## PREFACE

This document consists of a revised version of the management plan originally developed and approved for the Fish Hawk Creek Preserve (FCT Award #02-073-FF2), dated June, 2003. The revisions incorporate newly acquired preservation lands as well as pre-existing preservation lands under Hillsborough County ownership or conservation easement. The additional lands include the Alafia River Corridor-Phase I (FCT Award #03-015-FF3), The Alafia River Corridor-Phase II (FCT Award #04-029-FF4), the Lithia Springs Preserve, the Boy Scout Preserve, and three smaller contiguous parcels of land. The previous management plan has been revised to satisfy the requirements of Rule 9K-7.011, F.A.C., as well as the conditions set forth in the Grant Award Contracts listed above (see Appendix B). The format of the revisions includes the addition of new narrative text, and the updating of maps and exhibits to include the additional areas. Where appropriate, information has been included with regard to goals and objectives which have been implemented since the initial management plan was developed.

## **I. INTRODUCTION**

The Fish Hawk Creek/Alafia River Corridor Preserve (herein referred to as the Preserve) is an approximately 3,500 acre site located in Southeastern Hillsborough County, FL (Township 31 South, Range 21 East, Figure 1). The Preserve has been acquired in multiple stages. The first areas to be purchased were acquired by Hillsborough County in August of 1991, without partnership funding, and consisted of approximately 270 acres within the Fish Hawk portion, the 40 acre Lithia Springs Preserve, and several hundred acres of the Boy Scout portion. Smaller parcels were added to the Boy Scout portion between 1995 and 1999. In 2002, the County partnered with the Southwest Florida Water Management District (SWFWMD), and the two agencies collectively acquired additional acreage within the Fish Hawk portion. The new portions involving County acquisition funds, an area of 935 acres, as well as an area under a wetland conservation easement totaling 115 acres, were nominated to the Florida Communities Trust (FCT) in July, 2002, and conceptually approved for funding by FCT, in December, 2002 (FCT Award #02-073-FF2, total area acquired =1,050 acres). In 2003 and 2004, the County nominated new lands along the Alafia River, collectively referred to as Alafia River Corridor Phases I and II. These lands included a large tract known as the Thomas Fish Hawk Ranch, as well as a 480 acre parcel owned by the Boy Scouts of America, which is subject to a perpetual conservation easement that was conveyed to Hillsborough County in December of 2002, although not recorded until August, 2004. These projects were also conceptually approved for funding in 2003 (FCT Award #03-015-FF3, total area protected =1,150 acres) and 2004 (FCT Award #04-029-FF4, total area acquired =430 acres). In March of 2005, the County acquired 1,100 acres of land from the Pulte Home Corporation. These lands fall within the boundaries of the FCT nominations, however, significant portions of the two FCT projects were retained by the seller, and are not included in the Preserve. Three smaller parcels of land owned by the County, totalling approximately 35 acres, have been incorporated into the Preserve as well, due to their proximity.

The majority of the Preserve has been acquired with grant funding from the FCT (Project Site), and this Plan has been developed to ensure that the Project Site will be developed and managed in accordance with the Grant Award Agreements and in furtherance of the purpose of the grant applications. The remaining portions of the Preserve, including approximately 650 acres of County

owned land, 230 acres owned by SWFWMD but managed by the County, and 480 acres subject to the conservation easement, will be developed and managed under the same general guidelines and principles as the Project Site.

The Preserve is located along the riparian corridors of Fish Hawk Creek, a significant tributary of the Alafia River, and the Alafia River itself. As such, it is within the boundaries of a Natural Greenway Corridor as designated on the Hillsborough Greenways Master Plan. As a result, the acquisition and protection of the Fish Hawk Creek/Alafia River Corridor Preserve has provided an essential link in assuring the long-term protection of a significant regional habitat corridor (See Figure 2). In combination with other projects which have been successfully acquired, including the Alderman's Ford Preserve, Alafia River Corridor North and South Portions, Bell Creek Greenway (FKA Sterling Downs Greenway), Rhodine Scrub, Triple Creek Greenway, and Balm-Boyette Scrub, the Fish Hawk Creek/Alafia River Corridor Preserve represents the most recent phase in an ongoing effort to protect significant parcels of land within this major greenway system.

The Fish Hawk Creek/Alafia River Corridor Preserve is part of a larger nomination known as the South Hillsborough Wildlife Corridor, an over 30,000 acre system of large tracts of undeveloped land connected by riparian corridors along the Alafia and Little Manatee Rivers in south and southeastern Hillsborough County. Soon after the corridor project became an approved but unacquired site, a large section of the property along Fish Hawk Creek underwent a Development of Regional Impact (DRI) review, and was approved for a mixed use development with over 5,000 residential units. As a result, the County had met with limited success until recently in its efforts to purchase a significant portion of the original site, due in part to the increase in value of the land approved for development. The newly acquired area has not only resulted in the deletion of 2,569 residential units from the DRI, as well as eliminating the need for a new bridge across the Fish Hawk Creek corridor.

The key feature of the Preserve is the natural vegetative communities that it contains, the majority of which are uplands, and especially the remnant scrub and sandhills. These "xeric" communities are extremely rare in the State and local region, and are known to or have the potential to support a large number of listed species, including the Florida golden aster (*Chrysopsis floridana*) and gopher tortoise (*Gopherus polyphemus*). The remainder of the site's upland habitat is predominantly pine flatwoods, which has become overgrown with hardwood tree species due to lack of fire, and significant portions have been converted to improved pasture. Other plant communities present include mixed oak and pine forest, hydric hammock/floodplain forest, and freshwater marsh. Several significant tributary streams flow across the site to Fish Hawk Creek or directly into the Alafia River. The area immediately surrounding most of the site is still predominantly agricultural and rural residential, but the land adjacent to Fish Hawk Creek is rapidly undergoing development as part of the Fish Hawk DRI, a large, predominantly upscale residential community. The larger portions of the Thomas Fish Hawk Ranch, included in the original FCT Phases I and II nominations, are also targeted for development by the new owner, Pulte Home Corporation.

Approximately 1,500 acres of the Preserve was purchased from Fish Hawk Communities Limited Partnership, a Florida Limited Partnership, for the sum of \$9,600,000.00. The property had been approved for development as part of the larger DRI project, and was vested against the County's

recently enacted regulations protecting upland habitat. Historically, the property was used for cattle grazing and, in recent times, equestrian trails. The cattle grazing operation consisted of a combination of improved pasture and woods pasture.

Currently, adjacent land uses consist of a Girl Scout Camp (Camp Dorothy Thomas) and the remaining Thomas Fish Hawk Ranch to the west; low density rural residential areas and broadcasting tower parcels along the south boundary; the Fish Hawk development and large tracts of agricultural land to the southeast, the majority of which have been purchased by the SWFWMD as part of a new water supply reservoir project; a number of large subdivisions along the north boundary, including Bloomingdale and Riverhills; and the Alderman's Ford Preserve to the east, which the County purchased and later conveyed to the State under the CARL Program. The site has several miles of frontage on Boyette Road, a two lane paved road that runs along its west, south and eastern boundaries, Fish Hawk Boulevard, and Lithia Pinecrest Road. In many areas, recently constructed homes lie along sections of the Preserve's boundary, a fact that has greatly impacted the County's ability to secure and manage the adjacent portions of the Preserve. This issue will be discussed in more detail in Section IV. Key Management Activities, under Security and Safety.

This management plan addresses the FCT Management Plan Requirements in compliance with Rule 9K-7.011, F. A. C., as well as the specific conditions of the three Grant Contracts, especially the conditions that are particular to the Project Site and result from either commitments made in the applications that received scoring points or observations made by FCT staff during site visits. The Plan is organized as follows.

**I. Introduction** generally *describes the site* and provides an *overview of past and present land use*.

**II. Purpose** states the project's *goals*, *objectives*, *comprehensive plan compliance*, and presents several commitments regarding conservation management, land use amendments, and signage.

**III. Structures and Improvements** describes *existing improvements* and easements, concessions and leases and discusses *proposed improvements* and anticipated easements, concessions and leases. This section also identifies *access* points and discusses public access.

**IV. Key Management Activities** identifies: (1) existing *natural resources* requiring *protection* and appropriate management strategies to ensure their continuation and enhancement, (2) *resource enhancement* and ecological restoration opportunities, (3) *archeological and historical resources* that may require protection, (4) *environmental education programs*, (5) *greenway management*, (6) *coordination* issues with adjacent land owners, (7) *preservation*, (8) *maintenance/staffing* activities necessary for the upkeep of the Project Site and assigns responsibility, including both permanent and volunteer staff, and (9) *security and safety* issues and responsibility,

**V. Cost Estimate and Funding Source** describes the cost and funding for all improvements, activities, and enhancements as described in Sections III and IV, respectively.

**VI. Priority Schedule** establishes a time line for implementation of all improvements, key management activities, and resource enhancements as described in Sections III and IV, respectively.

**VII. Monitoring** acknowledges the County's responsibility for preparing and submitting an annual stewardship report to the FCT that evaluates implementation of the management plan. Also acknowledges the requirement to obtain prior FCT approval for management plan modifications, as well as site alterations or physical improvements that are not addressed in this approved management plan.

# ADDENDUM TO INTRODUCTION

The following parcels of land have been incorporated into the expanded preserve area, and the entire tract will be managed as a coordinated unit.

# Thomas Fish Hawk Ranch/Pulte Homes

Approximately 1,100 acres of land was acquired in 2005 from Pulte Home Corporation, which was formerly part of a larger tract, known as Fish Hawk Ranch, recently purchased by that corporation from the Thomas family. The lands acquired are located within the riparian corridors of Fish Hawk Creek and the Alafia River.

## Boy Scout Preserve/Conservation Easement

Approximately 480 acres of land along the Alafia River Corridor is owned by the Gulf Ridge Council, Boy Scouts of America, Inc. The owner has conveyed a Perpetual Conservation Easement for the entire tract to Hillsborough County. The easement protects the land from development, while allowing the County to conduct habitat management and to provide hiking trails for limited public access.

# Boy Scout Preserve/North and South Parcels

Approximately 300 acres of land in two separate tracts was acquired by Hillsborough County through the ELAP Program between 1991 and 1999. The North Parcel lies across the Alafia River from the remainder and is separated from the South Parcel by the Boy Scout Conservation Easement.

# Lithia Springs Addition Preserve

Acquired by Hillsborough County through the ELAP Program in 1991, this 40 acre parcel is located immediately west of Lithia Springs County Park, and on the northern boundary of the Thomas Fish Hawk Ranch/Pulte Homes portion of the preserve. The adjacent county park is not under Hillsborough County ownership, but leased from the Mosaic Corporation, and is not included in this management plan.

# Ten Acre Undeveloped Park Site (Folio #74762.3654)

This small parcel is located adjacent to and north of the Thomas Fish Hawk Ranch/Pulte Homes portion of the Preserve. Deeded to Hillsborough County as part of the Bloomingdale DRI, the site has not been developed as a neighborhood park, in part due to the environmentally sensitive nature of the parcel. Since it contains intact natural plant communities and wetlands, the County has elected

to incorporate the parcel into the larger preserved area, to be managed as conservation land.

## Ten Acre Addition (Folio #88388)

This small parcel was identified in the original Fish Hawk Creek management plan as a key parcel for future acquisition due to the fact that the existing perimeter fence and fire lane/perimeter road for the preserve enclosed the parcel. Re-routing the fence and road to follow the actual property line would have resulted in wetland impacts and impeded site management activities. The parcel is under contract as this plan is being developed.

