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#### Introduction

The Land Stewardship program is responsible for the planning and management of the South Florida Water Management District lands, including Project Lands, Save Our Rivers and other Conservation Lands, the implementation and administration of mitigation banks and regional offsite mitigation areas, and recreation on District lands.

The Project Lands component of the Land Stewardship Program is responsible for managing those properties acquired by the District for future Comprehensive Everglades Restoration Plan and other restoration projects until the land is needed for construction.

Major functions of the Conservation Lands component of the Land Stewardship Program include hydrologic/habitat restoration, exotic plant and animal control, prescribed burns, public use, environmental education, and mitigation. In accordance with the Save Our Rivers Program [Chapter 373.59, Florida Statutes], lands acquired with the Water Management Lands Trust Fund "shall be managed and maintained in an environmentally acceptable manner and, to the extent practicable, in such a way as to restore and protect their natural state and condition."

## The Lands

#### **Not All Lands are Created Equal**

The District owns a wide variety of land assets that are a reflection of its many programs, functions, and responsibilities. They all have a relationship to water resources, but otherwise have very different functions.

Over the course of its history, the District has acquired a real interest in 1,320,088 acres of land for conservation or for the development of water resource improvement projects. It's with these lands that the primary responsibilities of the Land Stewardship Division reside.

Although any given tract of land will have a diverse set of physical, legal, and policy attributes that define the Land Stewardship Division's involvement, most of the tracts can be grouped into one of five broad categories:

- Conservation lands that have the District as the lead manager with partners in a supporting role.
- Conservation lands that have a partner as the lead manager with the District in a supporting role.
- Conservation lands with a commercial cattle grazing lease.
- Project lands with a commercial agricultural lease.
- Vacant project lands.

The stewardship of each of these broad land categories involves a unique management approach and set of ongoing management activities. Each category presents unique challenges and opportunities for the District and its management partners.

The District also owns land along its canal rights-of-way, land around its structures and facilities, dredge spoil and staging areas adjacent to major canals, and fringing lands and islands inside of the Herbert Hoover Dike at Lake Okeechobee. The Land Stewardship Division's responsibilities with these lands are primarily limited to recreation programs.

### Conservation Lands: District as Lead Manager 210,275 acres, 14 management areas

District conservation lands were acquired to protect and enhance water resources by buffering critical flow-ways from urban development and by maintaining large wetland areas for aquifer recharge and additional storage of surface water. Land Stewardship's primary focus on these lands is in restoring and maintaining their ecological function so that they are able to provide the benefits for which they were acquired.

In order to keep these lands in their natural state and preserve their ecological function, the Division's land managers take actions to compensate for the loss of natural processes and conditions no longer present due to both historic and ongoing alterations to the landscape. These processes and conditions are essential to keeping native plant communities in a healthy and vibrant condition that both supports the greatest diversity of plant and animal life and provides the greatest benefit to the water resources of the District; they include:

- Burning the fire dependent communities with a fire return interval that provides the most ecological benefit, this is as frequent as every other year for our pine flatwoods and dry prairie communities.
- Restoring hydrologic alterations to bring back a more natural hydroperiod.
- Eradicating non-native or nuisance vegetation; sparse in some areas and extremely dense and threatening in others.
- Restoring the physical structure of plant communities through vegetation management.

#### Relative Abundance of Plant Community Groups on District Managed Conservation Lands



Flatwoods / Dry Prairie 28%

#### Conservation Lands: Partner as Lead Manager

945,308 acres, 19 management areas

The District has been fortunate to have partners who have been willing and able to adopt the lead manager role on many of its conservation lands. Agencies such as the Florida Fish and Wildlife Conservation Commission, the Florida Park Service, local land preservation programs, and private mitigation bankers have missions that are complimentary and compatible with the District's.

The Land Stewardship Division's role in the ongoing operations of a site is significantly reduced by having another agency designated as a lead manager, but the Division's role does not entirely go away. The legal instruments that grant the lead manager designation (leases, management agreements, Memorandums of Understanding) define the relationship between the District and its partners. Usually the Land Stewardship Division retains a supporting resource management role as needed. There is also an ongoing commitment to provide the necessary administrative services with the agreements, such as compliance and management reviews.

#### **Conservation Lands: Cattle Leases**

55,101 acres, 36 leases

Some of the District's conservation Lands are former ranchlands. Most of these lands have been put under cattle grazing lease where the lessee takes on some the management responsibilities of the site, particularly with infrastructure maintenance. These leases are within the following management areas:

- Trail Ridge
- Allapattah
- Kissimmee Chain-of-Lakes
- Kissimmee River and Paradise Run

The District maintains an active role in resource management and recreation issues. Another significant role for the District with these properties is administrative. Ensuring compliance with the lease terms and conditions, making sure the lessees pay the appropriate property taxes, and making periodic adjustments to the leases represents a significant effort by the Land Stewardship Division.

#### **Project Lands: Agricultural Leases**

75,899 acres, 64 leases

The District administers agricultural leases or commercial reservations on as many water resource project lands as possible. The leases are an important source of revenue for the District and keep the properties in productive use and on the tax roles until the project is ready to break ground. The lessee takes on most of the management responsibilities for these lands. However, the Land Stewardship Division devotes significant time and resources towards compliance inspections and the administration and financial management of the leases.

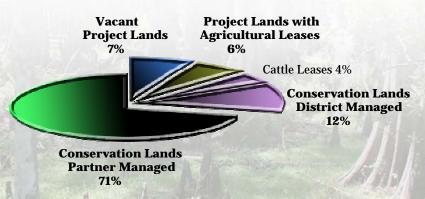
#### **Project Lands: Vacant Lands**

88,606 acres, 1422 individual tracts of land

Project lands that are unable to accommodate or recruit an agricultural lessee are managed by the Land Stewardship Division with a goal towards site security and general maintenance. The Division ensures that the access is secured, environmental hazards are remediated, proper signage is installed, and law enforcement issues are addressed.

These lands are meant to be kept in a "mothballed" state until construction on the property begins. Many of these lands are on the fringe of urban areas and experience ongoing issues related to the illegal use such as dumping and squatting. These lands are physically inspected at least twice a year, once they are secured, to monitor their condition and take corrective actions as necessary.

#### **District Lands by Major Land Category**



## **Finances**

Since its inception in the early 1980s, the Land Stewardship Program has been funded by a variety of sources. The principal source of management funding has been the Water Management Lands Trust Fund, which utilizes a portion of the state's documentary tax revenue to pay for land management activities. The fund reimburses actual expenditures based on quarterly invoices to the Florida Department of Environmental Protection which administers the fund. Appropriate expenditures are identified in the District's annual budget and approved by the District's Governing Board by a resolution to the Florida Department of Environmental Protection. Since 2000, use of these funds has been limited to land management costs, the payment in lieu of taxes program, capital programs, the Surface Water Improvement and Management Program, and the retirement of the District's land acquisition bonds.

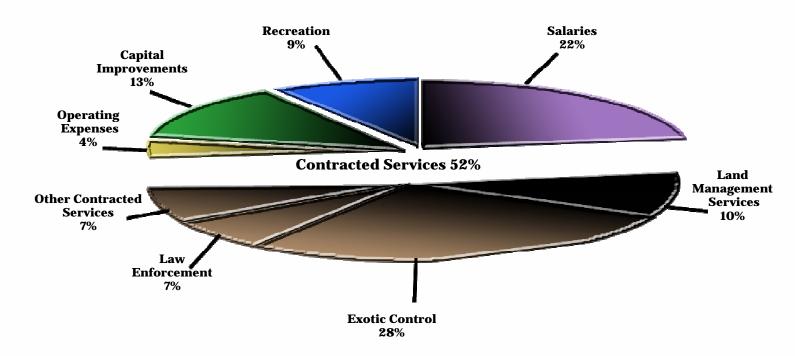
Other funding sources include offsite mitigation, mitigation bank revenues, lease revenues, grants for wetland restoration and exotic control projects, and Everglades Restoration Trust Fund and ad valorem tax revenue for the Comprehensive Everglades Restoration Plan recreational programs. Offsite mitigation funds are collected as a result of sitespecific conditions placed on Environmental Resource Permits approved by the District's Governing Board for authorized impacts to wetlands. These funds must be spent strictly in accordance with the permit requirements for land acquisition, restoration, and general maintenance of the mitigation lands. This form of mitigation allows the District to direct mitigation funds where they most benefit the South Florida ecosystem. The Land Stewardship Program has obtained several grants to fund specific restoration projects on District lands. Additionally, substantial in-kind services are provided by the lessees, state and local governments, as well as numerous recreational groups and individual volunteers.

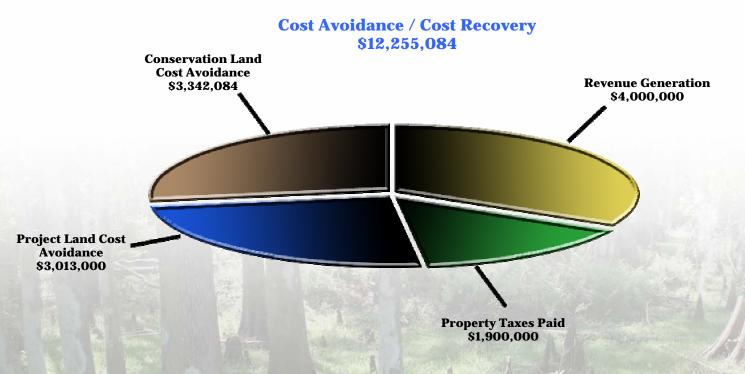
The Fiscal Year 2006 (October 1, 2005 through September 30, 2006) budget for the Land Stewardship Program was \$11,945,529. This included personnel costs, contractual expenses for land management activities such as exotic control, cleanup, security, capital improvements, and general administrative costs.

Revenue generated from agricultural leases, sale of products, and other alternative sources for the year was in excess of \$4 million. This was in addition to the \$3,013,000 (calculated at an average cost of \$23 per acre) in management costs avoided due to the 100 leases and management agreements in place for the 131,000 acres under contract; and \$3,342,084 avoided from conservation lands managed by a partner. By maintaining the leased properties on the local tax rolls, lessees paid \$1.9 million in property taxes for a total contribution of over \$12.2 million. Management activities for the Land Stewardship Program in Fiscal Year 2007 are anticipated to occur on 520, 088 acres of land at an estimated total cost of \$11.7 million.



#### Fiscal Year 2005 – 2006 Budget \$11,945,529





### Recreation

The District encourages use of its lands for appropriate outdoor recreational activities. All lands are available for public use, except in rare instances where there is no legal public access or where contract or lease restrictions prohibit the public. The vast majority are managed as semi-wilderness areas, with very limited vehicular access other than off-road parking. Opportunities include hiking, primitive camping, canoeing, fishing, and horseback riding, with volunteers from various user groups maintaining the trails and wilderness campsites.

Cooperative agreements with the Florida Fish and Wildlife Conservation Commission enable high quality, low impact hunting on nearly 850,000 acres. Acquisition and management partners from several counties have constructed environmental education centers, boardwalks, and interpretive trails, all at no cost to the District, that are used by thousands of school children and adults annually.

In July 2006 new Public Use Rules were adopted to capture all types of land designations within the District. This endeavor required considerable coordination and several public workshops to ensure a balance between public access, nature-based recreation opportunities, and restoration and

protection of the natural state and conditions of the land. Public access and recreational use rules have been established for Management Areas, Rights of Ways, Stormwater Treatment Areas, Impoundment Areas, and Vacant Undesignated lands.











