

# **South Florida Water Management District Land Stewardship Division**



## **Cypress Creek Interim Management Plan (2005 – 2010) (Martin County portion)**

**January 2005**

## **Background**

In 1999 the Treasure Coast Regional Planning Council submitted applications to the SFWMD (Save Our Rivers) and the State (Conservation and Recreation Lands) for the purchase of 4,184 acres in Martin and Palm Beach counties, known as Cypress Creek/Loxahatchee. The project was approved by the District governing board and the State CARL committee and was added to their acquisition lists in 2000. A project assessment was prepared by Florida Natural Areas Inventory (FNAI) that described the natural communities and historical resources, evaluated recreation opportunities, and listed preliminary management goals and objectives.

In 2003 3,547 acres were purchased—599 ac. by Palm Beach County and 2,948 acres jointly by Martin Co. and SFWMD (Figure 1). This interim management plan only addresses that portion of the project in Martin County. The Palm Beach County lands will be managed by the county's Department of Environmental Resources Management under a separate plan. The Palm Beach County plan is under development and will incorporate the county's Loxahatchee River Natural Area as well. The county plan will address resource management issues and recommend passive recreational uses, including the development of small parking areas and ADA accessible trails. The county will coordinate its management plans and activities with the District, Martin County, and Florida Park Service and take it before its Natural Areas Management Advisory Committee prior to approval by the Palm Beach County Board of County Commissioners. The County's plan will follow guidelines established by the Department of Community Affairs to satisfy Florida Communities Trust grant requirements.

The District and Palm Beach County are actively managing the lands on both sides of the county line. Exotic plant control, feral hog trapping, and prescribed burning are being conducted with cooperation and coordination among agencies.

## **Acquisition Purpose**

Cypress Creek is a critical element in the multi-agency effort to increase water storage and freshwater flows to the Northwest Fork of the Loxahatchee River. The Cypress Creek watershed includes the public and privately owned portions of Pal-Mar; the residential developments of Ranch Colony, The Links, Ranch Acres, and Old Trail; and the Becker Groves/Nine Gems properties west of the Turnpike (Figure 2). Historically, these lands drained eastward via sheetflow and into Cypress Creek, which meandered across the property before discharging into the Northwest Fork. Runoff leaving these areas is now routed to the river via the Cypress Creek Canal, which runs along the boundary separating the Cypress Creek natural area from Colony Park/Old Trail. The canal drains approximately 40 square miles into the Northwest Fork, and for years high flows in the canal have caused scouring which has resulted in sediment deposition when it discharges into the river.

Cypress Creek is a key component under evaluation in the North Palm Beach County CERP Project, Part 1. Modeling is underway to determine whether the citrus groves can best be used as a flow way, stormwater treatment area, reservoir, or some combination thereof to benefit the Northwest Fork. A hydrologic study has been completed under a contract from the District and Martin County that evaluates a much larger watershed than just Cypress Creek (*Cypress Creek/Pal-Mar, & The Groves Basin Study*) by Tomasello Consulting, Inc. The study had the following objectives:

- Determine historic hydroperiods in Pal-Mar
- Model for flood analysis and evaluation of scouring in canals
- Develop a long-term, basin-scale water budget model for studying water management during low and average flow conditions
- Assess water quality in the project area

Martin County is currently embarking on a second phase of the basin study which will use the calibrated model to evaluate effects of various solution sets. As plans for this area progress, updates will be provided.

### **Project Description**

Historically, Cypress Creek drained the Pal-Mar area and meandered eastward from the vicinity of Culpepper Ranch (Figure 1), through the Cypress Creek parcel, eventually discharging into the Northwest Fork of the Loxahatchee River (*Cypress Creek/Pal-Mar, & The Groves Basin Study-2003*). Historic sheetflow to the creek has been diverted to the Cypress Creek Canal. Isolation by agricultural and residential development has resulted in a strand swamp heavily infested with exotic vegetation.

Interpretation of 1940 aerial photographs by the consultants indicated that a vastly different vegetative structure existed at that time than what occurs today. In 1940 the property was dominated by large open areas of wet prairie interspersed with wet flatwoods, deeper areas of depression marsh and slough, and cypress and oak dominated floodplain forest along Cypress Creek. The most obvious difference was the amount of canopy closure that has occurred, most likely due to hydrologic alterations and the lack of fire.