## Fourteen Acre Addition (Folio #88055)

This small parcel came under county ownership due to the previous owner's failure to pay property taxes. It is included within the boundaries of the preserve due to its location in close proximity to the larger preserve parcels, as well as the fact that it contains natural habitat along the Alafia River shoreline.





# II. PURPOSE

There are several purposes for the acquisition and protection of the Fish Hawk Creek/Alafia River Corridor Preserve:

- 1) Protection of the natural resources found on the project site;
- 2) restoration and enhancement of impacted areas of the project site;
- 3) protection of the water quality of Fish Hawk Creek and the Alafia River;
- 4) protection and expansion of the Greenway corridor along Fish Hawk Creek and the Alafia River;
- 5) providing compatible, resource based outdoor recreation and opportunities for public education;
- 6) protection of the cultural resources found on the project site.

# **Objectives**

The following is a prioritized list of management objectives intended to accomplish these purposes:

- 1) Site security- The site's perimeter, with the exception of boundaries formed by creek or river shorelines, shall be secured with fencing. Once installed, the entire fence line will be periodically inspected and repaired or replaced where needed to deter illegal access. In addition, the site boundary will be posted with signs identifying the County as owner, stating that the site is a nature preserve, and advising the public that the property may be accessed on foot and during daylight hours only. This Plan discusses site security in more detail in the Key Management Activities section.
- 2) Design and conduct baseline floral and faunal surveys with special emphasis on listed species. Relate species to habitat of occurrence. The management plan provides initial surveys and suggests recommendations for further study.
- 3) Removal of nuisance exotic species- Feral pigs are a continuous problem in the region, and the County's hog trapping program will be expanded to include newly acquired portions of the Preserve. Other exotic wildlife species will be controlled as they are detected, including but not limited to feral dogs, cats, and ducks. Nuisance exotic plant species will be removed from the site whenever identified during ongoing site monitoring and patrol activities. Removal of nuisance exotic vegetation represents the first phase in directed habitat restoration initiatives that will be developed subsequent to initial management related field reconnaissance.
- 4) Develop species-specific management strategies that promote conditions favorable to the continued viability of target (listed) species, or that restore existing populations of listed species to levels that are considered to be viable long term. These strategies will be coupled with habitat management strategies directed towards restoring the site to a natural mosaic of natural plant communities. Once these communities are established they will be maintained through the selective application of controlled burning. This will in turn maximize the diversity of the flora and fauna.
- 5) Conduct restoration of areas occupied by improved pasture. Conduct enhancement of areas degraded by fire suppression and invasive exotic species.

- 6) Identify the compatibility, location and design of appropriate recreational infrastructure and develop a preliminary time line and budget for recreational improvements.
- 7) Conduct archaeological surveys prior to any development activity to avoid disturbance as well as to provide interpretive education to the public.
- 8) Develop supporting educational information that describes the site's natural and cultural resources as well as why certain management strategies are being employed.
- 9) Develop a public outreach program that catalyzes local interest and shared responsibility for the Preserve. Solicit the aid of local environmental organizations and neighborhood groups to sponsor educational and volunteer events, such as plant or bird identification seminars, cleanups, trail construction and maintenance, or tree plantings.

# Local Comprehensive Plan Compliance

Fish Hawk Creek/Alafia River Corridor Preserve will assist Hillsborough County in implementing the goals, objectives, and policies of the Conservation and Aquifer Recharge Element (CARE), Future Land Use Element (FLUE), and Recreation and Open Space Element (ROSE) of the County's Comprehensive Plan. The preservation of wildlife habitats and the development of public recreation and environmental conservation activities on the project site will help to accomplish or further enhance the following plan goals and objectives.

# CONSERVATION AND AQUIFER RECHARGE ELEMENT (CARE)

# **OBJECTIVE 2**

By 1998, the County shall implement a coordinated land and water management process, in part through the integration of environmental protection practices in the planning of public facilities and the provision of public services.

# Policy 2.1

Through a coordinated land and water management approach, including the consideration of a full range of multiple uses of water in the development and implementation of public facilities and services, the County shall preserve the character of rural communities in Hillsborough County while providing for orderly development, the protection and conservation of natural resources and the public welfare.

# **OBJECTIVE 13**

The County shall protect and conserve significant wildlife habitat, and shall ensure a no net loss of essential wildlife habitat in Hillsborough County.

# Policy 13.1

The County shall continue to implement a local wildlife and wildlife habitat protection and management program to protect significant and essential wildlife habitat, and shall

coordinate with state and federal wildlife programs.

## **OBJECTIVE 15**

The County shall minimize the spread of exotic nuisance species and shall incorporate programs to control such species into the management plans for County-owned lands, with the objective of a 90 percent reduction of exotic nuisance plants from previously uncontrolled levels. The County shall conserve and use, and shall continue to require the conservation and use of native plant species in the developed landscape. The County shall also continue to protect lands designated Conservation and Preservation Areas within pending and approved development projects.

## Policy 15.8

The County shall improve programs on County-owned lands to control, and eliminate where feasible, exotic nuisance species, and shall incorporate these programs into the management plans of natural preserve lands.

#### **OBJECTIVE 16**

The County shall continue to increase the acreage of natural preserve lands and to ensure their protection and proper use.

## Policy 16.1

The County shall continue to implement the Environmental Lands Acquisition and Protection program, at funding levels equal to or greater than the current funding level of one-quarter mill.

## Policy 16.4

The County shall continue to request assistance in public acquisition of natural preserves under federal. State and regional programs including, but not limited to, the Preservation 2000, Florida Communities Trust, Conservation and Recreation Lands (CARL), and Save-Our-Rivers (SOR) programs.

#### Policy 16.5

The County shall continue to manage natural resources on publicly owned County lands in cooperation with the U.S. Fish and Wildlife Service, Florida Fish and Wildlife Conservation Commission, the Florida Department of Environmental Protection, the Southwest Florida Water Management District, and the Florida Department of Agriculture and Consumer Services, as appropriate.

#### Policy 16.6

The County shall provide multiple use opportunities on County-owned natural preserve lands consistent with natural resource protection and conservation, to provide for passive recreation, wildlife habitat, watershed protection, erosion control, maintenance or enhancement of water quality, aquifer recharge and aquifer recharge protection.

#### Policy 16.9

The County shall acquire, and support the acquisition of, a diversity of natural habitat types to ensure maximal diversity of wildlife species.

#### **OBJECTIVE 17**

The ability of the County to qualify for matching funds from state and regional land acquisition programs, such as Florida Communities Trust, Preservation 2000, Conservation and Recreational Lands, and Save Our Rivers, shall be enhanced through the implementation of the following policies:

#### Policy 17.2

The County shall preserve rare and threatened vegetative communities and protect listed species from development.

#### Policy 17.4

The County shall seek to restore and enhance degraded natural areas on lands acquired for preservation, including removal of noxious exotics, reforestation, and restoration of shorelines and natural hydrology, as needed.

#### Policy 17.5

The County shall protect and enhance surface and ground water resources through acquisition, protection, and management of lands with important water resources.

#### Policy 17.8

The County shall provide appropriate outdoor recreational facilities for activities on lands acquired for preservation, including hiking trails, boardwalks, interpretive picture displays, educational programs and wildlife observation areas.

#### **OBJECTIVE 18**

The County shall seek to measurably improve the management of all natural preserves within County boundaries by implementing the following policies.

#### Policy 18.2

The County shall develop site specific management plans for all lands owned or leased by the County and purchased under the Environmental Lands Acquisition and Protection program within three years of acquisition and shall review these plans periodically to ensure compliance with the program's objectives.

#### Policy 18.3

During the acquisition of ecologically important lands, the County shall give priority to acquiring the optimal acreage needed to maintain the integrity of the natural plant communities or ecological units involved, and to establishing a system of interconnected or contiguous wildlife corridors.

#### **OBJECTIVE 24**

The

County will continue to preserve, enhance and restore wildlife habitats and archaeological resources. Implementation of the following policies will accomplish this objective:

## Policy 24.3

Archaeological sites along the rivers shall be evaluated in terms of national or state criteria for significance to determine if they are eligible for listing on the National Register of Historic Places. If they are so eligible, then they shall be either preserved or excavated prior to development of the area containing the archaeological site.

## **OBJECTIVE 25**

The County will continue to minimize urban encroachment along the rivers by encouraging the establishment of a "green" river corridor through protection of the river banks and associated native vegetation. Implementation of the following policies will accomplish this objective:

## FUTURE LAND USE ELEMENT (FLUE)

## **OBJECTIVE A-8**

Hillsborough County's heritage shall be recognized through the preservation of historical and archaeological sites, structures and districts significant to Hillsborough County.

## Policy A-8.1

Hillsborough County shall continue to implement the landmark ordinance to protect from demolition and significant alteration, historical and archaeological sites as identified in the National Register of Historic Places, Florida Master File and those sites identified as significant and recognized by Hillsborough County.

## RECREATION AND OPEN SPACE ELEMENT (ROSE)

## **OBJECTIVE 3**

The County shall provide protection and enhancement of open spaces by public agencies and private enterprises by implementing the following policies:

## Policy 3.1

The County, through such programs as the Environmental Lands Acquisition and Protection Program, shall continue to identify, secure, and manage open space for the purpose of conservation, preservation, and provision of open space corridors and park and recreational needs.

## Policy 3.7

Open spaces with unique natural features, scenic vistas, or cultural, historic and archaeological resources shall be publicly accessible, where such access does not detract from or diminish the resource.

## **OBJECTIVE 4**

The County shall develop a greenway system by implementing the Hillsborough Greenways Master Plan which identifies ways to interconnect recreation and conservation land.

## Policy 4.1

Where necessary to connect publicly owned recreation and conservation lands to develop the greenway system, the County shall encourage voluntary public acquisition of land (by fee and less-than-fee techniques) and other voluntary landowner participation.

## Policy 4.3

Connect wherever possible, recreation and conservation lands by using existing rights-ofway, trails, and other open space corridors.

Fish Hawk Creek/Alafia River Corridor Preserve will be managed only for the conservation, protection, and enhancement of natural resources, and for public outdoor recreation that is compatible with the conservation, protection, and enhancement of the site. Management shall comply with State Substantive Laws.

# Signage

- A permanent recognition sign will be positioned at each of the Preserve's three main public entrances. These signs shall acknowledge that the Preserve is open to the public, present the Preserve name, the owner, and the tenants of the cooperative purchase: Florida Communities Trust, Southwest Florida Water Management District with funding from Save Our Rivers and Hillsborough County with funding from the Environmental Lands Acquisition and Protection Program (ELAPP).
- An informational Kiosk at each of the three main Preserve entrances will exhibit a map of the Preserve that depicts the parking area, trail system, picnic area, and key natural features. This information, as well as security responsibilities, will also be provided on pamphlets available at the entrances.
- Additional entrance signage will identify all County Park and Preserve authorized and/or unauthorized uses.
- In areas along the perimeter where public access is not proposed and trespassing is a concern, Preserve boundary signs will be posted that identify the County as the owner and reference the Park Ordinance, including penalties for violation of the ordinance.
- The entire perimeter of the Preserve will be posted in accordance with State Statutes, in order to

prevent trespassing or encroachments.

The Project Site will be identified in all literature and advertising as being publicly owned and operated as a nature preserve and purchased by Florida Communities Trust with funding from the Florida Forever Program, and Hillsborough County with funding from ELAPP.