#### Fiscal Year 2006 Recreation Highlights

- Two new parking areas constructed at Lake Marion Creek.
- A deck was built beneath a District picnic shelter at Blanket Bay by volunteers from the Florida Sportsmen Conservation Assoc.
- A series of Public Meetings were held on the Comprehensive Everglades Restoration Plan Master Recreation Plan.
- Construction began on a new trailhead on Allapattah in partnership with Martin County.
- Allapattah was established as a Small Game hunting area through an executive order.
- A completely revamped recreation website was launched.
- Initiated development and prepared a draft of the 5year Recreation Management and Partnership Plan.
- Hendry County Audubon chapter and District staff lead several birding trips to Stormwater Treatment Area 5, resulting in positive press coverage.
- Expanded duck hunting programs were provided at the Stormwater Treatment Areas
- The new Public Use Rule 40E-7 for District lands became effective July 12.
- Small Game Hunting Areas approved by the Governing Board for Stormwater Treatment Areas 1, 3/4, &5; the C-23/24 South Reservoir and at Rocky Glades.
- An equestrian campground was constructed at Hickory Hammock along the Kissimmee River.
- The District's Recreation Guide received the Communicator's Award of Excellence.
- Alligator hunting was an added public use at Stormwater Treatment Areas.
- A new boardwalk was built at the CREW Management Area.
- Four footbridges were installed at Shingle Creek.
- Improvements were made and new chickee shelters were installed at the DuPuis Fishing Pier.

# Special Events

#### Fiscal Year 2006 Special Event Highlights

#### October

 Grand Opening ceremony at Riverbend Park, in Palm Beach County.

#### November

- Opening Ceremony for the new recreation access and boardwalk at Shingle Creek in Orlando.
- Astronomy night brought a large crowd of star gazers to CREW.

#### December

- An equestrian event with 125 participants was hosted by the Florida Cracker Trail Association at Hickory Hammock.
- The Everglades Bicycle Club held a Century Race through the Model Lands with over 300 participants.





Earth-Science displays at the Shingle Creek recreation area opening ceremony



Guided walk at the Wildflower Festival

# Land Stewardship Division Land Stewardship Division Annual Report 2006





Volunteers at the Public Lands Day Event at DuPuis

#### Fiscal Year 2006 Special Event Highlights

#### February

♠ An Ocean to Lake Greenway equestrian event was held with over 100 riders on a 72 Mile 2-day ride that ended at DuPuis.

#### March

- The Everglades Bicycle Club held the Snowbird's Century Race through the Model Lands with over 650 participants.
- Seventy Volunteers from the Greater Miami Adventist Academy helped Fish and Wildlife Conservation Commission and District staff hand-pull exotic vines at the Frog Pond.

#### April

- The Annual Wildflower Festival and Full Moon Hike were held at the CREW Management Area.
- Earth Day celebration at DuPuis had over 200 participants.
- A large airboat based clean-up event was held on the Kissimmee Chain-of-Lakes with over 100 airboats and approximately 500 participants.

#### September

- Public Lands Day brought out 170 visitors and volunteers to participate in service projects.
- Opening Ceremony at MICCO Landing along the Kissimmee River.



## **Environmental Education**

Land Stewardship creates environmental education kiosks and displays and builds partnerships with other entities to provide many of its environmental education programs. The partnerships that have developed have created a large network of facilities and programs that have increased exposure of the District's mission and programs to students, educators, and the public. This network features the following partnerships:

#### **Shingle Creek**

A public access point with a boardwalk and pedestrian brides was constructed behind Hunters Creek Middle School in Orange County. The school benefited from providing this public access in off hours by expanding the opportunities for ecological field studies for their science program in their own backyard.

#### Reedy Creek / Lake Russell Unit

The Osceola County School Board operates an environmental education center on the Lake Russell unit of the Reedy Creek Management Area. This center provides summer camps and several other ongoing programs for County students.



#### **Tibet-Butler Preserve**

The Tibet-Butler Preserve is managed by Orange County's Parks and Recreation Department as an environmental education facility. It has a full time staff and infrastructure that includes a museum facility and classrooms. The center provided 62 educational programs and several special events in Fiscal Year 2006. These programs included hiking programs; programs designed for Pre-Kindergarten students; and more advance programs on reptiles, aquatic life, mammals, birds, and insects.

#### **Kissimmee River/ Riverwoods**

The Florida Center for Environmental Studies operates under a contract with the District to provide Kissimmee River Restoration based programming from the Riverwoods complex. Their programs include public boat and eco-tours, water resource education for teachers, student field studies, service learning, and public outreach.

#### **Ox-Bow Eco-Center**

St. Lucie County operates the Ox-Bow Eco-Center on the North Fork of the St. Lucie River. The Eco-Center provides a variety of nature-based educational programs for thousands of students and members of the general public. The center also hosts special events several times a year including an Earth Day event that brings out as many as 2000 visitors.

#### **DuPuis Management Area Visitor's Center**

As with Riverwoods, the DuPuis Management Area Visitor's Center is operated under a contract with the Florida Center for Environmental Studies. In addition to keeping normal operating hours, they provide an array of programs related to natural lands management and Everglades restoration including a nature-based lecture series, service learning, field studies for students, and special events. An increase of funding for the contract in 2003 from \$25K to \$75K has led to a 10-fold increase in visitors.

#### **Six-Mile Cypress**

Lee County manages environmental education programs at the Six-Mile Cypress property that has attracted more than 100,000 visitors in a year. Lee County staff at Six-Mile Cypress makes dozens of classroom visits throughout the school district and receives thousands of students on site for educational programs including all seventh grade students.

#### **CREW Land and Water Trust**

The District maintains a contract with the CREW Land and Water Trust on the CREW Management Area to provide public outreach and education programs. The programs include guided nature walks, sky-watching events, the large spring wildflower festival, teacher training, classroom visits, and service learning. During Fiscal Year 2006 the CREW Land and Water Trust proposed expanding their education and outreach capacity through a new capital campaign.

#### **Kiosk Installations**

The Land Stewardship Division has been increasing their outreach exposure by installing new informative kiosks near public access points and trail heads in most of the District's management areas. In Fiscal Year 2006 new high impact displays were made and a total of 15 new kiosks were installed including 9 in the Kissimmee River valley, 2 at Lake Marion Creek, and 1 at Shingle Creek. In addition, 3 Everglades Trail Kiosks were installed.







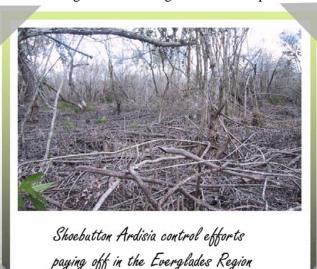
### **Exotic Control**

The District is committed to reducing the proliferation of exotic plant infestations and eradicating the problem where possible. Exotic control consists of the proper application of various environmentally acceptable chemical herbicides combined with mechanical techniques performed by staff or private contractors. Cooperators who manage District lands under contract or lease are strongly encouraged to apply a similarly aggressive approach to exotic plant control.

Exotic control is consistently the single largest item in the Land Stewardship Program annual budget. In Fiscal Year 2006 37,350 acres were treated for exotics, this exceeded the goal in the strategic plan of 31,000 acres.

Biologic control of exotics took a big step forward in Fiscal Year 2006 with the widespread release of the Lygodium moth in the East Coast Region and the Tropical Soda Apple leaf beetles in the Kissimmee and Upper Lakes regions.

The District also has tools to reduce the impact of exotic animals such as hogs through hunting programs and using trappers. Burmese pythons are a grave and growing threat to the Everglades; District staff assists FWC and National Park Service staff to rid the region of this dangerous exotic reptile.





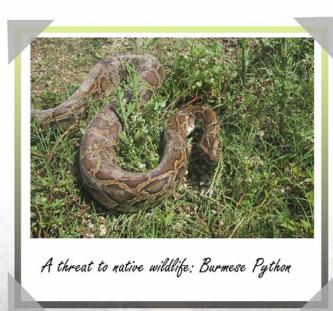
#### Fiscal Year 2006 Exotic Control Highlights

- Actual exotic treatment acreage exceeded the strategic plan goal by 20%.
- Several thousand Tropical Soda Apple leaf beetles (the imported bio-control agent) were released in the Kissimmee Chain-of-Lakes and the Kissimmee River with the aid of volunteers.
- 4 hand sprayers and herbicide were donated to Okeechobee High School to control exotics on their agricultural education cattle lease at Taylor Creek
- Damage from hogs was noticeably reduced at the District's Cypress Creek property where 56 hogs were removed by trapping from December-February.









## Prescribed Burning

Periodic fire is a natural element of native Florida ecosystems. The District uses prescribed burning to reduce hazardous buildup of vegetative fuel loads, enhance wildlife habitat, and encourage restoration of native plant communities. The District burns its lands to simulate natural fire cycles which benefits native plant communities. Our goal is to conduct at least 50% of our prescribed burns during the growing season to mimic the natural occurrence of lightning season fires. The fire management program is based on ecological research and proven safety standards and requires trained and experienced staff familiar with the diverse and unique fire management needs of the Florida landscape.

In Fiscal Year 2006 16,211 acres were burned through the application of prescribed fire, this exceeded the goal in the strategic plan of 16,000 acres. Many of the early acquired Save Our Rivers lands have now had a decade-and-a-half of a return to a more natural fire regime. This active burning of District lands has been an investment that is paying off in several ways.

The Land Stewardship Division contracted with a botanist who did some vegetation survey work in the Upper Lakes Region more than a decade ago, to return to the area and see how a reintroduction of a





frequent fire return interval has changed the vegetative composition of the area. He found significant improvement to the natural quality of many of the communities in the region, noting a significantly more diverse and herbaceous understory throughout the region.

A 5-year multi-agency management review of the CREW Management Area resulted in positive comments on the impact of the prescribed fire program. Both the maintenance of natural communities with prescribed fire and fire return intervals received the highest score of any management activity, a 4.6 out of a possible 5.

An active wildfire season in the early spring revealed that many of the District lands have become highly resistant to damage from wildfires due to the aggressive prescribed fire program. In addition, surrounding areas appeared to receive protection from wildfires just by being near District lands which tended to rob wildfires of heavy fuels, reducing their intensity and rate of spread.





#### Fiscal Year 2006 Prescribed Fire Highlights

- The National Prescribed Fire Training Center helped our prescribed fire program by sending a self-contained fire team as off-season training for West Coast and Mountain Region fire fighters.
- Over 10,000 acres were burned in March, just prior to the wildfire season. This was the busiest prescribed fire month ever.
- a 4000 acre burn using aerial ignition was conducted at DuPuis. These larger and more costeffective burns are possible due to the light fuels on the ground from frequent burning.
- A 900 acre prescribed fire was conducted in the Everglades Region as part of a CSI Miami television episode. This is the second prescribed fire conducted in partnership with CSI Miami.
- During the summer months unusual conditions made it too dry to burn in the Upper Lakes Region and too wet to burn south of Lake Okeechobee; the only summer burns were conducted outside of the floodplain along the Kissimmee River.



# Vegetation Management

Vegetation management is a program component where the composition or structure of a vegetative community is being physically altered to meet a management objective. The techniques used in vegetation management include mowing, disking, shredding, roller-chopping, timber thinning, and planting. These techniques are applied to one or more management objectives that may include:

- A step towards restoring a degraded vegetative community
- Improving an area's suitability as wildlife habitat, or for game management
- Exotic species control or weed management
- Fuel management in relation to prescribed or wildfires
- Clearing for maintenance or project management purposes

#### Fiscal Year 2006 Vegetation

#### **Management Highlights**

• Hurricane Wilma cleanup dominated the vegetation management priorities in the first quarter; District lands served as temporary vegetative debris storage sites in Martin and Palm Beach Counties.

