

*Land Stewardship Division*

*3301 Gun Club Road MSC 7320  
West Palm Beach, Florida 33406*



*East Coast Buffer  
Land Management Plan  
2006*



# **East Coast Buffer Land Management Plan**

**November, 2006**

Land Stewardship Division  
South Florida Water Management District  
3301 Gun Club Road  
West Palm Beach, Florida 33406

## **Table of Contents**

<b>1.</b>	<b>Management Plan Purpose</b>	<b>2</b>
<b>2.</b>	<b>Introduction and Site History</b>	<b>2</b>
<b>3.</b>	<b>Palm Beach County Component</b>	<b>5</b>
3.1	Acme Basin B Acceler8 project	5
3.2	Strazulla Wetlands	10
3.3	Palm Beach County Agricultural Reservoir	14
3.4	Loxahatchee Mitigation Bank	19
3.5	Site 1 Impoundment	23
<b>4.</b>	<b>Broward County Component</b>	<b>28</b>
4.1	Browar County Water Preserve Area	28
4.2	Cell 17 & 18	35
<b>5.</b>	<b>Miami-Dade County Component</b>	<b>40</b>
5.1	Lake Belt Storage	40
5.2	Pennsucco and Lake Belt Mitigation	46
5.3	Cell 27, C-4 Detention	52
5.4	Bird Drive Recharge Area	57
5.5	8.5 Sq. Mile Area	63
5.6	L-31 / Rocky Glades	69
5.7	Frog Pond	74
<b>Appendix</b>		
A.	Land Stewardship Program Goals and Policies	80



## **1. Management Plan Purpose**

District policy 140-21 requires that general management plans be developed for certain District lands. District policy further states that the Land Stewardship Program's (LSP) mission is to provide natural resource protection and management while allowing compatible multiple uses on designated public lands. This mission statement and requirements set forth in Florida Statutes provide three primary goals for the LSP:

- Conserve and protect water resources
- Protect and/or restore land to its natural state and condition
- Provide appropriate public use

To accomplish these goals, the LSP performs six major functions:

- Strategic, project, and management planning
- Operation and maintenance of land resources
- Development of public use programs
- Development of restoration projects
- Evaluation of management activities
- Administration of land management service contracts

The plan consolidates current site information and general guidelines for management of the area. It also updates and replaces the Interim Management Plan developed in 1997.

## **2. Introduction and Site History**

The Central and Southern Florida (C&SF) Project, first authorized by Congress in 1948, is a multi purpose water resources project. The authorized purposes of the project include: flood control, regional water supply for agricultural and urban areas, prevention of salt water intrusion, water supply to Everglades National Park, preservation of fish and wildlife, recreation, and navigation. The South Florida Water Management District has been responsible for developing a regional water supply plan for the Lower East Coast (LEC) planning area of the District. The overall objective of the LEC Regional Water Supply Plan was to identify water management strategies that will ensure that future water supply demands from all water users within the planning area will be met.

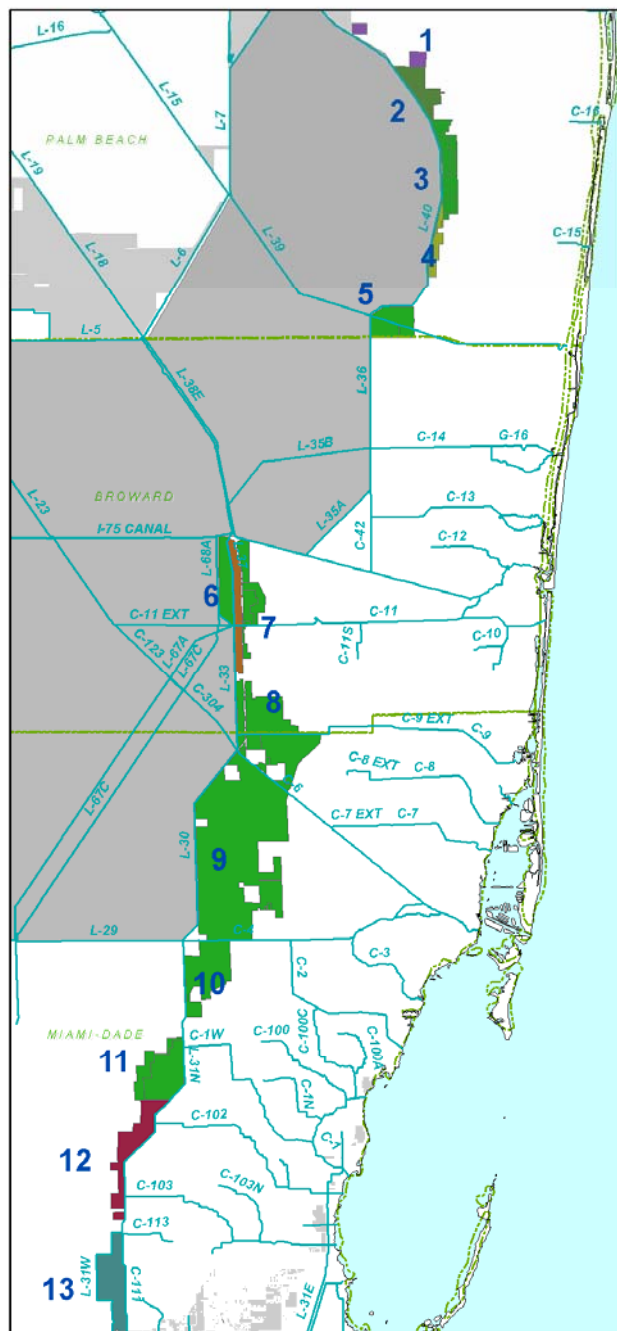
With the East Coast Buffer, the District developed an approach for enhancing regional capabilities for meeting water supply demands. That is to capture and store excess surface waters normally discharged from the lower east coast area to tide. General objectives of this concept were to increase aquifer recharge and surface and subsurface storage of water, to enhance regional water supplies, protect urban drinking water wellfields, enhance the water supply for the Everglades and provide recreational opportunities.

The District retained the firm of CH2M Hill and associated consultants to identify lands suitable for inclusion in conceptual preserves that could serve as storage area for this water. The study team labeled this as the "East Coast Buffer" concept.

In 1992, Congress authorized a Comprehensive Review Study (Restudy) of the C&SF Project. The purpose of the Restudy was to develop modifications to the Central and Southern Florida Project to restore the Everglades and Florida Bay ecosystems while providing for the other water-related needs of the region. The Restudy will result in a Comprehensive Everglades Restoration Plan that was submitted to Congress in 1999. The Comprehensive Everglades Restoration Plan included projects within most of the East Coast Buffer project lands.



**Map 1. East Coast Buffer Components**



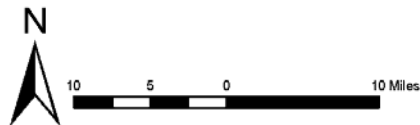
**Legend**

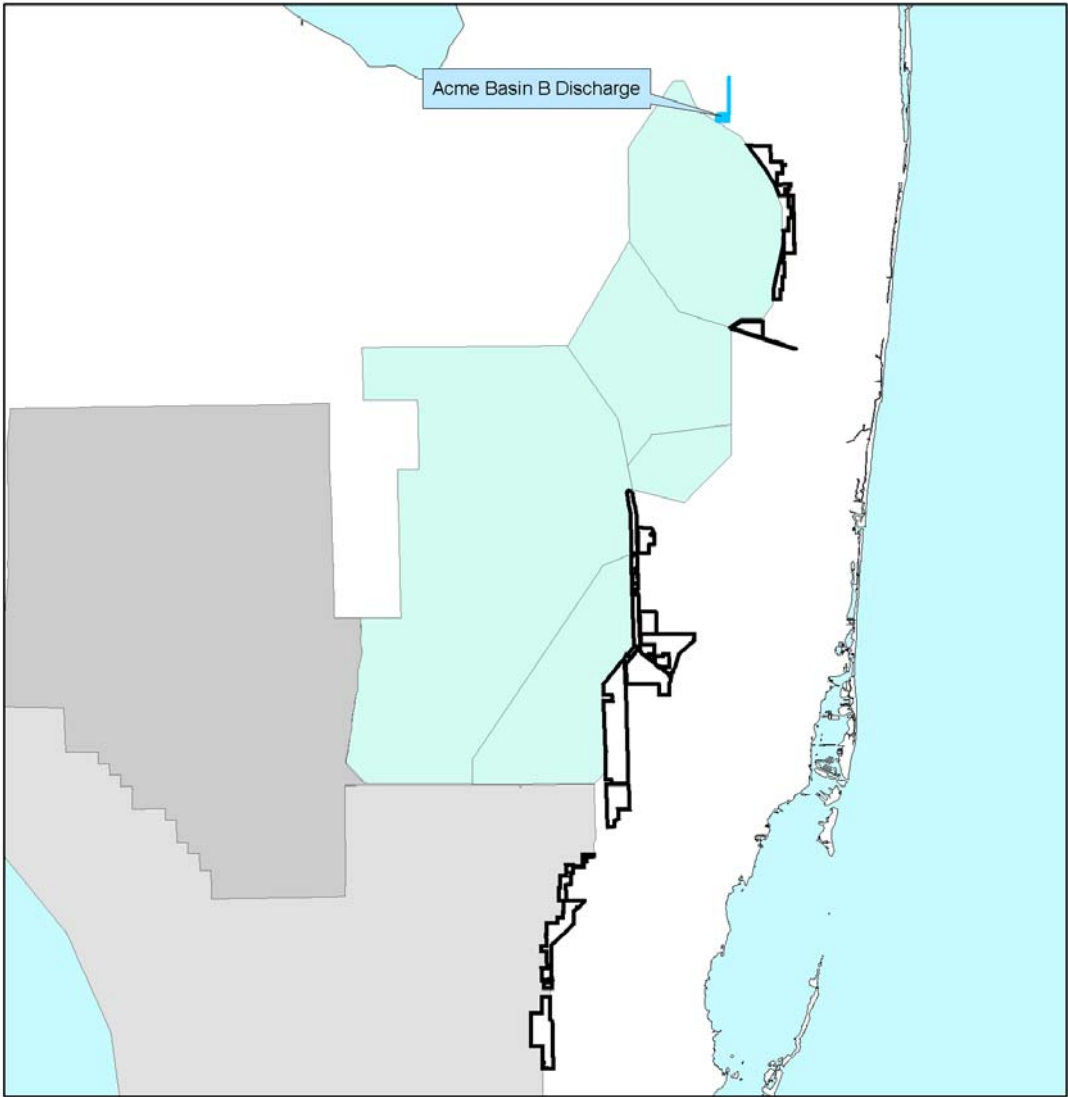
**EAST COAST BUFFER PROJECT**

**NAME**

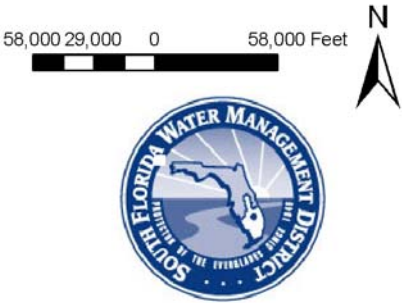
- 1 ACME MARSH (ACME BASIN B)
- 2 STRAZULLA WETLANDS
- 3 EVERGLADES AGRICULTURAL RESERVE
- 4 LOXAHATCHEE MITIGATION BANK
- 5 SITE 1 / HILLSBORO
- 6 EVERGLADES BUFFER STRIP (WCA SEEPAGE MANAGEMENT)
- 7 C-9 IMPOUNDMENT
- 8 C-11 IMPOUNDMENT
- 9 LAKEBELT AREA / PENNSUCO
- 10 BIRD DRIVE RECHARGE AREA
- 11 8.5 SQUARE MILE AREA
- 12 L-31 / ROCKY GLADES
- 13 FROG POND

- WATER CONSERVATION AREAS
- OTHER DISTRICT PROJECT





Acme Basin B Discharge



**Component Name(s):** Acme Basin B, Wellington Acme Marsh

**Project Affiliations:** Acceler8, CERP

**Size:** 370 acres

## Overview

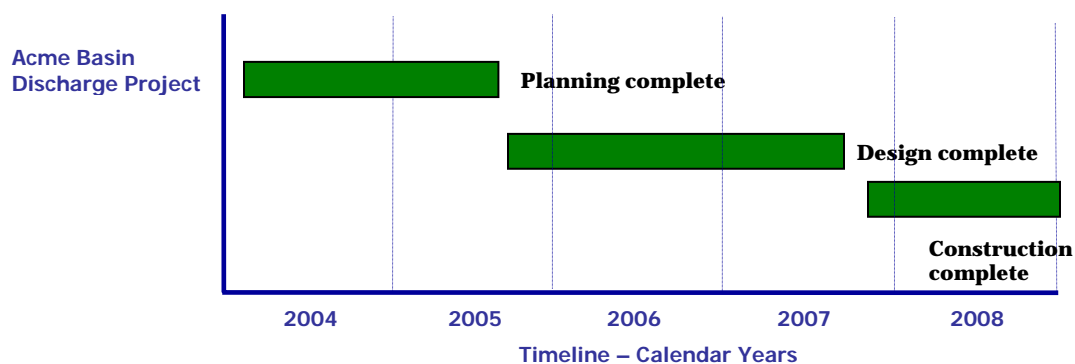
Acme Basin B is one of two primary drainage basins within the Acme Improvement District (AID). The AID, a dependent taxing district to the Village of Wellington, is located in central Palm Beach County, located in Township 43 South and 44 South, Range 41 East. Acme Basin B boundaries generally follow Pierson Road to the north, Flying Cow Road to the west, the Arthur R. Marshall Loxahatchee National Wildlife Refuge (Refuge) to the southwest and south and Lake Worth Drainage District (LWDD) to the east.

Acme Basin B encompasses approximately 8,680 acres of low-density development with the primary land uses being rural residential lots and nurseries with a substantial presence of stables and other equestrian uses.

The purpose of the project is to improve Everglades water quality by diverting urban stormwater runoff into the C-51 canal. This critical project will help end all direct discharges into the Wildlife Refuge. The project includes construction of a new pump station and improvements to the C-1 canal, which will increase conveyance capacity and provide connection to the C-51 canal. A new impoundment (in Section 24) and second pump station will provide temporary offline water storage of 1,028 acre-feet of water, maintaining flood protection in the Acme Basin B.

## Project Schedule

The project will begin construction in the summer of 2007.



## Interim Management

The will be managed on an interim basis until construction begins in the summer of 2007. Interim management activities are limited to mowing and securing the gates upon request of the Acceler8 Project Manager.

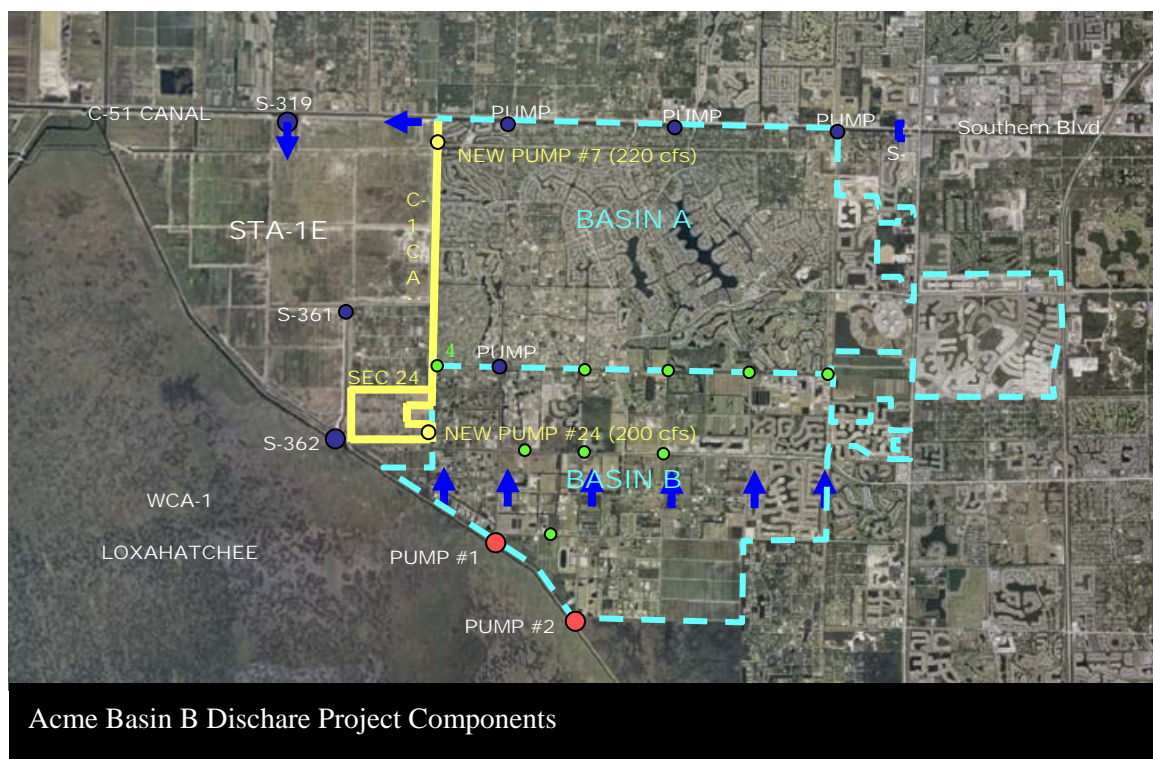


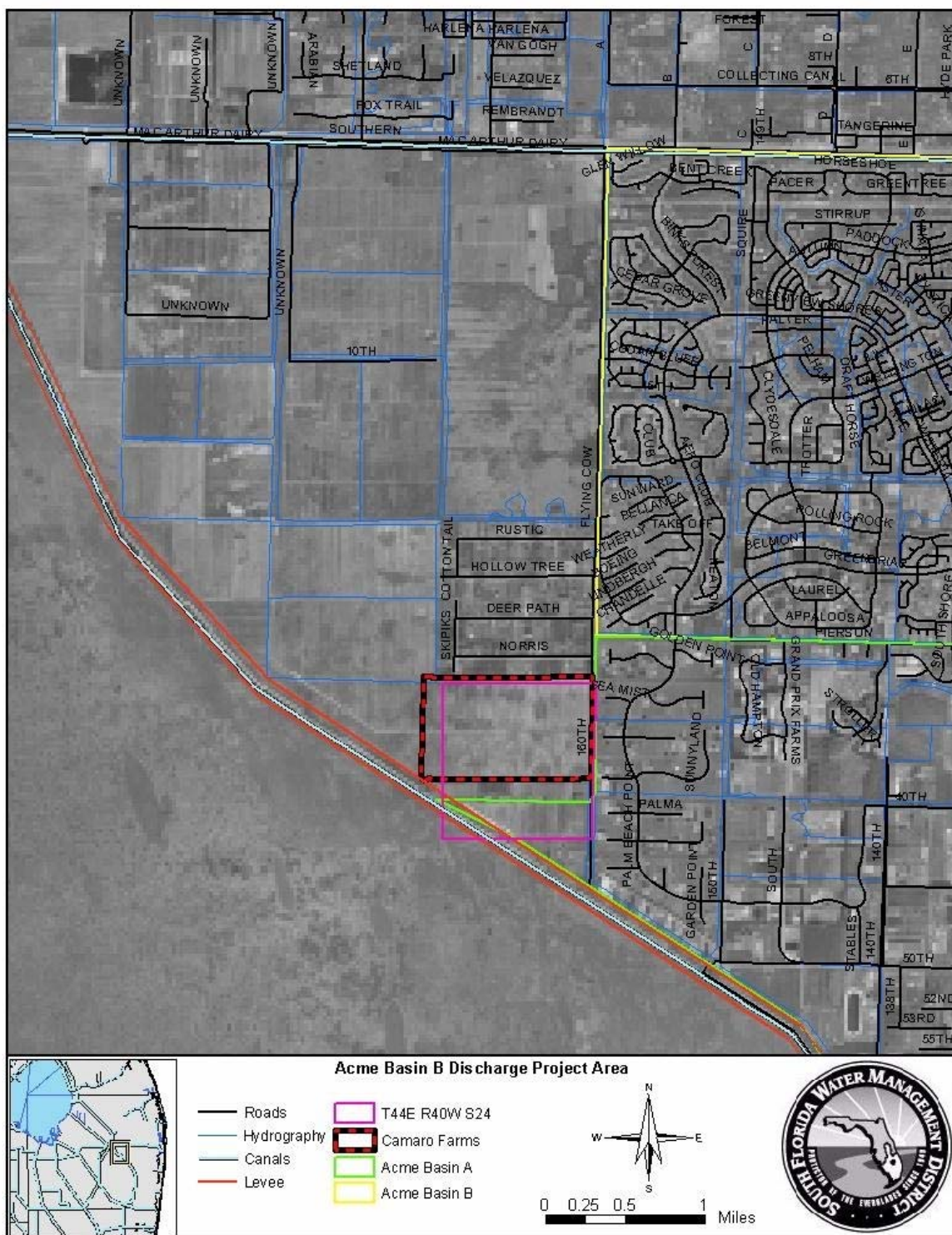
## Post Project Management

Current plans indicate that the project will utilize all of the acreage of the property; as such the land management activities post construction will be limited to drafting and administering an agreement with the Village of Wellington to take over maintenance responsibility for the public use facilities.

## Public Use

A standard STA / Impoundment recreation package is envisioned for this site that includes a self-composting toilet, an informational kiosk, hiking and bicycling on top of the levee, and equestrian use of the outside levee bench. Access would be from Flying Cow Road to the east of the property with a small parking area, self composting toilet, and an informational kiosk located near the northeast corner of the property.







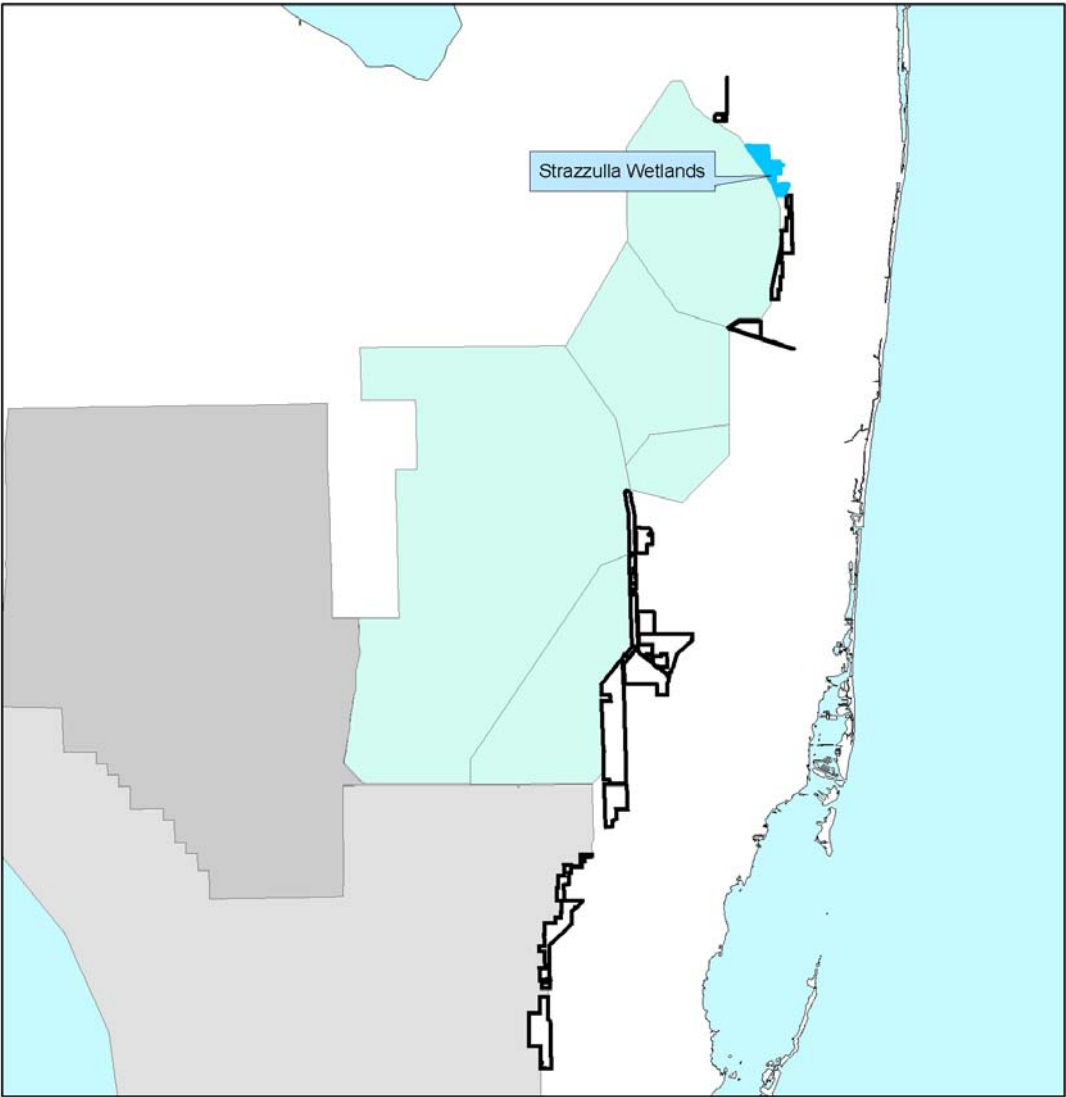


Section 24, the future site of the impoundment



The primary interim management activity is mowing





Strazzulla Wetlands



**Component Name(s):** Strazzulla Tract

**Project Affiliations:** CERP, SOR

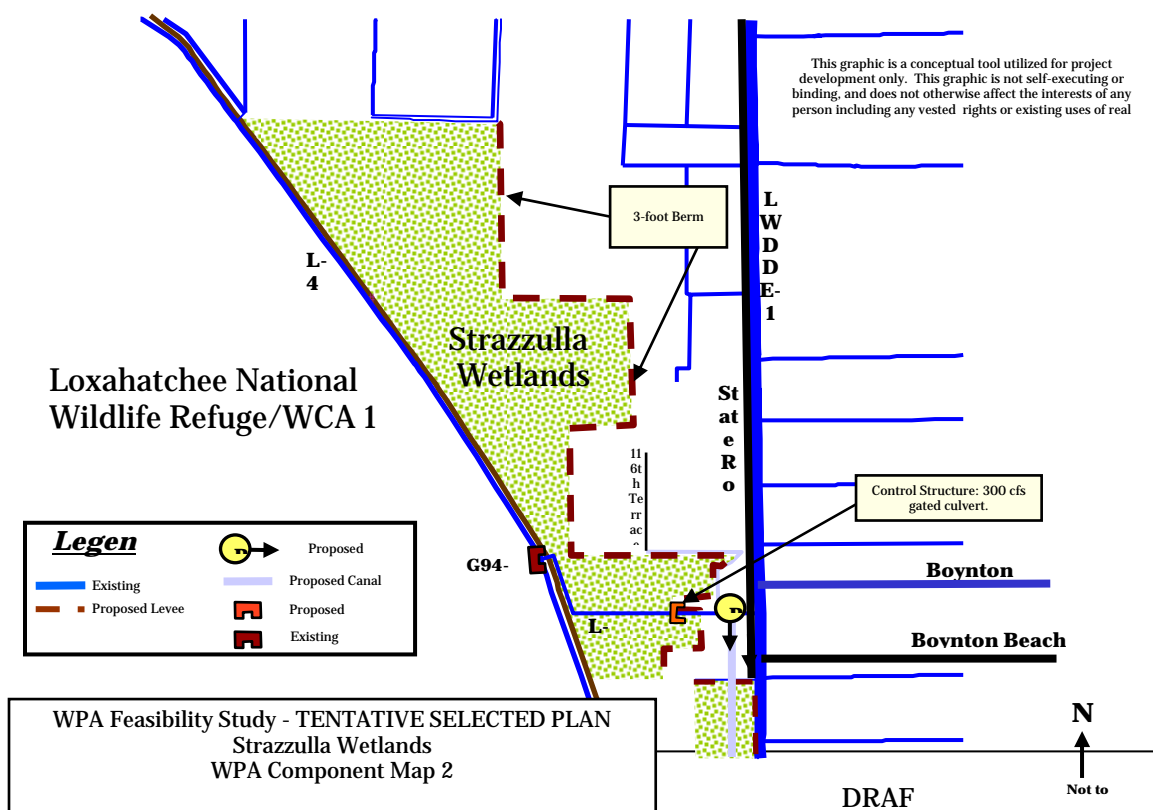
**Size:** 3,235 acres (of which 439 acres is owned by Palm Beach County)

## Overview

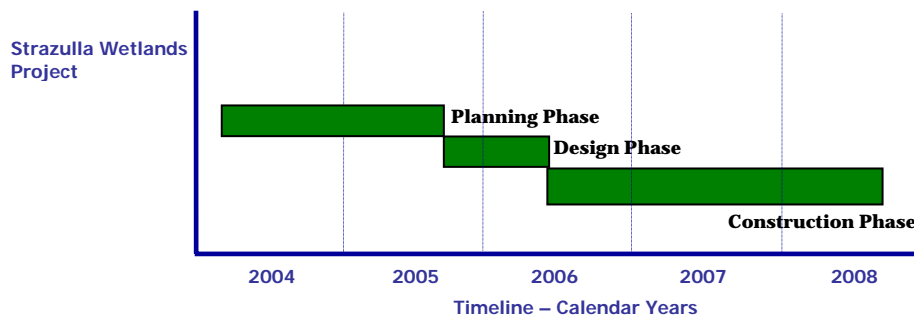
This project includes water control structures and the acquisition of 3,335 acres located in Palm Beach County, of which 3,235 acres has been acquired including 439 acres by Palm Beach County. The purpose of this project is to provide a hydrological and ecological connection to the Loxahatchee National Wildlife Refuge and expand the spatial extent of protected natural areas. This land will act as a buffer between higher water stages to the west and lands to the east that must be drained. This increase in spatial extent will provide vital habitat connectivity for species that require large unfragmented tracts of land for survival. It also contains the only remaining cypress habitat in the eastern Everglades and one of the few remaining sawgrass marshes adjacent to the coastal ridge. CERP plans call for the creation of a three foot earthen berm along the east side of the property to prevent water from draining into the canal system and out to tide, and the creation of a control structure at the south end.