# Zoning and Land Use Amendment Procedure

In accordance with Section 163, Florida Statutes, and Chapter 9J-5, Florida Administrative Code, the County has two regular plan amendment cycles each year. During one of the two cycles, the County Real Estate Department will submit to the Planning Commission staff a legal description of those properties acquired by ELAPP for preservation. Staff indicates parcels that have been acquired as potential changes from any current designation to "N" Natural Preservation on the County's Future Land Use Map (FLUE). County and City staff hold a series of public meetings throughout the County to discuss the potential plan amendments with the citizens and obtain their input, then present the recommended changes to the Planning Commission/Planning Council. Upon Commission and Council approvals, the map amendment(s) are then submitted to the Board of County Commissioners and the City mayor's office for their action. Upon final approvals, and review and comment by the Florida Department of Community Affairs, the FLUE Map designation will be officially changed at the next available amendment cycle to the comprehensive plan.

In addition to changing the future land use designation, the County will amend the zoning map to rezone all portions of the Project Site to the category of Open Space/Conservation. As part of the agreement to purchase a portion of the Project Site from the Fish Hawk Communities Limited Partnership, Inc., the seller is required to submit a "Notice of Proposed Change" for the Fish Hawk DRI. This will result in the deletion of the Project Site from the DRI, including a corresponding reduction of the number of residential units, and the elimination of a proposed bridge across Fish Hawk Creek. As a result, that portion of the Project Site will be rezoned from its DRI classification to the category of Open Space/Conservation.

# **III. STRUCTURES AND IMPROVEMENTS**

# *Existing Improvements* (Figure 3A)

The Preserve contains a network of interior cross fences, gates, unimproved roads, a major power transmission corridor, an underground force main, one smaller electric power line that terminates on the former site of a horse stable, several primitive campsites including an outhouse, and the remains of several picnic pavilion type structures. A derelict mobile home and associated outbuildings that served as a security residence for the previous owner are located on the County owned portion of the Boy Scout parcel. The site's perimeter is fenced and gated in 15 locations. There are no other existing improvements on the FCT portion of the Project Area. Prior to purchase of the property, the horse stable and associated debris were removed by the seller. The remainder of the Preserve contains both pre-existing and new improvements. On the County owned portion along Fish Hawk Creek, purchased in 1991, a hiking trail has been developed, that can be accessed either from the roadside of Fish Hawk Boulevard, or from the recreational trail system within the adjacent Fish Hawk community. On the SWFWMD owned portion of the Preserve, cattle pens and other cattle

related structures are still present. These improvements will be removed following termination of cattle grazing on the Preserve.

# Proposed Improvements (Figures 3-B, 3-C-1, 3-C-2, and 3-C-3)

There will be numerous public access points to the Preserve, three of which will have supporting structures including parking lots, outdoor recreation and picnic facilities. Site # 1 (FCT #02-073-FF2) is planned on the south boundary, at the northeast corner of the intersection of Boyette Road and Balm-Boyette Road. Site # 2 (FCT #03-015-FF3) will be on Lithia Springs Road, adjacent to and south of the existing Lithia Springs Park. Site # 3 (FCT #04-029-FF4) will be in the western section of the Preserve, on the north side of Fish Hawk Boulevard, approximately 1,000 feet east of Bell Shoals Road. At each location, a small park area of between 2 and 24 acres will be developed with access or recreational facilities. Other access points will consist of walk-through entrances for trail access along public roadways.

While the final design of each park facility has not been determined, the proposed improvements include parking areas of approximately 10-20 spaces, surfaced with a pervious material, and featuring both wheel stops and bollards to restrict vehicles, an informational kiosk, at least one picnic shelter (pavilion) or several single table picnic shelters, benches, and, at park site #1, a recreational facility such as a basketball/multi-purpose court, a childrens' play area, and/or an open play field with a backstop (see Figure 3-C-1). A bike rack will be located near each parking area and picnic shelters, to encourage park users to travel to the park by non-motorized methods. Trash cans will be placed throughout the park facilities, and at any other locations within the Project Site that serve as access points for the public.

The open play field at site # 1 will consist of an area of approximately three to five acres in the center of the park site, that will be kept free of trees and maintained by mowing. It may include a backstop, but will not be designed as a formal sports field, and it will not be used for organized sports programs. Site # 1 will also include a trail head for a hiking trail that runs for approximately 5 miles through the FCT Project Site, before connecting with the other sections of the larger Preserve.

Park site # 2, located on Lithia Springs Road, adjacent to the County's Lithia Springs Park, was originally to include two or more user-oriented recreational facilities, such as soccer fields or a basketball court. Unfortunately, the lands acquired for the project do not include the extensive open pasture area included in the nomination. In addition, the Contract for Purchase and Sale (see Appendix D) includes restrictions that prohibit the County from developing active recreational facilities at park site # 2, with the exception of "unimproved open play areas". As a result, site # 2 will be limited to resource-based outdoor recreational facilities, including a parking area for 10-20 cars, two single-table picnic shelters, additional picnic tables and park benches, a small open play area, an informational kiosk, bike rack, and a trail head for a hiking trail that runs for approximately 6 miles through the FCT Project Site, before connecting with the other sections of the larger Preserve.

Park site # 3 will include a parking area for 10-20 cars, two single-table picnic shelters, additional picnic tables and park benches, a small open play area, an informational kiosk, bike rack, and a trail head for a hiking trail that runs for approximately 3 miles through the FCT Project Site, before

connecting with the other sections of the larger Preserve. The trail system planned for the three FCT project sites and the additional County and SWFWMD owned sections of the Preserve will provide a total of approximately 16 miles of hiking trails, and will be designed to provide future linkages to trail systems on adjacent public lands, including the Tampa Bay Reservoir site (SWFWMD) and the Alderman's Ford Preserve (State/CARL Program).

The park facilities at all three sites will include a stormwater treatment system, as needed, to prevent runoff from impacting wetlands and water quality, and the stormwater treatment system will be designed to provide either additional recreational space, or to function as natural habitat for wildlife. In either case, the design will incorporate shallow sloping sides, and will not be fenced.

# Landscaping

In those areas of the three Project sites that will be occupied by parking, picnicking or site security facilities, native plant landscaping will be installed. This landscaping will utilize only native plant species that are adapted to and appropriate for the localized site conditions. At a minimum, this will include the portions of each site occupied by the parking lot and small picnic pavilions. If the site security facility is eventually constructed, native plant landscaping will be installed there as well. The exact location and design of the native plant landscaping will not be determined until the final design of each site is developed, with public input. The following list includes plant species that would be typically included in the County's park site landscaping plan.

# Table 1. Landscape Plant List:

| Trees                |                    |
|----------------------|--------------------|
| Quercus myrtifolia   | myrtle oak         |
| Carya glabra         | pignut hickory     |
| Sabal palmetto       | cabbage palm       |
| llex opaca           | American holly     |
| Magnolia grandiflora | southern magnolia  |
| Juniperus virginiana | southern red cedar |
|                      |                    |

# Large Shrubs

*llex vomitoria Viburnum obovatum Callicarpa americana Sideroxylon tenax Myrica cerifera Myrcianthes fragrans Vaccinium arboreum* 

# Small Shrubs

Psychotria sulzneri Psychotria nervosa Serenoa repens yaupon holly Walter's viburnum American beauty-berry tough bumelia wax myrtle Simpson's stopper sparkleberry

shortleaf wild coffee wild coffee saw palmetto Zamia pumila Vaccinium darrowii Vaccinium myrsinites Yucca filamentosa Rivina humilis

## Wildflowers/Grasses

Lonicera sempervirens Carphephorus corymbosus Solidago odora var. chapmanii Muhlenbergia capillaris Pityopsis graminifolia Salvia coccinea Piloblephis rigida Ruellia caroliniensis Eragrostis elliottii Eragrostis spectabilis Liatris gracilis Liatris tenuifolia coontie Darrow's blueberry shiny blueberry Adam's needle rouge plant

coral honeysuckle Florida paintbrush Chapman's goldenrod pink muhlygrass silkgrass aster tropical sage wild pennyroyal wild petunia Elliott's lovegrass purple lovegrass slender gayfeather shortleaf gayfeather

Public input will be solicited prior to determination of a final design for the park sites, however, at least two resource-based outdoor recreation components will be provided at each of the sites, and at least two user-based outdoor recreational components will be provided at site #1. A trail system with a natural history interpretive component, including but not limited to an informational kiosk, will connect to each park site, and provide pedestrian access to other portions of the Preserve. These three locations have been selected in order to avoid or minimize impacts to the natural resources of the Preserve. The proposed park sites currently consist of improved pasture with a few trees. The park sites will be enhanced by planting a variety of native trees along the perimeter, and native landscaping will be installed along the entrances and parking areas. The timeframe for installation of native landscaping will be concurrently with the development of the park facilities.

There are no structures or facilities planned for the Project Site that will be located in the 100 year floodplain, with the exception of any trail crossings on streams or creeks that are required to complete existing or proposed trail linkages. If possible, the trail crossings will be located at a point at which a stream or creek can be crossed without the necessity of a footbridge. If this is not feasible, then all necessary permits will be secured prior to installation, and flood hazard mitigation principles will be incorporated into the design and construction of the footbridges. Other than the trail crossings, a 25 foot buffer will be maintained between all facilities and any wetlands that occur on the Project Site.

Although the park sites are to be located in disturbed areas, prior to the construction of the parkrelated improvements, a thorough survey for listed plants and animals shall be conducted. These surveys will be conducted during the appropriate times of the year to ensure that no listed species of plant or animal occupy the proposed locations. If necessary, an archaeological survey of each park site will be conducted prior to development in order to avoid impact to any cultural resources located in the area. If any listed species or significant cultural resources occur within the areas slated for park development, impacts to these resources will be avoided either through relocation of the park or accommodations in the park design. Once again, the park sites have been located in areas that are expected to have a very low probability of containing any significant natural or cultural resources.

The trail system mentioned above will be designed to provide pedestrian access to selected areas of the Preserve (Figure 3B). Existing unimproved dirt roads will be used whenever practical in order to avoid the need to clear new trails. The trail system will be laid out in order to allow the visitor to fully appreciate the quality and diversity of the Preserve's habitat. Where necessary, new trails will provide connections to existing trails on older sections of the Preserve. In the future, the County anticipates the ability to extend the trail system onto other public lands in the vicinity, primarily the SWFWMD lands located to the southeast, and the State owned Alderman's Ford Preserve to the east.

During the course of constructing the various site improvements, several permits will be required from different regulatory agencies. A pre-submittal meeting will be conducted by the Hillsborough County Planning and Growth Management Department, which will include various County agencies as well as the Southwest Florida Water Management District, and the Hillsborough County Environmental Protection Commission. During the meeting, a determination will be made as to the specific permit requirements, as well as any waivers which may be awarded, based on the site design. The County shall provide evidence to the Florida Communities Trust that all required licenses and permits have been obtained 30 days prior to the initiation of the permitted development. Furthermore the County acknowledges that any alterations or physical improvements not addressed in this management plan will require prior review and approval from Florida Communities Trust.

## Access

The primary public access points will be the three park facilities described above (Figures 3B, 3C1, 3C2, & 3C3). Additional access points to the Preserve's existing hiking trails are currently available from the Fish Hawk community's internal recreational trail network, and from the right-of-way of Fish Hawk Boulevard. In the future, development of a trail system on the adjacent SWFWMD owned parcel to the southeast will allow an access point to be provided at a point of connection on the Preserve's southeast boundary. In addition, future development of hiking trails will enable the County to provide public access to the remainder of the Preserve, including sections located along Lithia Springs Road and Lithia-Pinecrest Road.