- Vegetation management activities occurred on 13,000 acres of District—managed lands.
- Several hundred trees and shrubs were planted in a degraded part of the Frog Pond and Lucky Hammock in the Everglades Region
- Mowing occurred throughout the District on future project lands that are being managed in the interim as small-game hunting areas.
- A vegetation removal project was conducted along Nubbin Slough.
- Shredding for habitat management occurred at KICCO, Kissimmee River Pools C&D, and DuPuis.
- Maintenance mowing and fire-break disking occurred throughout the District.
- Weed-control mowing occurred throughout the Kissimmee Chain-of-Lakes properties.
- 745 acres of pine timber-thinning to minimize the impact of a pine-beetle infestation, and 250 acres of palm thinning to improve wildlife habitat occurred at DuPuis through two revenue generating contracts.











Overgrown understory prior to shredding (top), 1 year post shredding (middle), post shredding and timber thinning (bottom) with a much more diverse and herbaceous understory

# Wildlife Management

Wildlife management on District lands is directed toward production of natural species diversity consistent with the biological community types present. The Land Stewardship Program accomplishes this in several ways:

- Performing land management activities that maintain and/or improve native wildlife habitat
- Conducting specific management beneficial to protected species
- Following management guidelines for listed species protection as determined by the Multi-species Recovery Plan for the Threatened and Endangered Species of South Florida, Volume 1, (U.S. Fish and Wildlife Service. 1998)
- Reducing non-native pest species populations where appropriate
- Maintaining a master file of confirmed and potential wildlife species
- Cooperating with the Florida Fish and Wildlife Conservation Commission on wildlife management issues
- Using best snag management practices: removing snags only when they pose a safety hazard

Wildlife management through these actions primarily occurs through regular prescribed fires and the control of exotic species. In addition, the Land Stewardship Division partners with the Florida Fish and Wildlife Conservation Commission on many wildlife management issues. This partnership has resulted in several District managed lands being established as Wildlife Management Areas, Wildlife and Environmental Areas, Public Use Areas, and Small Game Hunting Areas. These designations allow the Fish and Wildlife Conservation Commission to dedicate biological staff and resources towards the well-being of wildlife on District lands, and enforce a stricter set of wildlife protection rules. Since management actions that meet the needs of wildlife often further the District's objectives, the biological staff have been a significant supplement to the District's land managers.

#### Fiscal Year 2006 Wildlife Management Highlights

- After a decade and a half of restoration efforts, the DuPuis Management Area was determined to be an acceptable location for the re-establishment of the federally endangered red-cockaded woodpeckers
- Allapattah was established as a Small Game Hunting Area with a full-time Fish and Wildlife Conservation Commission biologist as the first step towards becoming a Wildlife Management Area
- Rules were established for the first alligator hunt on a Stormwater Treatment Area
- Small Game Hunting Areas were established on Stormwater Treatment Areas 1, 3, 4, &5; the C-23/24 South Reservoir project; and at Rocky Glades





Land Stewardship Technicians insert nest boxes into cut cavities at an appropriate height



A Fish and Wildlife Conservation Commission
Biologist gives a Red-Cockaded Woodpecker a dinner
of mealworms before placing the bird into its new
home



After a night in its new home, and a quick pull of a string, the Red Cockaded Woodpecker is set free



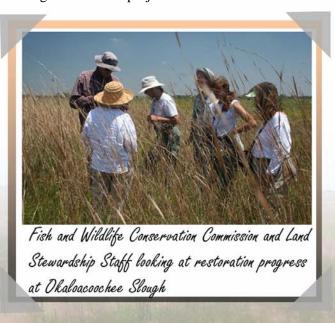
A Biologist places a Red-Cockaded Woodpecker into the nest box

## Restoration

Beyond the demands of routine land management activities, land managers in the Land Stewardship Division are all involved in restoring altered land to natural condition. Extraordinary measures are often required to restore land that has been used for agriculture, transportation, housing or other intensive purposes. This work may involve re-establishing hydrology, removal of debris and altered soil, killing inappropriate vegetation and replanting native plants, applying specific burn regimes or other specialized techniques. Experimentation is often required to find a cost-effective way to restore a particular kind of disturbed land. Permits have been obtained for four large hydrologic restoration projects:

- Packingham/Buttermilk Slough
- Rough Island
- Otter Slough
- Gardner-Cobb Marsh

These projects will be substantially funded by grants from the U. S. Natural Resource Conservation Service. At Packingham/Buttermilk Slough, 1000 acres of understory have been shredded and burning will soon be carried out. These actions will greatly speed up the establishment of healthy wetlands when hydrology is restored. Construction is projected to begin on all four projects in Fiscal Year 2007.



#### Fiscal Year 2006 Restoration Highlights

### Conversion of Bahia pasture land to native vegetation.

Thousands of acres of Bahia pasture exist on District land. Two pilot projects are under way to test different ways to restore this pasture: one at Starvation Slough, the other at DuPuis Management Area.

#### Ft. Basinger Scrub

Shredded 20 acres of severely overgrown scrub between two trailer parks. We will re-introduce fire this year.

#### **Gulfstream Gas Pipeline**

Contracted (with Gulfstream mitigation money) to remove bahia grass and other non-native cover and plant with native groundcover seed on 40 acres on six District properties (Hickory Hammock, River Runt, Riverwoods, 4Es, Ft. Basinger, Chandler Slough)

#### **River Runt**

About ten acres has been herbicided and replanted with native groundcover seed - will be filling two 1000 ft. long by 30 ft. wide by 20 ft. deep ditches to restore hydrology of this area.

#### **Hickory Hammock scrub**

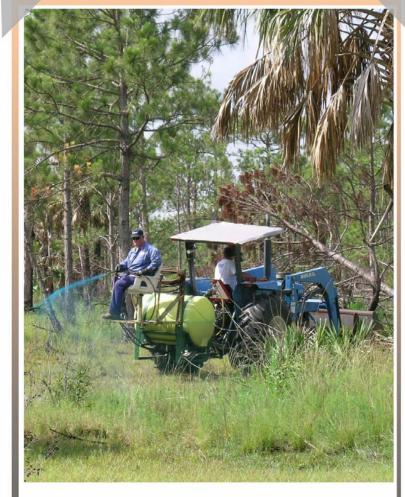
Shredded about 100 acres of severely overgrown scrub and burned it.

#### East Bonita/Southern CREW

District contractors are in the process of follow-up melaleuca treatment on 4 square miles of the project. This area was severely degraded by exotic plants after the hydrology was interrupted by an attempt to build a subdivision in wetlands during the early 1960s. A wildfire 5 years ago killed most all native vegetation on about 500 acres. Melaleuca was almost the only plant to regenerate. The 500 acres was subsequently aerially treated. Ground crews are nearly finished with the follow–up treatment.







Applying herbicide to Bahia grass to recruit native species

## Mitigation

Under Chapter 373, Florida Statutes, the District is authorized to participate in and encourage the development of public and private mitigation banks, regional mitigation areas and offsite mitigation. Furthermore the state's mitigation banking rule, Florida Administrative Rule Chapter 62-342, encourages each water management district to establish two mitigation banks. The use of mitigation and mitigation banking offers opportunities to generate revenue that will supplement funding of the District's land acquisition, restoration and management programs.

#### **Mitigation Banks**

Mitigation Banks include the Loxahatchee Mitigation Bank in Palm Beach County and the Corkscrew Regional Mitigation Bank in Lee County. The District is developing each bank in a public – private contractual agreement.

#### **Loxahatchee Mitigation Bank**

During Fiscal Year 2006 approximately 350 acres of exotic vegetation were cleared/shredded providing significant habitat enhancements. The bank completed its fourth year of monitoring towards attainment of success criteria. In May 2006, the third revenue disbursement, amounting to \$410,000 (\$820,000 received to date), was provided by Tetra Tech to the District.











#### **Corkscrew Regional Mitigation Bank**

During Fiscal Year 2006 over 130 acres were direct seeded with hydric pine ground cover species and planted with 17,000 bare root pine seedlings. Initial and follow-up treatment of exotics, including physical removal of biomass, occurred on over 230 acres.

#### **Regional Mitigation Areas**

Regional Mitigation Areas include CREW and Pennsuco. In Fiscal Year 2006, the District expended a total of \$1.1 million on the restoration of lands for the two projects providing for the restoration of 2,555 acres in CREW and for the restoration of 4,425 acres in Pennsuco. To date, the monitoring of the restoration progress of both projects has indicated successful results.

#### **Off Site Mitigation**

Off Site Mitigation provided \$500,000 towards the acquisition of the 16.14 acre Ruba tract in the Shingle Creek project.



From Melaleuca to marsh at the Pennsuco Mitigation Area 1998 - 2006

## Monitoring

The primary purpose of the Land Stewardship monitoring program is to evaluate and document the effects of land management activities. Fire is the most important tool used. It maintains a desirable structure in the forests and marshes by preventing shrubs and trees from becoming too dense and forming thickets. Normal burning doesn't require extensive monitoring, but burn managers always collect data before, during, and after a fire. This helps them understand the relationships between variables such as weather, fuel accumulation, season, and water levels in the ground and the way fire behaves and how it affects the vegetation. All this data is stored and available to study before future fires and is especially valuable to new burners when there is staff turnover.

In addition to gathering data on fires, Land Stewardship monitors the condition and structure of habitats to detect gradual desirable or undesirable changes. Such changes are often related to burning but are the cumulative effect of many fires. Of course other factors such as changes in hydrology or population fluctuations in deer also affect the overall condition of the forest. Monitoring for habitat changes is efficiently done by repeatedly taking panoramic photos at fixed locations. The high resolution digital photos show general size and density of vegetation and can also be blown up to

allow identification of most plant species. Locations are permanently marked with iron pipes and GPS coordinates are recorded to ensure they can be accurately relocated over extended periods of time.

Restoration projects are more complex, difficult, expensive and uncertain in outcome than regular land management. Hence, more intensive monitoring is appropriate. Panoramic photos are effective in documenting restoration, both showing step-by-step progress of the project and long-term outcome. Scientific methods for measuring vegetation are needed to document initial conditions that require restoration and achievement of desired changes.

Ongoing wildlife monitoring on District lands is normally performed by Fish and Wildlife Conservation Commission staff. Deer, hogs and other game are counted and variously measured and inspected as they are removed by hunters. Quail and general breeding bird populations are estimated by listening surveys. Eagles and wading birds are counted from airplanes.



A 360 degree panoramic photomonitoring point at DuPuis ahowing regrowth after a prescribed fire

#### Fiscal Year 2006 Monitoring Highlights

- 38 new permanent panoramic photopoints established (total of 74)
- 45 new vegetation monitoring plots established on 13 properties
- Packingham/Buttermilk Sloughs is the first of the Natural Resource Conservation
   Service funded projects to begin restoration.
   Intensive photographic and vegetation plot monitoring was begun on this site.
- A study of the effects of management activity on old world climbing fern at DuPuis continued at DuPuis
- Vegetation monitoring was done on restoration sites at CREW, Pennsuco and S5A





# Infrastructure Management

The Land Stewardship Division not only has a wide variety of lands to manage, but also a wide variety of infrastructure on those lands; each with a unique set of management needs. District Policy 140-25(3)(k) states that "Infrastructure support shall be developed and maintained to provide safe access for responsible management and public use on District lands". The infrastructure on District Lands include:

- roads
- parking areas
- officer housing
- historic structures
- recreation facilities
- gates
- fences
- field offices and maintenance staging areas
- water-related structures

In addition, the Division often receives acquired lands with preexisting structures that are incompatible with the purpose for which the land was acquired. Dealing effectively with this type of infrastructure has lead to the development of an active demolition and environmental clean-up program.



Abandoned vehicles being removed from District land

Recovery from hurricane Wilma dominated the infrastructure management program through most of the first half of Fiscal Year 2006. Many hurricane damaged structures either had to be repaired or demolished. District lands also housed temporary vegetative debris storage sites in Martin and Palm Beach Counties.