The Strazzulla wetlands are immediately west of the Palm Beach County Agricultural Reserve Reservoir CERP project which, when developed, the canal and groundwater stages may change and influence the hydropatterns in the Strazzulla Wetlands.

Strazzulla is part of the WPA study region of CERP with components in the area east of the Water Conservation Areas (WCA) in West Palm Beach, Broward and Miami-Dade Counties. The WPA consisted of an interconnected series of marshlands, impoundments, stormwater treatment areas, conveyance, and aquifer recharge areas.



## Project Schedule



## Interim Management

Interim management involves budgeting and coordinating with the Vegetation Management Division for exotics removal, administering a lease for a television tower, and occasional site security issues. The project site was heavily infested by melaleuca, aerial treatments over the last few years has greatly reduced this problem. There has been some trouble with trespassing and ATV use, so a security gate was installed. Land Stewardship is also working with Palm Beach County and FPL to secure some pre-Columbian Indian cultural sites.

## Post Project Management

The Strazulla wetlands will be managed as a functioning wetland system and, upon completion of the initial restoration, will require a Land Stewardship General Management Plan to address long term resource management and public use of the property.

## Public Use

Recreational use plans for the Strazulla wetlands are in the preliminary stages. A conceptual plan for a boardwalk has been put on hold pending the identification of a cost-sharing partner. This large wetland area is North of the Arthur R. Marshal Refuge public use area and several properties owned as conservation areas by Palm Beach County. The County is developing a master recreation plan called the South Everglades Natural Area (SENA) plan that envisions connecting the East Coast Buffer components and other public facilities with recreation areas and trails. Recreation plans for Strazulla may develop during the realization of the SENA plan.



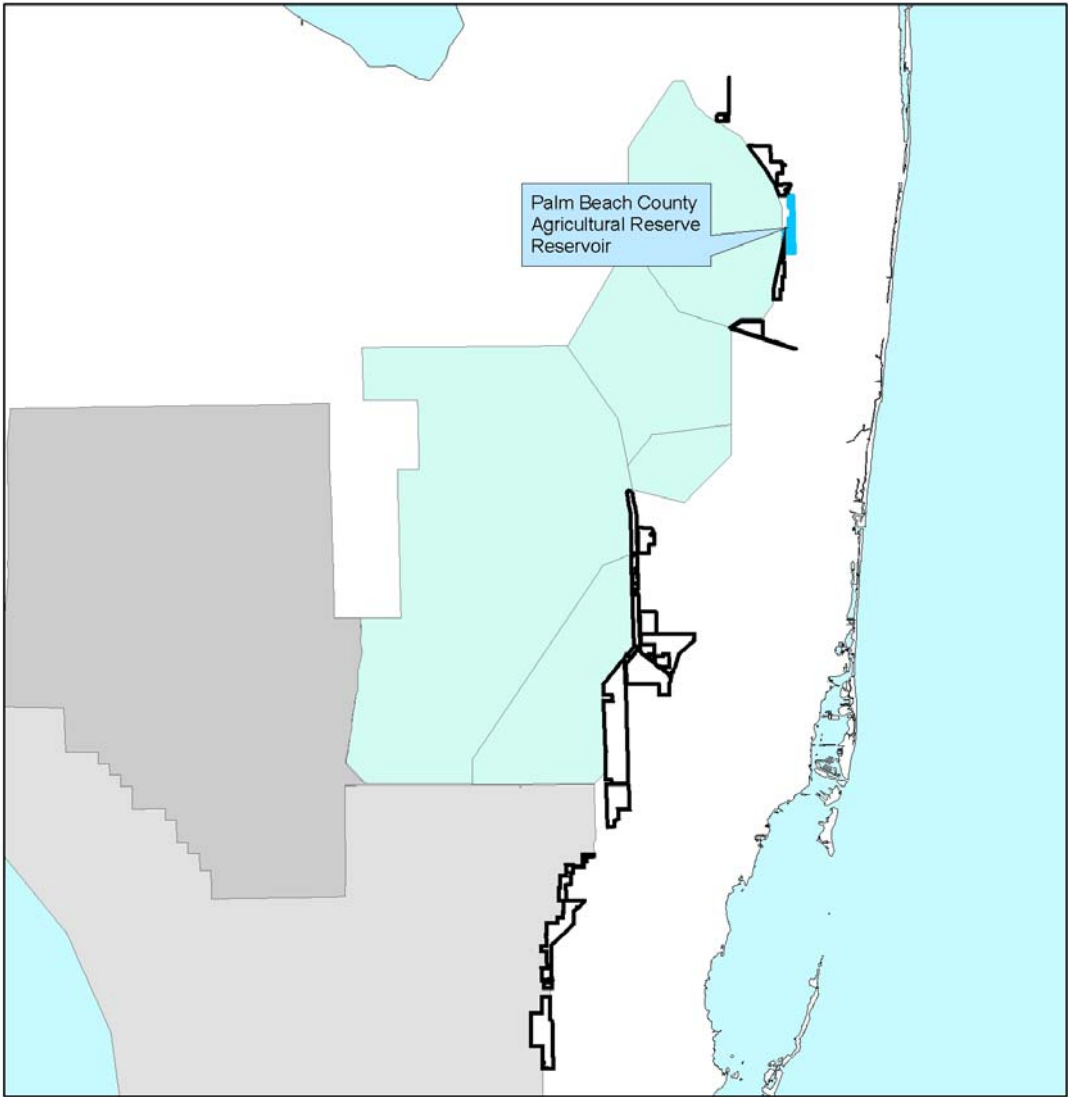
Vast areas of dead melaleuca following aerial treatments



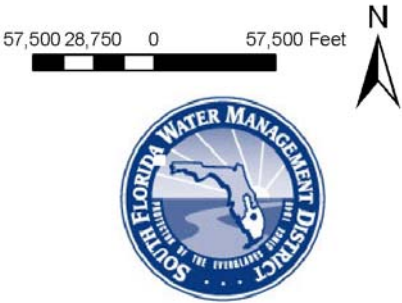
TV tower lease at Strazulla



Gate installed to prevent trespassing and ATV use



Palm Beach County Agricultural  
Reserve Reservoir



**Component Name(s):** Palm Beach Agricultural Reserve Reservoir

**Project Affiliations:** CERP

**Size:** 1987 acres (994 acres owned)

## **Overview**

This project includes an above ground reservoir with a total storage capacity of approximately 20,000 acre-feet located in the western portion of the Palm Beach County Agricultural Reserve. The initial design for the reservoir assumed 1,660 acres with water levels fluctuating up to 12 feet above grade. The final size, depth and configuration of these facilities will be determined through more detailed planning and design. The purpose of this project is to supplement water supply deliveries for central and southern Palm Beach County by capturing and storing excess water currently discharged to the Lake Worth Lagoon. These supplemental deliveries will reduce demands on Lake Okeechobee and the Loxahatchee National Wildlife Area. It is assumed that this facility could also be designed to achieve water quality improvements in downstream receiving waters, depending upon pollutant loading conditions in the watershed. The reservoir will be filled during the wet season with excess water from the western portions of the Lake Worth Drainage District and possibly from Acme Basin B. Water will be returned to the Lake Worth Drainage District canals to help maintain canal stages during the dry-season.

## **Project Schedule**

Construction will not begin at least until after 2012.

## **Interim Management**

Interim project management consists of administrative activities related to leases on the site. Leaseholders maintain the property. The District has leases with Pero/McMurrain farms who operate a bell pepper farm in the northeast portion of the site, Palm Beach Downs horse training facility on 97 acres on the south side, and Palm Beach County Parks on 313 acres on the southwestern corner. The District also has an agreement with the Palm Beach Soil and Water Conservation District to inspect a pump station on the Pero/McMurrain parcel.

## **Post Project Management**

Conceptual plans indicate that the entire footprint will be used for the reservoir, so project management limited to administrative support associated with public use.

## **Public Use**

The southwestern 313 acres, known as the Siemens tract, is under a lease to Palm Beach County Parks for development and use as a park for the interim period until 2012. The park will include multiple uses such as nature trails, canoeing, remote controlled devices, an archery range, and picnic areas. The County is also developing a master recreation plan called the South Everglades Natural Area (SENA) plan that envisions connecting



the East Coast Buffer components and other public facilities with recreation areas and trails. Recreation plans for the long term post project period may develop during the realization of the SENA plan.







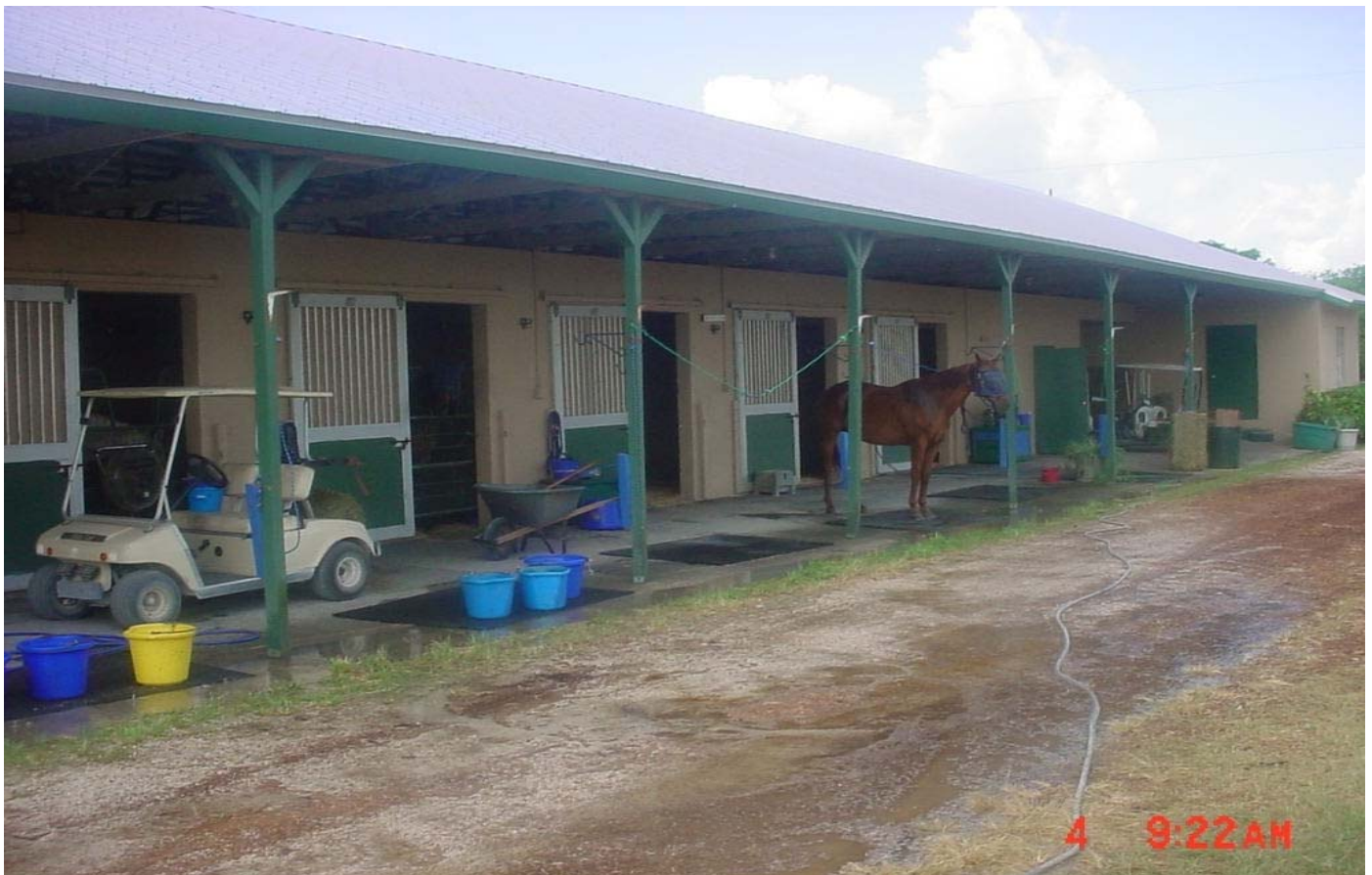




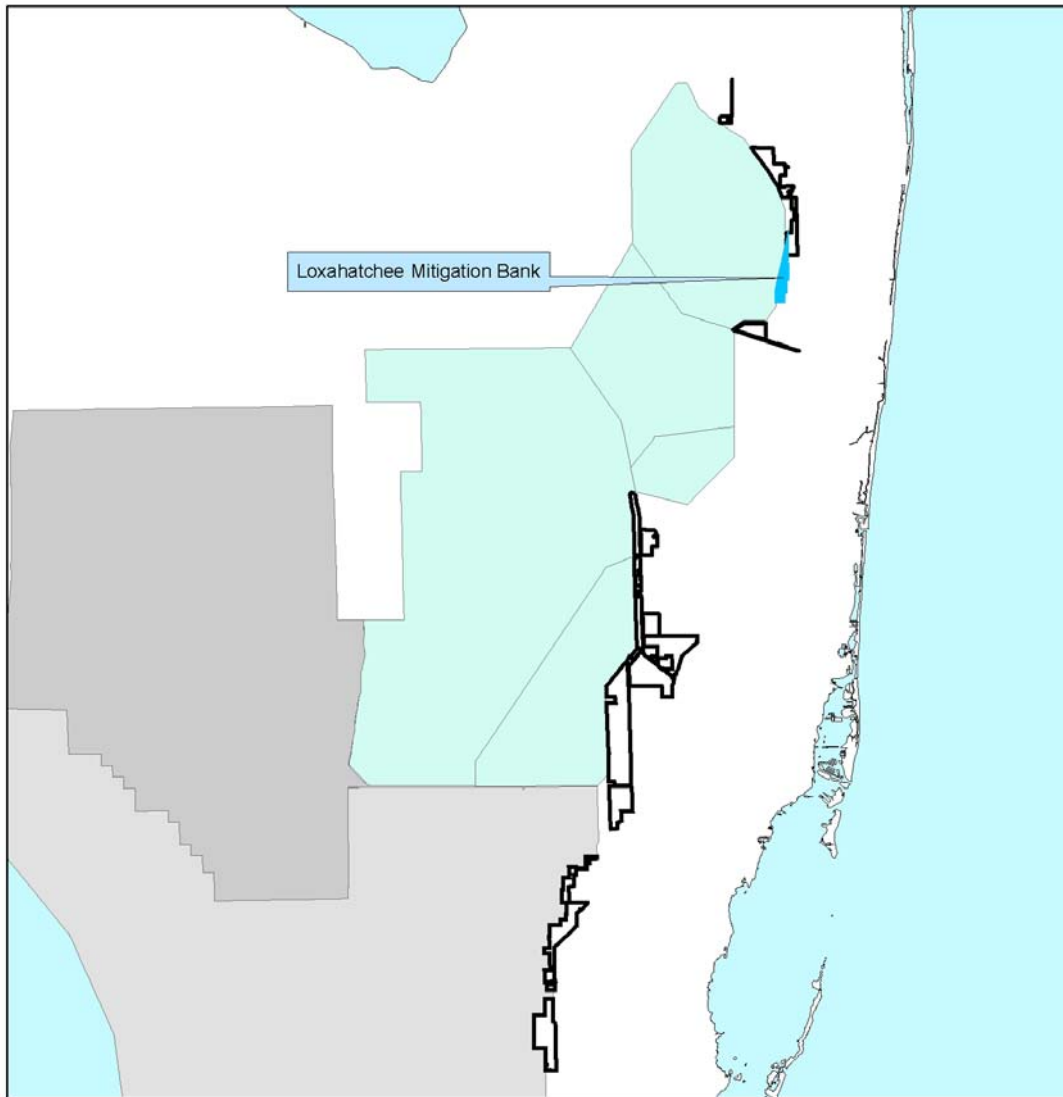
Part of the property was used as an emergency debris storage site following Hurricanes Jeane and Francis in 2004



A District pump at the Pero/McMurrain parcel



The Palm Beach Downs horse training facility



Loxahatchee Mitigation Bank



**Component Name(s):** Loxahatchee Mitigation Bank

**Project Affiliations:** Mitigation Bank

**Size:** 1256 acres

## **Overview**

The Loxahatchee Mitigation Bank is a 1256 acre property adjacent to the Loxahatchee National Wildlife Refuge or Water Conservation Area 1 that provides a critical buffer between the Everglades and the urbanized areas. The site consists of degraded Everglades marsh, tree island, cypress strand and dense thickets of Brazilian pepper, and is being restored through hydroperiod restoration, exotic removal and prescribed fires. The site will directly improve habitat values of the site and region. Tetra Tech, Inc. is the private mitigation banker for the site. Tetra Tech derives revenue from generating mitigation credits by restoring the site, then selling those credits to land developers who impact wetlands elsewhere in the bank's service area. This net income is shared with the District on a 50/50 basis. In addition the District has its costs, including the cost of the land and staff report, reimbursed from the revenues. The service area for the bank covers Broward, Palm Beach, and Martin counties south of the Bridge Road and west of US Hwy. 1.

## **Project Schedule**

The project is in the active restoration phase and its fifth year of monitoring; it is scheduled to reach full success by December 31, 2012.

## **Interim Management**

Tetra Tech, Inc. is the lead manager of the bank until the restoration is complete. SFWMD staff participates in the restoration of the site by providing project support including specialized land management activities such as prescribed fires.

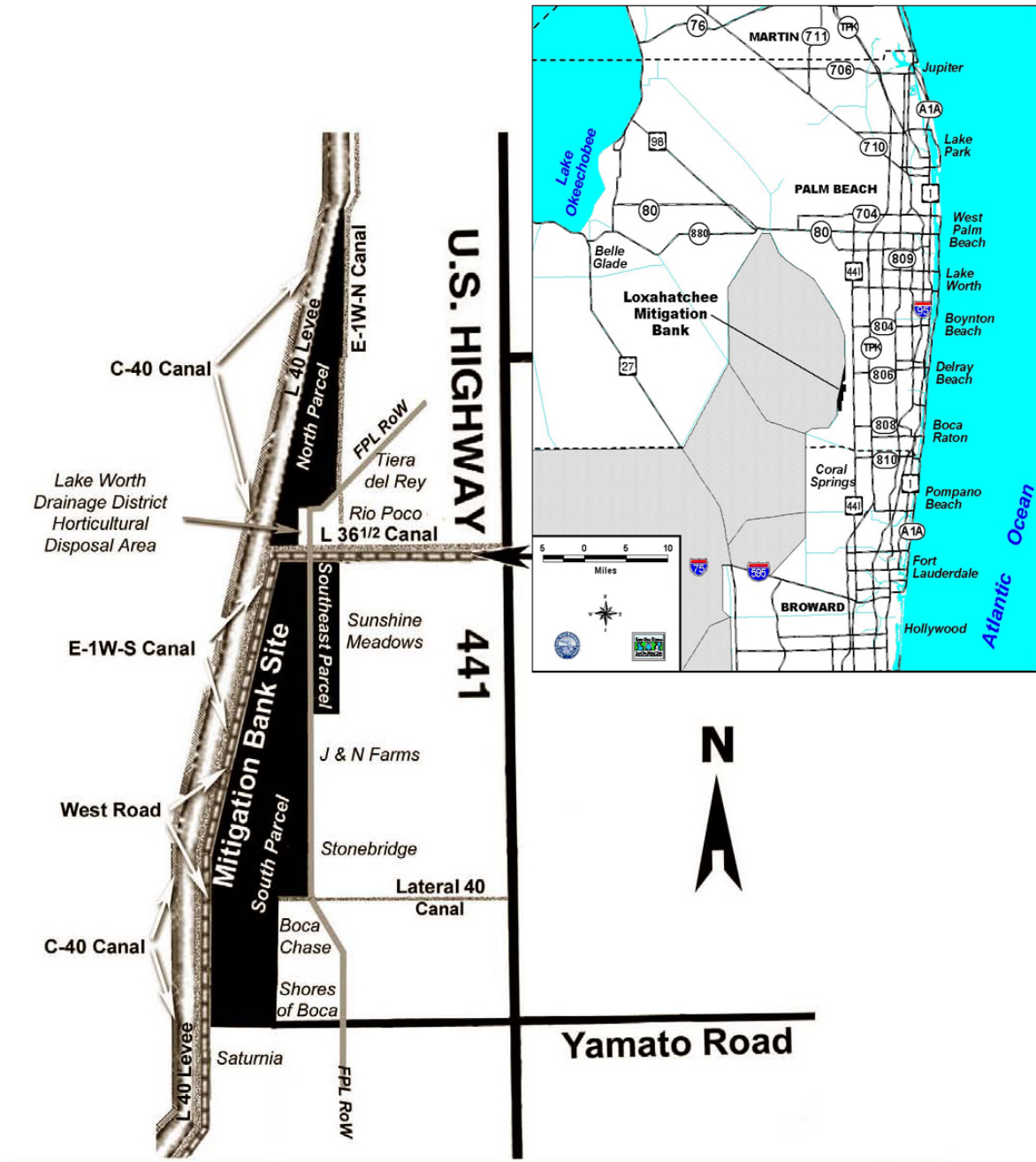
## **Post Project Management**

TetraTech will turn the property over to the District at the end of 2012 upon completion of the restoration and monitoring phase. A long term management endowment will be established from mitigation revenues to cover the long term management of the property. The District will be responsible from that time on for ensuring the project stays in compliance with permit conditions.

## **Public Use**

The only access to the site is by an access easement that the District retained from the Lake Worth Drainage District along their canals. Unfortunately this easement excludes use by the public. However, the Loxahatchee Mitigation Bank is a component of the South Everglades Natural Area (SENA) plan that is being developed by Palm Beach County. This plan attempts to link public properties along the Palm Beach County portion of the East Coast Buffer with greenway trails and additional recreation amenities. The mitigation bank offers an opportunity to create a critical linkage under this plan.





**Loxahatchee Mitigation Bank  
and Surrounding Landmarks and Features**



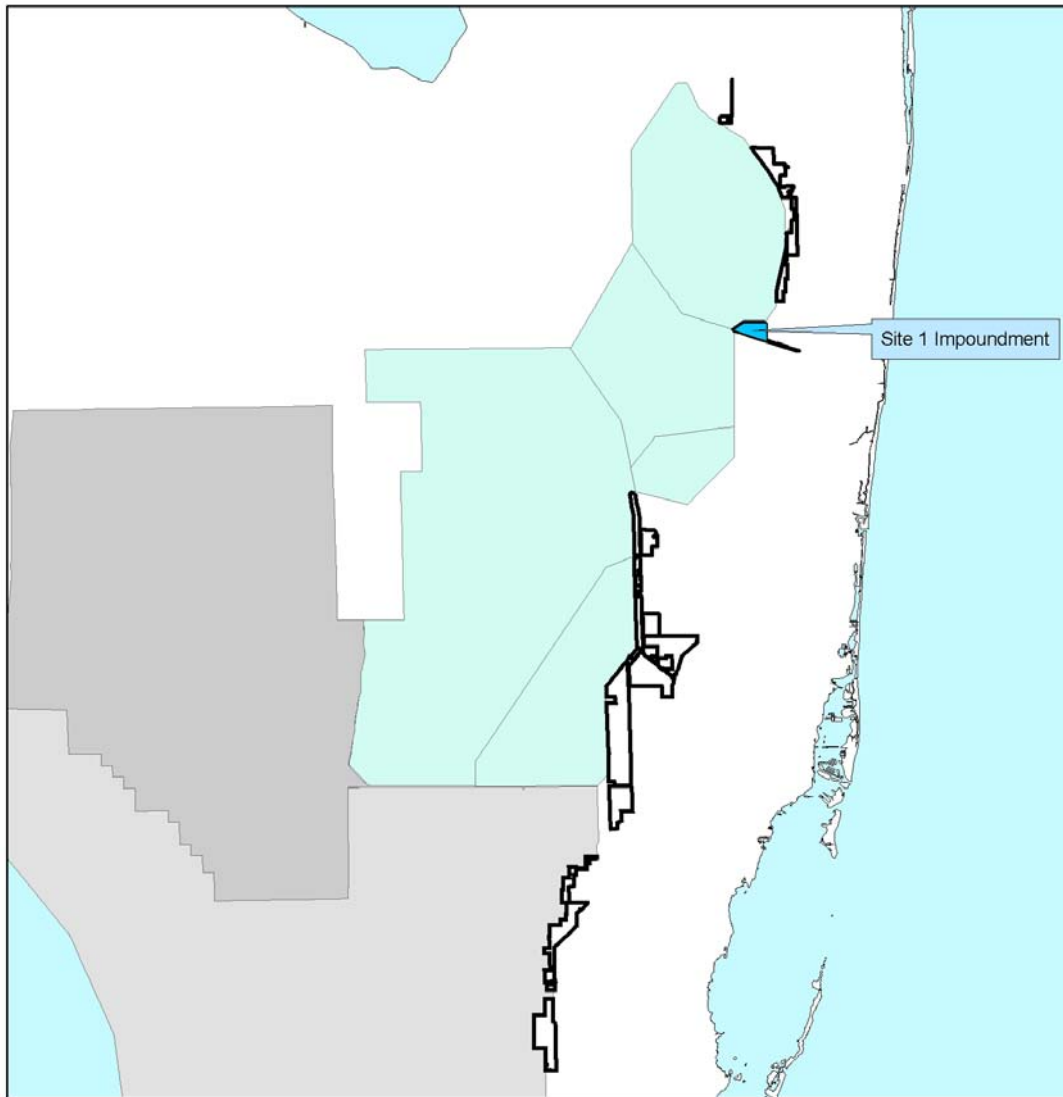
Chemically treated Brazilian Pepper



Clearing dead Brazilian Pepper



Aerial prescribed fire at the Loxahatchee Mitigation Bank



Site 1 Impoundment





**Component Name(s):** Site 1, Hillsboro Site 1 Impoundment

**Project Affiliations:** Accelerate, CERP

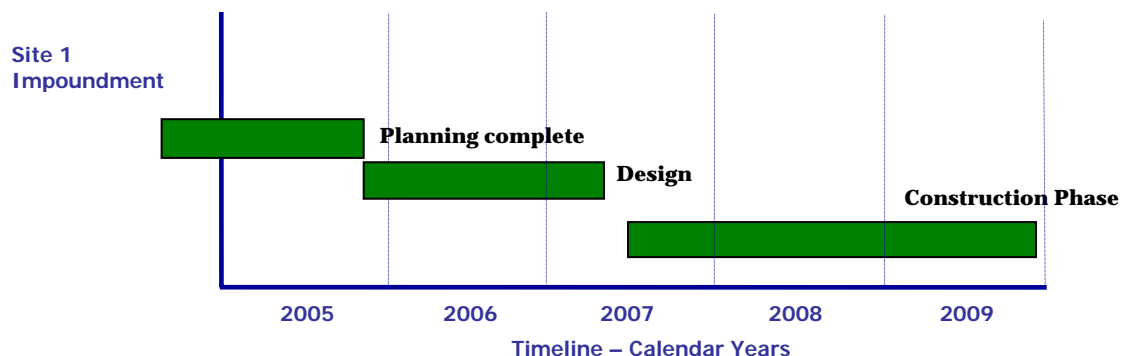
**Size:** 1658 acres

### Overview

The purpose of this project is to supplement water deliveries to the Hillsboro Canal during dry periods thereby reducing demands on Lake Okeechobee and the Loxahatchee National Wildlife Refuge. Water from the Hillsboro Canal will be pumped into the reservoir during the wet season or periods when excess water is available. Water will be released back to the Hillsboro Canal to help maintain canal stages during the dry season. The impoundment will also provide groundwater recharge, reduce seepage from adjacent natural areas, and prevent saltwater intrusion by releasing impounded water back to the Hillsboro canal when conditions dictate. Some measure of flood protection may also be provided along with water quality improvements. This project includes canal and structure relocations, canal conveyance improvements, water control structures and an above ground impoundment with a total storage capacity of approximately 13,280 acre-feet located in the Hillsboro Canal Basin in southern Palm Beach County. The design of the impoundment includes two compartments totaling 1,660 acres with water levels fluctuating up to 8 feet above grade.