The 2000 FNAI report described a site dominated by mesic and wet flatwoods, shallow depression marshes and wet prairies, and strand swamp/floodplain forests (*Cypress Creek Project Assessment--Dec. 2000*). Slash pine, cabbage palm, and bald cypress are common throughout the site. Much of the forest understory has been cleared for improved pasture and planted in bahia grass. The intact understory areas includes saw palmetto, wax myrtle, and myrsine. There are extensive exotic infestations of old world climbing fern, downy rose myrtle, melaleuca, Brazilian pepper, guava, and Caesar weed throughout the property.

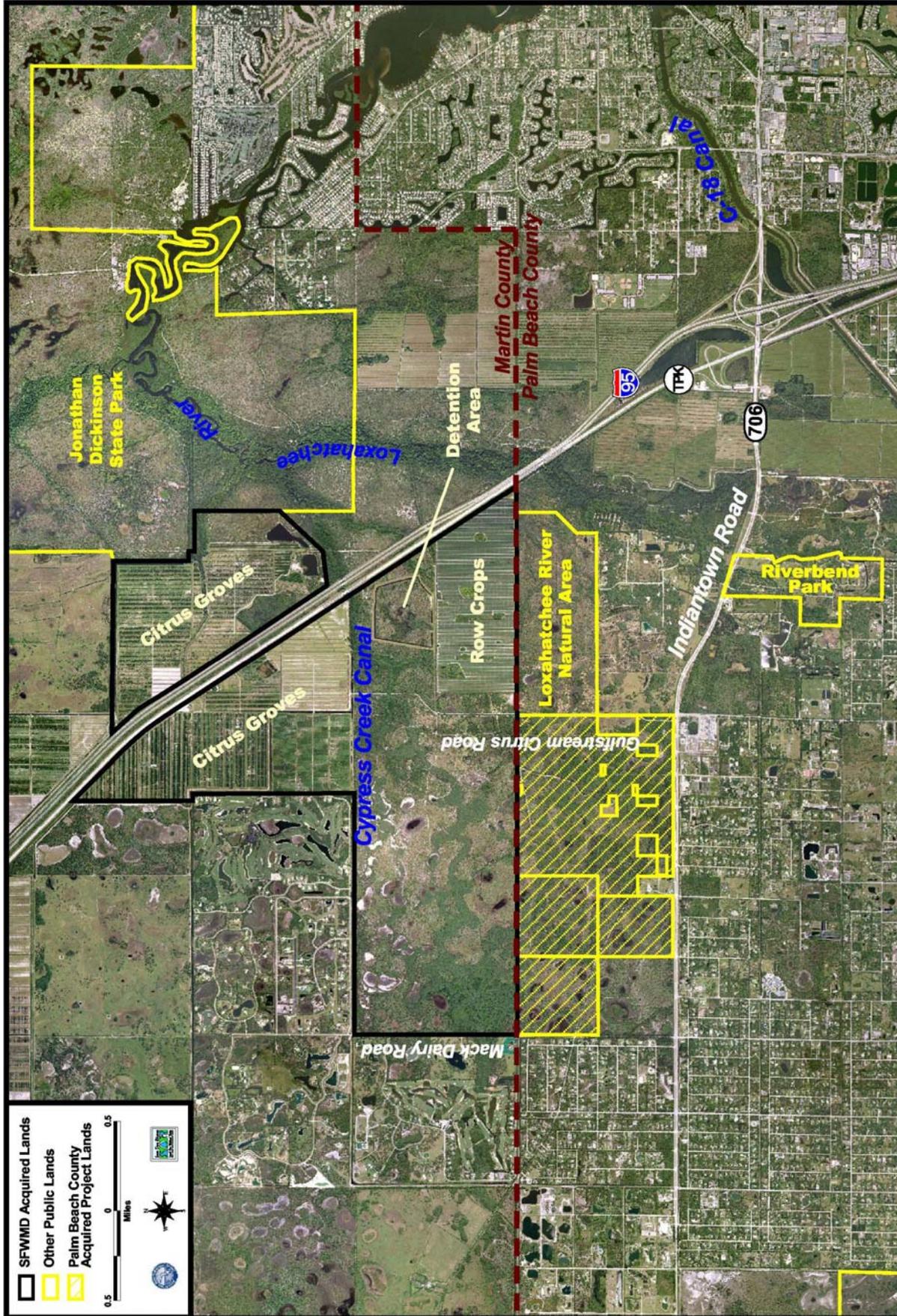
### **Longterm Management**

It is envisioned that the citrus groves will be developed into a flow way, stormwater treatment area, reservoir, or some combination thereof as part