In Fiscal Year 2006, the Land Stewardship Division began developing a new infrastructure management program that involved creating a mechanism to track and address infrastructure maintenance needs. This has resulted in a new ongoing centralized infrastructure surveying program and the establishment of a list of nine prequalified vendors to streamline infrastructure related service contracts.



Illegaly dumped tires being removed



Debris staging area in Martin County



Demolition of a structure in Miami-Dade County



Dismantling of Weekley Asphalt Plant

#### Fiscal Year 2006 Infrastructure Management Highlights

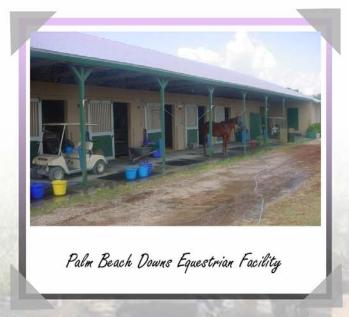
- Salvage sale, demolition, and cleanup of the Weekley Asphalt Plant in the East Coast Buffer
- Hosted temporary storm debris staging areas at Allapattah and Palm Beach Downs
- Repaired numerous storm-damaged facilities including law enforcement officer housing, maintenance areas, recreation facilities, and breached earthworks and roads
- Illegal dump sites cleaned in the East Coast Buffer, Miami-Dade County lands, and Critical CREW
- Road repairs made at Starvation Slough
- Derelict structure removal at Cypress Creek
- 15 miles of vandalized or missing signs were reposted in the Model Lands
- Mobile home demolished and the garage roof replaced at the Pearce estate
- Several upgrades made to the Allapattah field office including a new roof, door, stained siding, and air conditioner
- Demolition of an old Federal Aviation Administration building in the East Coast Buffer



## Commercial Leases

The District administers agricultural leases or commercial reservations on 131,000 acres. Historical uses of properties, such as grazing, sod, vegetable, and sugar cane farming, and nurseries and tree farms, are allowed to continue through the use of reservations, leases or similar agreements, when appropriate. The revenue producing lease program provides many benefits, such as:

- on-site management and security for Districtowned lands at a minimal cost to the District,
- minimizing District expenses by increasing revenue from non-governmental sources to off-set District management, maintenance and resource protection costs,
- minimizing impacts to the local agricultural economy by keeping viable agricultural lands in active production for as long as possible, and
- minimizing fiscal impacts to the local government by keeping lands on the tax roll until they are actually needed for construction.





The commercial leasing program brings in revenue from a wide variety of uses that includes:

- an equestrian training facility
- cattle grazing on former ranchlands
- horse grazing
- communication towers
- citrus
- row crops
- sugar cane
- aggregate mining
- honey bees

The District has approximately 8,000 acres leased for citrus, which had been hurt by two years of multiple hurricanes and the spread of citrus canker. Industry experts say that in the Indian River region, the hurricanes did more damage than the seven cold waves of the 1980s combined. Some of the grove operators have requested approval to convert to other types of agricultural activities due to the devastation of the groves and began clearing properties of damaged groves.





Revenue generated from agricultural leases, sale of products, and other alternative sources for the year was in excess of \$4 million. This was in addition to the \$2,620,000 (calculated at an average cost of \$20 per acre) in management costs avoided due to the 100 leases and management agreements in place for the 131,000 acres under contract. By maintaining the leased properties on the local tax rolls, lessees paid \$1.9 million in property taxes.

Generally, a competitive bid process is used to solicit proposals and award contracts, which include the appropriate cancellation clauses so the land can be quickly made available when it is needed. In some cases, short term leases (5 years or less) are negotiated as part of the acquisition package. Lessees are typically required to actively manage the property, control exotics, provide security for the property, implement applicable best management practices keep the property and facilities in good repair and condition, obtain all required permits and approvals for their activities, maintain required insurance coverage, pay applicable taxes, etc.

In fiscal year 2006 the Land Stewardship Division began a program to lease land for beekeeping operations. Bids were solicited in August 2006 and several locations throughout the District were opened in September.



## Resource Protection

The Land Stewardship Division is committed to protecting the natural and cultural resources on District land. Primary problems encountered on District lands by law enforcement are:

- illegal entry
- dumping
- poaching
- All Terrain Vehicle operation
- cultural resource artifact collecting
- open gates
- cut fences
- vandalism
- District and contractor employees recreating where prohibited
- Burmese pythons.

The District is in its eighth year of a contract with the Florida Fish and Wildlife Conservation Commission, Law Enforcement Division, to provide law enforcement patrols on District lands. The District also funds four full time law enforcement positions within the Commission for officers to patrol District lands exclusively. There are approximately

13,000 hours of patrols performed by 85 officers throughout the District.

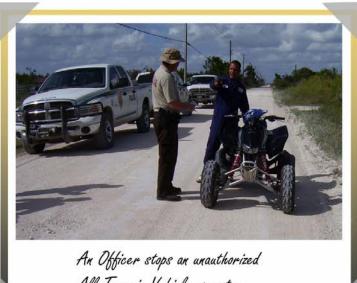
The Land Stewardship Division's role is to coordinate with the Commission on where patrols should occur, the number of patrol hours for each area, advise on issues in each area, coordinate details to target problem areas, and pass on information and issues from the land managers to law enforcement. In addition to working with the Commission the Division works with county law enforcement agencies in assisting in resource protection on District lands.

Florida Administrative Code 40E-7 (the District's public use rule) was amended and enacted in July. The changes in the new rule address all land designations of the District. This change will clarify for officers the rules for each land designation and the allowable uses associated with that land designation.

Law enforcement officers from three different agencies reside on District property in twelve locations to provide an additional law enforcement presence. Officers living on District property have proven to be an effective deterrent to illegal uses. Additional District property that can benefit from an officer living on the property is being identified due to the success of this program.



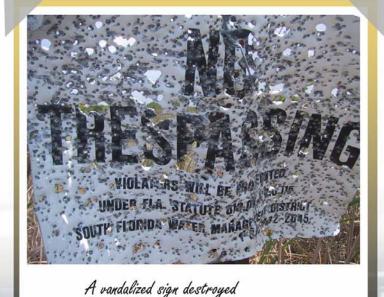
Caught in the Act: roofers load dumped debris back onto their truck



All Terrain Vehicle operator



A Fish and Wildlife Consevation Commission Officer helps the harvesters of illegaly grown vegetable crops load boxes onto the truck of a non-profit that feeds the homeless,



in a hail of gunfire in Dade County

### Fiscal Year 2006 Resource Protection Highlights

- Multi agency detail targeting all illegal activity in the 8.5 Square Mile and L-31 North levee
- Arrest of drug dealers at the campground at S-65C
- Detail targeting illegal access, All Terrain Vehicles, night hunting, and gang activity in Frog Pond and Southern Glades properties
- Unauthorized motor vehicle use and artifact collection at Lake Marion Creek
- Miami Dade County grant for additional patrols in the Model Lands
- Capture of individuals who illegally harvested ducks from Stormwater Treatment Area 5
- Several District contractors caught recreating in Stormwater Treatment Areas where prohibited
- Enactment of new Florida Administrative Code 40E-7 rules
- Program expansion to include patrols on Stormwater Treatment Areas and canal levees in Broward and Miami-Dade Counties
- Gang activity identified within the Aerojet compound at Southern Glades



Burned and abandoned stolen vehicles recoverd in the East Coast Buffer

## **Planning**

Land management planning is an important first step along the path of effective stewardship of District's land resources. Management plans are required by Florida statutes to be written for all District conservation lands over 1,000 acres. These plans are to be reviewed by a multi-party review team and updated every 10 years, although the District is committed to exceed this standard by having management reviews every five years. A management plan review team consists of one member each from these entities:

- South Florida Water Management District
- Private land manager
- Local soil and water conservation district board of supervisors
- Florida Division of Forestry
- Florida Fish and Wildlife Conservation Commission
- Florida Department of Environmental Protection
- Conservation organization
- User group such as a recreational association
- Representative from the county where the property is located





The Land Stewardship Division participates on the management review teams for the conservation lands that are managed by a partner, and creates and updates management plans on Conservation Lands where the District is the lead manager. Management activities are designed for each site based on the Land Stewardship Program's mission for conservation lands "to provide natural resource protection and management while allowing compatible multiple uses on designated public lands." The Land Stewardship Program has three primary goals for managing the District's conservation lands:

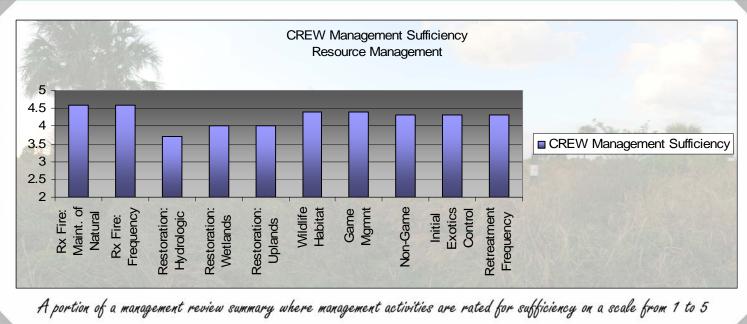
- conserve and protect water resources
- protect and/or restore land to its natural state and condition
- provide public use

The General Management Plans include goals and objectives, past and present land uses, resource data, restoration and management needs, public use programs, compatible multiple uses, monitoring programs, site security, and administrative duties to guide management actions for the five-year period. As such, General Management Plans serve as a collective information source for District management staff, agency partners and the general public