The Hillsboro Site 1 above ground impoundment operates in conjunction with multiple aquifer storage and recovery wells in order to maximize the benefits of the impoundment. A pilot project for these wells is necessary to determine, the hydrogeological and geotechnical characteristics of the soils and aquifer, the most suitable sites for the aquifer storage and recovery wells in the vicinity of the impoundment and the optimum configuration of those wells. The pilot project will also determine, the specific water quality characteristics of water within the aquifer as well as the quality of water proposed for injection and the water quality characteristics of water recovered from the aquifer.

### Project Schedule



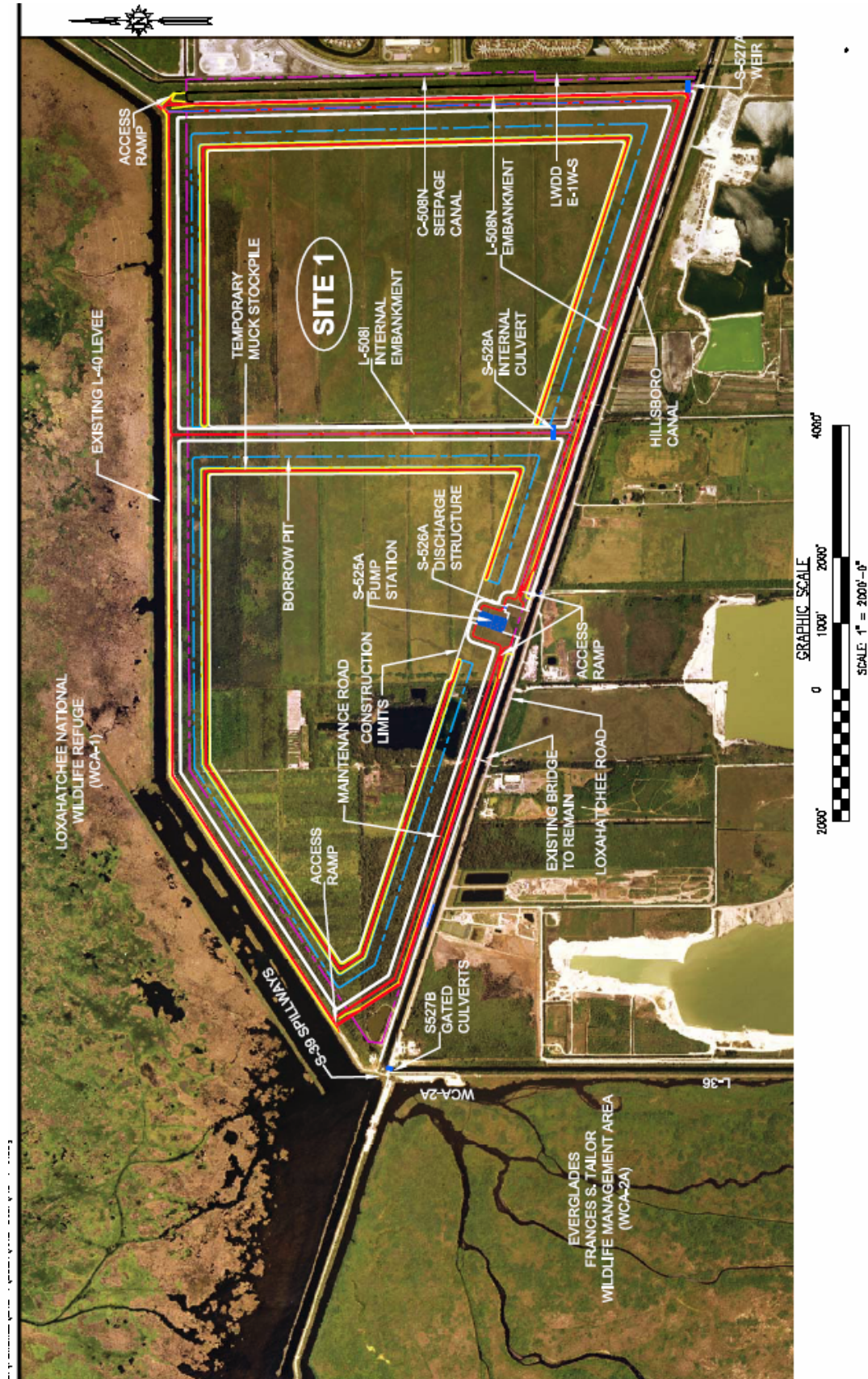
### Interim Management

The site will be under active construction beginning in the summer, 2007. Until then Land Stewardship will mow the site upon request of the Acceler8 Project Manager. Previous interim management leading up to the construction included the installation of



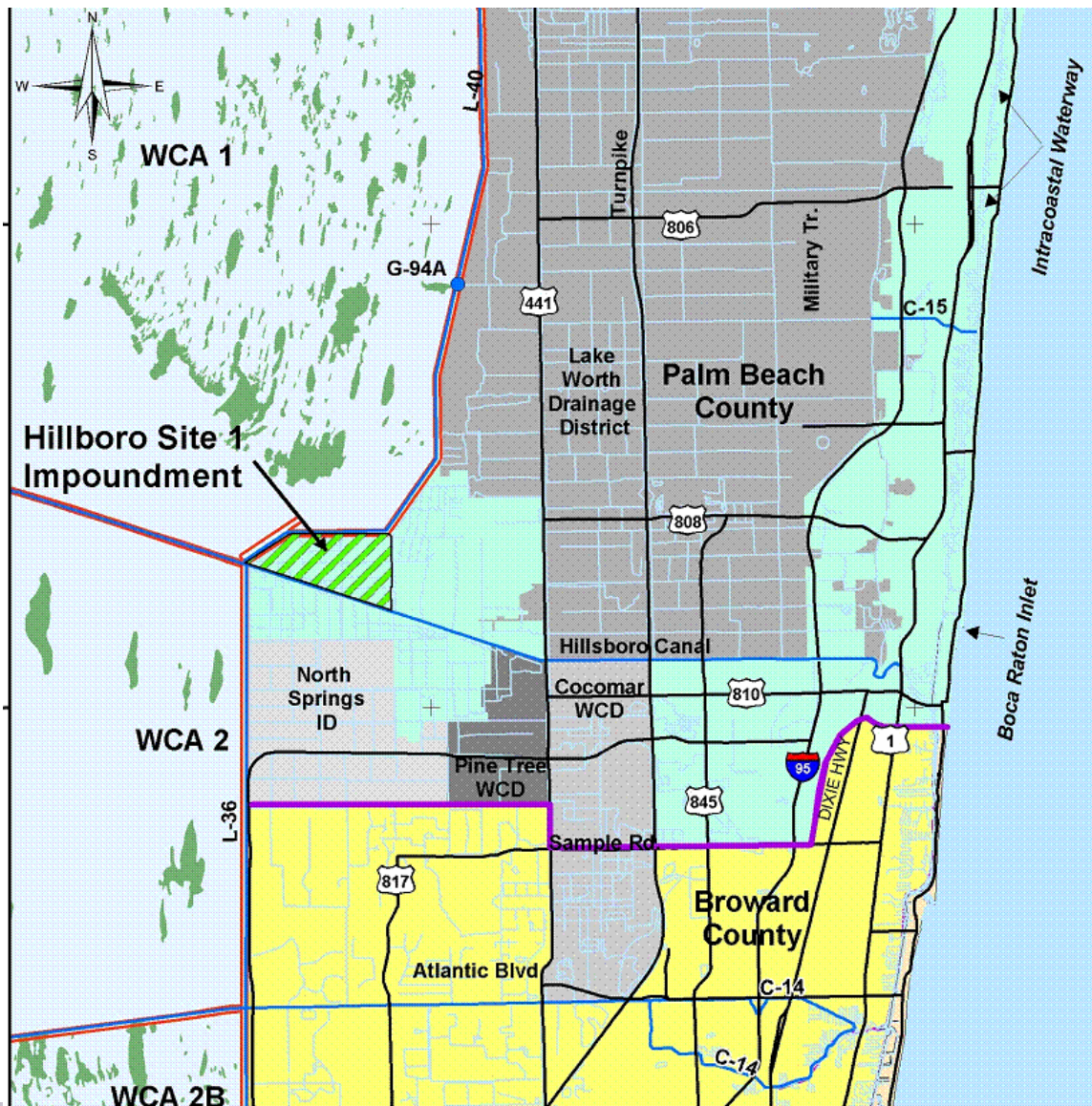


East Coast Buffer Land Management Plan 2006  
 South Florida Water Management District, Land Stewardship Division





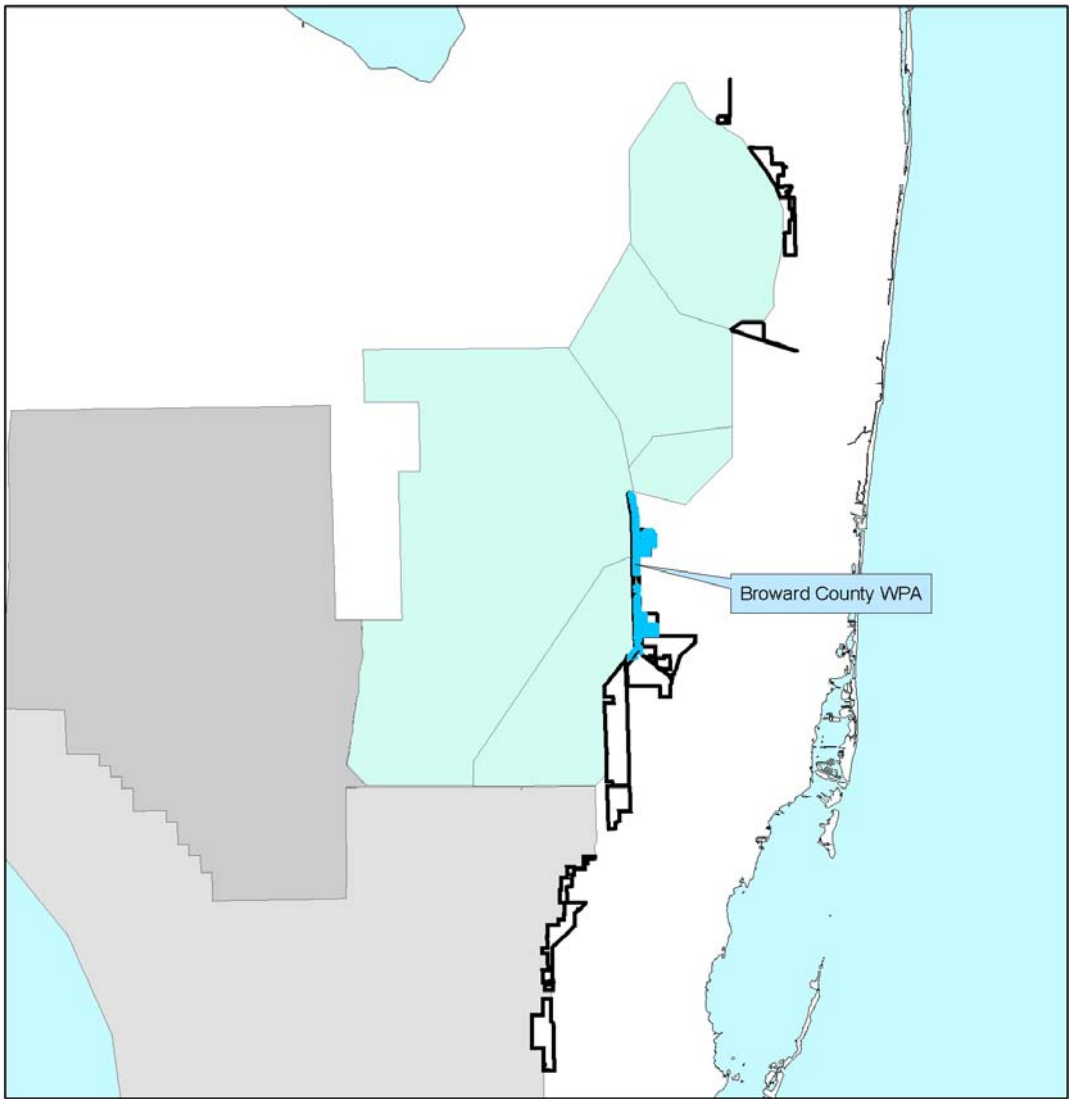
East Coast Buffer Land Management Plan 2006  
South Florida Water Management District, Land Stewardship Division



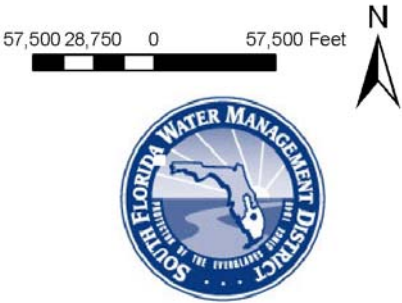
Barriers installed to secure the site



Mowing is the primary interim management activity



Broward County WPA



**Component Name(s):** Broward Water Preserve Area Study Area  
**Project Affiliations:** Accelerate, CERP, Everglades Buffer Strip (WCA 3A/3B Seepage Management), C-9 Impoundment, and C-11 Impoundment  
**Size:** 8313 acres (7265 owned)

### **Overview**

This project is comprised of three components: C-11 Impoundment, C-9 Impoundment, and Water Conservation Area 3A/3B Levee Seepage Management.

The impoundment areas will 1) aid in reducing seepage from the WCA 3A/3B Seepage Management Area 2) provide groundwater recharge 3) provide adequate water supply to urban areas and 4) prevent saltwater intrusion.

The WCA 3A/3B Levee Seepage Management system will focus on seepage reduction by allowing higher water levels in the L-33 and L-37 borrows, by allowing water to seep into and improve the hydrology of the Everglades Buffer Strip.

The purpose of the C-11 Impoundment is to direct runoff from the western C-11 drainage basin into the impoundment in lieu of pumping the untreated runoff via S-9 pump station into the WCA 3A. If water is not available in the impoundment area to perform these functions, S-381 will be opened to allow seepage water to recharge the basin and prevent excessive dry outs. In addition, seepage will be collected and returned to the impoundment area.

The purpose of C-9 Impoundment is to pump runoff from the western C-9 drainage basin and diverted water from the western C-11 basin into the impoundment. As a result, this impoundment will assist in reducing seepage from the WCA 3A/3B Levee Seepage Management.

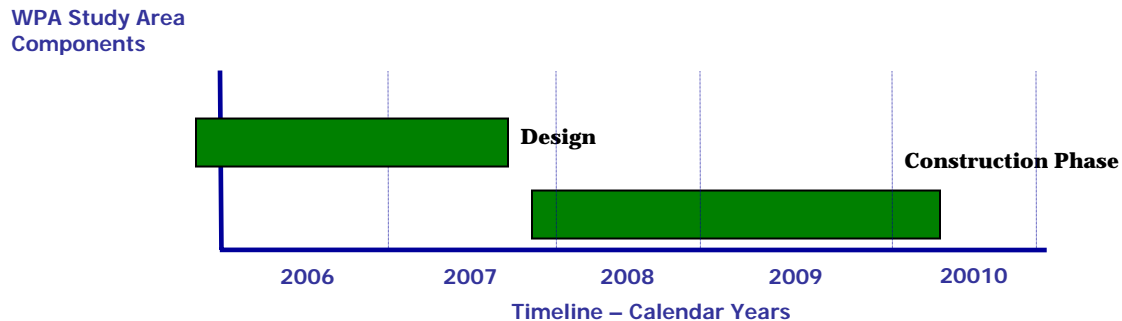
**C-9 Impoundment.** The C-9 Impoundment will store 6,600 ac-ft of water. Project features include a 1,075 cfs pump station, a gated spillway, gated culverts, C-9 canal conveyance upgrade to 2,500 cfs, a seepage canal with pump station, perimeter levee, windbreaks, and emergency overflow spillway.

**C-11 Impoundment.** The C-11 Impoundment Project features include an impoundment of 1,850 acres, four feet deep, with a 2,575 cfs pump station, a three-bay gated spillway and gated culvert, an ungated culvert, two fixed weir structures, seepage canals, embankments, and windbreaks.

**WCA-3A/3B Seepage Management.** The WCA-3A and 3B Levee Seepage Management Project features ecosystem restoration, seepage reduction in the amount of 156,000 ac-ft per year from WCA-3A/3B, enhancement of wetlands spatial extend, and incidental flood protection.



## Project Schedule



## Interim Management

As these areas have come closer to their construction phase, interim management has been geared towards site preparation that included site security issues such as installing gates at access points, removing illegal waste dumps, and selling off and dismantling a large asphalt plant. The land stewardship division has also budgeted funds and coordinated exotic (primarily melaleuca) eradication efforts in the Everglades Buffer Strip portion of the project.

## Post Project Management

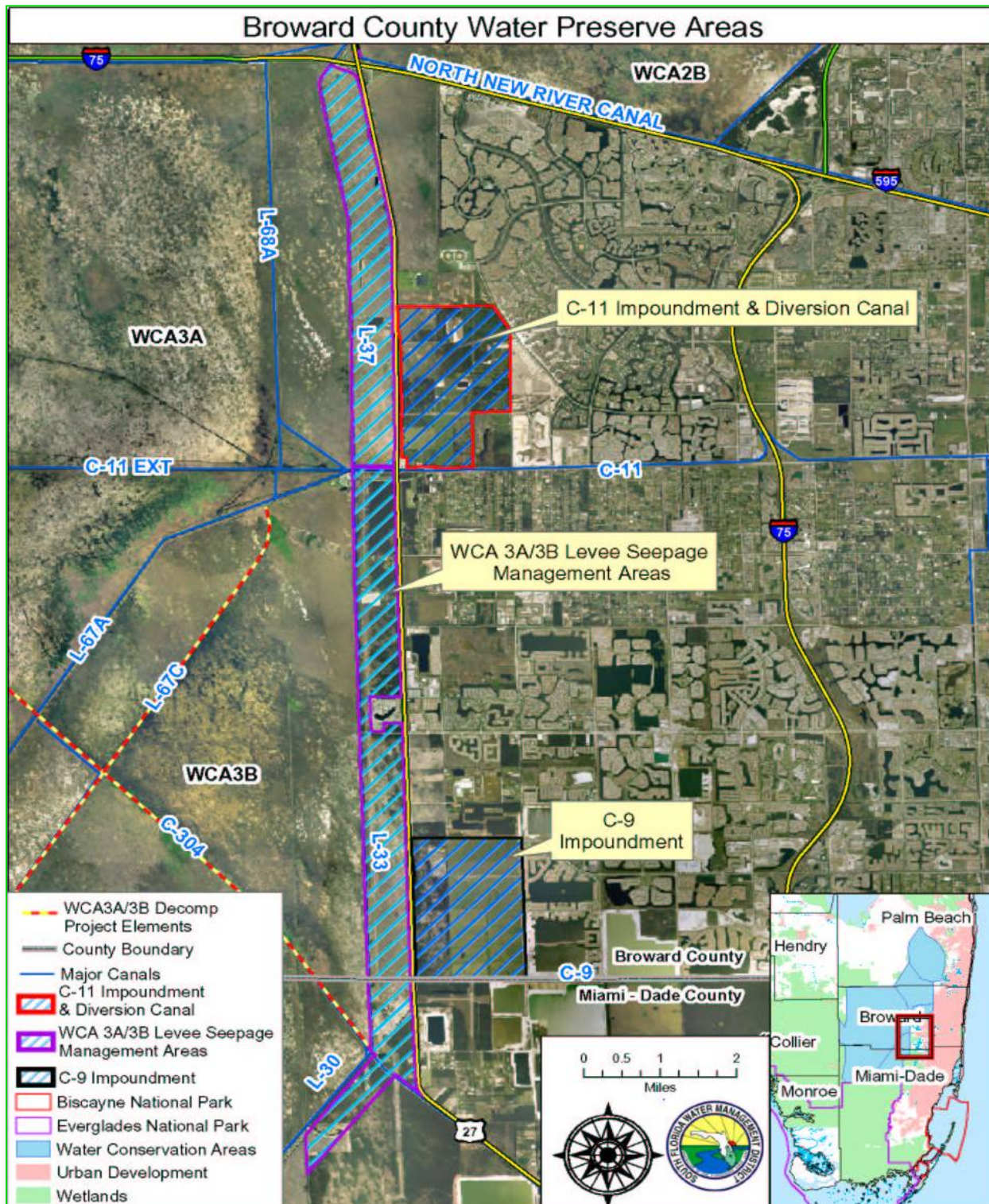
The land stewardship staff will likely have a high level of ongoing involvement and land management duties associated with the Everglades Buffer Strip portion of the property since the CERP project calls for it to be a primarily rainfall and seepage driven wetland. This long term management will include working with partners to provide for adequate site security, vegetation management, exotic species control, and expanding recreation opportunities.

In the two impoundment areas The Land Stewardship Division Staff will continue to coordinate public use and recreation on the site that may include establishing partnerships with various user groups and other agencies to develop and implement recreation programs on the sites.

## Public Use

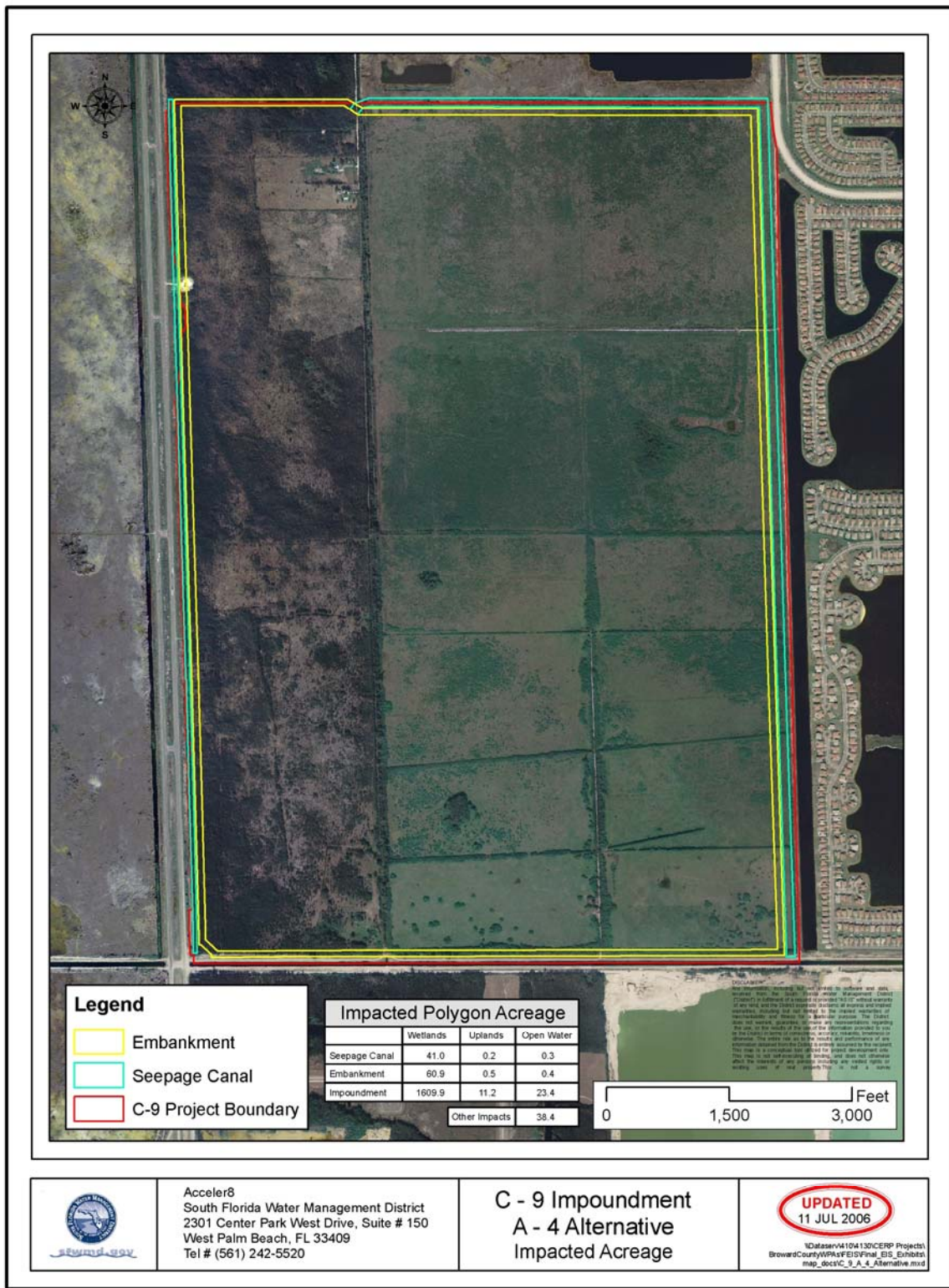
Planned recreation amenities include a small stabilized parking area, a composting toilet, and an informational kiosk at each impoundment. Hiking and bicycling on top of the levee would be allowed as well as equestrian use of the outside levee bench. Whether or not a boat ramp will be constructed for public use has not yet been determined.

Currently only fishing and hiking opportunities with no marked trails is available in the Everglades Buffer Strip portion of the site. Plans have been made to provide easier access to this site by building a bridge across the C-11 canal from the Everglades Holiday Park for pedestrian access.