of the North Palm Beach County CERP project. It has been proposed that the existing row crop area be restored to pine flatwoods, and that historic sloughs within the fields that hydrologically connected Palm Beach County's Loxahatchee River Natural Area with Cypress Creek be reestablished. Discussions have been held with the Florida Park Service regarding eventual incorporation of the Martin County natural areas and pepper field into Jonathan Dickinson State Park. In 2005 the District will take the lead in developing a management lease, to be signed by all parties, which will designate DEP as the lead managing agency. As in other similar leases with state agencies, the District will retain responsibility for hydrologic restoration.

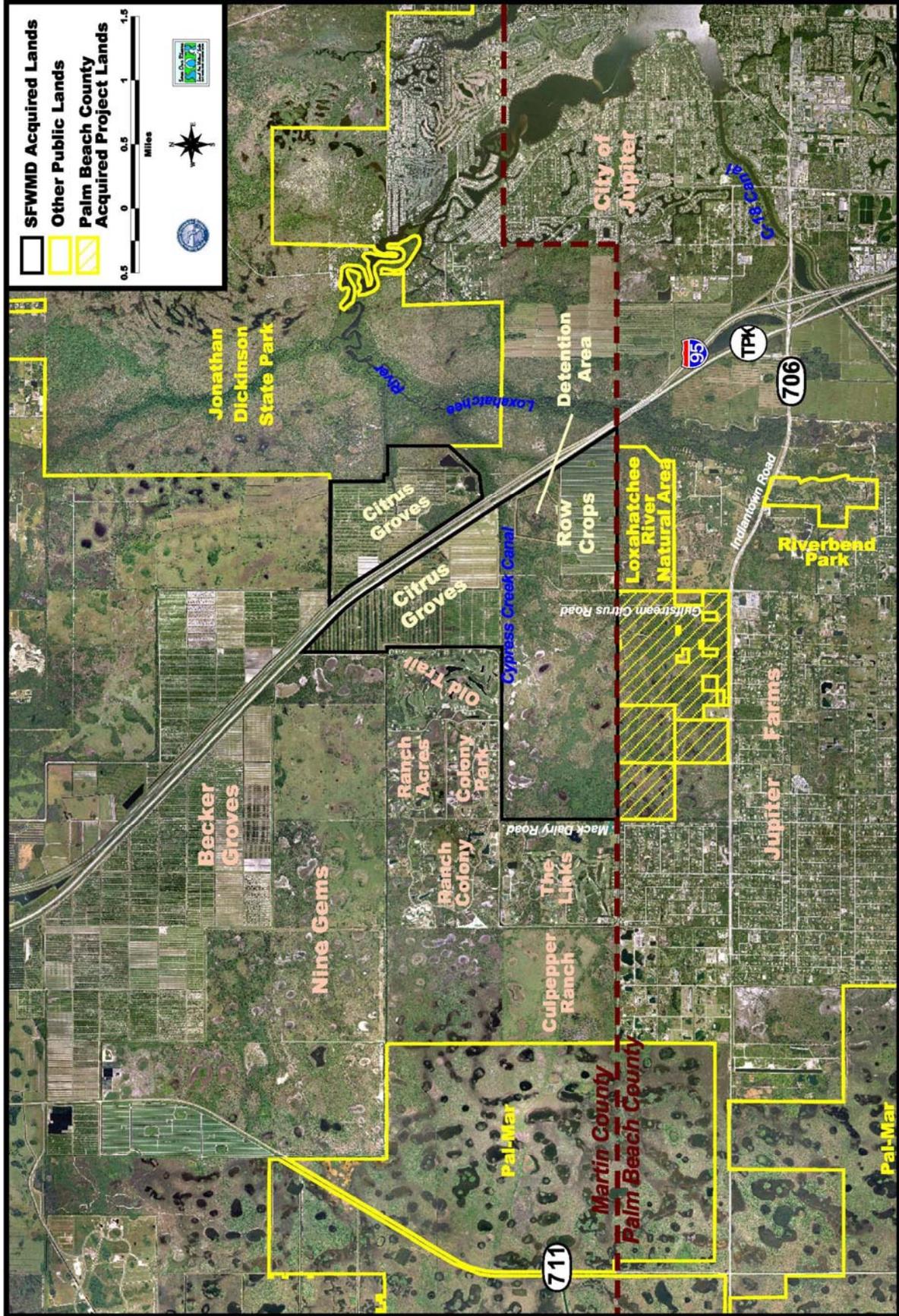
### **Interim Management (agricultural lands)**