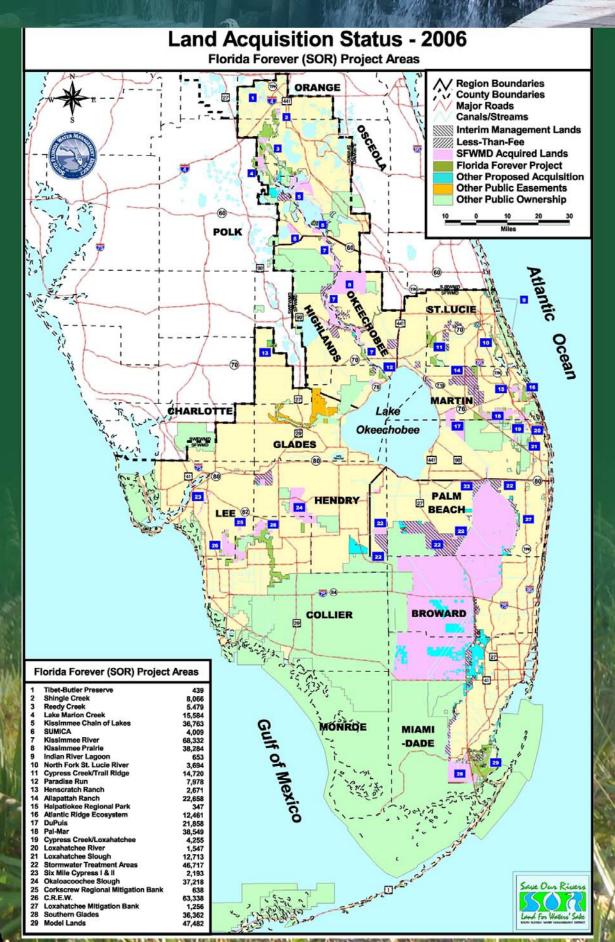


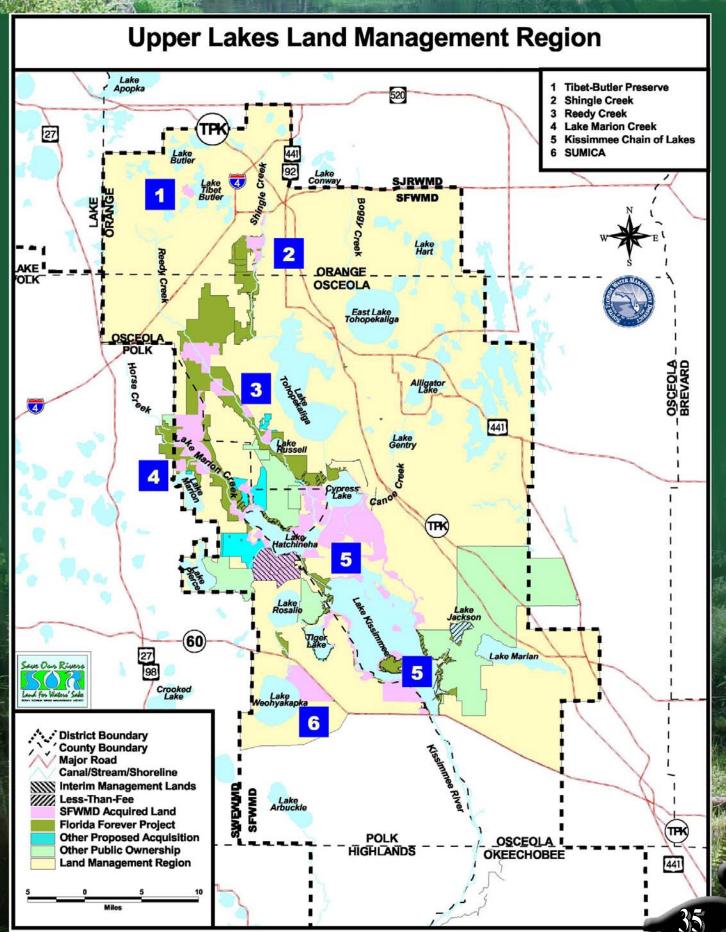
#### Fiscal Year 2006 Planning Highlights

- New General Management plans approved for Lake Marion Creek / Reedy Creek in Osceola and Polk Counties.
- New General Management plans approved for Shingle Creek in Orange County.
- Updated General Management plan written and approved for the Corkscrew Regional Ecosystem Watershed in Lee and Collier Counties.
- New Conceptual Management Plan created for the East Coast Buffer.
- Management Plan written jointly with Martin County was approved by the Florida Communities Trust for the 3,000 acre addition to Pal-Mar.
- Presentation given to the Florida Local Environmental Resource Agencies Conference on prescribed fire partnerships.

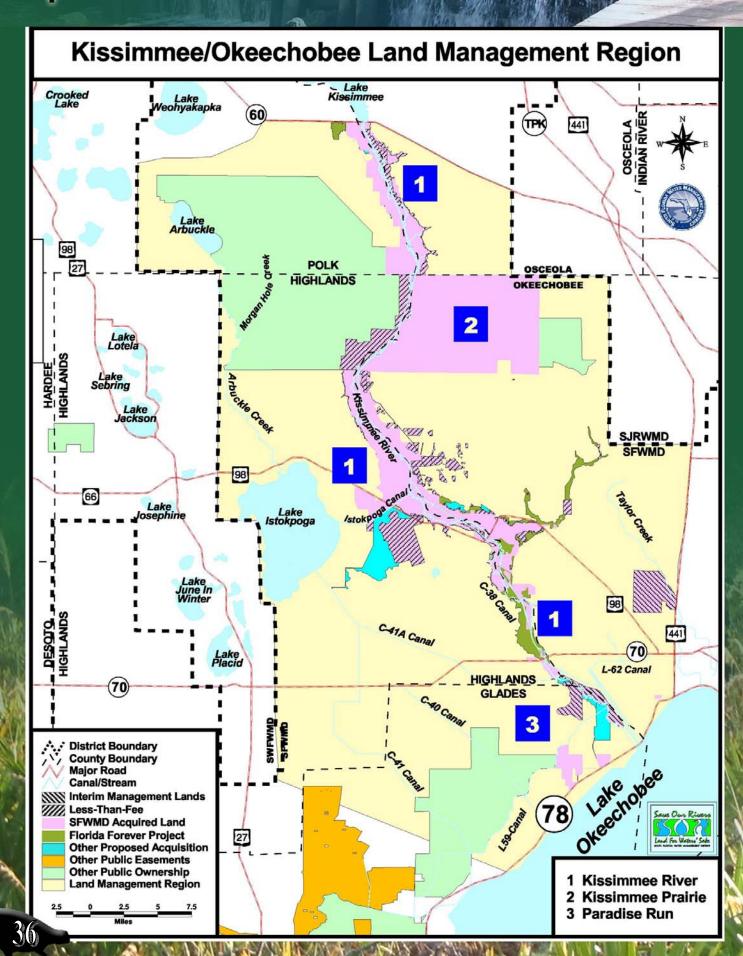


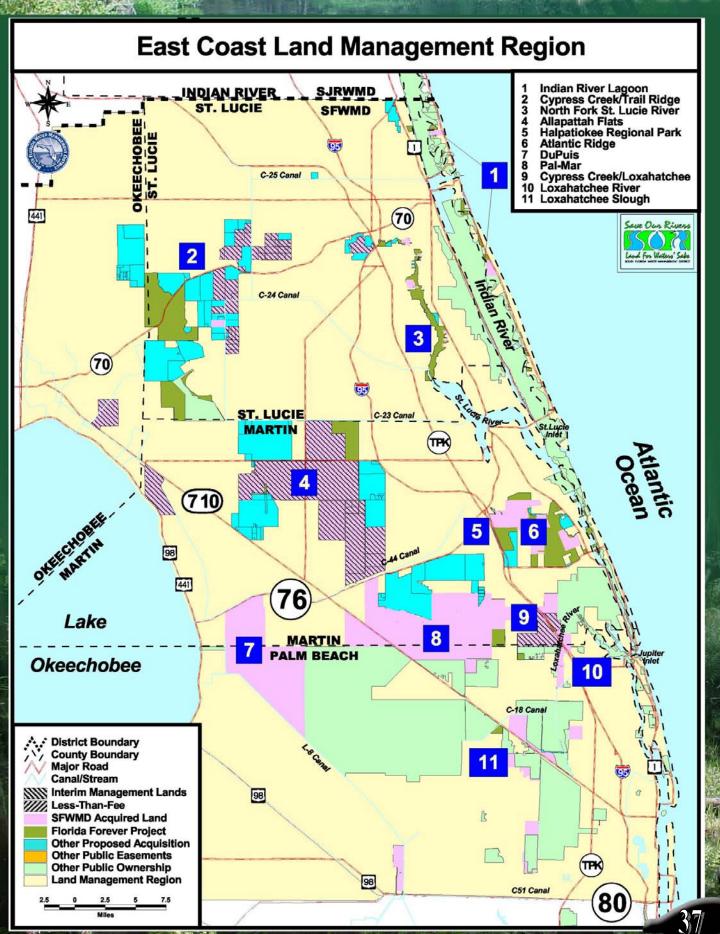
Maps



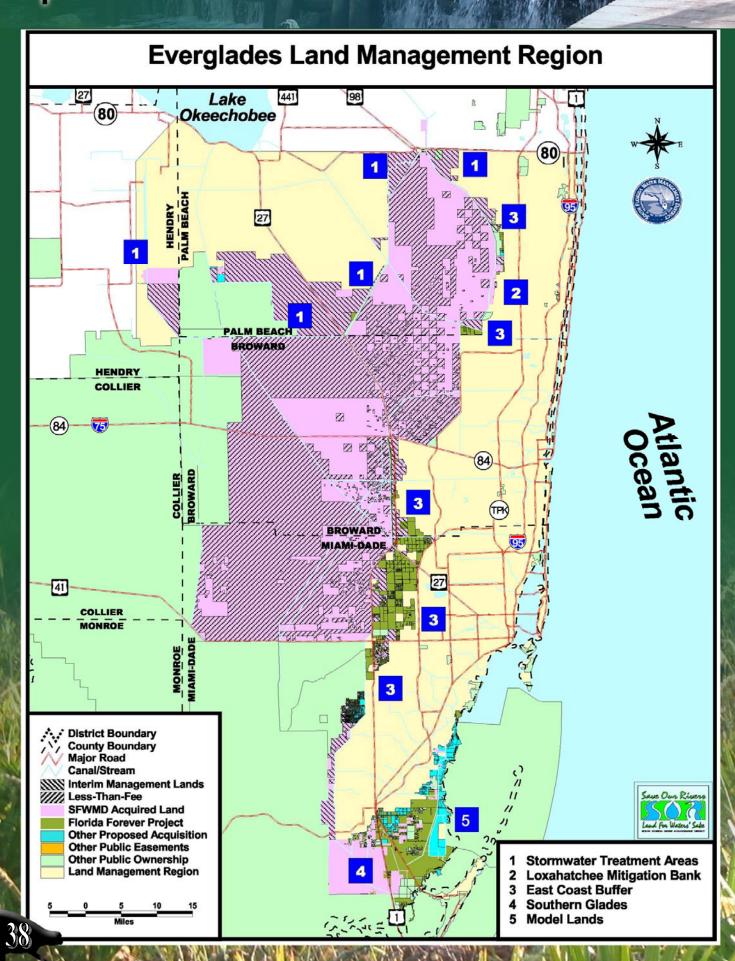


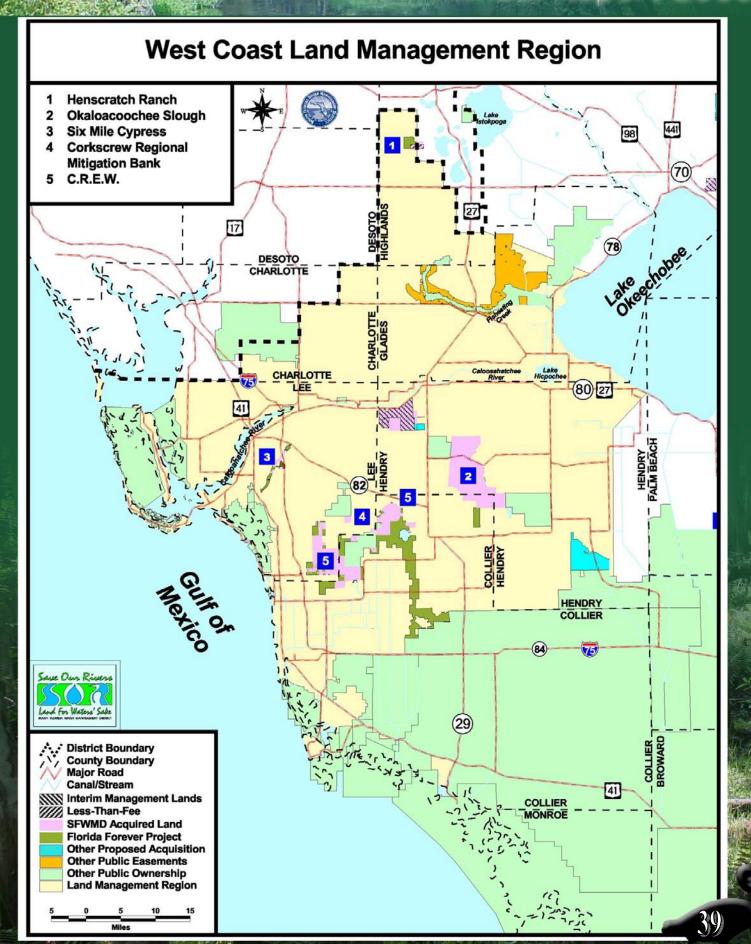
## Maps





Maps





## **Upper Lakes**

### UPPER LAKES LAND MANAGEMENT REGION

**Orlando Service Center** 

### **Kissimmee Chain of Lakes**

(District managed)

County: Osceola/Polk Project size: 36,763 acres

**District ownership:** 38,415 acres **Acquisition partners:** None

Acquisition of the Kissimmee Chain of Lakes project was designed to provide the capacity to store and flow water up to the 54 foot National Geodetic Vertical Datum 1929 contour line. Public access to most of the land is by boat, and several cattle leases and grazing reservations are within the Management Area. Resource management goals are to maintain and, where possible, restore natural communities, provide cost effective resource protection, and provide opportunities for compatible public use. In Fiscal Year 2006, ten picnic sites with benches were established. For exotic plants, approximately 25,000 acres were treated. In addition, 10,000 acres of semiimproved pasture were mowed to reduce nuisance native and exotic plants and to improve the conditions of the altered wet prairie communities on Gardner-Cobb Marsh, Lightsey Units, Catfish Creek, Rough Island, Johnson Island, and Lake Kissimmee East Shoreline. Approximately 4,050 acres were cleared utilizing prescribed burn. For Fiscal Year 2007, three Natural Resource Conservation Service restoration projects are planned for restoring approximately 3,000 acres.