The entire section of the Alafia River bordered by the Preserve is a portion of a State designated canoe trail. The public launch site is upstream at Alderman's Ford Park, with the next available public access point at Lithia Springs Park. The County, working with volunteers, has designated various points along the river as rest stops for paddlers, with signs marking the spots which offer suitable shoreline features. Two such sites are located within the Preserve (see Figure 3-B). The staff of Alderman's Ford Park and Lithia Springs Park are responsible for any County management activities related to the canoe trail, including maintaining the rest stops. Although the State designated trail officially ends at the Bell Shoals Road bridge, near the western boundary of the preserve, the next public access point downstream is a County boat ramp known as the Alafia Boat Ramp, located on Center Street, off of Kings Avenue. Hillsborough County has previously considered the development of a new access point at the southeast corner of the Bell Shoals Road

bridge, but funds have not been available. It is possible that an access point could be provided at the northeast corner of the bridge, with lower development costs, and this site should be evaluated for its potential as an access site.

Access for County staff to facilitate site management is currently available at a total of 15 gated entrances. This high number of access points is necessary due to the fact that the entire Preserve is bisected by roadways, creeks, streams and other ownerships, making it impossible to traverse the entire site on interior roadways.

Site access for the public will comply with the Americans with Disabilities Act. At least two paved, handicapped parking spaces, with an associated sidewalk leading to wheelchair accessible picnic tables, shall be provided at each of the park facilities.

The County has no plans to provide additional public recreational access facilities other than those discussed above. The decision to limit recreational use in the interior portions of the Preserve to hiking and canoeing is consistent with the County's current Recreational Use Policy (see Appendix F). As detailed in the policy, other recreational uses, such as mountain biking, equestrian, etc. are considered using several criteria, including compatibility with the site's natural resources, demand vs. availability in the region, and the availability of staff resources to manage the activity. One major factor in the determination of appropriate uses for this Preserve was the anticipated demand from the large number of residents moving into the new Fish Hawk Creek residential development. Since this community does not include an equestrian emphasis, most residents will likely seek hiking and biking facilities, and will not be receptive to sharing trails with horses. The County has ruled out offroad bike trails due to incompatible site characteristics, primarily the combination of deep sandy soils in the scrub and sandhills, and numerous linear wetland features associated with the tributaries of the Alafia River. Another factor supporting the limitation to hiking and canoeing is the presence of existing equestrian and mountain biking trails in the surrounding region. Equestrian trails are available at Rhodine Scrub, Alafia River Corridor, Alderman's Ford Preserve, and Alafia River State Park, all within ten miles of the Preserve. Mountain biking trails are available at the Balm-Boyette Scrub Preserve and Alafia River State Park. Therefore, even if compatibility with the site's natural conditions were not a concern, there would be no justification for providing additional trails at this location for these uses because the demand is already being met in this area.

# Easements, Concessions, or Leases

Copies of all of the agreements described below are included in Appendix D.

<u>Cattle Leases:</u> The Fish Hawk portion of the Preserve was purchased with two existing cattle leases in effect. Rather than vacate the leases, the contracts were modified to include conditions requested by the County, and the new leases were assigned to the County at closing.

One of the cattle grazing leases was with C & D's of Oldsmar, Inc. According to Mr. Kurt Gremley, ELAPP Acquisition Manager, Hillsborough County Real Estate, this lease has subsequently been vacated as a result of the failure of the lessee to take possession of the lease area in a timely manner.

The second cattle grazing lease is with G & E Cattle Company, Inc. This lease is currently active.

The agreement authorizes an unspecified number of cattle (animal units) on the portion of the Preserve located West of the abandoned railroad right-of-way, and South of an East-West line that bisects sections 32 and 33, T30S; R21E. This is an area of approximately 300 acres, consisting mostly of improved pasture uplands. The County plans to vacate this lease sometime in the near future, so that restoration efforts can be initiated via prescribed fire and direct plantings. Vacating of this lease is also necessary to allow for development of the park access site and trailhead, located in the southwest corner of the improved pasture area.

The County had previously considered the development of a land management proposal to include low-density cattle grazing on a portion of the Preserve. Cattle grazing was to be an interim management tool, not intended to be used on a permanent basis. This proposal has been eliminated from the Management Plan for the Preserve.

In many cases, when areas previously used for cattle grazing are vacated, a lag period occurs before initiation of large scale restoration. During this period, it is desireable to keep the former pasture area from becoming overgrown with weedy vegetation that could hinder restoration efforts. In order to do so, the County may elect to hire a contractor to cut hay on the site.

Tampa Bay Water Pipeline Easements: One of two easements allows construction of a public water supply pipeline across the Preserve, within a 50 foot wide corridor running parallel to and South of the East-West line which is the southern boundary of section 32, T 30 S; R 21 E. The easement also includes a 50 foot wide temporary construction easement immediately south of the permanent easement. The length of the easement is 3,498 linear feet, and the total area within the permanent easement is 6.547 acres. The majority of the land within the easement is improved pasture. The second easement includes a 30 ft. permanent easement and part of a 25 ft. temporary easement within a 50 foot wide section of the Preserve that runs parallel to the south boundary of the Lithia Springs Road right-of-way.

<u>Tampa Electric Powerline Easement:</u> This easement runs parallel and adjacent to the south boundary of the Preserve, north of Fish Hawk Boulevard, from east of Bell Shoals Road to a point just east of Fish Hawk Creek. The powerline continues eastward, but from this point, it runs along and outside of the Preserve boundary.

<u>Underground Utility Easements:</u> Various underground pipelines are located within the powerline corridor running along the south boundary of the Preserve, just north of Fish Hawk Boulevard. These include ammonia, petroleum, natural gas, and sewer lines. The only additional pipeline that runs through an interior portion of the Preserve is the sewer line force main, which runs north from the transmission corridor and across the Alafia River. The section of the easement located just east of Fish Hawk Creek includes the right to install additional underground utilities.

<u>Florida Fish and Wildlife Commission Conservation Easements:</u> These easements were established as conditions under the Fishhawk Ranch DRI, intended to assure that the designated areas would provide suitable habitat for gopher tortoises in perpetuity. The areas of the Preserve included in these easements consist of scrub and sandhill habitat. The County's Preserve management objectives will meet or exceed the conditions of these easements, which do not conflict with any of the activities proposed in this Plan.

<u>Tampa Electric Warranty Deed Granting Road Crossings</u>: This agreement conveyed the fee interest of subject lands to the Tampa Electric Company, for a utility corridor adjacent to the abandoned railroad right-of-way. The agreement retains the right for the Grantor to construct road crossings across the corridor. This will enable the County to construct crossings for recreational trails and site maintenance purposes.

<u>License Agreement for Driveway:</u> This document grants the use of a small portion (4,200 sq. ft.) of the Preserve to an adjacent property owner for ingress and egress to avoid an existing group of trees. The impact of the agreement is that a short stretch of perimeter fence has been installed approximately 27.5 feet inside the Preserve boundary.

<u>Wetland Conservation Easements:</u> As part of the conveyance of the Preserve to the County, the seller also conveyed two conservation easements to Hillsborough County. The easements consist of jurisdictional wetlands located between the centerline of Fish Hawk Creek, and the approximate boundary between the wetlands and the adjacent uplands. Some limited amounts of upland buffer lands are also included. The total area within the easements is 115.42 acres.

<u>Boy Scout Conservation Easement:</u> Approximately 480 acres of land along the Alafia River Corridor is owned by the Gulf Ridge Council, Boy Scouts of America, Inc. The owner has conveyed a Perpetual Conservation Easement for the entire tract to Hillsborough County. The easement protects the land from development, while allowing the County to conduct habitat management and to provide hiking trails for limited public access.

<u>Deed Restrictions establishing setback areas, trail access points and restricted areas:</u> The deed of conveyance for the portion of the Preserve acquired from Pulte Home Corporation includes restrictions that limit public access, activities and facilities in locations adjacent to future residential development.

Easements for Ingress, Egress and Utilities: The deed of conveyance referenced above also reserves two 150 ft. easements for ingress, egress and utilities in an area of the site consisting of a 50 ft. wide corridor along the south side of Lithia Springs Road.

See Figure 4 for approximate locations of the easements discussed above. There are no other easements, concessions, or leases being considered at the site.

The County will provide FCT with 60 days prior written notice and information regarding any lease of any interest, the operation of any concession, any sale or option, the granting of any management contracts, and any use by any person other than in such person's capacity as a member of the general public. Prior to the execution of any document authorizing an easement, concession, or lease, the County will first request review and approval by FCT. Any and all revenue generated at the Project Site will be placed into a separate account and will go to the upkeep and maintenance of the Project Site in order to be within allowable limits set by the Internal Revenue Service.

Insert Figure 3A- Master Site Plan

Insert



NOTE: All new landscaping will be habitat specific native plants.







# **IV. KEY MANAGEMENT ACTIVITIES**

## Natural Resource Protection

## Site Description.

The site is dominated by natural plant communities - Fish Hawk Creek, Turkey Creek, Little Fish Hawk Creek, and several small tributaries are bordered with floodplain forest and bottomland hardwood forest. The Alafia River Corridor floodplain also contains extensive bottomland hardwood forest wetlands, as well as smaller amounts of cypress swamp wetlands. The only other hydric communities on the site consist of widely scattered depression marshes, and several isolated man-made ponds that provided a water source for cattle in areas of improved pasture. The upland plant communities found on the site include some of the last significant stands of sandhill in Hillsborough County. The FCT project area contains approximately 300 acres of this habitat type, and similar amounts are found on the other County owned sections of the Preserve. The Preserve also contains over 160 acres of scrub habitat, primarily located in the FCT portion, but also found in the County-owned section of the Boy Scout parcel (+/- 26 acres), as well as an isolated 15 acre parcel located adjacent to Little Fish Hawk Creek, a smaller tributary of the Alafia located approximately one mile east of Fish Hawk Creek. Unfortunately, the majority of both the sandhill and scrub natural communities in the Preserve have been impacted by fire suppression, and as a result have become heavily overgrown. Management efforts will focus on restoration and enhancement of these areas. Other upland plant communities include upland hardwood forest, mixed oak and pine forest, mesic flatwoods, scrubby flatwoods, and improved pasture.

## Soils. (See Figure 5).

The Hillsborough County Soil Survey (Doolittle, *et al*, 1989) was used to identify soil types in the Preserve. The purpose of reviewing soil types was to verify and correlate through time soil types with vegetative communities and rectify any inconsistencies with field reconnaissance. Also, soil types in any given area provide a "blueprint" for restoration of disturbed or degraded areas. For example, most of the improved pasture area consists of Myakka fine sand, a soil type associated with pine flatwoods. Therefore, restoration efforts in this area would focus on the restoration of a pine flatwoods community.

In general, the soil associations are consistent with the vegetative community. The vegetative associations referred to for each soil type below were derived from soil descriptions in the 1989 soil survey and from the <u>Twenty Six Ecological Communities of Florida</u> (Florida Chapter Soil and Water Conservation Society, 1989). The numbers in parentheses refer to the labels in the soil survey map.