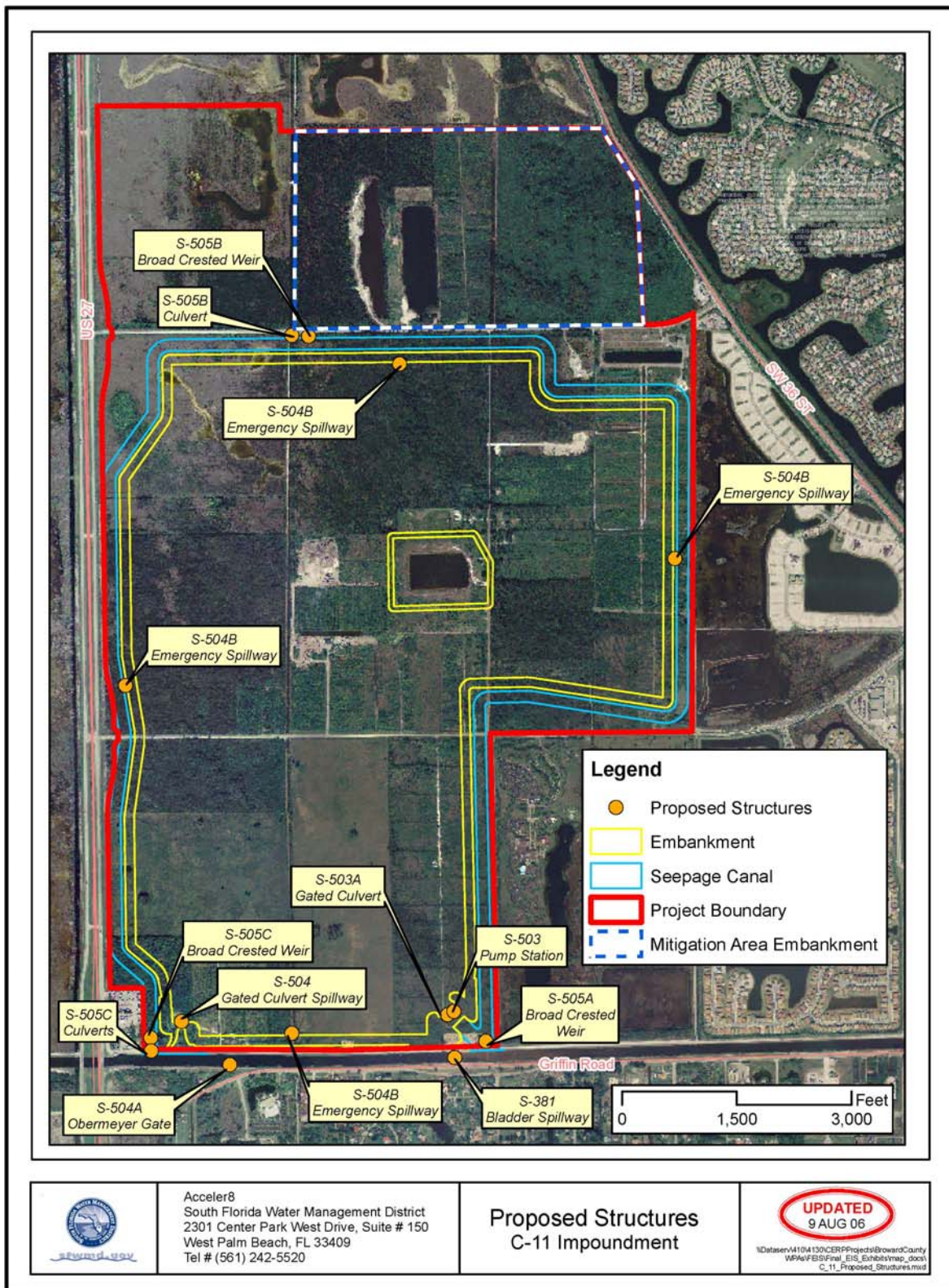




East Coast Buffer Land Management Plan 2006  
South Florida Water Management District, Land Stewardship Division

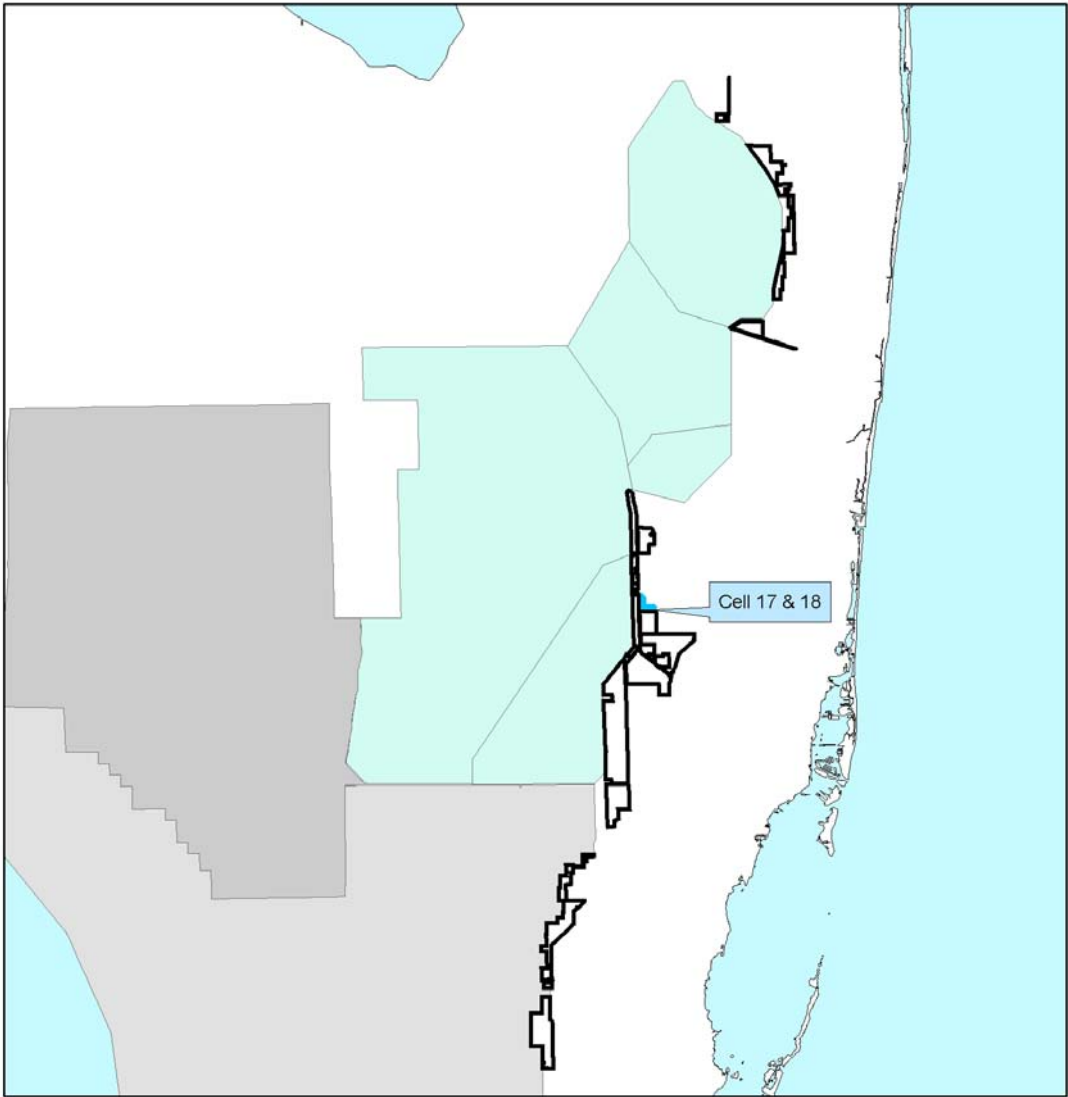












Cell 17 & 18



**Component Name(s):** Cell 17 & 18  
**Project Affiliations:** CERP, SOR, Mitigation  
**Size:** 759 acres (of which 435 acres is owned)

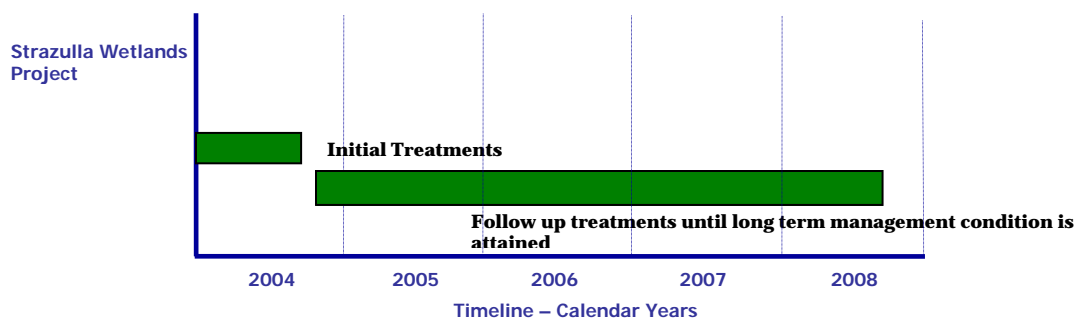
## Overview

The Florida Department of Transportation (FDOT) constructed a rest area with recreation components on I-75 at the Miami Canal. This facility required mitigation for impacts to 52.5 acres of wetlands that is being applied to the restoration of 358 acres of melaleuca wetlands in Cells 17 and 18 of the East Coast Buffer, just North of the C-9 Impoundment CERP project. These wetlands are being transformed into an enhanced marsh. The District was provided \$389,363 (\$1,087/acre) in restoration funds and \$227,457 (\$18/acre/yr) in long-term management funds.

The goal is to provide improved habitat functions through exotic removal and the restoration of a sawgrass community. The enhancement effort primarily targets the elimination of melaleuca although all exotic invasive species such as Australian pine, Brazilian pepper, bischofia, torpedo grass, primrose willow, cattail, air potato, and syngonium are included in the eradication program.

The northern 157 acres is divided into 4 blocks of approximately 40 acres each that have been treated with different methods as a comparison of initial costs and long term efficacy. One block was feller bunched and hauled away, one was cut and left on the ground with the stumps treated, one had the trees chipped in place leaving mulch on the ground, and one was aerially treated and left standing. Of the four options felling the melaleuca and leaving the trunks intact where they fell and treating the stumps proved to be the most cost effective and ecologically effective option.

## Project Schedule



## Interim Management

The treatment program involves a multi-year herbicidal and manual removal program with a follow-up controlled burn. The exotic eradication effort effectively manages melaleuca by containing and progressively reducing the population. The application method follows a three phased effort. The first phase focuses on the initial elimination of seed bearing trees and seedlings. During the second phase, the treatment focuses on the missed areas and seedlings that resulted from the previous year's treatment. The



third phase involves a long-term program to monitor the effectiveness of the eradication program and assessment for follow-up treatments. The District Vegetation Management Department uses a five year schedule, where treatment cost estimates are reduced by 50 percent for each succeeding year, until the seed source is brought under control. At the end of year five it is expected that the exotics will attain a level of control where they can be contained, utilizing the long-term management fund.

### **Post Project Management**

The District will have \$18/acre/year for long term management. The site will be prepped for long term management around 2008 – 2009, however the form of that long term management and responsible party depends on whether the site will be included as a component to the C-9 Impoundment project.

### **Public Use**

No recreational use plans have been developed for the Cell 17 & 18 project, however some recreational component may be developed in conjunction with the C-9 Impoundment project.



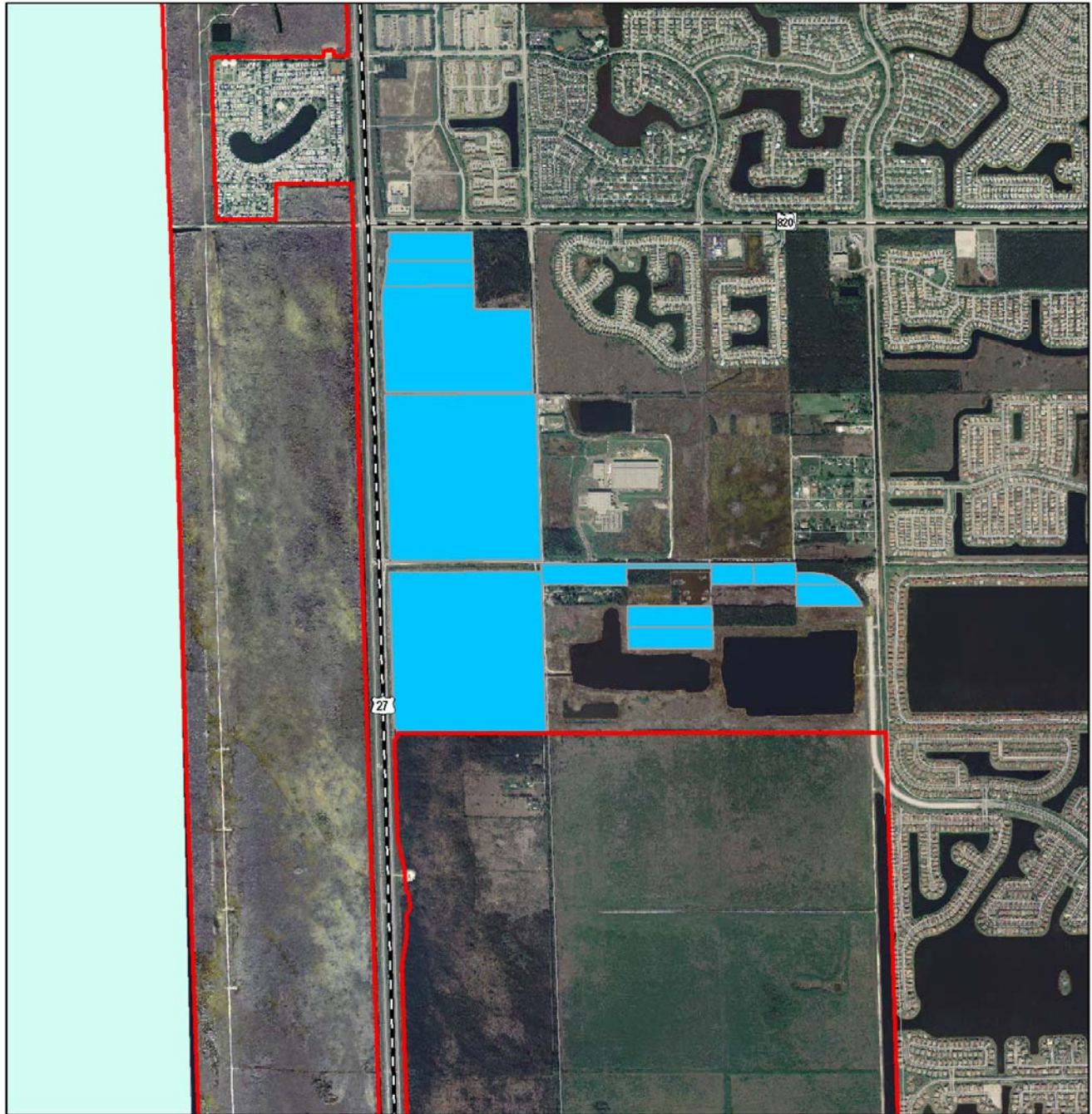
Melaleuca felled in place / stump treatment





Melaleuca felled and hauled away



Melaleuca mulched in place



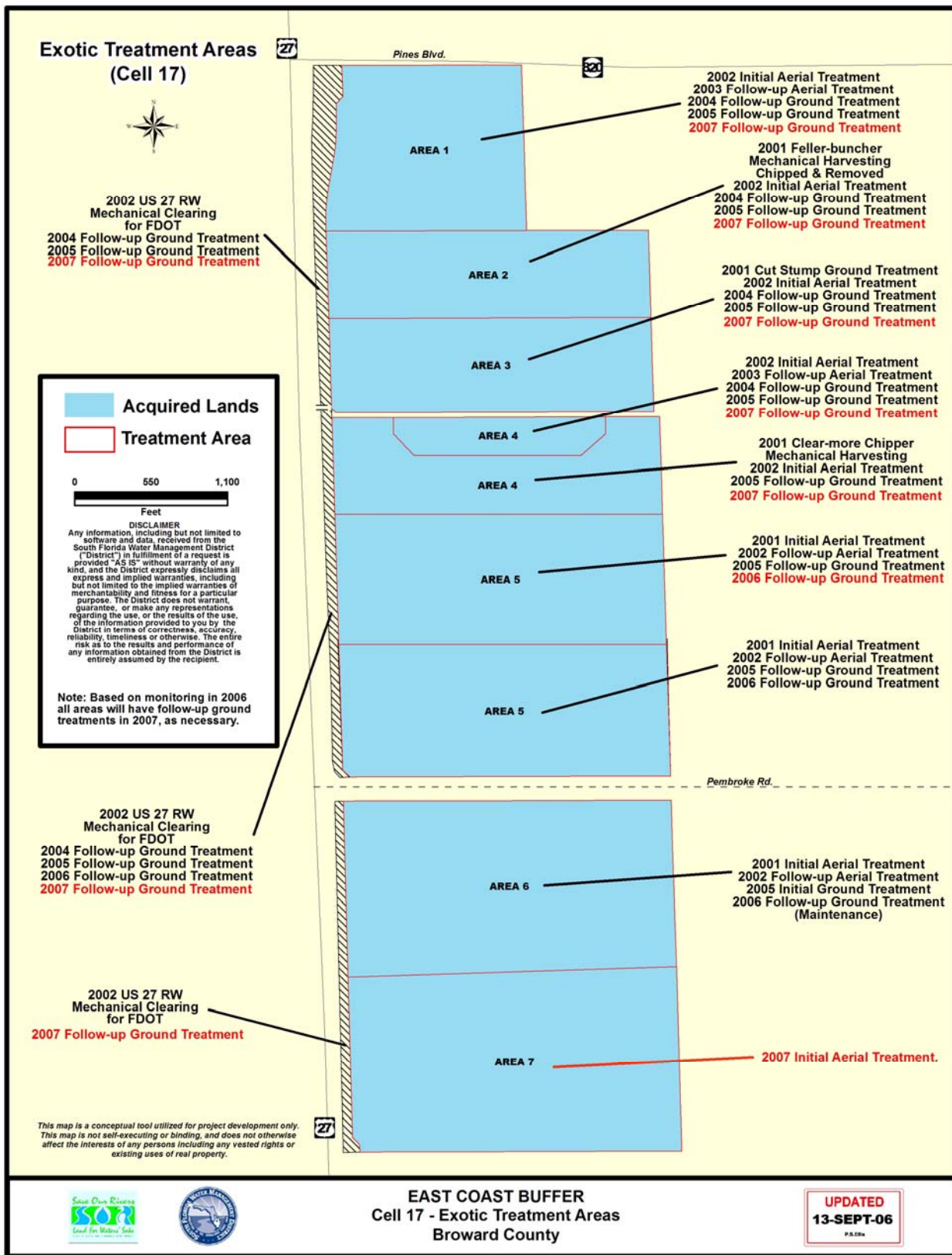
## Cell 17 & 18

-  Broward WPA CERP project
-  Cell 17 & 18 District Ownership

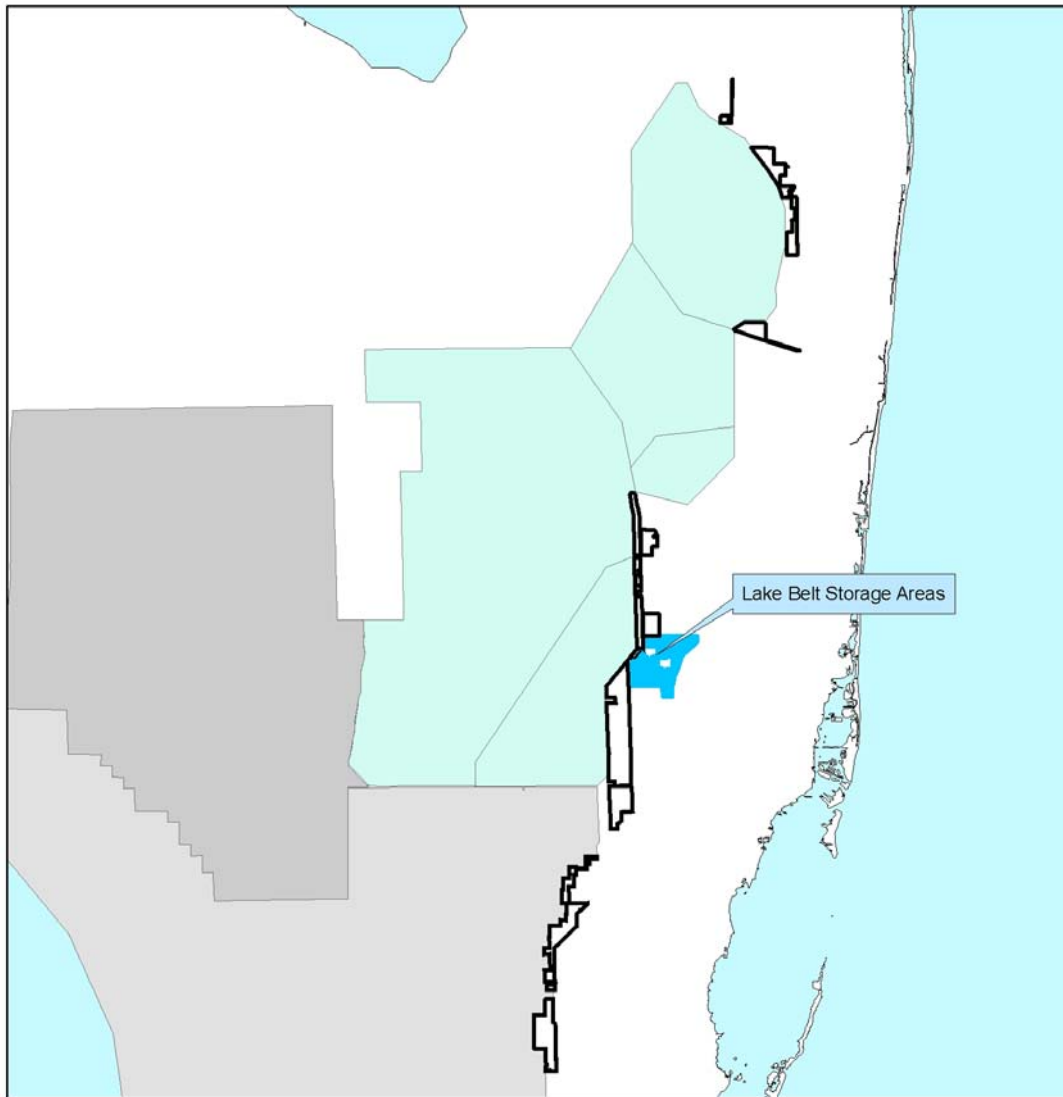
2,000 1,000 0 2,000 Feet











Lakebelt Storage Areas



**Component Name(s):** North Lake Belt and Central Lake Belt Storage Areas, Lake Belt In-Ground Reservoir Technology Pilot Project

**Project Affiliations:** CERP, Lake Belt Mitigation Committee

**Size:** 11324 acres (595 acres owned: 447 by the District, remainder by TIITF )

### **Overview**

This project is comprised of three components: North Lake Belt Storage Area, Central Lake Belt Storage Area, and the Lake Belt In-Ground Reservoir Technology Pilot Project.

**Central Lake Belt Storage Area.** This project includes pumps, water control structures, a stormwater treatment area, and a combination above ground and in-ground storage reservoir with a total storage capacity of approximately 190,000 acre-feet located in Miami-Dade County.

The initial design of the reservoir assumed 5,200 acres with water levels fluctuating from 16 feet above grade to 20 feet below grade. A subterranean seepage barrier will be constructed around the perimeter to enable drawdown during dry periods and to prevent seepage losses. A pilot test of this technology will be conducted prior to final design of this component to determine construction technologies, storage efficiencies, impacts upon local hydrology, and water quality effects.

Since this facility is to be located within the protection area of Miami-Dade County's Northwest Wellfield, the pilot test will also be designed to identify and address potential impacts to the County's wellfield which may occur during construction and/or operation. The stormwater treatment area was assumed to be 640 acres with the water level fluctuating up to 4 feet above grade. The final size, depth and configuration of these facilities will be determined through more detailed planning and design.

The purpose of the project is to store excess water from Water Conservation Areas 2 and 3 and provide environmental water supply deliveries to: 1) Northeast Shark River Slough, 2) Water Conservation Area 3B, and 3) to Biscayne Bay, in that order, if available. Due to the source of the water (Water Conservation Areas 2 and 3), it is assumed that water stored in this facility is of adequate quality to return to the Everglades Protection Area and Biscayne Bay; however, the final size, depth and configuration of these facilities, including treatment requirements, will be determined through more detailed planning and design. Excess water from Water Conservation Areas 2 and 3 will be diverted into the L-37, L-33, and L-30 borrow canals, which run along the eastern boundaries of the Water Conservation Areas, and pumped into the Central Lake Belt Storage Area.

Water supply deliveries will be pumped through a stormwater treatment area prior to discharge to the Everglades via the L-30 borrow canal and a reconfigured L-31N borrow canal. If available, deliveries will be directed to Biscayne Bay through the Snapper Creek Canal at Florida's Turnpike. A structure will be provided on the Snapper Creek Canal to provide regional system deliveries when water from the Central Lake Belt Storage Area is not available.

**North Lake Belt Storage Area.** This project includes canals, pumps, water control structures, and an in-ground storage reservoir with a total capacity of approximately 90,000 acre-feet located in Miami-Dade County.

The initial design of the reservoir assumed 4,500 acres with water levels fluctuating from ground level to 20 feet below grade. A subterranean seepage barrier will be constructed around the perimeter to enable drawdown during dry periods, to prevent seepage losses, and to prevent water quality impact due to the high transmissivity of the Biscayne Aquifer in the area. The reservoir will be located within an area proposed for rock mining. A pilot test of this component will be conducted prior to final design to determine construction technologies, storage efficiencies, impacts upon local hydrology, and water quality effects.

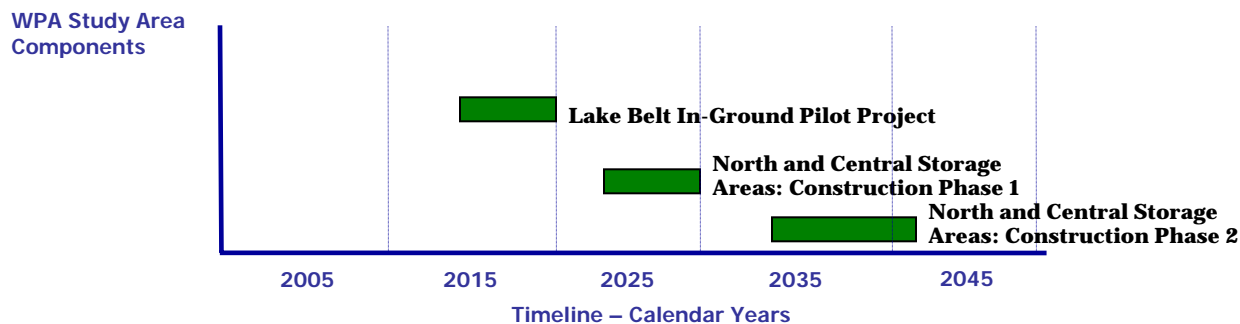
The water quality assessment will include a determination as to whether the in-ground reservoir with perimeter seepage barrier will allow storage of untreated runoff. The final size, depth and configuration of these facilities including treatment facilities will be determined through more detailed planning and design.