The District's Interim Property Management Program addresses those lands that will be used to further the goals of the Comprehensive Everglades Restoration Program (CERP) and other District water resource projects. Until the District is ready to implement a water resource management plan for Cypress Creek, the citrus grove may remain in production as a lease from the District. Any agricultural activity on the grove parcel must comply with strict Best

Management practices to insure that these activities will not adversely impact the water resources of the basin. At this time the pepper field is not a component of the CERP water resource management project and,



**Cypress Creek/Loxahatchee Location Map**  
 (With 2003 2 Foot Resolution True Color Satellite Imagery)  
 (Figure 1)



**Cypress Creek/Loxahatchee Location Map**  
 (With 2003 2 Foot Resolution True Color Satellite Imagery)  
 (Figure 2)

upon completion of its lease in 2006, could be available for upland restoration. The agricultural leases serve several purposes:

- Provide on-site management and security at minimal cost to District
- Produce revenues to offset District management, maintenance, and security costs
- Benefit local agricultural economy by keeping lands in production for as long as possible
- Benefit local government by keeping lands on tax roll until needed for construction

### **Existing Leases**

#### **Citrus grove**

- Contract # C-15948
- Lessee—Sunrise Boys
- Area—1,411 acres
- Termination date—6/30/05 (may be extended)
- Requirements/restrictions
  - No construction of fences, structures, or improvements without District approval
  - All improvements become property of District
  - Lessee responsible for maintenance & repair of all structures & improvements
  - Lessee responsible for annual property tax payments ~\$30,000/yr.
  - No hunting permitted
- Potential problems
  - Exotic vegetation—District began chemical treatment in Jan. 2004
  - Possible copper contamination from previous agricultural operations—USFWS conducting snail kite surveys to measure soil residue
  - Citrus canker—USDA conducting surveys & eradication
  - Fuel storage site not owned by lessee

#### **Row crops**

- Contract # C-15996
- Lessee—R & A Farms
- Area—586 acres
- Termination date 5/31/06
- Annual lease payment--\$118,000
- Requirements/restrictions
  - Above ground impoundment must be inspected annually by certified engineer
  - No construction of fences, structures, or improvements without District approval
  - All improvements become property of District
  - Lessee responsible for maintenance & repair of all structures & improvements
  - Lessee to remove all pumps & motors owned by lessee within 30 days of lease termination
  - Lessee to remove all trash, buildings, & junk vehicles from maintenance area
  - Lessee will relocate onsite employees and related housing facilities
  - No hunting permitted
- Potential problems
  - Exotic vegetation—District began chemical treatment in Jan. 2004
  - Possible copper contamination from previous agricultural operations—USFWS conducting snail kite surveys to measure soil residue
  - Fuel storage site (owned by lessee) must be dismantled and removed after lease terminates

### **Interim Management (natural areas)**

Approximately 1,400 acres remain as mesic and wet pine flatwoods in the Martin County portion of the project. This area has been used as native and semi-improved range for cattle grazing for many years. Ranching activities to improve cattle forage resulted in the excavation of numerous shallow drainage ditches and swales, as well as seeding most of the flatwoods with bahia grass. Drainage impacts and longer than desired fire intervals have resulted in an overly dense pine stand with heavy understory fuels, particularly saw palmetto. As previously described, the site has also become infested with numerous exotic plants. Until recently feral hogs were uncontrolled and they now cause major problems with their rooting. The District and Palm Beach County have begun aggressive exotic control programs that address plants and hogs. The county is using trappers from the U.S. Department of Agriculture Wildlife Services, while the District has a no-cost contract with a private trapper.