### Lake Marion Creek (District managed)

County: Polk

**Project size:** 17,300 acres

**District ownership:** 7,067 acres

**Acquisition partners:** Polk County, Southwest Florida Water Management District, U.S. Fish

and Wildlife Service

Polk County's Lake Marion Creek flows from Lake Marion to Lake Hatchineha. Contained within the project area are scrub, sand hills, pine flatwoods, and riverine swamp forests. The majority of the property is open for year-round hiking; camping is available by Special Use License. Lands in this project have been acquired with the assistance from Polk County, the Southwest Florida Water Management District, and the U.S. Fish and Wildlife Service. Primary stewardship activities include prescribed burns, exotic plant control, resource protection, and public use. The FWC participates as a cooperative management partner by conducting a hunt program and security patrols. The area is managed as a Type 1 Wildlife Management Area. The management plan was adopted at the December 2005 District Governing Board meeting.

In Fiscal Year 2006, dense pine saplings were thinned on approximately 20 acres of cutthroat grass habitat, preventing encroachment on this endangered species. Exotic treatment of approximately 250 acres of Old World climbing fern (*Lygodium*), Caesar weed (*Urena lobata*), and cogon grass (*Imperata cylindrica*) also occurred; additional vegetative scrub may be acquired in Fiscal Year 2007. Florida scrub jay (*Aphelocoma coerulescens*) and sand skink (*Neoseps reynoldsi*) surveys were completed in 2006 by private contractors. Additional projects completed in Fiscal Year 2006 were the establishment of two new parking areas and finalization of an archaeological inventory.



## **SUMICA,** formerly known as Lake Walk-in-Water (managed by Polk County)

County: Polk

Project size: 4,009 acres

**District ownership:** 4,009 acres **Acquisition partners:** Polk County

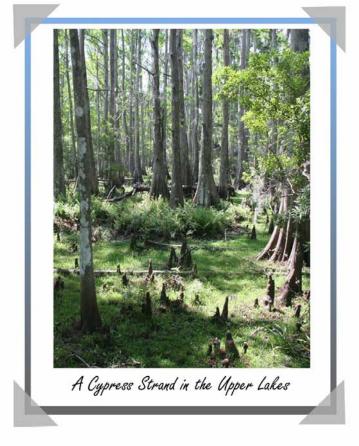
Polk County participated as a 50 percent acquisition partner under its Environmental Lands Program, and Polk County is also lead manager. A five-year management plan was prepared by Polk County and approved by the District. SUMICA, formerly known as Lake Walk-in-Water, is named after the historic logging town that existed on the site in the 1920s. Current public uses include hiking, hunting, camping, and horseback riding. There is an elevated walking trail to access the old elevated railroad tram and observation area.

### Reedy Creek (District managed)

County: Osceola

**Project size:** 30,000 acres **District ownership:** 5,479 acres **Acquisition partners:** None

For management purposes, the project is divided into Upper and Lower Reedy Creek. The Upper Reedy Creek Management Area includes those lands north of Pleasant Hill Road, and the Lower Reedy Creek Management Area encompasses approximately seven miles of creek corridor. There are two cattle leases and grazing reservations within the Reedy Creek Management Area. Management goals for both areas are to conserve and protect water resources and supplies, protect and restore the land in its natural state and condition, and provide compatible public use opportunities. The Lake Russell Management Unit in Poinciana is jointly managed by Osceola County Schools as an environmental education facility. A center with classrooms and displays provides interpretation to the scrub, Lake Russell, and the floodplain swamp communities that exist onsite. An interpretive hiking trail describes the unique plant communities and wildlife that exist in the scrub habitat of the site.



The management plan was adopted at the December 2005 District Governing Board meeting. District staff treated approximately 2,500 acres of exotic vegetation in Fiscal Year 2006. Cooperative management of exotics along Reedy Creek with the Nature Conservancy continues. Old World climbing fern (*Lygodium*), tropical soda apple (*Solanum viarum*), and Chinese tallow (*Sapium sebiferum*) follow-up treatments have been implemented. The FWC has identified the area of Lower Reedy Creek as a "Strategic Habitat Conservation Area," a "Biodiversity Hotspot," and a "Priority Wetland for Listed Species." These designations make the area a priority for preservation based on known occurrences of rare or listed species.

## **Upper Lakes**

### Shingle Creek (District managed)

County: Orange/Osceola Project size: 7,655 acres

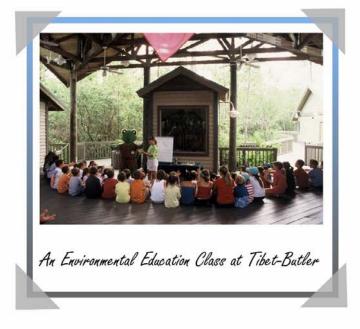
**District ownership:** 1,718 acres (includes

conservation easement of 124 acres) **Acquisition partners:** Mitigation

The District has undertaken several successful restoration projects within Shingle Creek Swamp that were funded as mitigation to offset wetland impacts associated with the construction of the Orlando Beltway. The management plan was adopted at the December 2005 District Governing Board meeting. In Fiscal Year 2006, the entire 1,700 acres were surveyed and spot treated for exotic vegetation, including Old World climbing fern (*Lygodium*), Para grass (*Urochloa mutica*), Caesar weed (*Urena lobata*), and primrose willow (*Ludwigia peruviana*). In addition, 30 acres of dense myrtle thickets around the perimeters of the east and west pine islands were treated to restore the historic wet prairie community.

Also in 2006, Land Stewardship staff worked with Hunter's Creek Middle School on placing the Everglades Trail Kiosk behind the school leading into the swamp. A canoe access point was also established at the school site. Signage at access points of the three parking area was installed this past fiscal year. The District is now working with Osceola County to open the Babb property for public recreation.





### **Tibet Butler Preserve**

(managed by Orange County)

County: Orange

**Project size:** 439 acres **District ownership:** 439 **Acquisition partners:** None

The Tibet-Butler Preserve covers 439 acres along the southwest shore of Lake Tibet-Butler in Orange County. This site includes approximately 4,000 feet of shoreline on Lake Tibet. Vegetative communities include bay swamp, pine flatwoods, cypress swamp, and smaller areas of xeric oak and freshwater marsh.

The Orange County Parks and Recreation
Department manages Tibet-Butler Preserve as an
environmental education facility that is open for
public use. A museum with a classroom was
constructed in 1994. It has a full-time staff, which
conducts programs for thousands of students each
year. Land managers also treat exotic vegetation and
maintain the system of hiking trails and boardwalks
that lead to the many community types on the
property.

## KISSIMMEE / OKEECHOBEE LAND MANAGEMENT REGION

**Okeechobee Service Center** 

### **Kissimmee Prairie Ecosystem**

(managed by the Florida Park Service)

County: Okeechobee Project size: 38,284 acres

**District ownership:** 38,284 acres

**Acquisition partners:** Trustees of the Internal

Improvement Trust Fund

Known as the Kissimmee Prairie Preserve State Park, the project is managed by the Florida Park Service under lease from the District and state. Recreational uses include hiking, bicycling, camping, horseback riding, and astronomy. A state-approved management plan is in place that addresses prescribed burns, exotic control, and public use. Exotic treatments and prescribed burns are ongoing.



### **Kissimmee River**

(managed by the District and the Florida Fish and Wildlife Conservation Commission)

**County:** Osceola/Polk/Highlands/Okeechobee

**Project size:** 68,332 acres

**District ownership:** 57,109 acres **Acquisition partners:** None

The Kissimmee River is cooperatively managed by the District and the Florida Fish and Wildlife Conservation Commission. The five-year plan for both areas includes prescribed burns, exotic plant control, upland shrub control, wildlife management, and forest management. In Fiscal Year 2006, 2,330 acres were prescribed burned, 2,214 acres were chemically treated for exotic plants, and 648 acres of overgrown shrub were mechanically shredded.

An extensive public use program on the river attracted hundreds of visitors to the area and included hunting, fishing, horseback riding, nature watching, hiking, camping, boating and education programs through the Riverwoods Field lab. Development of a campground for equestrian use has been completed, and the road leading to the campground is under development in Hickory Hammock. Completion of the road is scheduled for completion in winter 2007.

### Paradise Run (District managed)

County: Glades

Project size: 7,978 acres

**District ownership:** 3,328 acres **Acquisition partners:** None

Paradise Run lies west of the C-38 canal, between structure S-65E and Lake Okeechobee, and is open for public use, including hunting, under the Fish and Wildlife Conservation commission's Public Use Area concept. There are also two cattle leases on the property. Along with Pool A of the C-38 canal, the Paradise Run area of the C-38 canal will not be backfilled. However, a plan is being considered in the District's Lake Okeechobee Division to hydrologically restore Paradise Run without backfilling the C-38 canal. Remnant river oxbows are still present, although the surrounding land has been drained and is now improved pasture and spoil. During Fiscal Year 2006, 11 acres were treated for exotic plant control.

## East Coast

### EAST COAST

### LAND MANAGEMENT REGION

West Palm Beach/DuPuis

### **Allapattah Flats**

(managed by the District and the Florida Fish and Wildlife Conservation Commission)

County: Martin

Project size: 22,658 acres

**District ownership:** 20,948 acres

**Acquisition partners:** Martin County, Federal

Government

With funding assistance from Martin County and the federal government, Allapattah was purchased as part of the Comprehensive Everglades Recreation Plan's Indian River Lagoon – South, Project Implementation Report Recommended Plan. The Allapattah Flats is also known as the Allapattah Complex Natural Water Storage and Treatment Area. It is proposed that the ditches and swales that were excavated to drain and improve the property for cattle grazing will be plugged and filled. Afterwards, a low berm will be constructed at strategic locations to protect roadways and water control structures will be replaced to effect greater control of the site's water resources, allowing rehydration of the property's extensive wetland systems. Restoration will be partially funded through the Natural Resources Conservation Service's Wetland Reserve Program. It is expected that flood attenuation and water quality improvement be the outcomes to provide a reduction in discharges to the C-23 canal and, eventually, the Indian River Lagoon - South.

Management activities included continued treatment of exotic vegetation in Fiscal Year 2006. Wetland restoration activities were continued on Parcel A, with a low berm constructed on the west perimeter and a replacement water control structure constructed at the C-23 canal to allow more refined control of water elevations on the site. Two buildings formerly associated with the dairy operation were demolished. Additionally, the dairy lagoon and borrow canal located west of Fox Brown Road was filled in compliance with lagoon closure criteria, and onsite wells and septic systems unassociated with residences were closed.

The Florida Fish and Wildlife Conservation Commission implemented rules establishing the property as a wildlife management area and has posted the property boundaries. A parking area is being constructed north of County Road 714 to facilitate public use activities, including hiking, bicycling, equestrian use, hunting, and fishing.