The purpose of this project is to capture and store a portion of the stormwater runoff from the C-6, Western C-11 and C-9 Basins. The stored water will be used to maintain stages during the dry season in the C-9, C-6, C-7, C-4 and C-2 Canals and to provide water deliveries to Biscayne Bay to aid in meeting salinity targets. Runoff is pumped and gravity fed into the in-ground reservoir from the C-6 (west of Florida's Turnpike), Western C-11 and C-9 Basins. Outflows from the facility will be directed into the C-9 Stormwater Treatment Area/Impoundment for treatment prior to delivery to the C-9, C-7, C-6, C-4 and C-2 Canals. If necessary, additional stormwater treatment areas will be constructed adjacent to the in-ground reservoir.

**Lake Belt In-Ground Reservoir Technology Pilot Project.** The initial design of these reservoirs (built into existing limestone mining quarries) include subterranean seepage barriers around their perimeter in order to enable drawdown during dry periods, prevent seepage losses, and prevent water quality impacts due to transmissivity of the aquifer in these areas. The pilot project is required to determine construction technologies, storage efficiencies, impacts on local hydrology, and water quality effects. Water quality assessments will include a determination as to whether the in-ground reservoirs and seepage barriers will allow for storage of untreated waters without concern for groundwater contamination.



## Project Schedule



## Interim Management

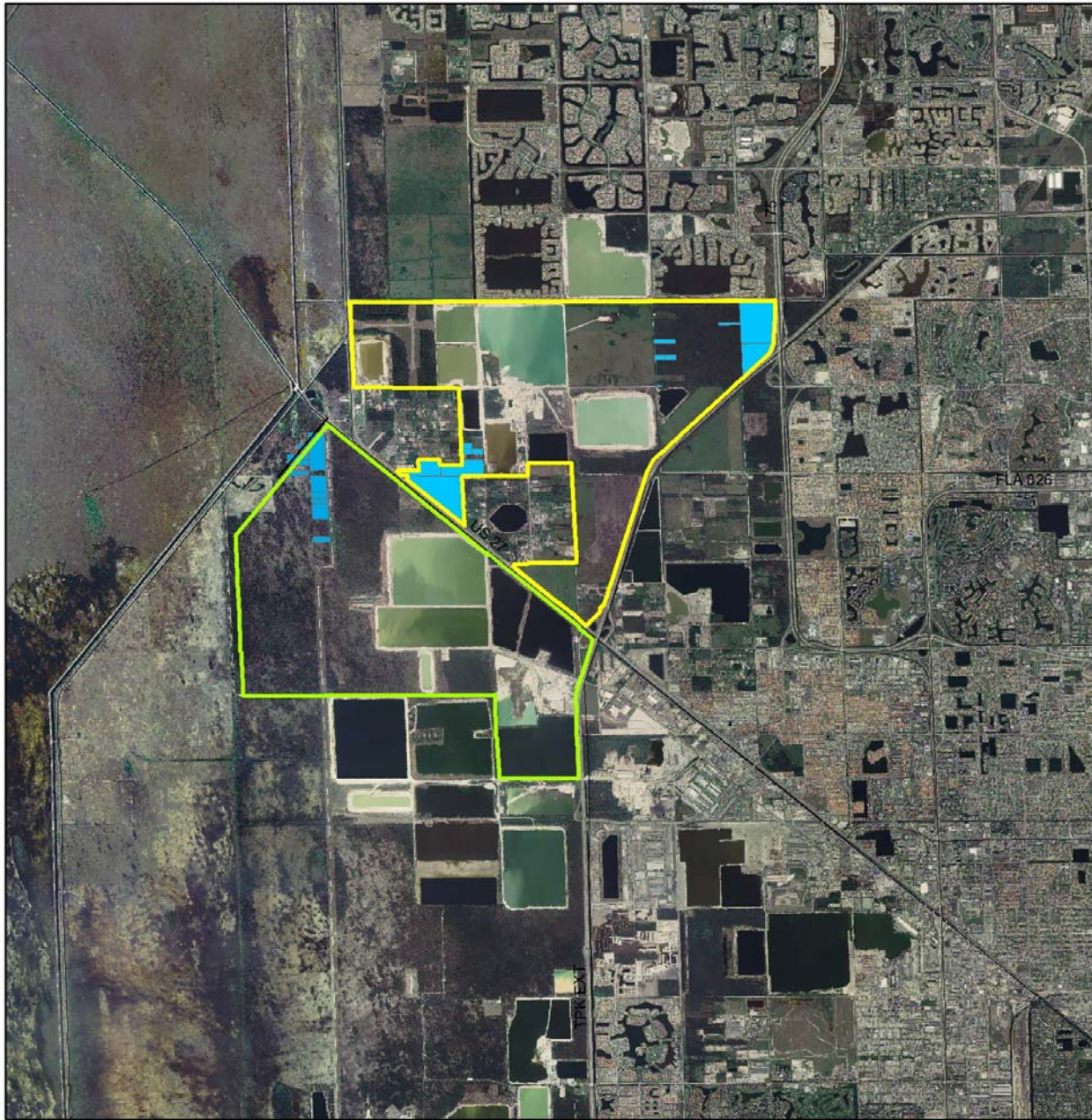
Interim management of these properties focus primarily on site security issues such as installing gates at access points and removing illegal waste dumps.

## Post Project Management

Unknown; there are no conceptual plans yet.

## Public Use


Unknown; planning for recreation opportunities within an “in-ground” reservoir project presents challenges in basic design compatibility with many recreation activities. The shear wall and varying water depths makes access to the water difficult with permanent structures like boat ramps.



## Lakebelt Storage Areas

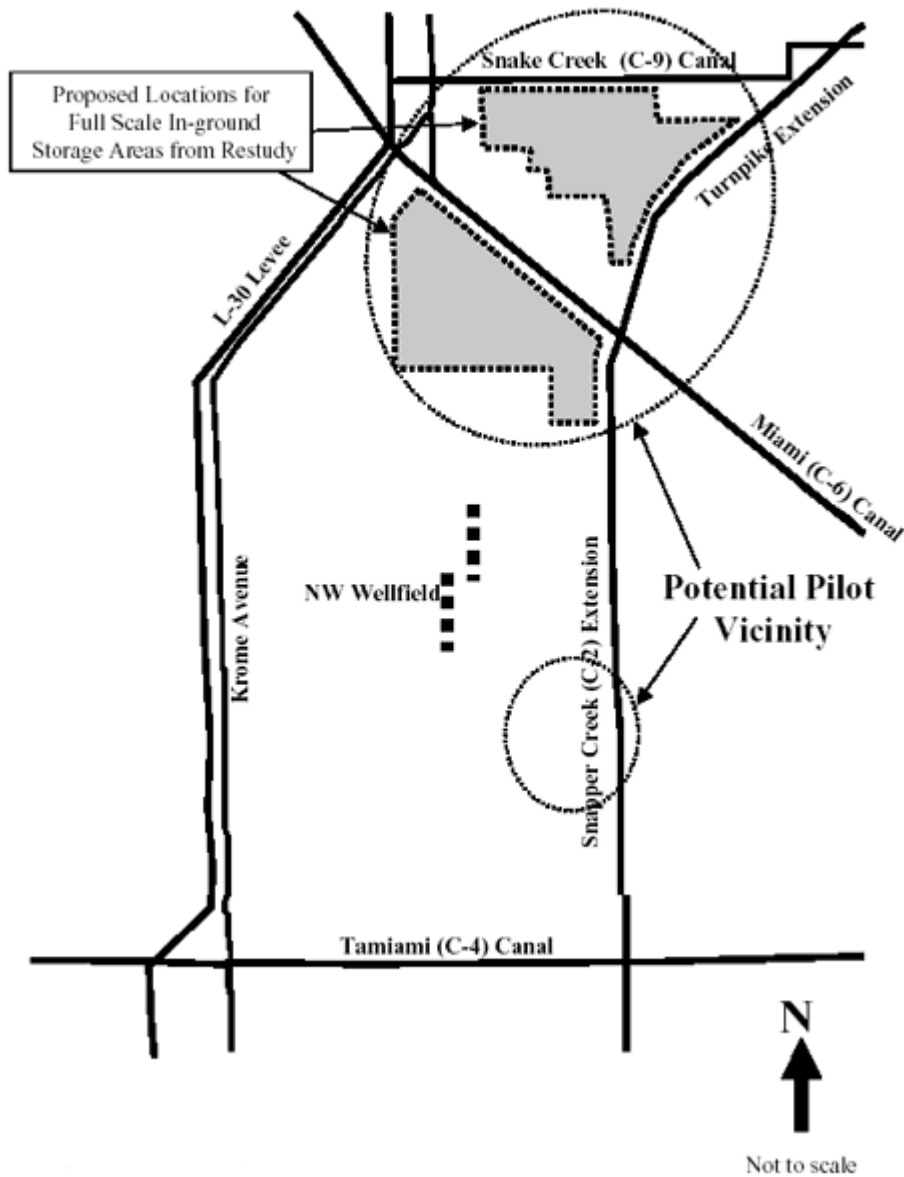
7,500 3,750 0 7,500 Feet



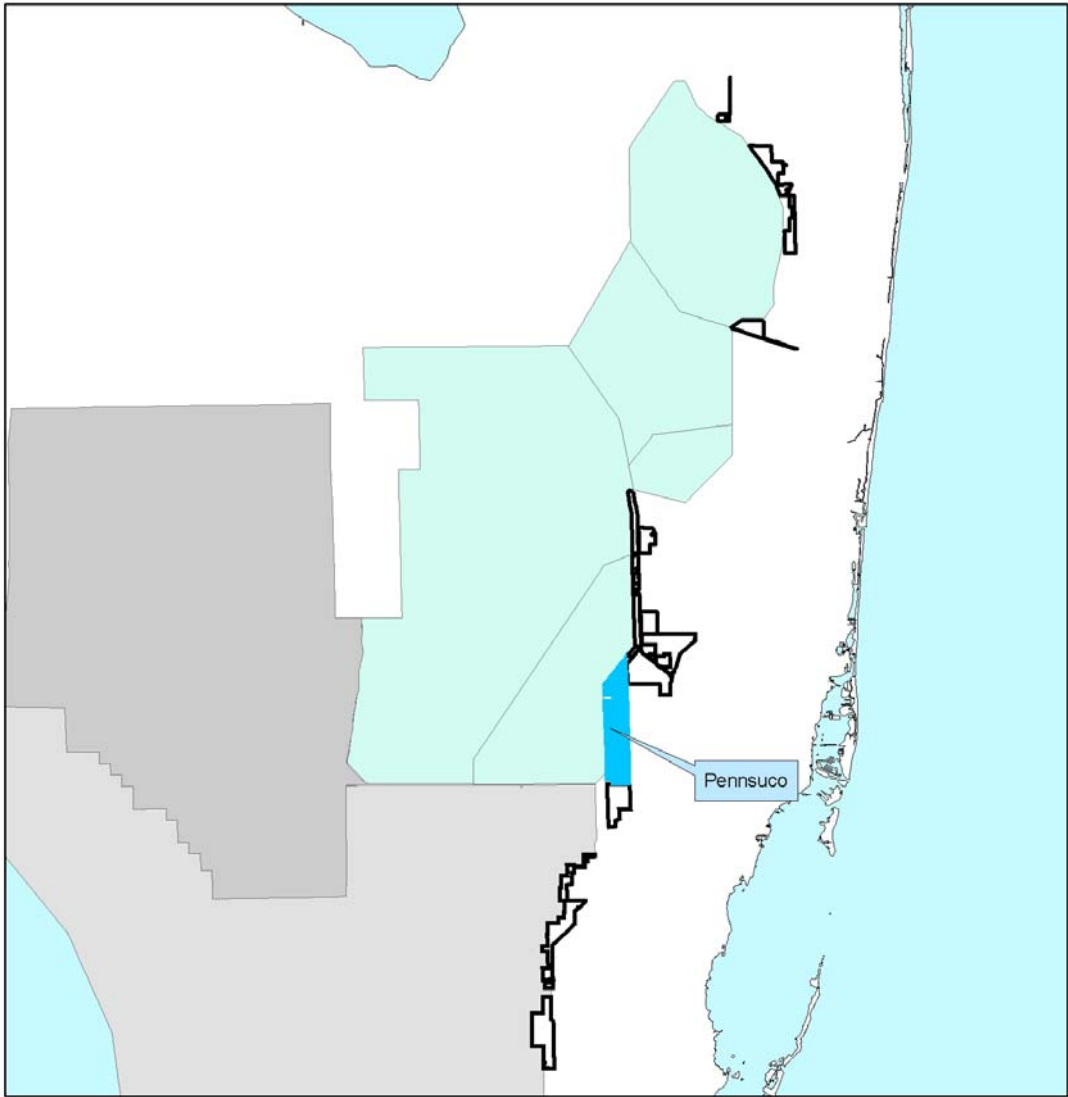
-  North Lakebelt Storage Area Conceptual Boundary
-  Central Lakebelt Storage Area Conceptual Boundary
-  SFWMD Ownership



## Lake Belt In-Ground Pilot Project Area







Pennsuco Regional Mitigation Area



**Component Name(s):** Pennsuco

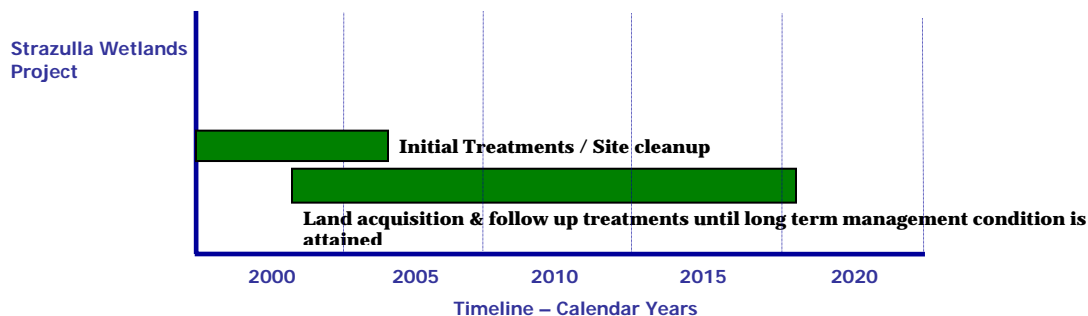
**Project Affiliations:** SOR East Coast Buffer, Mitigation

**Size:** 12763 acres (of which 5417 acres is owned)

## Overview

In 1995, the SFWMD began utilizing Pennsuco as a regional off-site mitigation area, allowing permit applicants to make mitigation contributions for the acquisition, enhancement, and long-term management of Pennsuco lands as compensation for permitted wetland impacts. The environmental benefit will provide protection, enhancement and management of the floral, faunal, and hydrologic resources of Pennsuco parcels. Pennsuco emphasizes the enhancement of a degraded ecosystem that likely will continue to degrade and further impact adjacent natural areas, unless actions are taken to reduce the spread of exotics. The site provides an opportunity to address a broad range of functions and values including habitat enhancement, groundwater recharge, water quality improvement and increased flood storage capacity. The enhancement of Pennsuco has the potential to yield regional ecological benefits and contribute to the goals of Everglades restoration. The goal is to provide improved habitat functions through exotic removal and the restoration of a higher quality sawgrass community.

## Project Schedule



## Interim Management

The enhancement effort primarily targets the elimination of melaleuca although all exotic invasive species are included in the eradication program. The treatment program involves a multi-year herbicidal and manual removal program with a follow-up controlled burn. The exotic eradication effort effectively manages melaleuca by containing and progressively reducing the population. The control program consists primarily of a ground based herbicide application and limited aerial application in the dense monocultures. The application method follows a three phased effort. The first phase focuses on the initial elimination of seed bearing trees and seedlings. During the second phase, the treatment focuses on the missed areas and seedlings that resulted from the previous years treatment. The third phase involves a long-term program to monitor the effectiveness of the eradication program and assessment for follow-up treatments.

## Post Project Management

The site will be completely acquired and prepped for long term management around 2015 – 2020, continued maintenance control of exotics and periodic prescribed fire will be integral components of long-term management. Site security including fencing and posting will also be essential ongoing management activities.

## Public Use

No recreational use plans have been developed for Pennsuco as the site is currently undergoing active restoration. However, recreation and public use suitability will be evaluated prior to the entire site entering its long-term management phase.



100 workers and 12 airboats mobilize to cut and treat melaleuca



**Restoring  
Pennsuco**

1998 -  
2005



1998



1999



2000



2001



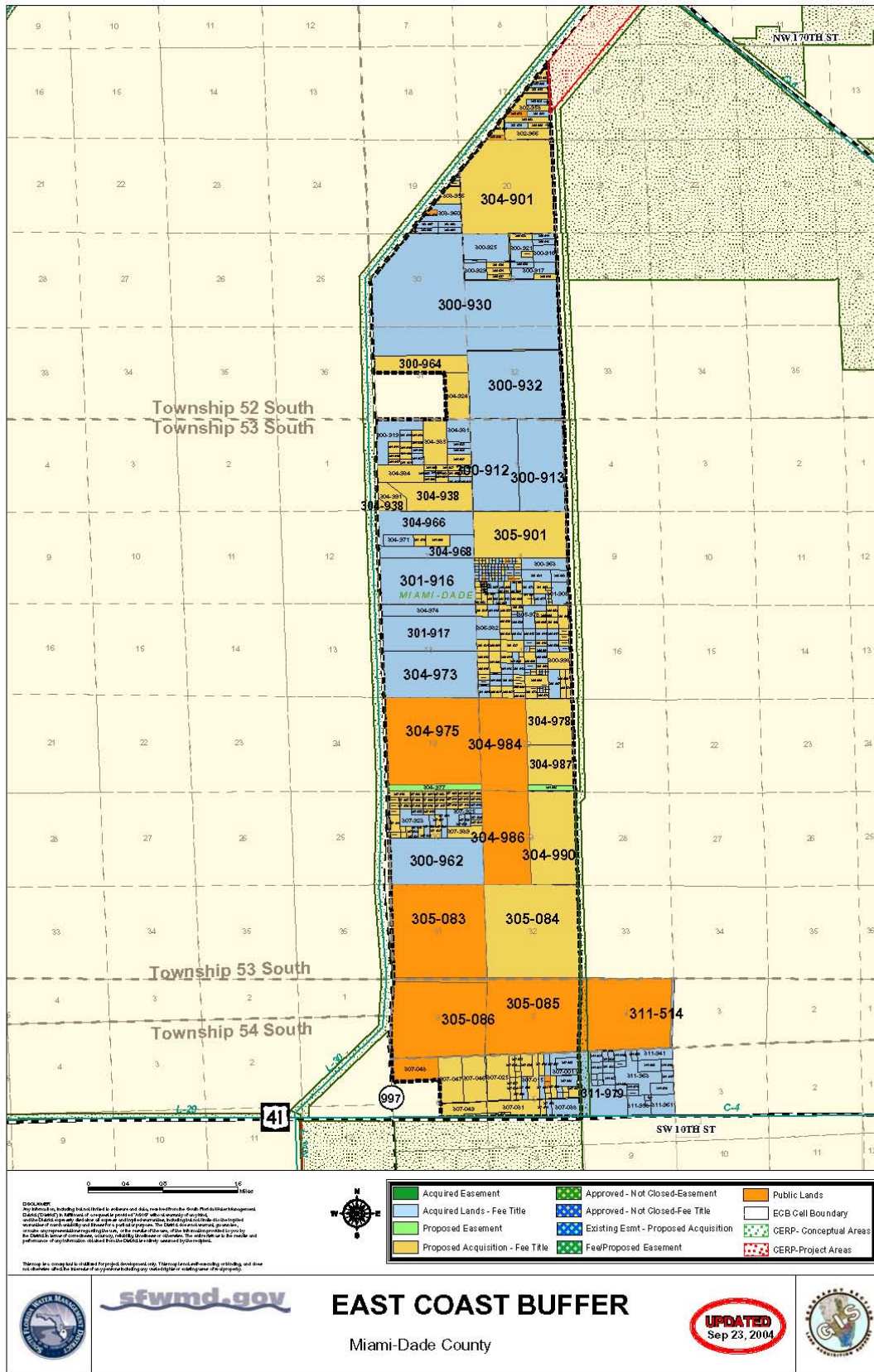
2002



2003

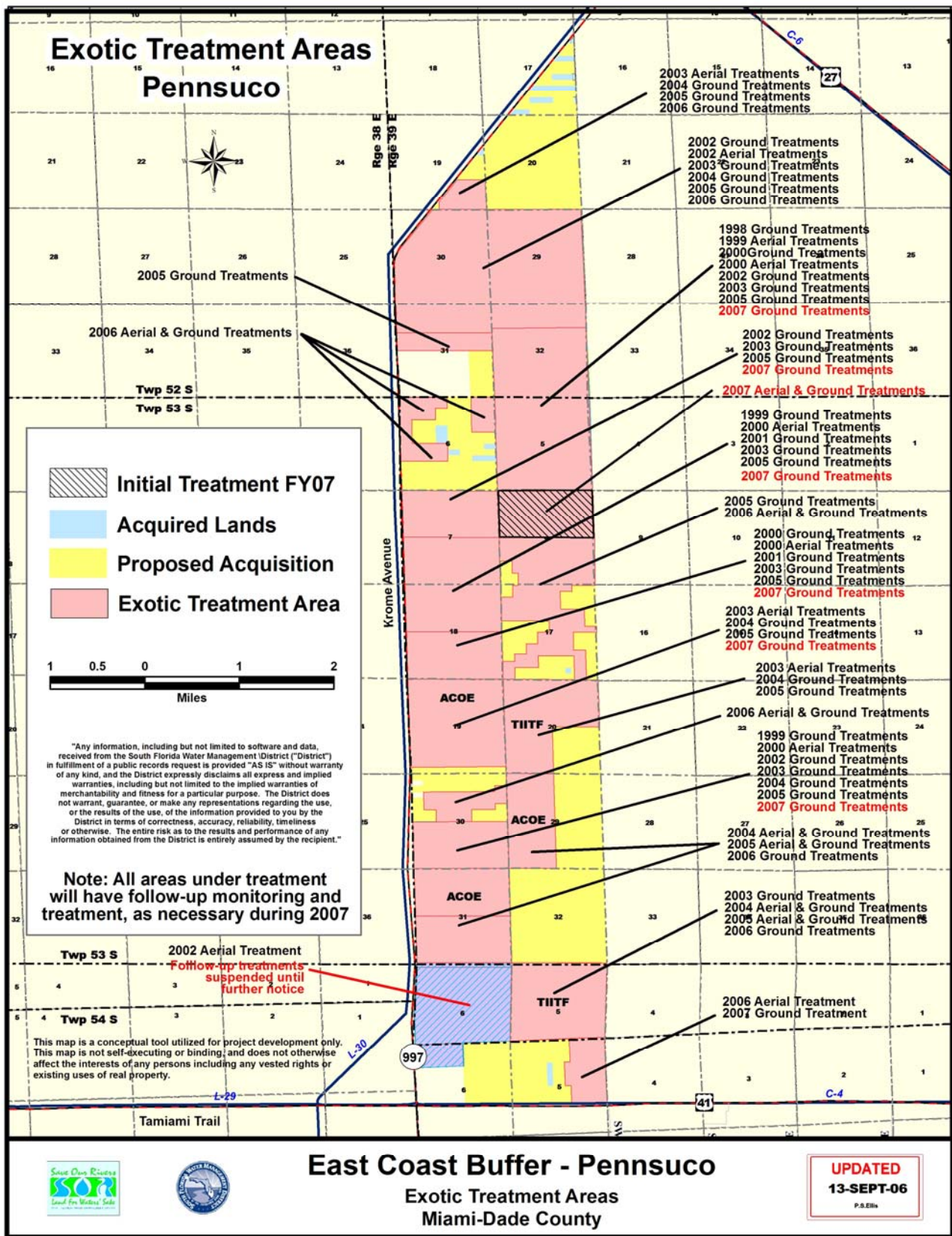


2004

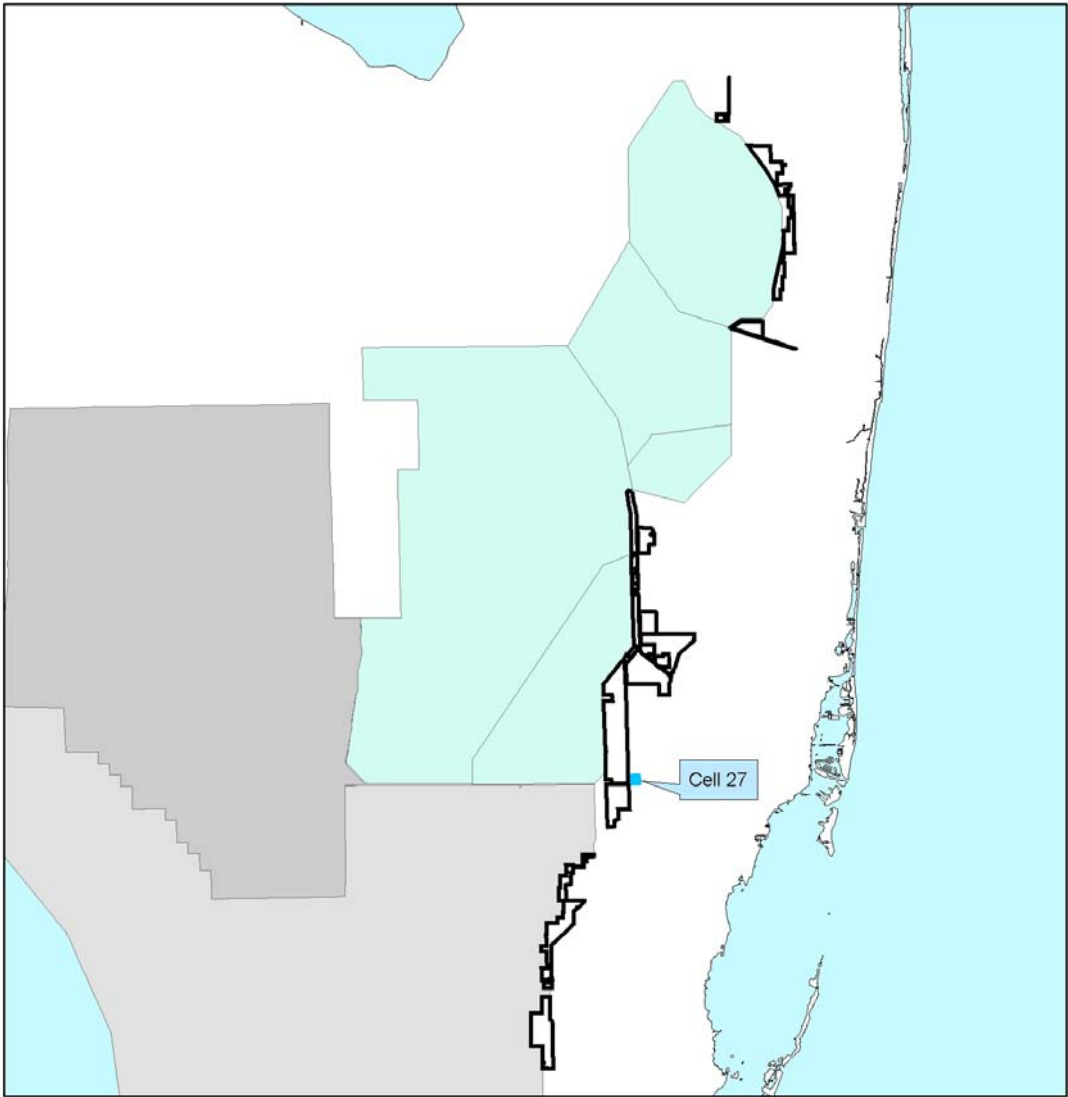




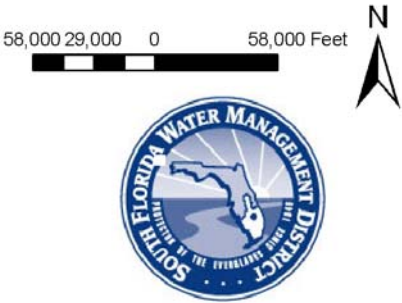
East Coast Buffer Land Management Plan 2006  
South Florida Water Management District, Land Stewardship Division







Cell 27

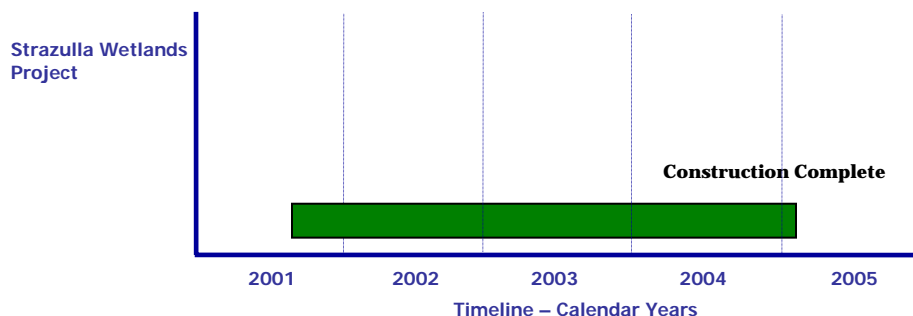


**Component Name(s):** Cell 27, Sweetwater C-4 Emergency Detention Basin  
**Project Affiliations:** SOR East Coast Buffer, CERP (western 500'),  
**Size:** 957 acres (of which 416 acres is District owned)

## Overview

The District owns approximately 416 acres of the site and the rest is owned by TIITF. The western 500' of the project is a CERP component as a future canal as part of the WPA Conveyance Project. The interior of the site has been developed as the C-4 Emergency Detention Basin project. This project was initiated in response to severe flooding from Hurricane Irene in 1999 and the "No Name Storm" in 2000. Designed to capture and store 3,600 acre-feet of water when canals rise, this 900-acre project is part of a wider flood control improvement plan for Florida's most populous county. The first of two phases became operational in January, 2004 and the second phase in January, 2005.