- (3) <u>Archbold fine sand</u> These are deep, moderately well-drained soils, with a sxeasonal high water table at a depth of 42-60 inches. This soil type often occurs on low ridges on the flatwoods. Sand pine scrub and oak scrub are the vegatative communities most often associated with this soil type.
- (5) <u>Basinger-Holopaw, depressional</u> These are nearly level, very poorly drained soils that occur in swamps and depressions in the flatwoods. In most years, the undrained areas are ponded

for about six months. These soil types correspond to cypress swamp, swamp hardwood, and freshwater marsh habitats. Dominant vegetation includes bald cypress interspersed with blackgum, sweetbay, Carolina willow, pondcypress, and red maple. Understory vegetation includes buttonbush, wax myrtle, cinnamon fern, pickerelweed, beakrushes, sawgrass, soft rush and royal fern. On site this soil type is located in the southernmost area of improved pasture, and consists of several small freshwater marshes.

- (7,8) <u>Candler fine sand</u> These are deep, excessively drained soils found on gently sloping lands. The water table is usually at a depth of more than 80 inches below the surface. Typically, this soil has a light gray surface layer of fine sand about 6" thick. The subsurface layer is a light yellowish brown fine sand, up to 3 feet deep. This soil type is often associated with longleaf pine-turkey oak sandhills vegetative communities. On the site, this soil type is associated with areas of overgrown sandhill and mature upland hardwood hammock.
- (13,14) Eaton fine sand These soils are deep, poorly drained to very poorly drained, with a seasonal high water table within 10 inches of the surface ffrom 1 to 4 months of the year. Depressional areas may be ponded during wet periods. This soil type is associated with pine flatwoods, usually wet flatwoods, and often contain isolated wetlands such as cypress domes or bay heads.
- (16) <u>Felda fine sand</u> These are deep, nearly level, poorly drained soils that occur on flood plains and flatwoods. The water table is usually within 10 inches of the surface for 2 to 6 months of the year. Depressions are often ponded during wet periods. The surface and subsurface layers are usually dark gray in color. On site, this soil type is found on low lands near Fish Hawk Creek, and contains floodplain forest.
- (18) Fort Meade loamy fine sand These are deep, nearly level, well drained soils, with a seasonal high water table of more than 72 inches. The surface layer is dark gray, and subsurface is dark grayish brown. This soil type usually supports upland hardwood hammock vegetation. On site, this soil type is found in areas of transition between pine flatwoods and floodplain forest, and contains hardwood forest.
- (21) <u>Immokalee fine sand</u> These are deep, nearly level, poorly drained soils with a seasonal high water table of 10 inches or less for more than two months of the year. A dark gray surface layer gives way to a light gray subsurface layer, underlain by a layer of black soil at a depth of 36 to 46 inches. This soil type usually supports south Florida flatwoods. On site, it is found adjacent to the creek floodplain and contains hardwood forest.
- (25) <u>Lake fine sand</u> These are deep, excessively drained soils with a water table of more than 80 inches. A highly xeric soil type, usually associated with sandhill vegetation.
- (27) <u>Malabar fine sand</u> This soil is nearly level and poorly drained. Along with St. Johns fine sand, this soil type is on low-lying sloughs and shallow depressions of pine flatwoods. This soil type corresponds to hydric hammock and wet flatwoods on the site. The seasonal high water table of this soil type fluctuates from the soil surface to a depth of about 10 inches for

two to six months.

- (29) <u>Myakka fine sand</u> This soil consists of deep, poorly drained soils. These soils formed in sandy marine sediment, and are on broad plains on the flatwoods. A seasonal high water table is within 10 inches of the soil surface for 1 to 4 months during most years. The slope is less than 2 percent. This soil type is the most common in the improved pasture areas of the site, and also includes areas containing mixed oak and pine and pine flatwoods.
- (33) <u>Ona fine sand</u> This soil occurs on broad plains in pine flatwoods. It is a nearly level and poorly drained soil type that has a 4 inch thick very dark gray fine sand topsoil. The upper part of the subsoil, to a depth of about 8 inches is a distinctive black fine sand. Ona fine sand is one of the mesic soils that occurs in the site's mixed oak and pine areas.
- (35) <u>Orlando fine sand</u> These are deep, well drained soils with a seasonal high water table at a depth of more than 72 inches. The upper 8 inches is usually black fine sand, giving way to very dark gray fine sand from 8 to 20 inches. This soil type typically supports longleaf pine-turkey oak sandhills. On site, it is found at the extreme East end of the site and contains improved pasture.
- (36) Orsino fine sand These are deep, moderately well drained soils, on nearly level slopes. The seasonal high water table is at a depth of 40 to 60 inches. There is a thin, dark gray surface layer of 2" or less, a light gray layer from 2" to 15", and a lower layer of fine white sand. This soil type typically supports sand pine scrub, and on site it contains overgrown scrub habitat.
- (41) <u>Pomello fine sand</u> This soil is nearly level and moderately well drained. Typically, this soil has a surface layer of very dark gray fine sand about 3" thick. The subsurface layer is a light gray fine sand that extends to a depth of about 43". This soil type is often associated with scrubby flatwoods and scrub. At the Preserve, this soil type corresponds with an area of scrubby flatwoods.
- (46) <u>St. Johns fine sand</u> This soil is a nearly level and poorly drained soil type that occurs in flatwoods sloughs. The upper part of the surface layer is a black fine sand about 6" thick. The lower part, to a depth of about 12", is very dark grayish brown fine sand. Longleaf pine, slash pine, water oak, laurel oak, saw palmetto, gallberry, and wax myrtle are common species in this soil type. On Fish Hawk Creek, this soil type is located in the mixed oak and pine forest that borders the floodplain forest, as well as in the improved pasture.
- (47) <u>Seffner fine sand</u> These soils are nearly level, somewhat poorly drained soils that occur on low ridges in flatwoods. Typical species that comprise the natural community that occurs in Seffner fine sand are longleaf pine, saw palmetto, gallberry, wiregrass, and lopsided indiangrass. On site this soil type occurs in several small areas associated with improved pasture, and on low lands adjacent to the creek floodplain.
- (52) <u>Smyrna fine sand</u> These are nearly level poorly drained soils. The surface layer is a very dark gray fine sand about 4" thick. The subsurface layer, to a depth of 12", is gray fine sand.

On site this soil type makes up significant portions of the improved pasture as well as areas of mixed oak and pine forest.

- (53,54)<u>Tavares-Millhopper fine sand</u> This soil type is nearly level and moderately well drained. Typically the top 4-6" of soil is grayish brown to dark gray fine sand. The subsurface layer is pale brown fine sand that extends to a depth of about 32". This soil type is usually associated with longleaf pine/turkey oak sandhills. On site this soil type is found mostly on the older section of the Preserve, and contains the best quality and most extensive example of sandhill habitat on site, as well as large areas of upland hardwood hammock.
- (57) <u>Wabasso fine sand</u> This deep, poorly drained soil is nearly level and has a seasonal high water table within 10 inches of the surface for less than two months during most years. This soil type is usually associated with pine flatwoods.
- (60) <u>Winder fine sand, frequently flooded</u> This soil is nearly level and poorly drained. It occurs in floodplains. The soil remains flooded for long periods following prolonged intense rain. Stream channels and deep escarpments isolate many areas. The seasonal high water table fluctuates from the soil surface to a depth of 10" for two to six months. The corresponding ecological community is bottomland hardwoods/hardwood swamp/floodplain forest. Common vegetation includes pop ash, red maple, sweet gum, cinnamon fern, royal fern, and patches of sphagnum moss. This soil type corresponds with the floodplain forest of Fish Hawk Creek and its tributaries on the Preserve.
- (61) <u>Zolfo fine sand</u> This soil is nearly level, deep and somewhat poorly drained. The seasonal high water table is at a depth of 24 to 40 inches. It occurs on broad ridges in pine flatwoods. The surface layer is a very dark gray fine sand about 3 inches thick. The upper part of the subsurface layer (approx. 15 inches) is grayish brown, mottled fine sand. This soil type is typically associated with oak hammocks or upland hardwood hammocks. On site, it corresponds with the upland hardwood hammock and improved pasture areas.



# Hydrology.

The entire site lies within the watershed of the Alafia River, and a large portion of the site lies within the 100 year floodplain of the river and its tributaries. Stormwater runoff generally travels via sheet flow from uplands directly into the Alafia River, or to the numerous creeks and tributaries. Since large areas of the Preserve contain well-drained, xeric soils, much of the precipitation is retained onsite as groundwater, or re-emerges as seepage and small springs before entering the surface flow of the watershed.

The Alafia is a 24-mile long river which begins south of the town of Mulberry in Polk County (SWFWMD, 1995) and empties into the southern end of Hillsborough Bay. Most of its volume is made up of surface water, although several significant springs also contribute.

The Alafia River is classified as a Class III water body according to the Florida Administrative Code, section 62-302.400. Acceptable uses in this classification include recreational interests as well as propagation and maintenance of a healthy well-balanced population of fish and wildlife.

The major source of pollution in the Alafia basin is from phosphate processing and mining. Spills from settling ponds have impacted the water quality. Water quality has also been impacted by the impoundment of two major tributaries (Turkey Creek and Bell Creek). The river is susceptible to runoff from agricultural and residential development, which increase levels of nutrients and bacteria (SWFWMD, 1995).

A number of parcels of land along the Alafia and its tributaries have been targeted for acquisition by local and state agencies, and quite a few have been purchased. The Fish Hawk Creek/Alafia River Corridor Preserve is contiguous with lands that have been acquired by the SWFWMD as part of a public water supply project. Those District owned lands are in turn contiguous with County and State owned lands to the South and West, including the Balm-Boyette Scrub and a second FCT project, the Triple Creek Greenway Preserve. These public lands are all linked to the Alafia River corridor through either Fish Hawk Creek or Bell Creek, thereby forming part of a riparian greenway system occupying much of eastern Hillsborough County.

It should be noted that in many areas along the boundaries of the site, adjacent to residential development, water drains onto the site from the developments. Since most of these residential areas, and especially the Fish Hawk community, are relatively new developments, all current stormwater management requirements are presumably being met by the stormwater infrastructure, and very little untreated runoff should flow directly onto the Preserve. The vast majority of the stormwater from the developments is directed into stormwater detention and retention facilities, and is released through drainage structures only during extreme rainfall events. A very small amount of runoff normally flows directly from the yards of residences located immediately adjacent to the Preserve boundary. Management staff will monitor these sections of the Preserve boundary during routine site inspections to verify that no site impacts are occurring from stormwater runoff, and steps will be taken to correct any problems that do occur.

By acquiring and preserving lands within the 100 year floodplain, along with adjacent uplands and wetlands, the County is lessening the potential impacts of flooding on existing and future residents.

In addition to preventing the construction of homes and businesses within the floodplain, the substantial ground vegetation cover and tree canopy on the site will have the effect of some onsite retention through the interception of rainfall, evapotranspiration, and the retarding of the sheet flow as it travels through the Preserve, lessening the severity of flood events downstream. The County is committed to protecting the water quality of the smaller tributaries, Fish Hawk Creek and the Alafia River, and the natural hydrology of the Project Area will be preserved.

## Biotic Communities (Figure 6).

The site is dominated by natural plant communities. The Preserve consists of approximately 3,500 acres, and the majority is heavily wooded habitat along Fish Hawk Creek and the Alafia River. Improved pasture occupies approximately 500 acres of the Preserve, with 210 acres on the SWFWMD owned portion, and the remainder on the FCT portion.

The vegetation of the Alafia River and its tributaries was characterized by Clewell *et al.*, in his 1982 description of the Alafia River's South Prong. The Preserve's most unique biotic communities are sandhill and scrub. The scrub and sandhill plant communities are known to support many listed species that are declining in the area due to habitat loss, including the Florida golden aster, Sherman's fox squirrel, gopher tortoise and several commensal species that rely on tortoise burrow habitat. The remainder of the site's upland wooded habitat is predominantly pine flatwoods, most of which has become overgrown with hardwood tree species due to lack of fire. Other plant communities present include scrubby flatwoods, mixed oak and pine forest, upland hardwood hammock, hydric hammock/floodplain forest, and depression marsh.