### **Atlantic Ridge Ecosystem**

(managed by the Florida Park Service)

**County:** Martin

**Project size:** 12,461 acres

**District ownership:** 6,094 acres

**Acquisition partners:** Trustees of the Internal

Improvement Trust Fund

Atlantic Ridge is being managed by Florida Park Service, under a joint management lease from the District and the Florida Department of Environmental Protection, Division of State Lands, and has been designated as the Atlantic Ridge Preserve State Park. The management plan outlines the goals and objectives for the park. This plan describes hydrologic restoration and staffing needs, plans for exotic control and prescribed burns, and a public use program. It is proposed that initial public facilities will include a trailhead, small shelter, parking area, and restroom. Public access to the property is anticipated for Fiscal Year 2007 through a new residential development off Cove Road.



### **Cypress Creek/Loxahatchee**

(managed by District/Palm Beach County)

**County:** Palm Beach/Martin Project size: 4,255 acres

**District ownership:** 3,547 acres

**Acquisition partners:** Martin/Palm Beach

counties

The project is divided between Martin and Palm Beach counties and forms connections with Pal-Mar and District-owned lands in Jonathan Dickinson State Park. Nearly 3,000 acres are high quality natural area, containing a mixture of pine flatwoods, cypress swamps, and freshwater marshes. The area is the headwaters to Cypress Creek, a major tributary to the Northwest Fork of the Loxahatchee River. The remainder of the site has been cleared and used for intensive agriculture for many years. In Fiscal Year 2006, 1,815 acres of Old World climbing fern (Lygodium), tropical soda apple (Solanum viarum), guava (Psidium), pickerelweed (Pontederia cordata), downy rose myrtle (*Rhodomyrtus tomentosa*), Australian pine (Casuarina), Brazilian pepper (Schinus terebinthifolius), and melaleuca (Melaleuca quinquenervia) were chemically treated. Staff from Martin County Parks and Recreation Department was consulted for possible public recreational opportunities in the natural area. Restoration plans are underway to enhance the impacted natural areas and convert the agricultural lands to reservoirs or treatment marshes as a component of Comprehensive Everglades Recreation Plan.

### **DuPuis Management Area**

(managed by the District and the Florida Fish and Wildlife Conservation Commission)

**County:** Palm Beach/Martin Project size: 21,858 acres

**District ownership:** 21,858 acres

**Acquisition partners:** None

The DuPuis Management Area is cooperatively managed by the District and the Florida Fish and Wildlife Conservation Commission. The DuPuis five-year management plan includes prescribed burns, exotic plant control, upland shrub control, wildlife management, and forest management. In Fiscal Year 2006, approximately 8,000 acres were

prescribed burned, 1,500 acres were chemically treated for exotic plants, and 775 acres of overgrown shrub vegetation were mechanically shredded. Select areas of over-dense stands of cabbage palms and over 900 acres of pine trees were thinned to improve habitat quality. Significant progress was made toward reintroducing the endangered red-cockaded woodpecker (*Picoides borealis*) onto the area. In addition, an extensive public use program at DuPuis attracted thousands of visitors to the area and included activities such as hunting, fishing, horseback riding, nature watching, hiking, camping, and education programs through the DuPuis Visitors' Center.

### Halpatiokee Park

(managed by Martin County)

County: Martin

**Project size:** 347 acres

**District ownership:** 347 acres **Acquisition partners:** None

Halpatiokee is the portion of the Atlantic Ridge Ecosystem Project that lies west of the South Fork of the St. Lucie River (163 acres) as well as the 184 acres previously acquired by the District as the South Fork project. Martin County manages the natural area in conjunction with Halpatiokee Regional Park staff. The property consists of pine flatwoods that surround a series of lakes that were originally excavated to provide fill for the construction of Interstate 95. The South Fork property is a mixture of river floodplain, pine flatwoods, and scrub. In Fiscal Year 2006, the county treated approximately 150 acres of Old World climbing fern (*Lygodium*), Brazilian pepper (*Schinus* terebinthifolius), ear-leaf acacia (Acacia auriculiformis), cogon grass (Imperata cylindrica), melaleuca (Melaleuca quinquenervia), and downy rose myrtle (Rhodomyrtus tomentosa). In addition, Martin County held a one-day workday with the North County Land Managers group to treat those same invasive species; the ten participants provided 80 hours of work effort. The county also installed interpretive signage along the river trail, provided an interpretive trail map, and is proceeding to install a composting restroom at the campground.

## East Coast

### **Indian River Lagoon**

(managed by St. Lucie County)

County: St. Lucie/Martin Project size: 653 acres

**District ownership:** 653 acres

**Acquisition partners:** St. Lucie County, Trustees of the internal Improvement Trust

Fund, Federal Government

Indian River Lagoon is managed by St. Lucie County under a lease from the District and the Florida Department of Environmental Protection, Division of State Lands. The property itself has been included for participation in the county's nonchemical mosquito control efforts, which has greatly improved water quality, wildlife, and fisheries habitat in the lagoon. Mosquito impoundment berms are accessible to the public and provide excellent opportunities for fishing, crabbing, and bird watching. The Blind Creek property includes ocean beachfront access and a dune crossover. During Fiscal Year 2006, approximately 40 acres of Blind Creek was treated for exotics. A volunteer day was held to replant 5 acres that were previously exotics. Sixty volunteers were available that day to plant 1,200 trees, shrubs, and groundcovers.

### **Loxahatchee River**

(managed by Palm Beach County and the Florida Park Service)

**County:** Palm Beach **Project size:** 1,547 acres

**District ownership:** 1,547 acres

**Acquisition partners:** Palm Beach County

District-owned lands along the river are managed by the Florida Park Service and the Palm Beach County Parks and Recreation Department. The Florida Park Service manages the area north of State Road 706 (Indiantown Road) as part of Jonathan Dickinson State Park while Palm Beach County manages the lands south of the road as Riverbend County Park. Both land managers have extensively treated exotics. Palm Beach County, in cooperation with the District, is completing hydrologic restoration of its management area in an attempt to restore the Eastern Slough, a historic tributary to the

Loxahatchee River. The restoration project will enable water to be delivered to the Loxahatchee River through a more natural flow-way. The Florida Park Service manages its lands under the Jonathan Dickinson State Park management plan. Palm Beach County has a development plan for Riverbend Park. A management plan will be developed as park development progresses.

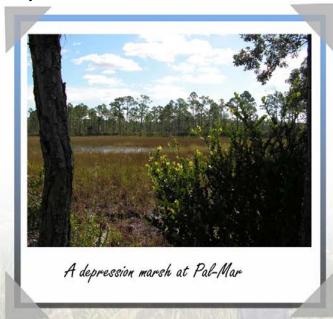
### **Loxahatchee Slough**

(managed by Palm Beach County)

County: Palm Beach Project size: 12,713 acres

**District ownership:** 1,488 acres **Acquisition partners:** None

Palm Beach County's Department of Environmental Resources Management is currently managing the Sandhill Crane portion of the project—a 1,488 acre tract purchased by the District. The transfer of ownership from the District to Palm Beach County is forthcoming. The county owns more than 10,000 acres in the Loxahatchee Slough Natural Area, which adjoins the Sandhill tract. In Fiscal Year 2006 more than 1,000 acres of exotic vegetation in the Sandhill tract were treated by Palm Beach County.



### North Fork St. Lucie River

(managed by St. Lucie County and the Florida Department of Environmental Protection)

County: St. Lucie

**Project size:** 3,694 acres **District ownership:** 482 acres

Acquisition partners: St. Lucie County,

Trustees of the Internal Improvement Trust fund

State of Florida, St. Lucie County, and Districtowned lands along the North Fork are being managed by St. Lucie County and Florida Department of Environmental Protection as part of the North Fork Aquatic Preserve. Both agencies are treating exotics and conducting limited prescribed burns, which is extremely difficult due to the surrounding urban development area. Most of the site was retreated for exotics

St. Lucie County has constructed and now operates the Oxbow Eco-Center, which is an environmental education facility along the North Fork of the St. Lucie River in Port St. Lucie. This facility incorporates indoor displays with outdoor programming that utilizes interpretive trails, towers, and boardwalks. Approximately 20,000 students and visitors participated in classes, workshops, and special events at the facility.

#### Pal-Mar

(managed by the Florida Fish and Wildlife Conservation Commission and Palm Beach County)

County: Palm Beach/Martin Project size: 38,549 acres

**District ownership:** 16,807 acres

**Acquisition partners:** Trustees of the Internal Improvement Trust Fund, Palm Beach County

State and District-owned lands are under management lease to Florida Fish and Wildlife Conservation Commission using an approved management plan. The Commission manages the Martin County lands as the John C. and Mariana Jones/ Hungryland Wildlife and Environmental Area. Palm Beach County manages its lands south of Indiantown Road as the Trail Glades Natural Area. The property is open for public use activities, including hiking, primitive camping, hunting, fishing, bicycling, and horseback riding.

The Commission is conducting resource inventories and have mapped exotic infestations. Exotic treatments and prescribed burns are ongoing. This past fiscal year, approximately 6,300 acres were surveyed and treated for exotics (initial), and 455 acres were surveyed and treated for exotics as part of second year maintenance. Also in Fiscal Year 2006, 885 acres were prescribed burned.

### **Ten-Mile Creek**

(managed by the District / St. Lucie County)

**County:** St. Lucie **Project size:** 910 acres

**District ownership:** 910 acres

**Acquisition partners:** St. Lucie County, Florida Department of Environmental Protection

The bulk of this site is contains a Reservoir and an Stormwater Treatment Area. There is a 43 acre park that was under construction in 2006 by St. Lucie County through a lease with the District. The Land Stewardship Division is coordinating recreation planning for the reservoir and the natural areas outside of the project footprint along the river.

### Trail Ridge

(District managed)

County: St. Lucie

**Project size:** 14, 270 acres **District ownership:** 1,233 acres **Acquisition partners:** None

The Cypress Creek/Trail Ridge Complex is a component of Comprehensive Everglades Recreation Plan's Indian River Lagoon - South, Project. Some of the property identified within the Cypress Creek/Trail Ridge footprint includes the St. Lucie County owned Bluefield Ranch property and Pinelands. It is proposed that many of the ditches and swales that were excavated to drain and improve the property for cattle grazing will be plugged and filled to improve the wetland character of the property and minimize flows to the canal system and ultimately the St. Lucie and Indian River Lagoon estuaries. No restoration activities were completed in 2006, as authorization and funding for the Indian River Lagoon – South Plan is still pending congressional approval. However, some boundary fencing was installed to facilitate interim use for cattle grazing.

## Everglades

#### EVERGLADES LAND MANAGEMENT REGION

Miami Service Center and West Palm Beach

### **East Coast Buffer**

(District / US Army Corps managed)

County: Palm Beach, Broward, Miami-Dade

**District ownership:** 19,953 acres

**Acquisition partners:** Broward and Miami-Dade Counties and the Federal Government

The East Coast Buffer project provides a buffer between the developed areas and the Everglades. The primary goal is to raise water levels to prevent seepage from the Water Conservation Areas, reestablish natural hydroperiod patterns and maintain flood protection for urban and agricultural areas. The project integrates the development of deep water reservoirs located along the edge of the east coast urban service area with a series of shallower, connecting wetland marshes. The acres represented above represent the wetland marshes and other passive project components including,

- the Strazulla Wetlands.
- the Everglades Buffer Strip,
- the Cell 17/18 and Pennsuco Mitigation Areas,
- the Bird Drive Recharge Area,
- the 8.5 sq. mile area,
- L-31/Rocky Glades.

During Fiscal Year 2006, the primary management activity was exotic control with over 4.500 acres treated.