## Project Schedule



## Interim Management

The project is complete and is managed by Operations and Maintenance.

## Post Project Management



None

## Public Use

None at this time



Cell 27

-  Pennsuco Regional Mitigation Area
-  Cell 27 District Ownership







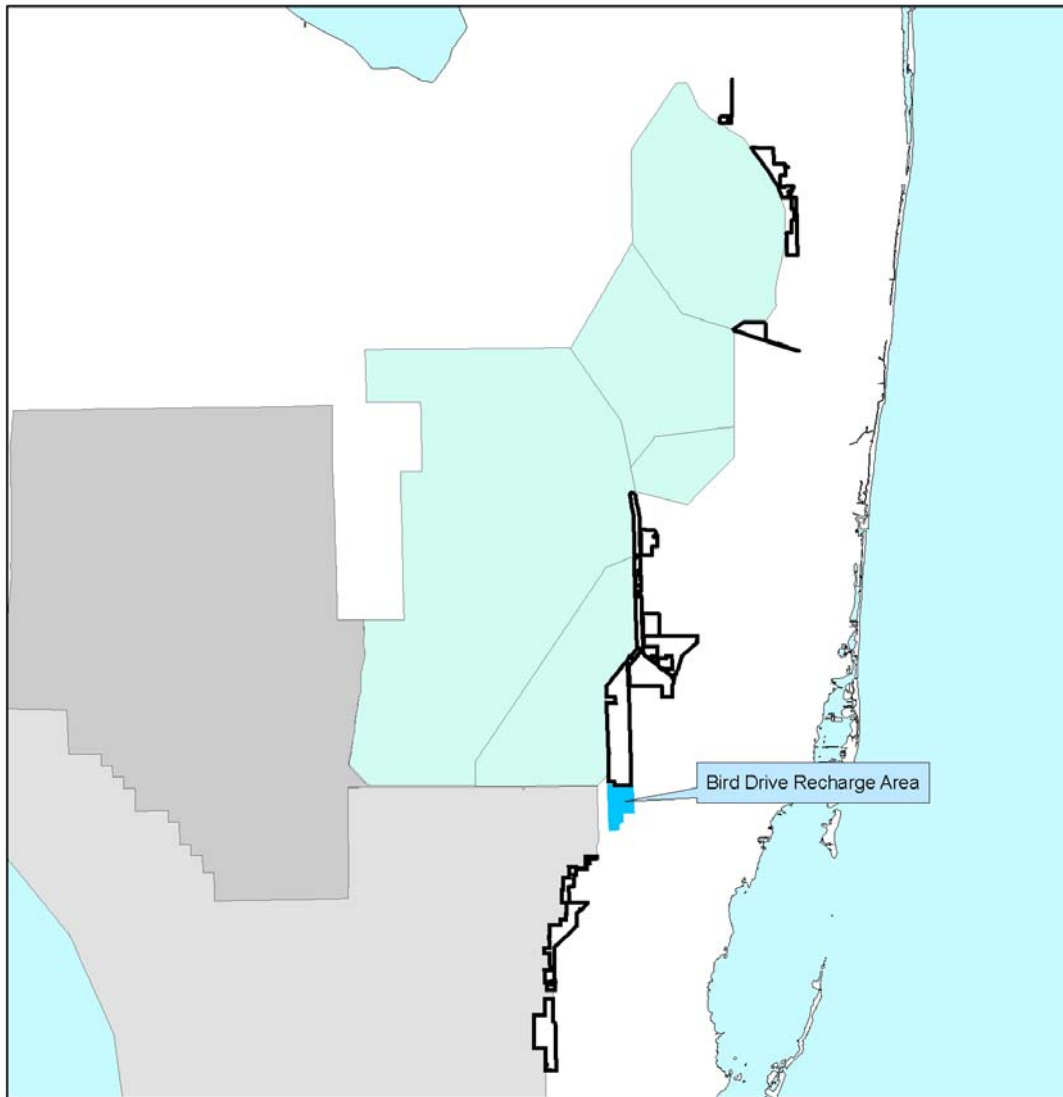
930 465 0 930 Feet



Cell 27: C-4 Emergency Detention Basin







Bird Drive Recharge Area





**Component Name(s):** Bird Drive Recharge Area, Everglades National Park Seepage Management,

**Project Affiliations:** CERP

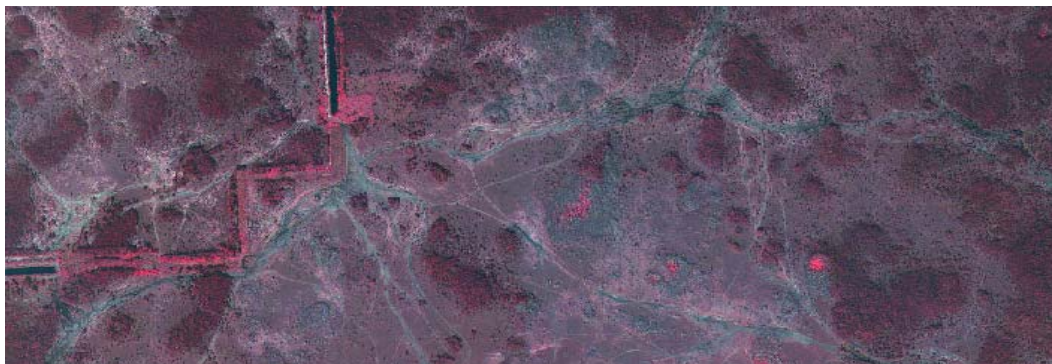
**Size:** 4532 acres (1353 acres District owned)

## Overview

The purpose of the Bird Drive Recharge Area is to recharge groundwater and reduce seepage from the Everglades National Park buffer area by increasing water table elevations east of Krome Avenue. This project area is tied closely to the Modified Water Deliveries to ENP project by mitigating the impacts of increased water deliveries from adversely impacting adjacent areas. There are three components to this project including the L-30/31 seepage management pilot project, the Bird Drive Recharge project, and moving the S-356 structure

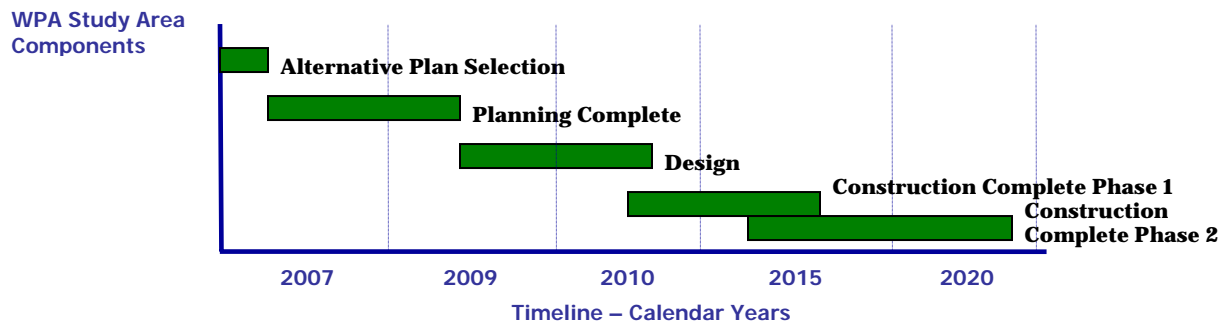
**L-31 Seepage Management.** This feature reduces levee seepage flows across L-31N adjacent to ENP via a levee cutoff wall. Groundwater flows during the wet season are captured by groundwater wells adjacent to L-31N and pumped to ENP. Water from upstream natural areas will be diverted into a buffer area adjacent to ENP where sheetflow will be reestablished. Further, this feature includes relocation of the Modified Water Deliveries structure S-356 to provide more effective water deliveries to ENP. New discharges to ENP will be designed to meet applicable water quality criteria.

**Bird Drive Recharge Area.** The Western Bird Drive area is characterized as a high quality, short hydroperiod, muhly grass marsh with varying levels of invasive exotic plant infestation. Bird Drive was originally considered for use as a hydrologic buffer area and possible storage area due to its location. After further consideration, the area was found to be generally comprised of very high quality wetlands that would act as an important buffer area between any seepage management area and the already low lying, flood prone development to the east. The area was found to be very transmissive and, therefore, could be better used as a recharge area. In the hydrologic model simulations, when the reuse water was stacked in Bird Drive it resulted in increased flows to Shark River Slough. However, because reuse is a costly alternative, the reuse projects have been moved to a later band in the CERP Master Implementation Sequencing Plan (MISP). If stacking water in the Bird Drive component is to be considered, the project will have to simultaneously maintain existing levels of flood protection, maintain existing water levels for the Miami Dade well-field and provide enhanced flows to ENP.



Extensive damage from ATVs at the Bird Drive Recharge Area

## Project Schedule



## Interim Management

Because the Bird Drive area is a fairly high-quality marsh, and future CERP plans may have it remain a high quality marsh, controlling exotics and other threats to the natural system is an important management feature. Illegal dumping and ATV use is an ongoing problem. Site security activities such as fencing, posting, and installing gates will be an important focus for management. Melaleuca is the primary exotic threat in the area and will require a multi-year control effort.

## Post Project Management

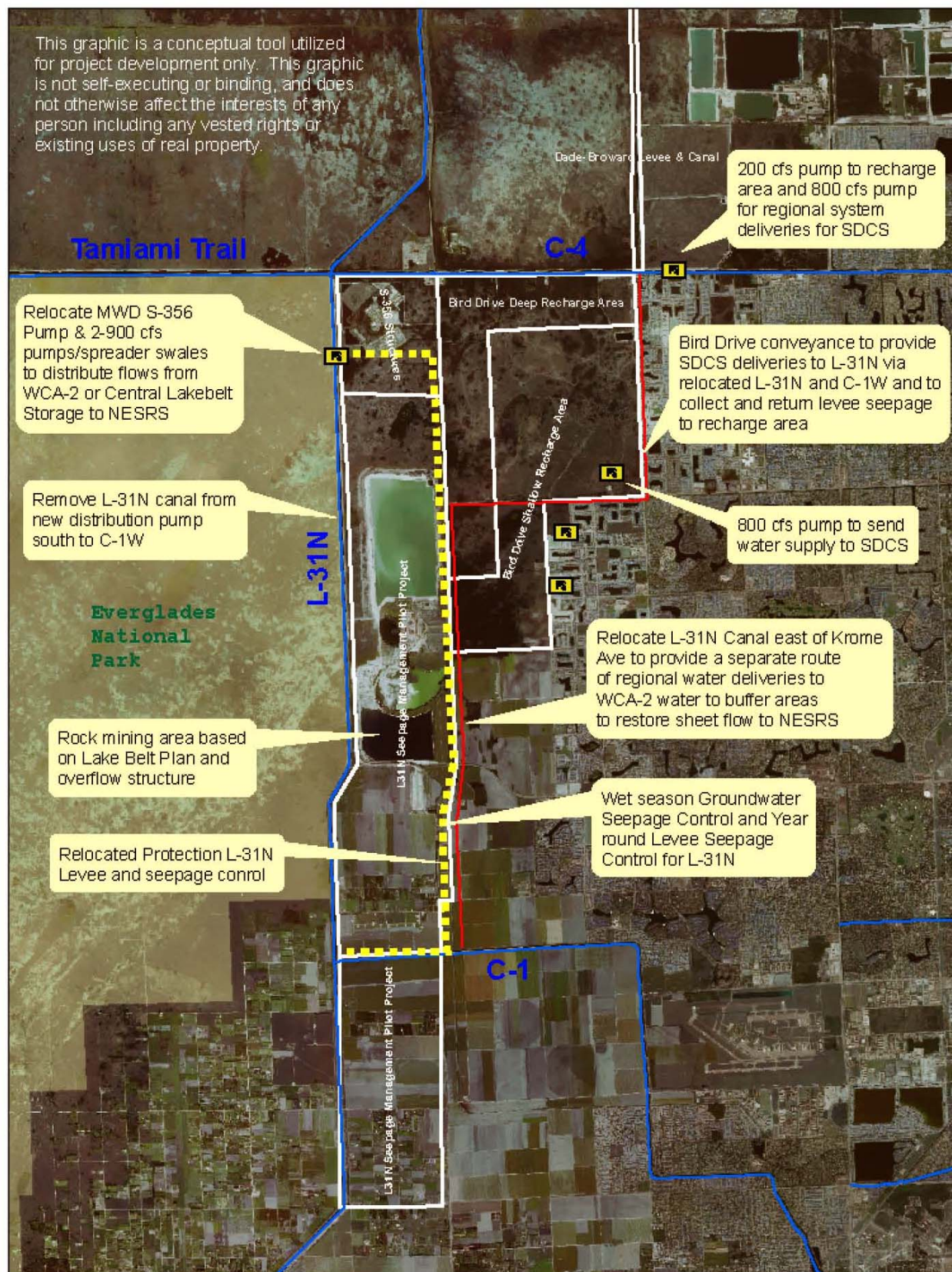
Unknown; site security, exotic control, and periodic prescribed fire will be necessary if the site is to remain a marsh. If the site becomes more of an impoundment feature then Land Stewardship involvement will likely be limited to public use.

## Public Use

Unknown; As soon as conceptual plans are finalized long-term management planning including recreation compatibility should be evaluated.



**East Coast Buffer Land Management Plan 2006**  
**South Florida Water Management District, Land Stewardship Division**

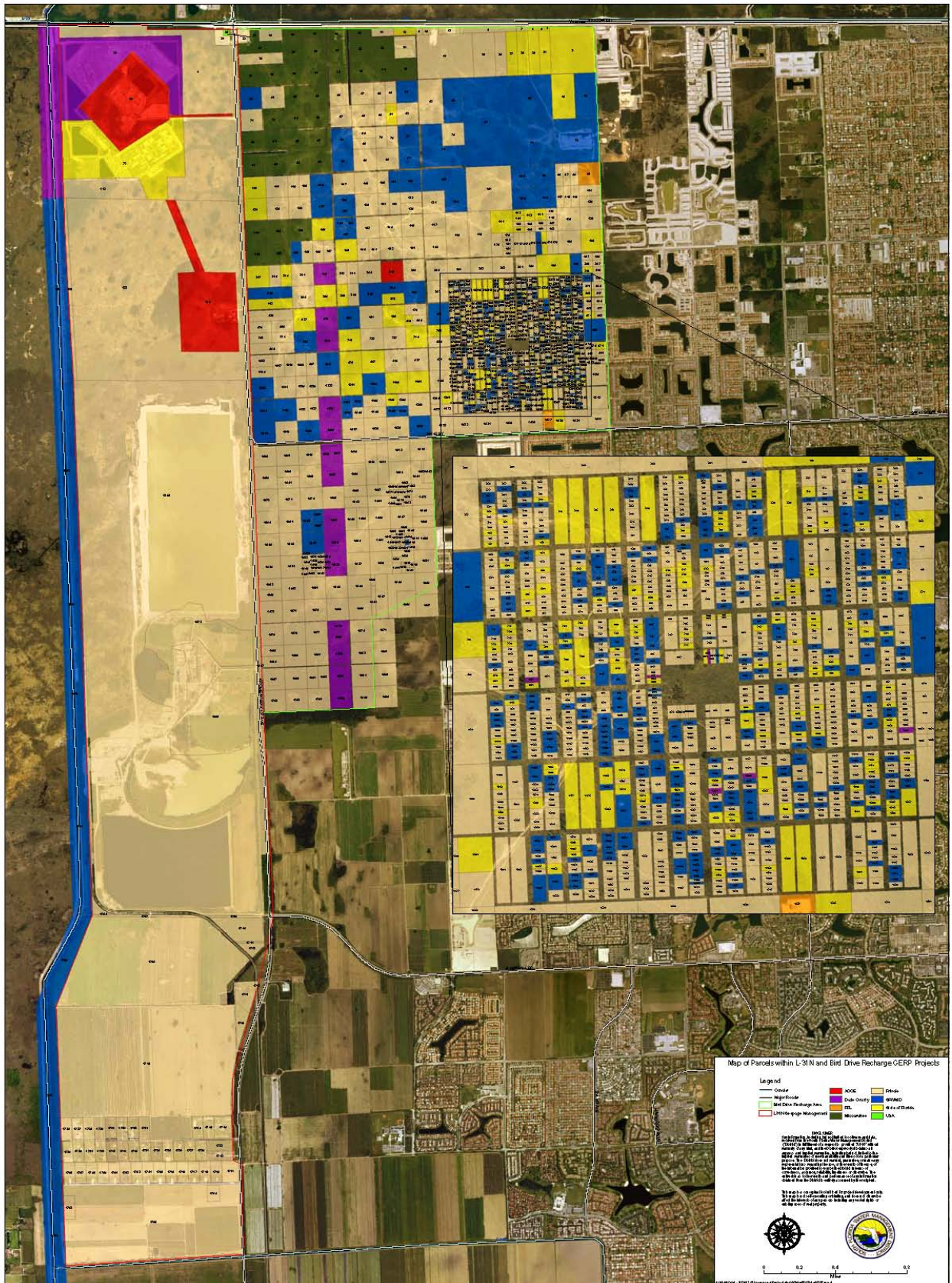


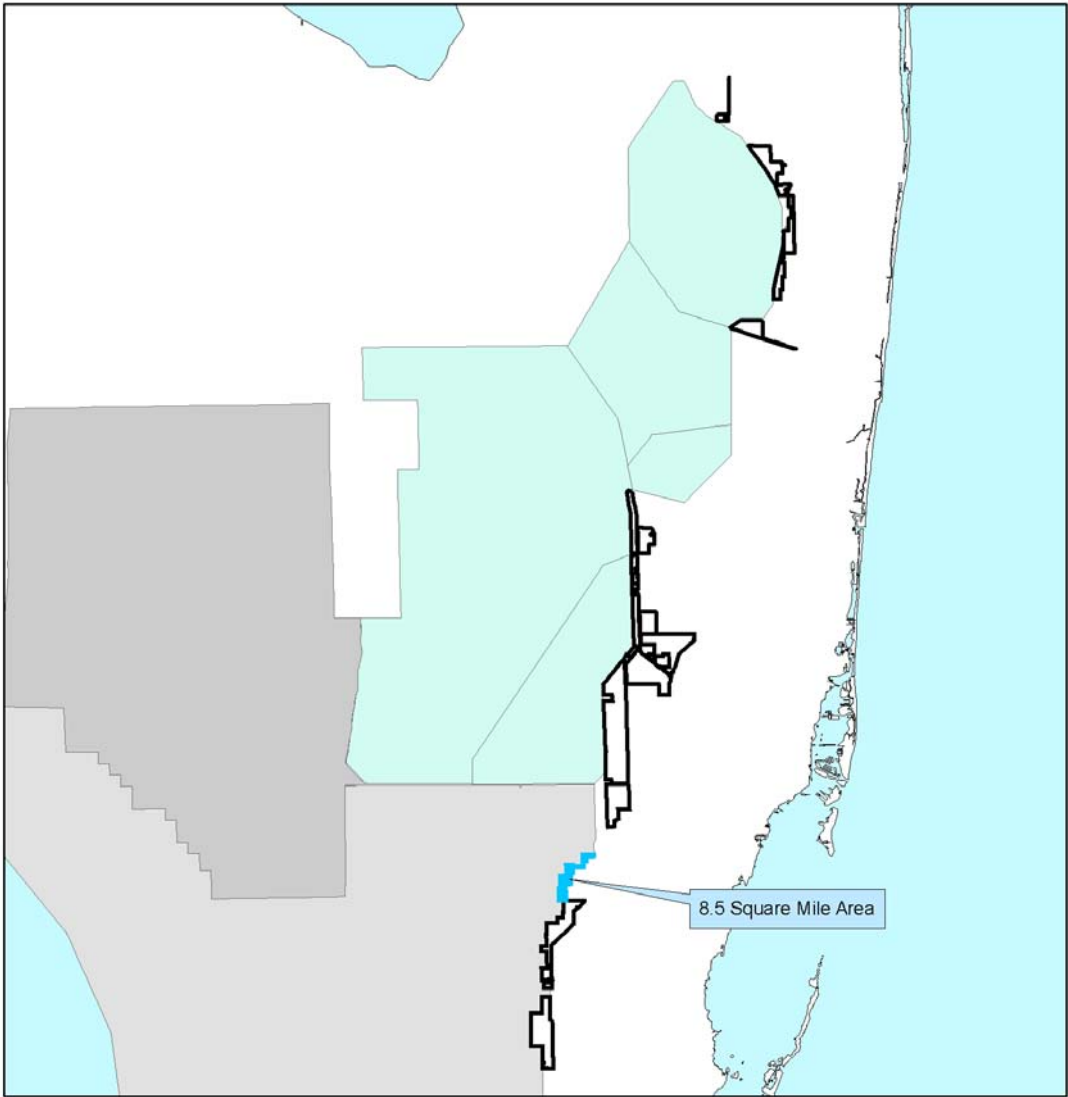


[illegible]



East Coast Buffer Land Management Plan 2006  
South Florida Water Management District, Land Stewardship Division





8.5 Square Mile Area





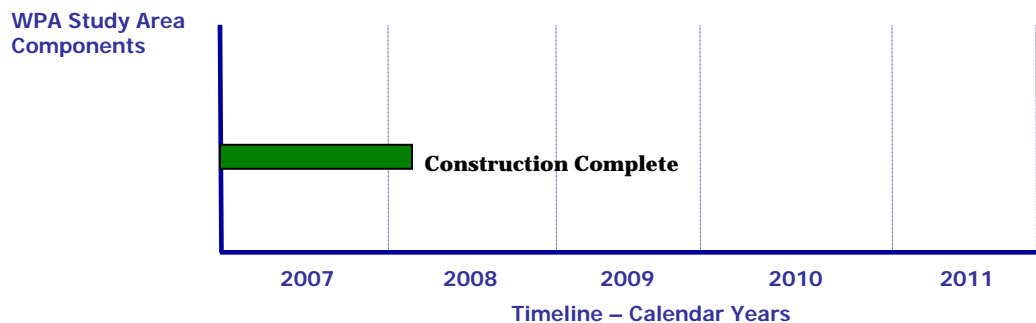
**Component Name(s):** 8 ½ Square Mile Area,  
**Project Affiliations:** ACOE C-111 Project  
**Size:** 6427 acres (entire study area) 541 acres District owned)

## Overview

This project area is tied closely to the Modified Water Deliveries to ENP (CERP) project by mitigating the impacts of increased water deliveries from adversely impacting adjacent areas. The 8.5 SMA component was designed to provide flood mitigation for the residential area, which could be affected by water flows from the other components of the MWD project.

The eastern part of the 8.5 SMA will provide flood mitigation through the construction of a flood protection levee and drainage system. A major perimeter levee will be constructed along 197th, 205th, 209th, and 213th Avenues down to 168th Street. A seepage canal, which will be designed to collect ground water underflow, will follow 205th Ave. north from 168th St. to 132nd St. A minor levee will be constructed east of the seepage canal to prevent surface water from running into the seepage canal and mixing with seepage water. A single pumping structure (S-357) will be constructed at the southern terminus of the levee/canal system. This station will convey seepage water from 168th Street south into the C-111 Project.

## Project Schedule



## Interim Management

Interim management is primarily focused on site security issues including preventing dumping, posting, and coordinating enhanced law enforcement patrols.

## Post Project Management

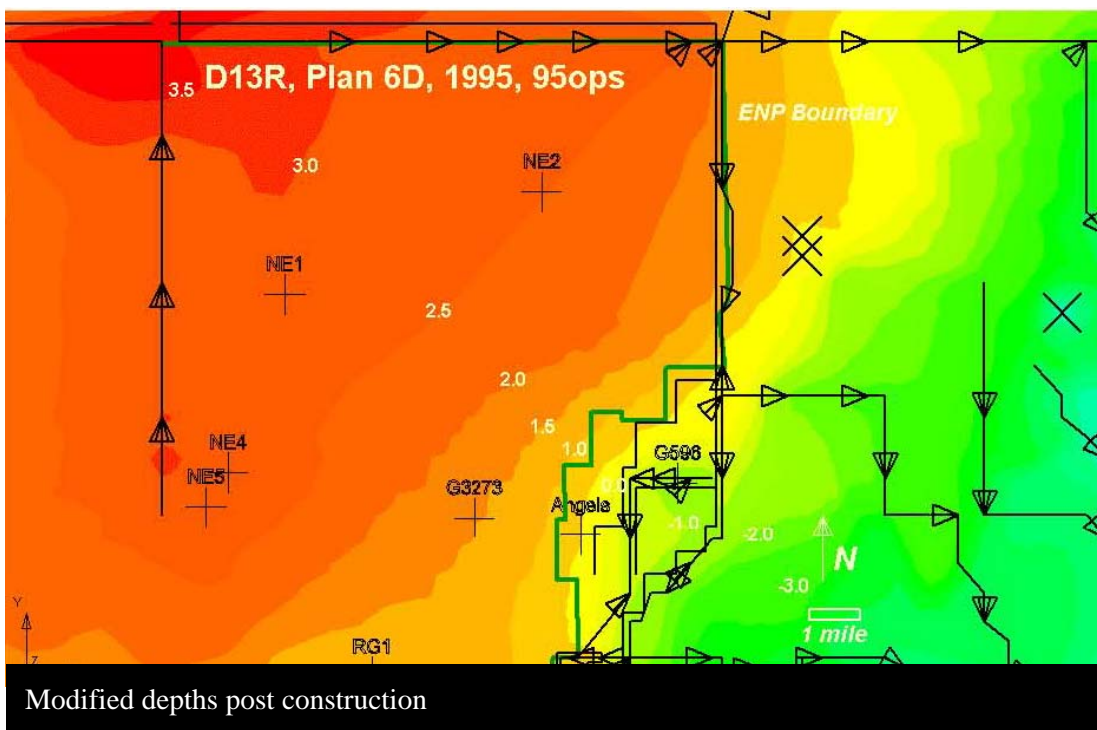
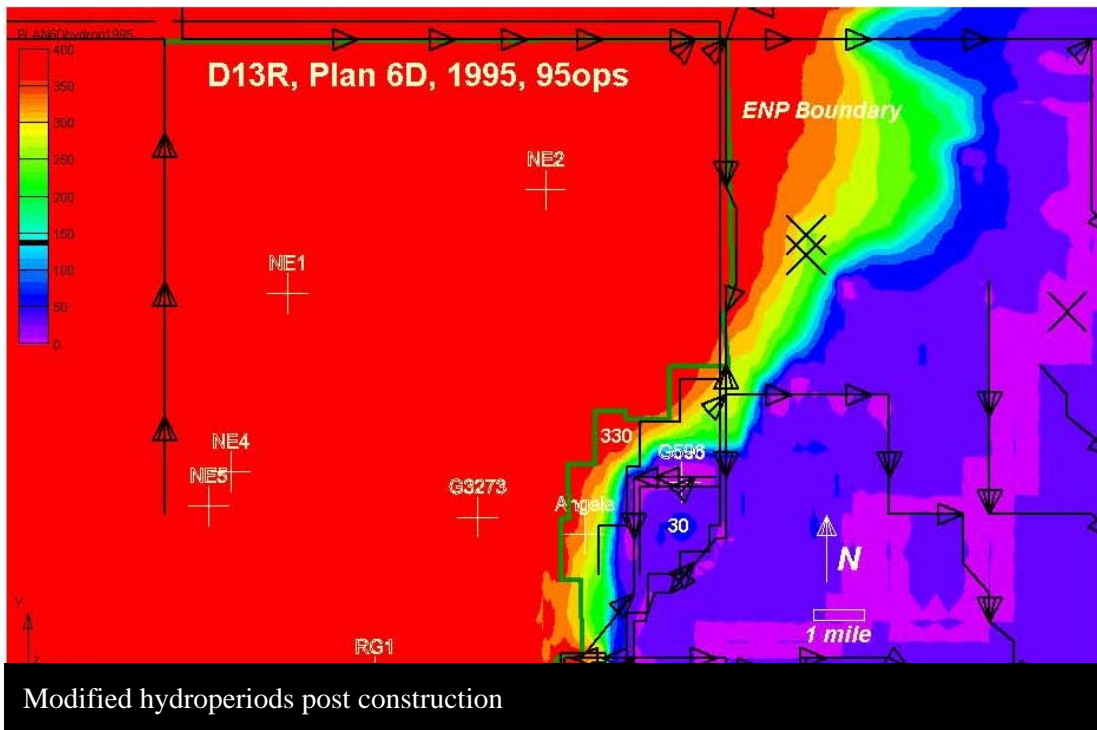
Site security, exotic control, and periodic prescribed fire will be necessary if the site can be restored as part of the everglades complex. Old Tree Islands are still discernable in parts of the project area. Land Stewardship involvement will also likely include a public use component.

