worth Lagoon and directly impacts the water body. There are 28 residential lots located east of US Highway 1 that use septic tanks for wastewater treatment. The septic systems are more than 50 years old and some are located within close proximity to Lake Worth Lagoon, in some cases, 10 feet from the edge of water. By removing the aging septic system, septic loading to the lagoon from these residences will be eliminated. Funding partners include the Town of Hypoluxo and FDEP.

Lake Worth Lagoon Partnership Grant Program & Other Restoration Projects - North



Lake Worth Lagoon Partnership Grant Program & Other Restoration Projects - South