Much of the Martin County portion is heavily infested with downy rose myrtle. Combined with a dense understory of saw palmetto it is difficult to chemically treat these areas. The District is using a shredder attached to a tractor which lowers exotic and native species alike to a height of approximately 12". Shredding serves two purposes: it enables exotic contractor crews to access the area and apply chemicals to only those areas needing it, and it also lowers the height of the saw palmetto which will facilitate prescribed burning with less risk to the pine tree canopy.

### **Habitat restoration**

It is envisioned that upland and wetland restoration of the natural area will be conducted independent of the CERP efforts at Cypress Creek. If planning and design can be completed during the interim management period restoration of the natural areas should be pursued, particularly if an agreement with the federal Wetland Reserve Program can be negotiated to fund the restoration.

### **Cypress Creek Goals and Objectives**

#### **Habitat restoration**

**Goal:** follow recommendations of the Tomasello report to reestablish historic wetland & upland habitat structure and function through a cooperative agreement with the Natural Resources Conservation Service under its Wetland Reserve Program, in partnership with both counties and the Florida Park Service

#### **Objectives:**

- Restore wetland function by plugging and/or filling agricultural ditches & swales
- Accept rerouted flows from Cypress Creek Canal and Culpepper Ranch
- Re-create historic flowways through area now in row crops
- Regrade farm fields and ditches and replant with native species
- Remove berms and ditches from farm field detention area

#### **Interim management (2004 – 2007)**

##### **Exotic control**

**Goal:** reduce exotic infestations over entire 1,400 ac. site to maintenance levels

**Objectives:**

- Install & monitor 3 herbicide test plots in conjunction with IFAS to evaluate effectiveness of various chemicals and concentrations
- Use combination of herbicides and mechanical treatment to reduce exotic coverage
- Employ contract hog trapper (at no cost to District) to maintain feral hog population at a non-nuisance level

**Forest management**

**Goal:** use acceptable forest management practices to support future hydrologic restoration efforts and safe prescribed burning

**Objectives:**

- Contract for timber cruise and preparation of a forest management plan to determine various timber stand alternatives
- Reduce fuel loads through combination of stand thinning and mechanical shredding

**Prescribed burning**

**Goal:** use appropriately applied prescribed fire, in conjunction with hydrologic restoration and forest management, to reestablish and maintain a more open forest structure and diverse species composition

**Objectives:**

- In conjunction with Division of Forestry, develop program to educate surrounding residential communities of need/benefits of prescribed burning
- Conduct series of winter season burns to safely reduce fuel loads

**Security**

**Goal:** prevent illegal use of public property and vandalism of agricultural leases

**Objectives:**

- Use enhanced patrols by FWC wildlife officers
- Properly post & sign
- Install perimeter fencing and gates, as needed
- Work cooperatively with Palm Beach County Sheriff's Office

**Public use**

**Goal:** provide nature-based recreational opportunities that are consistent with the environmental sensitivity of the area and the reasons for which the property was acquired

**Objectives:**

- Develop network of hiking trails in conjunction with those on Palm Beach County lands
- Develop single set of access points in conjunction Palm Beach County
- Link trails to Ocean to Lake Greenway corridor

## 5 Year Cost Estimates for Restoration

Exotic treatment--300 ac. x 3 annual treatments @ \$500/ac.	450,000
Hydro. restoration--36 ditch plugs @\$900/ea.	32,400
Prescribed burning (fuel load reduction)--1800 ac (600ac/year).@ \$15/ac	9,000
Habitat restoration--row crop area--358 ac. @ \$800/ac.	286,400
1-48" gated water control structure	<u>150,000</u>
<b>Total:</b>	<b>\$927,800</b>