In order to provide documentation of the overall effectiveness of the County's management and restoration efforts, selected natural communities will be monitored by a combination of standardized survey techniques, including a photographic monitoring program.

A plant survey has been initiated for the Preserve, and the current list of species documented is shown below. The survey will continue until at least a full year's worth of data has been collected, to include species which are only present or identifiable on a seasonal basis. Additional species documentation will likely be an ongoing process during routine site visits, and the species list will be updated on an annual basis and submitted to FCT as part of the annual stewardship report.

# Table 2-Plant List

Abrus precatorius – rosary pea \* Acer rubrum - red maple Acrostichum danaeifolium - giant leather fern \*\*C Ageratina jucunda – hammock snakeroot Ampelopsis arborea - peppervine Amsonia ciliata- -bluestar Aristida beyrichiana - wiregrass Aster concolor – Eastern silver aster Baccharis halimifolia - groundsel tree Bejaria racemosa - tarflower Berlandeira subacaulis - greeneyes *Bidens alba* var. *radiata* – beggar-ticks Bidens mitis – beggar-ticks Blechnum serrulatum - swamp fern Callicarpa americana - American beautyberry Campsis radicans - trumpet creeper *Carphephorus corymbosus* – Florida paintbrush Carpinus caroliniana - bluebeech Carya glabra - pignut hickory Celtis laevigata - sugarberry Cephalanthus occidentalis – buttonbush Chrysopsis floridana - Florida golden aster \*\*E Chrysopsis linearfolia dressii – narrowleaf golden aster Citrus spp. - citrus \* Coreopsis leavenworthii - tickseed Cornus foemina - swamp dogwood Diospyros virginiana - common persimmon Dyschoriste oblongifolia – twinflower Encyclia tampensis – butterfly orchid \*\*C Elephantopus sp. - elephant's foot *Epidendrum conopseum* – green-fly orchid \*\*C Eragrostis spectabilis – purple lovegrass Erigonum tomentosum – wild buckwheat Gaylussacia nana - dangleberry Gelsemium sempervirens - Carolina jessamine Gordonia lasianthus - loblolly bay Hedyotis procumbens - innocence *Ilex glabra* - gallberry Ilex vomitoria - yaupon Imperata cylindrica – cogon grass \* Itea virginica - Virginia willow Lantana camara – lantana \* *Liatris spp.* – blazing star *Liquidambar styraciflua* - sweetgum Ludwigia peruviana - Peruvian primrosewillow \* Lupinus diffusus - lupine Lygodium japonicum – Japanese climbing fern \* Lyonia lucida - fetterbush Magnolia grandiflora - southern magnolia Magnolia virginiana - sweetbay *Matelea pubiflora* – sandhill spiny pod \*\*E *Myrica cerifera* - wax myrtle Osmunda cinnamomea - cinnamon fern \*\*C Osmunda regalis - royal fern \*\*C Paederia foetida – skunk vine \* Paronychia rugelii - sandsquares Parthenocissus quinquefolia - Virginia creeper

Paspalum notatum - bahiagrass \* Persea borbonia - red bay Phlebodium aureum - golden polypody Phoradendron leucarpum - oak mistletoe Phytolacca americana - American pokeweed Pinus clausa - sand pine Pinus palustris - longleaf pine Pityopsis graminifolia - narrowleaf silkgrass Pleopeltis polypodioides var. michauxiana - resurrection fern Polygonella polygama - jointweed Prunus caroliniana - Carolina laurelcherry Prunus serotina var. serotina - black cherry Psychotria nervosa - wild coffee *Pteridium aquilinum* - bracken fern Quercus geminata - sand live oak Quercus laurifolia - laurel oak Quercus myrtifolia - myrtle oak Quercus nigra - water oak Quercus pumila - running oak Quercus virginiana - Virginia live oak Rhododendron viscosum - swamp azalea Rhus copallinum - winged sumac Rubus spp. - blackberry Ruellia caroliniensis - Carolina wild petunia Sabal palmetto - cabbage palm Sambucus canadensis - elderberry Schinus terebinthifolius - Brazilian pepper \* Schrankia sp. – sensitive briar *Scutellaria integrifolia* - skullcap Serenoa repens - saw palmetto Smilax spp.- greenbrier Solanum viarum - tropical soda apple\* Solidago odora var. chapmanii - Chapman's goldenrod *Tillandsia recurvata* - ballmoss *Tillandsia usneoides* - spanish moss Toxicodendron radicans - eastern poison ivy Typha sp. - cattails Ulmus americana - American elm Urena lobata - ceasarweed *Vaccinium corymbosum* – highbush blueberry *Viola lanceolata* – white violet Vitis rotundifolia - muscadine Woodwardia areolata - netted chain fern Woodwardia virginica - Virginia chain fern *Ximenia americana* - hog plum (\* Denotes nonnative species; \*\* Denotes listed species)





# Figure 7. Fish Hawk Creek/Alafia River Corridor Preserve - Pine Flatwoods

Pine Flatwoods:

Most of the nearly-level pine flatwoods areas are heavily overgrown due to decades of fire suppression. These areas are dominated by trees such as laurel and water oak, cabbage palm, and occasional pines. In some areas, the pines appear to be hybrid slash pines, indicating that the site was replanted sometime in the past following a harvest of the native longleaf and South Florida slash pines. The understory consists mainly of scattered shrubs such as saw palmetto, gallberry, and ground cover represented by briar, poison ivy, yellow jessamine, and grapevine. The oaks in particular are draped with epiphytes such as Spanish moss and bromeliads. An area of relatively high quality pine flatwoods does exist in one section of the Preserve. It can be found just north of the gate on Boyette Road that is located between two outparcels, about 2,000 ft. east of the North-South line that runs along the West boundary of the Preserve, in what could be described as the Southwest corner of the site.



# Figure 8. Fish Hawk Creek /Alafia River Corridor Preserve – Scrubby Flatwoods

Scrubby Flatwoods:

This plant community is very similar to pine flatwoods in composition, but it occurs on moderately well drained soils. As a result, it may support plants and animals that are also found in more xeric habitats such as sand live oak and gopher tortoises. The ground is level, but the understory is less dense than a mesic flatwoods, with patches of bare ground interspersed throughout. This habitat type is found in the Preserve in close association with the high quality pine flatwoods area described above.



# Figure 9. Fish Hawk Creek/Alafia River Corridor Preserve -Depression Marsh

Depression Marsh:

This plant community occurs to a very limited extent in the Preserve, essentially a few locations in the improved pasture, and one additional occurrence in the upland mixed forest in the eastern section. It is likely that several other marshes once existed in locations that are now occupied by cattle watering ponds. The ponds that are located in the FCT portions of the Preserve will be targeted for restoration, and the remainder may also be restored, if a decision is made against any cattle grazing in the future. Although small in extent, these wetland habitats play an important role for area wildlife by providing feeding and breeding habitat at critical times of the year.



# Figure 10. Fish Hawk Creek/Alafia River Corridor Preserve – Upland Mixed Forest

Upland Mixed Forest:

In some fire-suppressed areas the natural long leaf pine (*Pinus palustris*) flatwoods have succeeded to mesic oak hammocks with dense canopies co-dominated by long leaf pines and laurel oaks (*Quercus laurifolia*). The large oaks are draped with spanish moss (*Tillandsia usenoides*) and grape vines (*Vitis* spp.). In some areas, the canopy is so dense that very little shrub layer or ground cover is present; only leaf litter covers the hammock floor. In more open areas saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*), winged sumac (*Rhus copallina*), paw paw (*Asimina triloba*) and St. John's-wort (*Hypericum* spp.) characterize the shrub layer with a ground cover of bracken fern (*pteridium* spp.) and wiregrass (*Aristida stricta*).



# Figure 11. Fish Hawk Creek/Alafia River Corridor Preserve - Hydric Hammock/Floodplain Forest

Hydric Hammock/Floodplain Forest:

The vegetation along the corridor of Fish Hawk Creek, and its tributary streams, varies depending on the steepness of the slopes. For example, in some areas where the creek floodplain is wider, the elevational change is gradual, and the vegetation is characteristic of a riverine floodplain forest. In areas where the floodplain is narrow, and along some of the stream courses, the ground shows steeper changes in elevation. Plants found along these areas are characteristic of hydric hammock wetlands: dahoon holly, bay, ferns, cabbage palm, and Virginia willow.

In addition, there are incised areas in the slope where moisture seeps through the soil and creates habitat for transitional wetland species. Sizable colonies of swamp rhododendron dominate these areas, which are sometimes referred to as seepage slopes.



# Figure 12. Fish Hawk Creek/Alafia River Corridor Preserve - Scrub

Scrub:

The site contains several areas of scrub, located on higher elevations, usually between the more level pine flatwoods and the wetland corridors. Scrub is generally considered one of the rarest, unique, and most endangered plant communities in the State (Myers and Ewel, 1990). The scrub areas on the Preserve are all fire suppressed, and as a result have been heavily invaded with hardwood tree species. A few small areas of the scrub have various degrees of openings from completely open to partially open, the latter including those areas which transition into the closed canopy. The completely open areas have the potential to contain herbaceous wildflowers, some of which are listed as Threatened or Endangered by the State or Federal government, including the Florida golden aster, which has been documented on the site. Reindeer lichens are also found on open ground among the plants.



# Figure 13. Fish Hawk Creek/Alafia River Corridor Preserve - Sandhill

Sandhill:

This vegetative community is perhaps the most significant feature of the Preserve, due to its relative rarity in the Tampa Bay Region. The site may hold as much of this habitat type as the rest of Hillsborough County combined. Unfortunately, the majority of the sandhill in the Preserve is heavily overgrown due to decades of fire suppression. Efforts have already been undertaken by the County to restore some portions of this habitat type, and this will continue to be a high priority management objective. The community occurs on extremely well drained, gently sloping soils that are found along the higher elevations of the Fish Hawk Creek corridor. In some areas, the sandhill soils support mature oak hammock with little or no understory vegetation, while in other areas, the vegetation consists of a dense tangle of shrubs and vines growing among a few scattered, mature longleaf pines.



# Figure 14. Fish Hawk Creek/Alafia River Corridor Preserve – Upland Hardwood Forest

Upland Hardwood Forest:

This habitat type occurs on relatively poorly drained soils, and consists of a closed canopy dominated by oak and other hardwood trees. The understory is sparse, and the ground is covered by a layer of duff and leaf litter. This community is found in limited areas of the site, usually adjacent to pine flatwoods or improved pasture areas.

## Wildlife.

The size, quality and composition of the site's vegetative communities indicate that it should be capable of supporting a healthy and diverse population of wildlife species. The Preserve's location along a major riparian wildlife corridor increases the likelihood a number of large, wide ranging species, such as river otter, coyote and bobcat, utilize the site on a frequent basis. Many other species with relatively small range requirements would be expected to occur on the site in numbers large enough to maintain viability. Site surveys conducted to date have been intended only to confirm the presence of species rather than the size or vitality of populations present.

The Conservation Services Team, with the assistance of volunteers, will continue to monitor the site's wildlife resources at least once a year.