### **Loxahatchee Mitigation Bank**

(managed by TetraTech FW, Inc.)

County: Palm Beach Project size: 1,256 acres

District ownership: 1,256 acres

**Acquisition partners:** Palm Beach County

The Loxahatchee Mitigation Bank site lies adjacent to the Arthur R. Marshall Loxahatchee National Wildlife Refuge. This site provides habitat

connectivity that augments existing Everglades wetland systems. Unfortunately, Brazilian pepper and other exotics have degraded the area, adversely impacting native wildlife habitat, including a number of threatened and endangered species. The goal of the bank is to restore habitat values and provide enhancement of a degraded Everglades ecosystem through hydroperiod restoration, exotic vegetation removal, re-vegetation with desired species, and prescribed burns. Through an open and competitive solicitation process, Tetra Tech EC, Inc. (Tetra Tech) was selected to establish the Loxahatchee Mitigation Bank. Permitting and construction have been completed; exotic vegetation removal and native community enhancements are ongoing. As of November 2006, the Loxahatchee Mitigation Bank completed its fourth year of monitoring towards attainment of the success criteria. In May 2006, the third revenue disbursement, amounting to \$410,000, was provided by Tetra Tech to the District. This amount will be utilized to offset previous land acquisition costs and associated project costs.



### **Model Lands**

(managed by the District and Miami-Dade County)

County: Miami-Dade Project size: 47,482acres

**District ownership:** 7,496 acres

**Acquisition partners:** Miami-Dade County

The Model Lands project will play a vital role in conveying and treating sheet flow from the southern Miami-Dade County area to the downstream estuaries into Biscayne Bay and Biscayne National Park. The project area is a combination of fresh and saltwater wetlands, with portions heavily infested with exotic vegetation. Although more than 15,500 acres are in public ownership, there is no public use program due to lack of legal access and scattered ownership. The major management activities have been treating exotic vegetation and restricting detrimental activities, such as off-road vehicular use, which can cause long-term ecological impacts, poaching, and dumping. Hydrologic restoration is necessary and is planned under Comprehensive Everglades Restoration Plan. In 2006, over 620 acres of exotics were treated for the first time and followup was completed on more than 3,340 acres.



### Frog Pond (District managed)

**County:** Miami-Dade **Project size:** 5,273 acres

**District ownership:** 5,273 acres

**Acquisition partners:** Miami-Dade County

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.

In Fiscal Year 2006 425 acres were burned, 705 acres of exotics were chemically treated, 77 pythons were killed and several hundred native upland trees were planted.

### **Southern Glades**

(managed by the Florida Fish and Wildlife Conservation Commission)

County: Miami-Dade Project size: 36,362 acres

**District ownership:** 32,402 acres **Acquisition partners:** None

Southern Glades is cooperatively managed by the Florida Fish and Wildlife Conservation Commission, under a lease agreement, as the Southern Glades Wildlife and Environmental Area. It is publicly open to hiking, wildlife viewing, fishing, hunting, airboating, bicycling, and horseback riding. The District is directing mitigation funds for habitat restoration to include exotic plant removal and revegetation with native species. In Fiscal Year 2006, the District, in cooperation with the Commission, received \$3,000 worth of nursery stock to enhance both the existing hardwood hammocks and a pine rockland several acres in size. The District performed exotic plant control over 612 acres (134 acres of initial with 478 acres of follow-up treatment) using aerial and ground crews. The primary species targeted include coral ardisia (Ardisia crenata), Brazilian pepper (Schinus terebinthifolius), Australian pine (Casuarina), and red leucaena (Leucaena diversifolia).

## West Coast

### WEST COAST LAND MANAGEMENT REGION

Ft. Myers Service Center

### **Corkscrew Regional Mitigation Bank**

(managed by Mariner Properties Development, Inc.)

County: Lee

Project size: 633 acres

**District ownership:** 633 acres **Acquisition partners:** None

The Corkscrew Regional Mitigation Bank is located in southern Lee County along Corkscrew Road (State Road 850). It is adjacent to the Imperial Marsh/Stairstep mitigation area, established to offset impacts associated with the Southwest Florida Regional Airport. The goal of the bank is to improve habitat values and restore the historic function of the upland/wetland mosaic through hydroperiod restoration, re-vegetation, exotic vegetation removal, and prescribed burns. The bank site contributes to corridor building and the green infrastructure within the regional context. Mariner Properties Development, Inc., selected through an open and competitive solicitation process, is establishing the bank. During Fiscal Year 2006, the bank continued herbicide treatment of pasture grass and other exotic plants. After treatment and soil preparation, pasture areas were planted with mixed native seed collected from natural areas: good germination of these native seeds was achieved. In addition, a prescribed burn on upland areas greatly improved the wildlife habitat value.

### CREW

(managed by the District and the Florida Fish and Wildlife Conservation Commission)

County: Lee, Collier Project size: 63,338 acres

**District ownership:** 26,025 acres

Acquisition partners: Lee County, Trustees of

the Internal Improvement trust Fund

The Distrrict and the Florida Fish and Wildlife Conservation Commission jointly manage the CREW Management Area. Property boundaries are posted,



and Commission wildlife officers patrol the property. The public use and environmental education program is directed by the CREW Land and Water Trust. The general management plan was updated in Fiscal Year 2006 and adopted at the August 2006 District Governing Board meeting. It describes plans for exotic control, prescribed burns, upland restoration opportunities, and public use. In Fiscal Year 2006, approximately 368 acres were prescribed burned and 3,948 acres of exotics were treated. Restoration work continued on the CREW Management Center (288 acres), East Corkscrew Marsh (80 acres), East Bird Rookery Swamp (70 acres), and Tree Wizard (10 acres) using both mechanical shrub control and exotic plant control techniques. Three miles of earthen berm were graded back into borrow ditches on the 640 acre Gordon Swamp cattle lease area. During FY2006, a 1,400-foot boardwalk into Bird Rookery Swamp was completed, providing future access to 10 miles of old logging tram roads that will be used for hiking and biking trails.



### **Okaloacoochee Slough**

(managed by Florida Division of Forestry and the Florida Fish and Wildlife conservation Commission)

**County:** Hendry, Collier **Project size:** 37,218 acres

**District ownership:** 34,982 acres

**Acquisition partners:** Trustees of the Internal Improvement Trust Fund and the Florida Fish and Wildlife conservation Commission

The Division of Forestry and the Fish and Wildlife Conservation Commission purchased additional lands in the project that expand the original purchase by the District and the state. The project is managed as Okaloacoochee Slough State Forest with the Division of Forestry as the lead manager. The Commission is responsible for wildlife management, and manages the project as a Type 1 wildlife management area and conducts a public hunt program. An approved management plan is in place.

In Fiscal Year 2006, approximately 1,900 acres were prescribed burned, and 5,261 acres of exotic vegetation were surveyed and/or chemically treated. Additionally, 243 acres were drum chopped for a planting site preparation then planted with 151,000 South Florida slash pine (Pinus elliottii). Within the area, over 1,000 visitors came to the forest, and a total of 150 people utilized the campgrounds. Ground improvements included 1 mile of trail marked, 3 miles of road upgraded, 77 miles of road maintained, 2 miles of boundary line maintained, 86 acres of maintenance mowing, and 250 acres were mechanically controlled in preparation for inclusion into the native seed collection area. There were also 85 acres of Bahia pasture restored to native ground cover.

### Six Mile Cypress (managed by Lee County)

County: Lee

**Project size:** 2,193 acres **District ownership:** 842 acres
Acquisition partners: Lee County

The Six Mile Cypress property is jointly owned by Lee County and the District. Since acquisition, it has been managed by Lee County Parks and Recreation. The management plan was updated in 2002. Six Mile Cypress likely has the highest rate of

public visitation of any District project. Each year, approximately 50,000 Lee County students and visitors use the outdoor classroom facility and boardwalk built and maintained by Lee County. In FY2006, permitting was completed for a new Interpretive Building to be built onsite. Construction is anticipated to begin soon.

Management activities conducted during Fiscal Year 2006 included working with consultants on the design and permitting for two mitigation projects involving removing exotic plant, replanting with native vegetation, and filling ditches in the slough. Work on the two larger projects permitted last year is anticipated to begin in early Fiscal Year 2007. Also conducted were monitoring surveys of selected ponds to determine wildlife presence, percent cover by exotic vegetation, and other related parameters. In addition, an extensive study of the slough hydrology was begun by the District and Florida Gulf Coast University in Fiscal Year 2006.

Other management activities included feral hog removal, as a large number of hogs have been entering the preserve from adjacent lands cleared for development. As of the end of Fiscal Year 2006, over 300 hogs have been removed. Lastly, vandalism within the area has been reduced by a combination of patrols by county rangers and postings of regulatory signage.



## **Project Lands**

### **Project Lands**

Miami and Okeechobee Service Centers and West Palm Beach

### Stormwater Treatment Areas (District Managed)

**District ownership:** 76,030 acres

The Stormwater Treatment Areas are large, constructed wetlands designed to remove phosphorus from surrounding agricultural areas before the runoff reaches the Everglades. The treatment areas are divided into several cells, each with varying degrees of water quality treatment to maximize the cleanup. The Land Stewardship Division provides interim property management until it is ready to be turned over to a project development team, provides recreation planning during project development, and administers the recreation programs following the completion of the project.. Three sites will be completed by fall 2007. In the meantime, the Land Stewardship Program manages organized bird watching trips with Pine Jog and the Audubon Society in Stormwater Treatment Areas 1W and 5, respectively; Florida Fish and Wildlife Conservation Commission manages waterfowl hunts in Stormwater Treatment Areas 1W, 3/4, and 5. During 2006, alligator hunts occurred for the first time in Stormwater Treatment Area 5.

### **Projects with Land Stewardship for interim management:**

- C-23/C-24 STA
- C-44 East STA
- C-44 West STA

### **Projects in the Development / Recreation Planning phase:**

- Everglades Ag. Area Compartments B and C
- Stormwater Treatment Area 1W
- Stormwater Treatment Area 1E
- Stormwater Treatment Area 2
- Stormwater Treatment Area 3/4
- Stormwater Treatment Area 5
- Stormwater Treatment Area 6





### Reservoirs (District Managed)

### **District ownership:** 74,336 acres

Reservoirs are Comprehensive Everglades
Restoration Plan components that are designed to
store large quantities of water during wet periods
with the ability to have some sediment and pollutants
settle out of suspension, and provide timed releases
that more closely mimic natural conditions. As with
Stormwater Treatment Areas, the Land Stewardship
Division provides interim property management until
it is ready to be turned over to a project development
team, provides recreation planning during project
development, and administers the recreation
programs following the completion of the project.
The following are the project lands that are to be
developed and operated as Reservoirs.

### **Projects with Land Stewardship for interim** management:

- Everglades Agricultural Area Storage Reservoirs Phase 2
- North of Lake Okeechobee Storage Reservoir
- Taylor Creek Storage and Treatment Area
- C-43 Storage Reservoir
- North Lake Belt Storage
- Central Lake Belt Storage
- C-44 Reservoir
- C-23/24 South Reservoir
- C-23/24 North Reservoir
- Palm Beach County Agricultural Reserve Reservoir

### **Projects in the Development / Recreation Planning phase:**

- Acme Basin B Discharge
- Site 1 Impoundment
- C-9 and C-11 Impoundments
- Nubbin Slough Storage and Treatment Area
- EAA Storage Reservoir Phase 1
- C-51 and L-8 Reservoir





## Staff



### LAND ACQUISITION AND LAND MANAGEMENT DEPARTMENT

Kenneth G. Ammon, P.E., *Deputy Executive Director, CERP* Ruth Clements, *Department Director* Kim Shugar, *Deputy Department Director* 

#### SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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