## Public Use

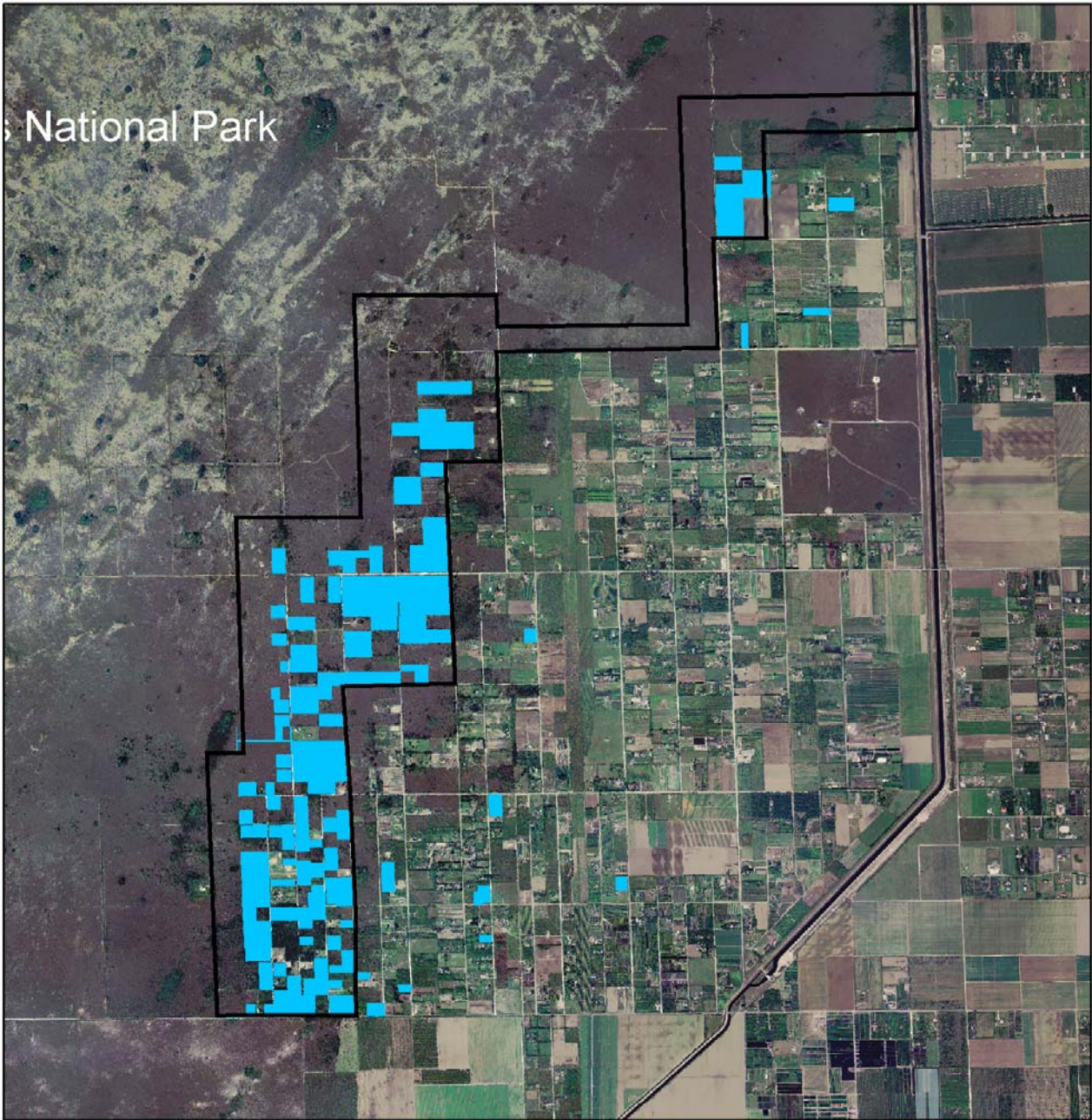
No recreational use plans have been developed for the 8 ½ Square Mile Area as the site is currently undergoing active project construction. However, recreation and public use suitability will be evaluated prior to the entire site entering its long-term management phase.





Demolition of a former inholding in the 8 ½ square mile project area

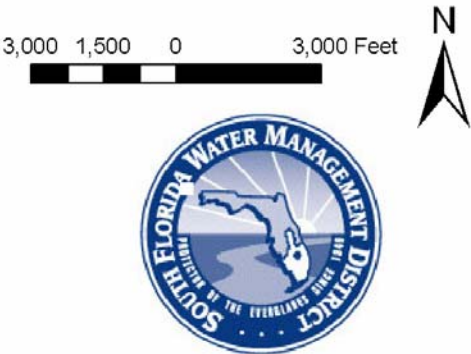


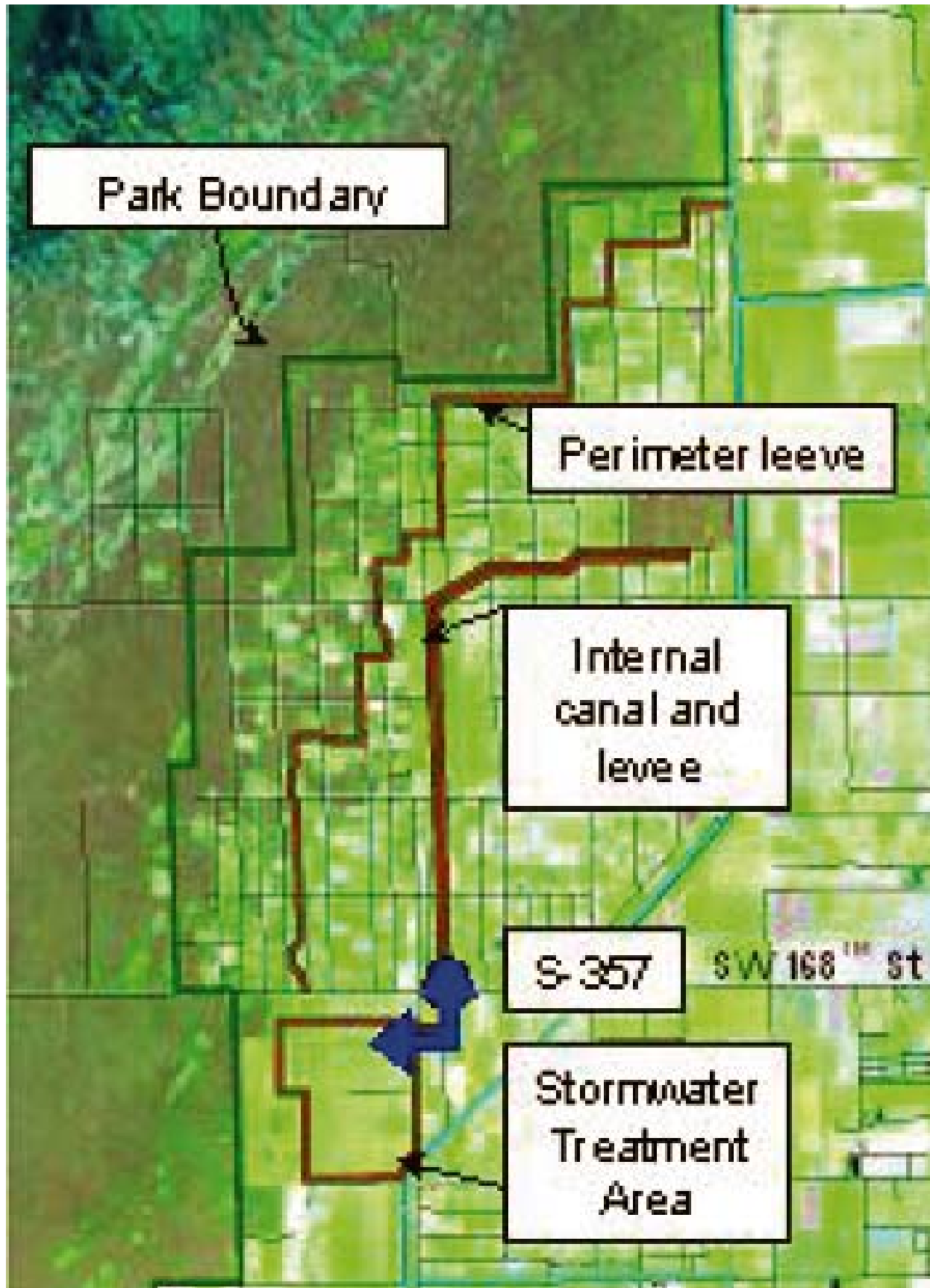


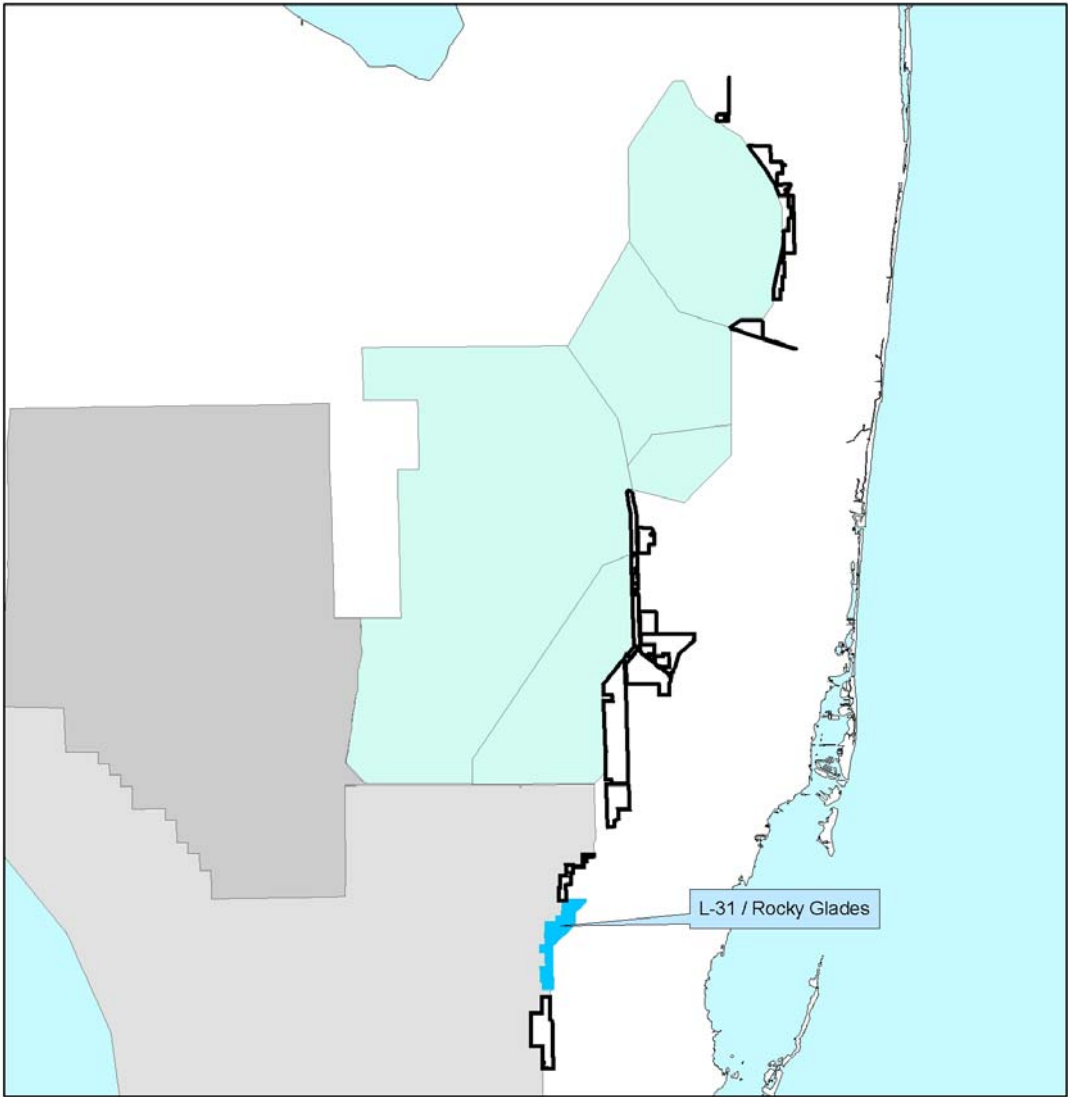


8 1/2 Square Mile Area

-  Project Boundary
-  District Ownership







L-31 / Rocky Glades





**Component Name(s):** Rocky Glades, L-31,  
**Project Affiliations:** ACOE C-111 Project  
**Size:** 5,922 acres (District Owned)

## Overview

This project area is tied closely to the Modified Water Deliveries to ENP project by mitigating the impacts of increased water deliveries from adversely impacting adjacent areas. The C-111 component was designed to provide flood mitigation for the residential area, which could be affected by water flows from the other components of the MWD project. The project will allow for the ponding and seepage from Everglades National Park into the project area through a series of culverts, seepage canals, a tieback system and new water control structures.

Construction is underway with 5 separate construction components remaining.

Contract #6  
S-331 Command & Control Facilities Telemetry for S-332B,  
S332C, & S332D

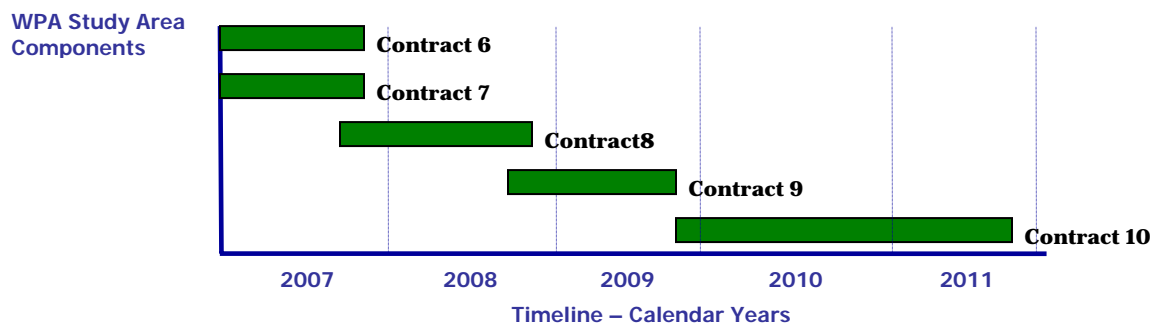
Contract #7  
S-332D Tieback levee between S-332B and S-332C  
L-31 West Tieback Levee and other features

Contract #8  
L-31W Connection between 8.5 SMA to Northern Detention Area

Contract #9  
Partial backfilling of L-31W (backfill to borrow canal)

Contract #10  
Permanent pump station S-332B and discharge canal; Permanent pump station S-332C and discharge above ground flow way

## Project Schedule



## Interim Management

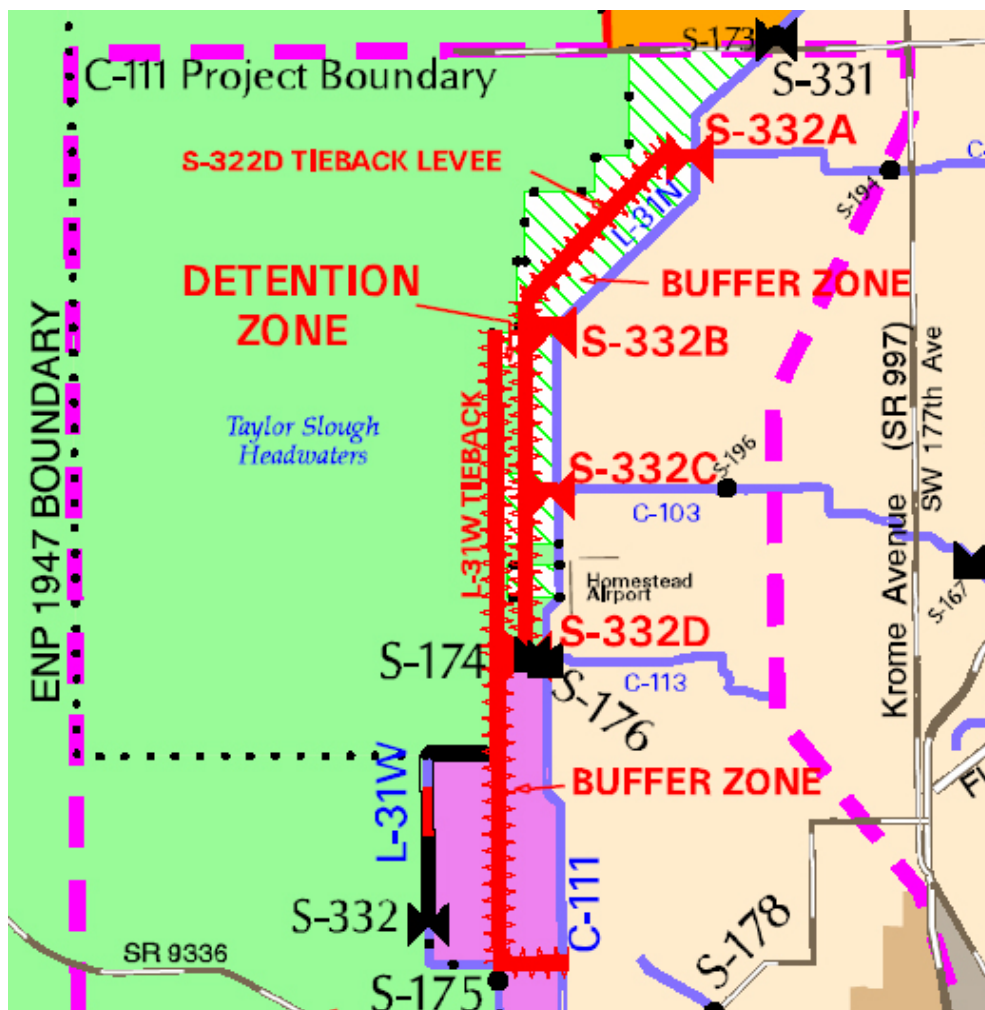
Interim management is primarily focused on site security issues including preventing dumping, posting, and coordinating enhanced law enforcement patrols. In addition, there have been ongoing problems with trespassing for agricultural cultivation. The District maintains several agricultural leases on the site.

## Post Project Management

Due to the frequent inundation that this area will have following the completion of the project, agricultural leases may become unfeasible for the long-term. Site security will remain a long term need. In addition pythons have inhabited the area in large numbers and will require intensive control efforts to contain them.

## Public Use

The STA portion of the project south of 168<sup>th</sup> Ave. has been established temporarily as a small game area by the FWC. As construction activities permit, other areas within the L-31 will likely become candidates for small game areas.



**Structures:**

"P\_Bw1", "P\_Bw2", "P\_Bw3", "P\_Bw4", "P\_Cw1", "P\_Cw2", "P\_Cw3", "P\_Cw4" are "stop log riser" culverts. Each contains two culverts with 3' diameters. The crest elevations are 3.5 feet above ground elevation.

"Sherry" is a 300 ft wide weir which allows overflow to the west. The crest elevation is 9.5 feet. It is designed to pass half of the maximum of the combined discharge of S-332B, S-332C, and S-332D.

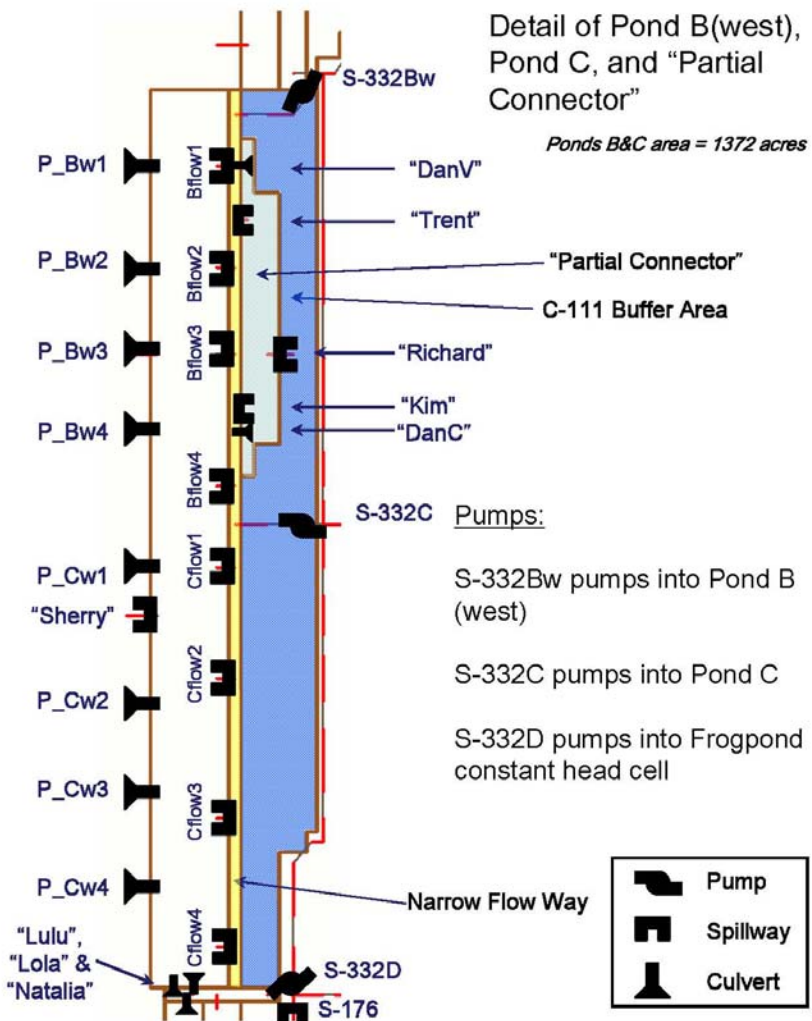
"DanV" is a culvert consisting of eight 4 ft diameter culverts from Pond B west into the "Partial Connector" (open stage > 9.5 ft).

"DanC" is a culvert consisting of fifteen 4 ft diameter culverts from Pond B west into the "Partial Connector" (open stage > 9.5 ft).

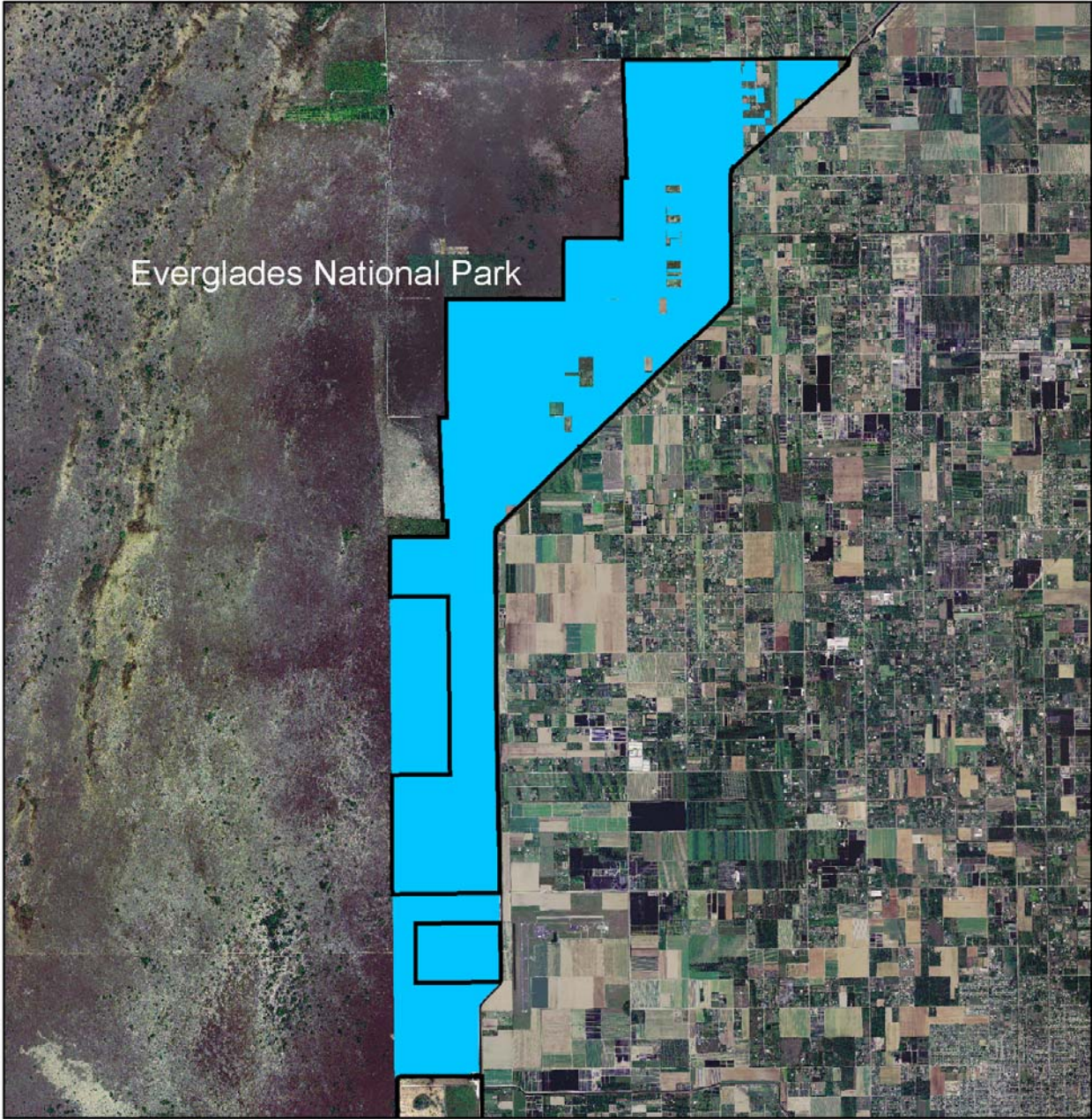
"Trent" and "Kim" are 350 ft wide weirs (crest elevation 9.5 feet) from Pond B west into the "Partial Connector".