Observations of wildlife utilization during routine site visits conducted since acquisition are listed below:

## Mammals

Canis familiaris - domestic dog \* Canis latrans - coyote Dasypus novemcintus - nine-banded armadillo Felis catus - feral cat \* Felis rufus - bobcat Geomys pinetis - Southeastern pocket gopher Odocoileus virginianus – white-tailed deer Procyon lotor – raccoon Sciurus niger shermani – Sherman's fox squirrel \*\*SSC Sus scrofa – feral pig \* Sylvilagus floridanus – Eastern cottontail rabbit

# **Birds**

Agelaius phoenicus – red-winged blackbirdArdea herodias – great blue heronBubo virginianus – great horned owlButeo jamaicensis – red-tailed hawkButeo lineatus – red-shoulder hawkCaprimulgus carolinensis – chuck-wills-widowCardinalis cardinalis – Northern cardinalCathartes aura – turkey vultureCharadruis vociferous – killdeerChordeiles minor – common nighthawkCircus cyaneus – Northern harrierColaptes auratus – Northern flickerColumbina passerina – common ground doveCoragyps atratus – black vulture

*Corvus ossifragus* – fish crow *Cyanocitta cristata* – blue jay *Dendroica coronata* – yellow rumped warbler *Dendroica palmarum* – palm warbler *Dumetella carolinesis* – gray catbird Eudocimus albus – white ibis \*\*SSC Falco sparverius – American kestrel Grus canadensis pratensis - Florida sandhill crane \*\*T *Lanius ludovicianus* – loggerhead shrike Melanerpes carolinus - red-bellied woodpecker *Meleagris gallopavo* – wild turkey *Mimus polyglottos* - Northern mockingbird Otus asio - Eastern screech-owl Parus bicolor – tufted titmouse Pipilo erythrophthalmus – Eastern towhee Quiscalus quiscula – common grackle Sayornis phoebe – Eastern phoebe Sialia sialis – Eastern bluebird Strix varia – barred owl *Sturnella magna* – Eastern meadowlark Tachycineta bicolor – tree swallow *Thryothorus ludovicianus* – Carolina wren *Turdus migratorius* – American robin *Vireo griseus* – white-eye vireo Zenaida macrourna – mourning dove

## Amphibians and Reptiles

Anolis carolinensis – green anole Bufo terrestris - Southern toad Cnemidophorus sexlineatus - six-lined racerunner Coluber constrictor – black racer Crotalus adamanteus - Eastern diamondback rattlesnake Drymarchon corais - Eastern indigo snake \*\*T *Elaphe guttata* – red rat snake Elaphe obsoleta – yellow rat snake *Eumeces inexpectatus* –Southeastern five-lined skink *Gopherus polyphemus* – gopher tortoise \*\*SSC Hyla cinerea - green treefrog *Hyla squirella* - squirrel treefrog *Masticophis flagellum flagellum* – Eastern coachwhip Ophisaurus ventralis – Eastern glass lizard *Pseudacris nigrita* – Southern chorus frog Sceloporus undulatus undulates - Southern fence lizard *Scincella laterale* – ground skink Sistrurus miliarus barbouri – dusky pigmy rattlesnake

Terrapene Carolina bauri - Florida box turtle

# Invertebrates

Battus philenor – pipevine swallowtail butterfly Centruroides sp. – scorpion Graphium marcellus – zebra swallowtail butterfly Papilio glaucus – Eastern tiger swallowtail butterfly Papilio troilus – spicebush swallowtail butterfly

- \* Denotes non native species
- \*\* Denotes listed species

The Project Area's potential wildlife utilization is high due to several characteristics:

- The site is comprised of a diverse assemblage of high quality natural plant communities, although habitat quality and diversity have declined due to fire suppression.
- The site is located within a Natural Greenway Corridor consisting of the Alafia River and its tributaries, and many species utilizing this riverine corridor are expected to depend on the site for at least a portion of their habitat needs.
- The site is adjacent to other protected public lands, or linked to still others via the corridor system, increasing the total size of the area available for habitat.

Characteristics that may have a negative impact on the Preserve with respect to wildlife habitat may be:

- Surrounding development. The continuing loss of surrounding agricultural lands to development will result in negative impacts to the site's wildlife populations, including increased mortality from road kills and domestic pets, more frequent introductions of exotic pest plants, noise and light pollution, etc.
- Invasive exotic species. Hillsborough County is located in a transitional climate zone, resulting in a high number of invasive exotic plant species. The Alafia River corridor provides an ideal habitat refuge for wild hogs, making it extremely challenging for land managers to control this destructive pest.

Management strategies designed to address these characteristics will be discussed in the **Resource Enhancement** Section of this report.

# Listed Species.

All element occurrences documented on site will be reported to the Florida Natural Areas Inventory (FNAI) on the appropriate FNAI Field Report Forms, which are included in Appendix C, and which are also available on the FNAI website (www.FNAI.org). The Project Site includes areas that have

been designated by the Florida Fish and Wildlife Conservation Commission as Strategic Habitat Conservation Areas (SHCA's). These are defined as "areas not in public ownership that have been identified as important for the long-term viability of..." endangered resources such as certain animal species, natural communities, and rare plants. In the case of the Project Site, the Southeastern American kestrel and wading birds are the species listed, and both the scrub habitat and the sandhill habitat are included in the list of natural communities that qualify as SCHA's. By purchasing and preserving these areas from development, and targeting these habitats for enhancement and long-term protection and management, the project Will further the objectives of the SHCA designation. The SHCA's within and adjacent to the Project Site are shown on Figure 15.

Listed Wildlife Species.

Several species that are listed as Threatened or Species of Special Concern are known to utilize the Fish Hawk Creek Preserve. Initial, cursory inspections of the project site have revealed the presence of <u>gopher tortoise</u> populations in the xeric habitats (sandhill, xeric hammock, and scrub). The gopher tortoise is listed as a Species of Special Concern by the Florida Fish and Wildlife Conservation Commission (FWC). Table 2 lists protected wildlife species that could potentially occur within the project site area.

Gopher tortoises are widely distributed throughout the state, inhabiting dry, sandy upland habitats where they excavate deep burrows. Generally, suitable gopher tortoise habitat occurs on well-drained, sandy soils with an abundance of herbaceous ground cover and a fairly open canopy with sparse shrub cover (Cox et al. 1987). Gopher tortoise are considered by many to be a "keystone species," one whose presence contributes to a diversity of life, helping to support the ecosystem of which they are a part, and whose extinction or extirpation locally would consequently lead to the extinction of other forms of life. Gopher tortoise populations on the project site can be managed by protecting the active burrows and restoring and maintaining the upland habitats with the introduction of an appropriate prescribed fire regime.

Gopher tortoise burrows are known to provide habitat for a number of vertebrate and invertebrate species. Many of these burrow associates are listed species including: the <u>gopher frog</u> (*Rana capito*), an FWC Species of Special Concern, <u>eastern indigo snake</u> (*Drymarchon corais couperi*), a FWC and FWS Threatened species, <u>Florida pine snake</u> (*Pituophis melanoleucus mugitus*), a Species of Special Concern (FWC), <u>short-tailed snake</u> (*Stilosoma extenuatum*), a FWC Threatened species, and the <u>Florida mouse</u> (*Podomys floridanus*), a Species of Special Concern (FWC). All of these species can be protected and managed by protecting populations of gopher tortoises as well as preserving unfragmented tracts of land supporting natural xeric habitats and using prescribed burning to maintain a mosaic of habitats and encourage the growth of herbaceous species (Hipes et al. 2000).

Certain areas of the project site have the potential to be habitat for the <u>Florida scrub-jay</u> (*Aphelocoma coerulescens*) listed by both FWC and FWS as a Threatened species. It is the only bird species whose entire range is restricted to Florida (Hipes et al. 2000). Optimal scrub jay habitat consists of open scrub communities dominated by low-growing oak species, including oak scrub, open sand pine scrub, rosemary scrub, and open scrubby flatwoods (Fitzpatrick et al. 1991). The site contains a significant amount of this scrub habitat although most is overgrown. This is the result of fire



suppression and can be remedied with fire or mechanical enhancements. Protection and management of potential scrub jay habitat areas can be achieved by utilizing a combination of mechanical thinning and prescribed burning to achieve optimal habitat structure. A fire return frequency with intervals no shorter than three years and no longer than 10-20 years is optimal so that oak species will be maintained in an acorn-bearing status, palmettos will not spread at the expense of oaks, pines will not proliferate, and a fairly low, open oak understory will be maintained.

The Southeastern American kestrel (*Falco sparverius paulus*), listed as a threatened species by FWC, could potentially utilize the project site. They are found throughout the state in prairies, pastures, forest edges, and open pine habitats, including sandhills and open flatwoods (Hipes et al. 2000). Nesting occurs in tall dead trees or utility poles. Protection and management of potential kestrel habitat can be achieved by preserving large tracts of these suitable areas, and managing dead tree snags. The open utility corridors and fields in the region coupled with kestrel boxes or snags would facilitate promotion of this species.

The site could potentially provide habitat for the bald eagle (*Haliaeetus leucocephalus*), a FWC and FWS listed threatened species. They are known to be a water-dependent species, with distribution influenced by the presence of large trees for nest and perch sites near large waterways (USFWS 1999). Two eagles' nests, reported active as of the 2003 nesting season, are located within 10 miles of the project site, near tributaries of the Alafia River (FWC 2005).

The project site also has the potential to be habitat for Sherman's fox squirrel (*Sciurus niger shermani*), a FWC species of special concern. Sherman's fox squirrels inhabit pine flatwoods and open sites with scattered pines and oaks. It is reported to nest in oak trees, and is dependent on oaks and longleaf pine cone seeds for food. Preservation of flatwoods habitats is necessary to protect this species, with a growing season prescribed burn every two to five years recommended.

# **Listed Species Management Strategies**

Special management strategies will be implemented to restore and improve habitat conditions for listed species, such as the Florida scrub jay (*Aphelocoma coerulescens coerulescens*) and gopher tortoise (*Gopherus polyphemus*). In developing management strategies, the Florida Fish and Wildlife Conservation Commission will be consulted to ensure the protection of these and other listed species. The strategies outlined below are designed as an initial plan, and are to be reassessed as activities are completed and monitoring results are evaluated.

Prescribed fire will be utilized to restore and then maintain the fire-dependent communities of the site. When used in combination with mechanical thinning where necessary, prescribed fire can help to create improved conditions for scrub jays and gopher tortoises, as well as wildlife species dependent upon gopher tortoise burrows. The re-introduction of a fire frequency typical of the pyrogenic habitats found on the site, will enhance the site's conditions for both the scrub jay and the gopher tortoise as well as all other endemic species of plants and wildlife that are naturally adapted to these conditions. Many plant species found in these communities are fire-dependent and not only require the heat of fires for propagation, but burn at temperatures that preclude the growth of other non-fire-dependent species. Another benefit of prescribed fire is the reduction of the potential for devastating wildfires by burning off accumulated fuel.