"Richard" is an emergency overflow weir from the "partial connector" into the C-111 buffer area. It is 1500 ft wide with a crest elevation of 10.1 feet.



Movement from the narrow flow way into Pond BC is over pseudo-structures Bflow1, Bflow2, Bflow3, Bflow4, Cflow1, Cflow2, Cflow3, and Cflow4. All are simulated as spillways with crest elevations of 8 ft and maximum capacity of 500 cfs each.

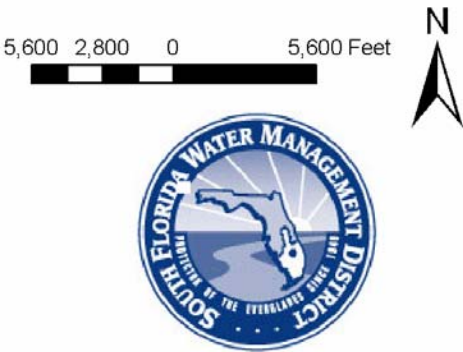


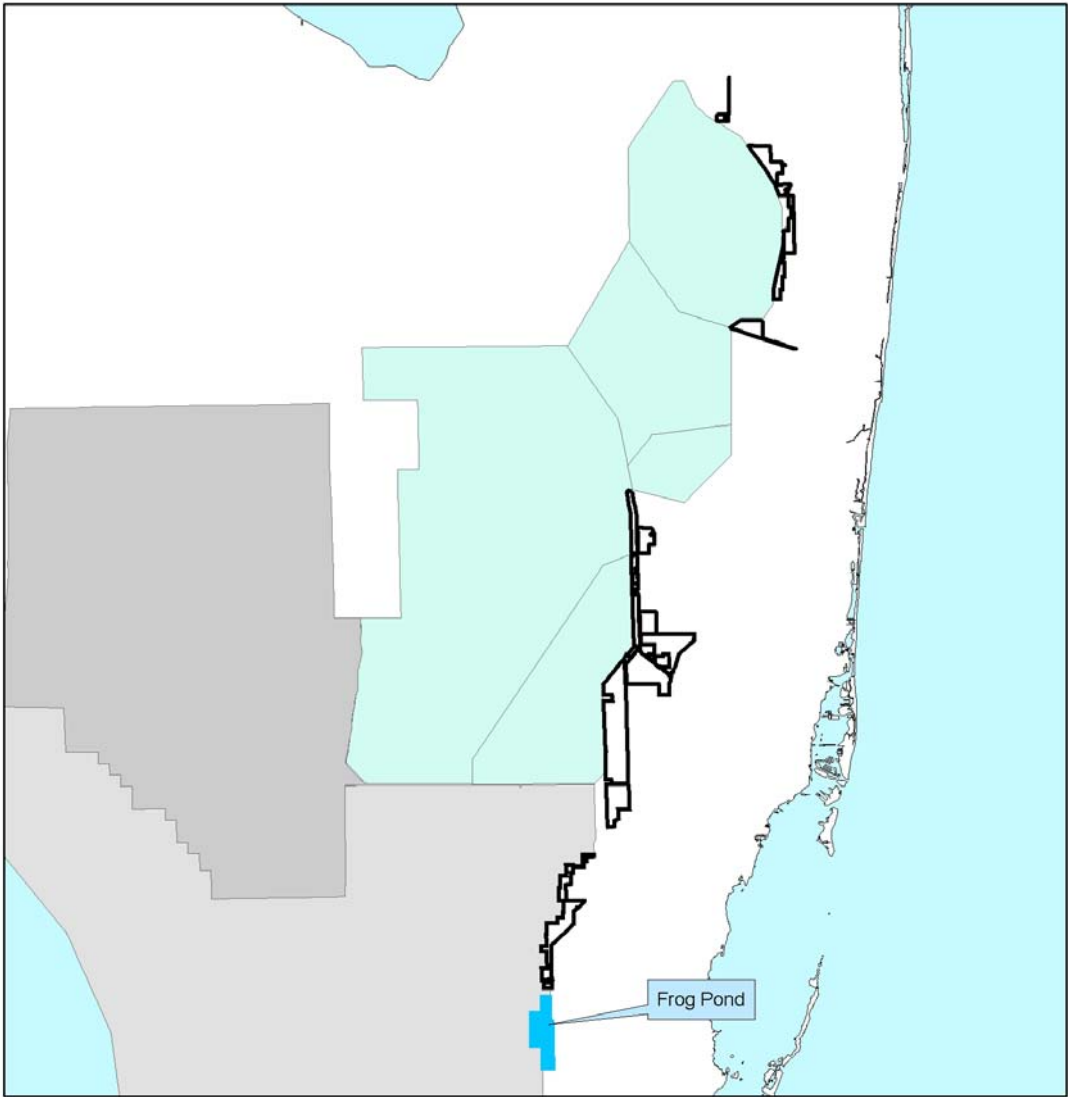




L-31 / Rocky Glades

-  Project Boundary
-  District Ownership





Frog Pond



**Component Name(s):** Frog Pond

**Project Affiliations:** SOR, ACOE C-111 Project, CERP Restoration of Pineland and Tropical Hardwood Hammocks in the C-111 basin

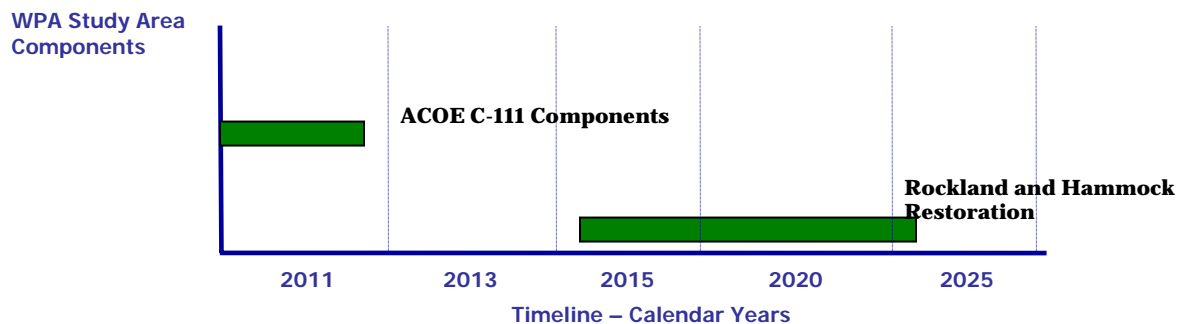
**Size:** 5,204 acres

**Overview**

The Frog Pond acts as a passive buffer area between the C-111 canal to the East and Everglades National Park. The Frog Pond was acquired as an SOR project as there are over 240 acres of pine rockland and a couple tropical hardwood hammocks on the property. Much of the eastern Frog Pond was pine rockland until it was plowed and converted for agricultural production.

A CERP project in the area involves restoring a portion of the former rockland and hammocks on site. The Restoration of Pineland and Tropical Hardwood Hammocks in the C-111 basin project involves restoring south Florida slash pine and tropical hardwood hammock species on a 200-foot wide strip on each side of the two miles of State Road 9336 from the C-111 Canal to the L-31W Canal (approximately 50 acres). This project will demonstrate the techniques required to re-establish native conifer and tropical hardwood forests on land that has been rock plowed.

**Project Schedule**



**Interim Management**

Interim management is primarily focused on site security issues including preventing dumping, posting, and coordinating enhanced law enforcement patrols; and resource management including prescribed fire, exotic plant and animal control and vegetation management. District and FWC staff cooperate in an effort to control nuisance animals, particularly pythons are actively being removed with heavy equipment such as bush hog mowers on the levees surrounding the site. There are 4 agricultural leases administered by the District on the Site.



## **Post Project Management**

Long term management will involve a continuation of the site security and resource management activities. There are numerous exotic plants in the Frog Pond including taro, castor bean, exotic lantana, Brazillian Pepper, Napier grass, cogon grass, and lead tree that require a long-term commitment to maintain a level of control over them. District staff has partnered with the Division of Forestry, FFWCC, Miami-Dade County, and Everglades National Park to aid in the complex resource management needs of the property

## **Public Use**

The portion of the Frog Pond that lies south of SR 9336 has been established as a small game hunting area where the FFWCC administers a lease for it to planted as a dove field.



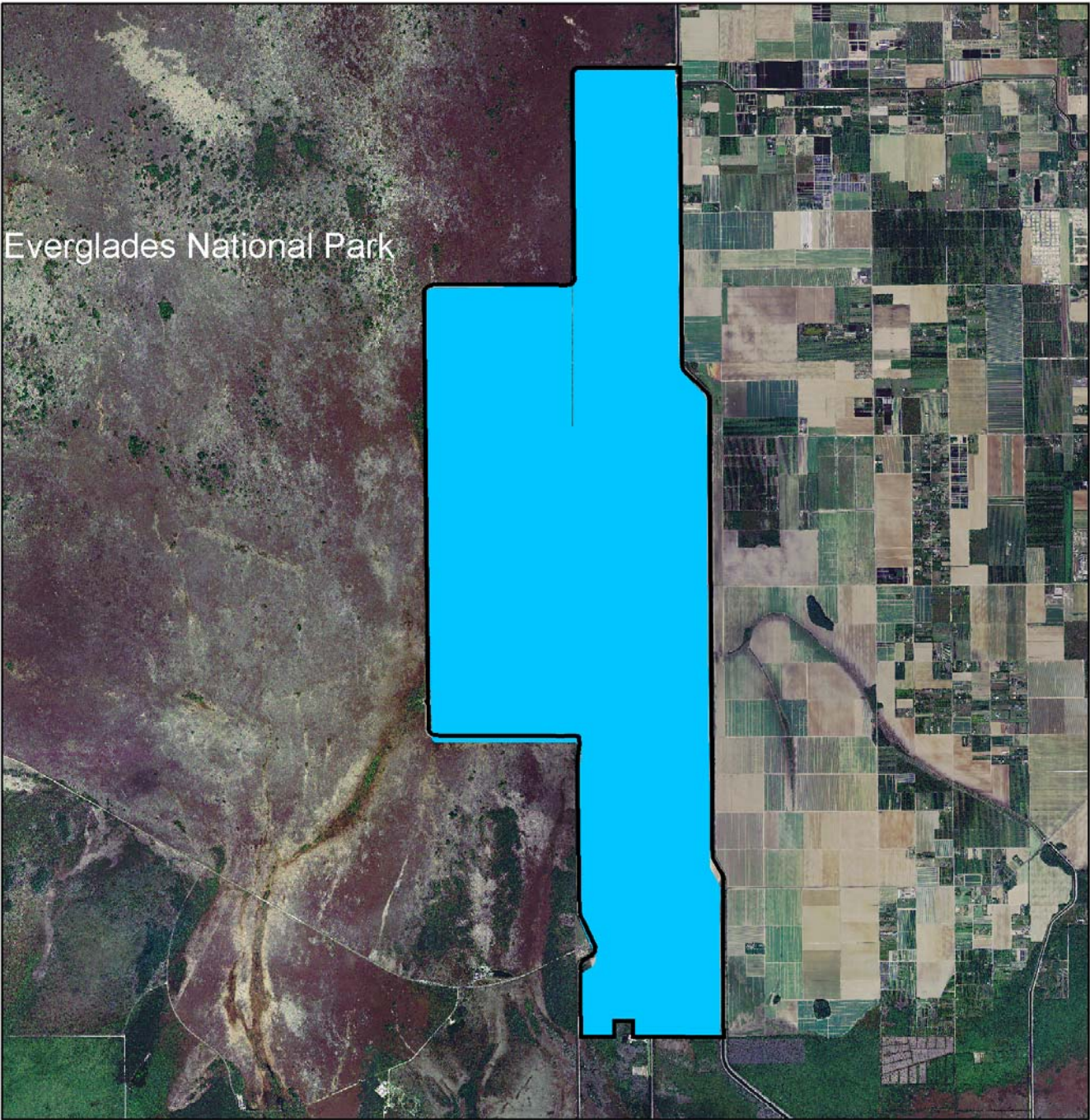








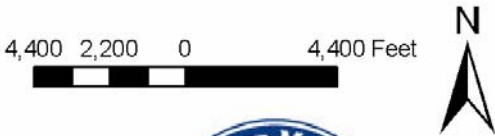






Frog Pond

-  Project Boundary
-  District Ownership



## **Appendix A**

### **Land Stewardship Program Goals and Policies**

#### **ARTICLE II. LAND STEWARDSHIP**

##### **Sec. 140-21. Scope.**

This policy shall apply to all lands managed by the Land Stewardship Program, including property acquired with Save Our Rivers, Preservation 2000 or mitigation funding. Nothing in this policy shall negate any statute, administrative rule, or other policy requirement. This policy may be reviewed and approved by the District Governing Board at five-year intervals or earlier and updated as required. Public comment may be solicited as part of the review process.

(R.M. No. 139)

##### **Sec. 140-22. Purpose.**

(a) This policy establishes a commitment to the responsible management of District lands in a manner consistent with legislative directives and the District's mission.

(b) In 1981, the Florida Legislature established the "Save Our Rivers" program (SOR) for the five water management Districts to acquire water resource lands. This legislation (Section 373.59, Florida Statutes) produced the Water Management Lands Trust Fund, empowering the water management Districts to acquire lands needed to protect, manage, and conserve the state's water resources. Preservation 2000 (P2000), enacted by the Legislature in 1990, also added land acquisition funds to the Save Our Rivers program. The 1999 Florida Forever Act consolidated the legislative directives of SOR/P2000 and expanded the funding to take over when P2000 terminates. The 1999 legislation authorized funds to be appropriated for acquisition, management, maintenance and capital improvements, including perimeter fencing, signs, control of invasive exotic species, controlled burning, habitat inventory and restoration, law enforcement, access roads and trails, and minimum public accommodations.

(c) Land acquired by the District's Save Our Rivers program and managed by the Land Stewardship program must satisfy several requirements set forth in Sections 373.139 and 373.1391, Florida Statutes. Section 373.139, Florida Statutes, declares it necessary for the public health and welfare that water and water-related resources be conserved and protected. The acquisition of real property for this objective shall constitute a public purpose for which public funds may be budgeted.

(d) Section 373.1391(1)(a), Florida Statutes, states that lands titled to the water management districts shall be managed and maintained to the extent practicable to ensure a balance between public access, general public recreational purposes, and restoration and protection of their natural state and condition.

(e) Section 373.1391(1)(b), Florida Statutes, states, in part, that "Whenever practicable, such lands shall be open to the general public for recreational uses. General public recreational uses shall include, but not be limited to, fishing,

hunting, horseback riding, swimming, camping, hiking, canoeing, boating, diving, birding, sailing, jogging, and other related outdoor activities to the maximum extent possible considering the environmental sensitivity and suitability of those lands."

(f) Section 373.1391(1)(d), Florida Statutes, states that the District shall first consider using soil and water conservation Districts to administer agricultural leases.

(g) Section 373.1391(3), Florida Statutes, encourages each District to use volunteers to provide land management and other services.

(h) Section 373.1391(4), Florida Statutes, encourages each District to enter into cooperative land management agreements with state agencies or local governments to provide the coordinated and cost-effective management of lands.

(i) Section 373.1391(5), Florida Statutes, authorizes water resource and supply projects, stormwater management projects, linear facilities, and sustainable agriculture and forestry where it is compatible with the natural resource values and the public interest and is consistent with the project management plan, the proposed use is appropriately located on the property and other lands have been considered, and the titleholder of the property has been properly compensated.

(j) Section 373.591, Florida Statutes, mandates the District to solicit input on current management programs through professional peer reviews.

(R.M. No. 139)

#### **Sec. 140-23. Statements of Policy.**

The Land Stewardship Program mission is to provide natural resource protection and management while allowing compatible multiple uses on designated public lands. The mission statement, together with requirements set forth in the Florida Statutes, provide three primary goals for the District Land Stewardship Program, each of which is linked to sections in this Land Stewardship Policy document:

- (1) Conservation and protection of water resources (section 140-25(1)).
- (2) Protection and/or restoration of land to its natural state and condition:
  - a. Restoration and Protection of Natural Communities (section 140-25(2)); and
  - b. Resource Operations and Maintenance (section 140-25(3)).
- (3) Provide public use (section 140-25(4)).

(R.M. No. 139)

#### **Sec. 140-24. Definitions.**

For the purpose of this article, the following words and terms shall have the meanings respectively ascribed:

*Archaeological/Historic Resources* means any prehistoric or historic district site, building, object, or property of historic, architectural, or archaeological value relating to the history, government, and culture of a historic or pre-historic people.

*Best Management Practice (BMP)* means the best available technology or process that is practical and achieves the desired goal or objective.

*Capital Improvement* means activities relating to the restoration, public access, recreational uses and necessary services for land and water areas, including the



initial removal of invasive plants, and the construction, improvement, enlargement or extension of facilities' signs, fire lines, access roads, and trails. Such activities shall be identified prior to the acquisition of a parcel or the approval of a project.

*Cooperating Agencies* means two or more agencies working together to operate a specific management area.

*Cooperative Management Agreement* means an agreement between two or more agencies outlining the respective duties and responsibilities of each agency in the management of a specific tract of land.

*Critical Habitat* means areas designated for the survival and recovery of state/federally listed rare, threatened, endangered or other sensitive species.

*Desirable Vegetation* means native plant species that are appropriate for a specific community type and provide benefits to wildlife in the form of food, cover and nesting.

*Habitat Diversity* means richness and variety of native plant communities within a particular area of the landscape.

*Hydroperiod* means flooding duration, depth, and timing that influences species composition, ecosystem structure and function.

*Interim Land Management* means management of non-natural areas that provides revenue without impacting long-term water-development projects.

*Invasive/Exotic Vegetation* means certain plants that displace native species and adversely affect wildlife habitat, water quality, recreation, and biological diversity.

*Lead Manager* means the prime managing entity designated for a given tract of land; generally provides the on-site staff.

*Management Area* means a single tract or combination of tracts under one management program.

*Mitigation* means, for purposes of this policy, the actual acquisition, restoration, creation, or enhancement of wetlands to compensate for permitted wetland impacts.

*Mitigation Banking* means wetland acquisition, restoration, creation or enhancement undertaken expressly to provide compensation in advance of wetland losses from development activities.

*Multiple-Use* means the management of renewable resources for a variety of purposes such as recreation, range, timber, wildlife habitat, and water resource development.

*Prescribed Fire* means burning of vegetative fuels using controlled application of fire within specified environmental conditions.

*Primary Resource Lands* means lands having high water resource, fish, wildlife, and recreational values requiring acquisition or protection.

*Regional Mitigation Area* means, for purposes of this policy, permitted wetland impacts offset through payment for the acquisition, restoration and perpetual management of a Save Our Rivers identified and duly noticed project.

*Responsible Management* means level of management described in the General Management Plan.

*Sustainable Use* means to provide continued use of a natural resource without degradation or loss of that resource.

*Water Resource Buffer* means that portion of a Preservation 2000 or Save Our Rivers project necessary to protect the aquatic environment.

*Wildlife Corridor* means a connection between natural areas that allows the safe movement of wildlife.

(R.M. No. 139)

**Cross references:** Definitions and rules of construction, § 100-2.

### **Sec. 140-25. Responsibilities.**

The Land Stewardship Program is responsible for:

**(1) Water Resource Protection.** The basis for the Land Stewardship Program is the protection and management of natural hydrologic resources. The following policies guide implementation of this objective:

a. Acquired lands shall be managed to provide water resource-related benefits.

b. Land uses or activities that significantly or permanently alter or degrade the quality, quantity and/or natural movement of ground or surface water are not allowed unless they are a part of a regional water management system.

c. Where feasible, an attempt shall be made to restore a more natural hydroperiod on tracts where the drainage patterns have been altered.

d. Public use shall not result in detrimental impacts to water resources. When a public use activity produces detrimental effects on water resources, it shall be discontinued until an evaluation determines that such use is compatible.

e. Water resource lands designated as necessary to implement the Central and Southern Florida "Restudy" Project shall, upon acquisition, become the responsibility of the (Interim) Land Management Program, and follow the guidelines set forth under Section 373.1391(5), Florida Statutes.

**(2) Restoration and Protection of Natural Communities:**

a. The Land Stewardship Program will encourage the acquisition of large or regionally significant areas that protect important natural resources and provide wildlife corridors.

b. Particular emphasis shall be placed on the identification, protection and management of rare, threatened and endangered species.

c. The planting of invasive exotic plant species shall be prohibited in all management areas. Management practices will strive to identify existing infestations and implement appropriate control or eradication measures.

d. Where practicable, an attempt shall be made to restore and maintain desirable vegetation to promote habitat diversity in areas where invasive exotic vegetation, grazing practices, or improved land uses have substantially altered the historic landscape.

**(3) Resource Operations and Maintenance:**

a. Lands acquired for natural and/or hydrologic resource benefits shall be managed to conserve and protect those resources.

b. Exotic plant control in all management areas shall strive to attain a level of success where periodic maintenance eliminates the infestation or reduces the coverage of exotic plants.

c. Prescribed fire will be a primary management tool on District lands and will be applied within fire-maintained communities at appropriate intervals.

d. The Division of Forestry will be notified of all wildfires on District lands. Land Stewardship will provide initial suppression when commensurate personnel and equipment are available.

e. Inventories of natural and historic resources shall be performed to provide information for effective land management planning, natural community maintenance and ecological restoration.

f. Evaluation and monitoring of management activities shall be conducted to improve program effectiveness and efficiency.

1. Research shall evaluate the environmental response of certain management activities to assist staff in making appropriate management decisions.

2. Monitoring shall be conducted to identify landscape changes resulting from management activities.

3. Legislative-mandated management reviews will provide input from professional peers.

g. Resource protection shall be provided by professional law enforcement services through funded and unfunded contractual agreements to safeguard the public and protect natural and cultural resources on District-managed natural areas.

h. Sustainable use of forest resources shall be conducted where these activities adhere to a series of environmental criteria (see 1999 Forest Management Plan) that meet Land Stewardship Program goals. Timber contractors will be required to meet silvicultural Best Management Practices (BMP) developed for Florida forests.

i. Range management (grazing) will be considered on improved or native ranges when the introduction of cattle will not conflict with other natural resource management and public use goals.

j. Archaeological and historic resources are protected by site identification and inter-agency coordination with the Florida Division of Historical Resources. Land stewardship planning shall include an analysis of archeological data accompanied by appropriate public education opportunities.

k. Infrastructure support shall be developed and maintained to provide safe access for responsible management and public use on District lands. Such infrastructure may include access points, roads, trails, signs, utilities, and minimal public facilities.

l. Mechanical equipment may be used in conjunction with prescribed burning and other management tools to control vegetation and restore habitat structure.

m. Agricultural developments previously existing on acquired natural areas may be maintained if management of these developments is consistent with other land stewardship goals.



**(4) Public Use and Environmental Education:**

a. Public use of management areas that is consistent with other management goals shall be encouraged. Public use that may have detrimental impacts on sensitive environmental resources shall be restricted until an evaluation determines such use is compatible. A public use compatibility assessment will be included in the General Management Plan completed for each management area and will be based on the following criteria:

1. Consistency with the reason the lands were acquired.
2. Restrictions and/or prohibitions imposed by easements, leases, reservations, adjacent land ownership, conditions of the purchase agreement, and any other agreements concerning the property.
3. Infrastructure and support facility requirements, such as fences, gates, signage, entry design, stabilized off-road parking, trails, campsites, maintenance, and other operational and budgetary impacts.
4. Opportunities for persons with disabilities.
5. Limitations resulting from endangered species, other sensitive natural resources, archaeological resources, or land management practices.
6. Public health, safety and welfare.
7. Environmental education program opportunities.

b. Public Use Regulation:

1. Public use regulations are set forth in 40E-7.511, Florida Administrative Code, to implement Section 373.1391(1)(b), Florida Statutes. Accordingly, the District shall publish and make available to the public a "Public Use Guide" for designated land management areas. The Public Use Guide will be adopted by the Governing Board at a public meeting advertised in accordance with Chapter 120, Florida Statutes.

2. Rules and regulations governing the public use of each management area shall be enforced by agencies with appropriate law enforcement jurisdiction.

3. Pursuant to Section 373.609, Florida Statutes, the District shall seek the cooperation of every state and county attorney, sheriff, police officer, and appropriate city and county official in the enforcement of the provisions set forth according to 40E-7.511, Florida Administrative Code.

4. Florida Fish and Wildlife Conservation Commission regulations shall govern hunting in areas opened for such use.

**(5) Implementation Strategies.** The District will secure dedicated funding sources, personnel and other resources to support program goals and objectives. Project funding needs and sources for cooperative management agreements with government and non-government entities will be identified during acquisition. A cooperative management agreement will designate a lead Manager and identify whether District funding is required.

a. The private sector may be solicited to furnish certain management-related facilities and services through the execution of leases and agreements. These leases/agreements will assure mutual benefits to both the District and private parties and be consistent with the program management objectives.

b. Mitigation:

1. Mitigation Banking: Mitigation banking provides an opportunity to accomplish large-scale restoration that may otherwise go unfunded. Pursuant to Section 373.4135, Florida Statutes, the District is encouraged to develop mitigation banks. Land managers will evaluate opportunities in their regions to implement mitigation banks that are consistent with the guidelines established in the Joint State and Federal Mitigation Bank Review Team Process for Florida.

2. Regional Mitigation Areas: The acquisition, restoration and management of District lands as mitigation shall be consistent with Chapter 2000-133, amending Sections 373.414 and 373.4135, Florida Statutes. This includes the establishment of Memorandums of Agreement (MOA) that include restoration plans, success criteria, and monitoring requirements. The MOAs will be used to implement mitigation using full-cost accounting, public noticing, and approval by the Governing Board for use as a mitigation area. The mitigation shall meet restoration objectives as provided in the General Management Plan.

c. Revenue Generation:

1. Private concessions and/or agreements with non-profit organizations will be considered to implement needed services through concession contracts.

2. Entrance and user fees, permits, licenses and/or advance reservations may be required where considered necessary by the managing agency.

3. Timber sales will be conducted to improve forest health or to support specific forest management goals.

4. Grazing leases will be encouraged on selected rangeland to generate revenue or to provide services that offset program management costs.

d. Volunteers and Interns:

1. Volunteers, interns and alternative work forces will be used when possible to supplement existing staff and services.

2. Any volunteer services must meet the standards and procedures prescribed by the District (Risk Management Manual, Volume 1).

**(6) Program Components:**

a. Management Assessment: A brief summary of the management issues completed when the site is identified for acquisition.

b. General Management Plan (GMP): Provides a description of recommended management and is required for each Land Stewardship Management Area. The GMP follows a designated format and is updated every five years.

c. Activity Plan (AP): Provides a detailed implementation strategy for specific activities such as prescribed burning, exotic removal and restoration. The plan shall be developed by the lead Manager in consultation with the cooperating agencies for each major tract of land (or group of tracts) to be operated as a single

management unit. The AP may be included in the GMP and is updated when necessary.

d. Annual Work Plan (AWP): Summarizes activities corresponding with annual budget development and is prepared by the Operations Section of the Land Stewardship Program.

e. Reporting: Summaries of management activities for each management area will be reported quarterly within the District and annually as part of the Florida Forever Work Plan.

(R.M. No. 139)

Secs. 140-26--140-40. Reserved.