Six specific areas of the site will benefit from prescribed burning and mechanical thinning restoration activities (Figure 16):

- Sandhill habitat located on the south side of Lithia Springs Road can be restored and then maintained for the management of an apparently active resident gopher tortoise population. Additional open sandy patches can be created by hydro-axing<sup>1</sup> young oaks and burning them in piles scattered through the habitat. Additionally, the reintroduction of a fire frequency typical of sandhills (every 2 to 5 years) will help to improve upon the general conditions of the habitat by reducing hardwood competition and perpetuating pines and grasses. New residential development is planned for the land adjacent to this area. The County should seek to secure conditions through a Project Compatibility Plan for the sections along the Preserve boundary, to reduce future conflicts with homeowners.
- Xeric hammock habitat located on the north side of Lithia Springs Road contains a remnant population of gopher tortoises. Conducting prescribed burns within small portions of the habitat may help to maintain the herbaceous coverage within the existing open patches, providing forage for tortoises. This habitat maintenance plan may be implemented in the future.
- Scrub habitat on the Boy Scout parcel will be managed considering the structures optimal for scrub jays. As described in more detail in the Listed Animal Species Protection section, the optimal scrub jay habitat consists of low-growing, acorn-producing scrub oaks interspersed with exposed sand areas, having a natural fire frequency of 10 to 20 years. Generally, restoration is achieved with more frequent growing-season burns that seek to mimic natural, historical frequencies. Dormant-season burning will reduce fuel accumulation. Mechanical thinning will be employed as necessary to achieve the desired structure. The resulting open vegetative structure, as well as the new growth that fire stimulates in many scrub and flatwoods plants, will also provide desirable habitat for gopher tortoises and other indigenous wildlife. This parcel also contains scrubby and mesic flatwoods habitats that can be enhanced with reintroduction of prescribed burning on a frequency of every 2 to 8 years.
- Scrub and sandhill habitat located on the Thomas and Phase II parcel will also be managed considering the structures optimal for scrub jays. Sand pines will be hydro-axed, and then a prescribed burning regime (as described for the Boy Scout parcel) initiated.
- Scrub habitat located on the parcel south of Fish Hawk Creek, and north of the improved pasture. The same methods as described above.
- Pine flatwoods and scrubby flatwoods located in the Phase II Thomas/Pulte Homes parcel, west of Fish Hawk Creek and north of the powerline right-of-way. This area has been impacted by recent logging of the pine tree overstory. A combination of prescribed burning to reduce woody species coverage and reintroduction of longleaf and south Florida slash pine

<sup>1</sup> Hydro-axing is a useful tool for thinning a thick canopy allowing sunlight to reach the ground strata. Without this sunlight, vegetation does not grow in sufficient quantities to accumulate fuels, which are critical to carrying fire.

over a multi year period will result in a natural, uneven age stand of pines. The understory vegetation is largely intact in this area.

A written burn plan, or prescription, will be devised for each unit within these sites that will detail the burn objectives, describe the initial site conditions, list adjacent property owners to notify, and identify the weather factors preferred for the burn. The planning process will also assess urban interface issues and will involve coordination with the Florida Division of Forestry (FDOF) and local Fire Departments.

# Table 3. Listed Wildlife Species

# Mammals

Sherman's fox squirrel – *Sciurus niger shermani* - SSC \* Florida mouse – *Podomys floridanus* - SSC

# **Birds**

Florida sandhill crane – *Grus Canadensis pratensis* - T \* Southern bald eagle – *Haliaeetus leucocephalus* - T\* Southeastern American kestrel – *Falco sparverius paulus* – T Burrowing owl – *Speyotyto cunicularia floridana* - SSC Florida scrub jay – *Aphelocoma coerulescens* - T Arctic peregrine falcon – *Falco peregrinus* - E Little blue heron – *Egretta caerulea* - SSC Snowy egret – *Egretta thula* - SSC Tricolored heron – *Egretta tricolor* - SSC White ibis – *Eudocimus albus* - SSC \* Wood stork – *Mycteria Americana* - E Roseate spoonbill – *Ajaia ajaja* - SSC Limpkin – *Aramus guarauna* - SSC

# Amphibians and Reptiles

Eastern indigo snake – Drymarchon corais couperi - T \* Gopher tortoise – Gopherus polyphemus - SSC \* Florida pine snake – Pituophis melanoleucus mugitus - SSC American alligator – Alligator mississippiensis – SSC Short-tailed snake – Stilosoma extenuatum – T Gopher frog – Rana capito - SSC

\* Denotes species observed on site

# Listed Plants.

Very few listed plant species have been documented on the site to date, and the majority are listed as

commercially exploited. Only three species listed as Endangered have been observed, the sandhill spiny pod (*Matelea pubiflora*), the giant air plant (*Tillandsia utriculata*) and the Florida golden aster (*Chrysopsis floridana*). These and other listed plant species will be protected by identifying their locations prior to installation of any infrastructure that may compromise populations of these species.

Florida golden aster occurs in open, sunny areas on well-drained, sandy soils, including bare patches within sand pine scrub and roadway and utility rights-of-way (Chafin 2000). Within the project area, a population of Florida golden aster occurs within the powerline right-of-way adjacent to Fishhawk Boulevard, and along the interior fence line separating the older Fish Hawk Creek Preserve parcel north of the powerline from the new addition to the north. It can be protected and managed by conducting more detailed surveys of potentially suitable habitat to define the extent of any populations, avoiding mechanical soil and ground cover disturbances, such as mowing, clearing, and off-road vehicle use, and avoiding the use of herbicides within the right-of-way. Prescribed burning within xeric habitats and surficial soil disturbances adjacent to existing aster populations can enhance localized populations of the golden aster (USFWS 1999).

Cinnamon fern and royal fern are common throughout the state, occurring in swamps, bogs, and marshes in acid soils (Wunderlin and Hansen 2000). Within the project area, these species were observed within the floodplain forest associated with the Alafia River. Cinnamon fern and royal fern can be protected and managed on the site by routing any trails and infrastructure around populations, and initiating a public education program that includes advising visitors of their protected status.

Giant air plant is an epiphyte that occurs in hammocks throughout central and southern Florida. One dead giant air plant was found in a mesic hammock of the project site. Species of *Tillandsia* have become threatened and endangered not only from illegal harvesting, but from infestation by the exotic Mexican bromeliad weevil (*Metamasium callizona*) (FCBS 2005). A public education program together with removal of infected plants and biological control can protect giant air plants and other species of *Tillandsia* that may be found on site.

Additional listed plant species may potentially occur on site, due to the presence of suitable habitat and their documentation in Hillsborough County. Special management considerations can broadly be applied by grouping species that occur in scrub, sandhill, and other xeric habitats, and those that occur in mesic to wet hammocks and flatwoods. In general, those species occurring in xeric habitats require the presence of open, sunny patches. Application of prescribed burning can help to create and maintain a mosaic habitat structure, maintain sunny gaps and patches within the habitat, reduce competition, and help seeding (Chafin 2000). All of the potentially occurring listed species could be protected and managed by first conducting more detailed surveys to identify their presence and extent, controlling the growth of exotic plant species, eradicating feral animals, locating any proposed public access areas and facilities away from the populations, and initiating a public education program that includes appropriately placed signage and written materials.

# **Resource Enhancement**

The goal of management with respect to the Preserve's natural resources is to enhance, restore and/or preserve natural plant communities adapted to the region's natural processes (particularly fire) in a balance that mimics or approaches "pre-settlement" conditions. In the case of the Fish Hawk

Creek/Alafia River Corridor Preserve, pyrogenic habitats have been degraded by the suppression of fire and the site management strategy will be to restore and enhance plant communities through the reintroduction of a burn regime. In many areas of the Preserve, especially those consisting of overgrown sandhill and scrub habitats, it will be necessary to remove some or all of the mature canopy tree species by harvest or mechanical methods. Limited areas of the oak hammock community in an older section of the Preserve have been cleared and replanted with a variety of herbaceous sandhill species.

The County has used a variety of habitat restoration techniques on other preserve sites, including selective harvesting of trees, hydroaxing of trees and understory vegetation, trunk girdling, and herbicide treatment. The common goal for each method is to reduce or eliminate the hardwood species that create a closed canopy environment, preventing regeneration of native pines and other desirable species, as well as acting as a fire suppressant. Removal of the hardwoods is usually followed by replanting of selected plant species, and at least some degree of natural recruitment can also occur. The County will evaluate these and other methods of restoration and enhancement, and seek funding for larger scale restoration efforts in the long term. The actual methods used on the Preserve will be determined based on site survey information and available funding.

Approximately 160 acres of fire suppressed sand pine scrub, and 600 acres of fire suppressed sandhill, and several hundred acres of recently logged mesic flatwoods, are located on the Project Site. Together with approximately 500 acres of improved pasture, these areas comprise a total of approximately 1,500 acres of the Project Site that will be targeted for restoration or enhancement in various phases over a period of at least ten years (Figure 16). The goal of this effort will be to return these areas to a level of biological composition, diversity, and ecological function that approaches the original, undisturbed condition. In the case of the scrub and sandhills, replanting with native plant species should not be necessary. Natural recruitment is expected to occur following reintroduction of fire and mechanical clearing. In the improved pasture areas, pine flatwoods and native range grasslands will be the target plant communities. These areas will be replanted with a combination of longleaf pine, southern slash pine, wiregrass, sawpalmetto, and a variety of native herbaceous forbes such as goldenrod, tickseed, and wild petunia. The exact composition of species will depend on factors such as soil conditions, elevation, hydrology, commercial availability of plant materials, and funding. The timeframe for initiation of the restoration and enhancement will be immediate, in the case of reintroduction of fire, long term, and ongoing. Mechanical clearing and replanting will be contracted out, and the timing and duration of these activities will depend on the availability of funding. The County will seek grant funds to supplement its in-house budget.

Approximately 500 acres of the Preserve have been converted to improved pasture. The soil types found in the pasture areas indicate that the original plant communities consisted primarily of pine flatwoods and upland hardwood hammock, with some small areas of scrub as well. The areas of the pasture that occur on the FCT portions of the Preserve acquired prior to 2005, will undergo restoration to the greatest extent practical, with the objective of establishing plant communities composed of native species that provide a higher level of ecological function. Smaller areas of improved pasture, located on lands purchased in 2005, will be enhanced with a combination of prescribed fire and native plantings, to provide improved habitat for existing colonies of gopher tortoises. The limiting factors that hinder the ability to establish the exact natural communities that previously existed in the improved pasture areas include the presence of persistent exotic grasses

(e.g. bahia), altered soil chemistry, hydrology, availability of plant materials, and cost. It is likely that the target composition for the restored pasture areas will be a mosaic of native range, or prairie type systems, and open pine flatwoods. Following the termination of the existing cattle grazing lease, restoration of the remainder of the improved pasture located on the SWFWMD owned land, an area of approximately 230 acres, will be initiated.

In addition to the restoration and maintenance of native plant communities, efforts to manage at the species level shall be employed. Species-specific management strategies were identified previously in the listed species section. Those strategies are incorporated into the following proposed resource enhancements. These enhancements are listed in order of occurrence.

In addition to these enhancements, ongoing monitoring of vegetative communities, flora and fauna with special emphasis on listed species will be conducted annually, at a minimum.

# (1) <u>Removal of exotic species</u>

Plants: Using the <u>Exotic Pest Plant Council's 2005 list of Florida's Most Invasive Species</u> (located in Appendix C) as a guide, all invasive exotics will be identified and control efforts will be implemented. The objective of control efforts will be the total elimination of exotic nuisance species; however, since the primary characteristic of such species that causes their nuisance status is their ability to colonize and expand in the local environment, control will be an ongoing process, and total eradication will not be feasible with current technology and resources.

At least nine invasive exotic plant species have been identified on the Preserve to date. Other exotics are expected to appear during the growing season, but many are either relatively harmless or they occur in small numbers. Those of concern include cogon grass, skunk vine, air potato, Japanese climbing fern, old world climbing fern and tropical soda apple. Control efforts to eliminate cogon grass and tropical soda apple have already been initiated.

Although at least nine species of invasive exotic plants are known to occur on the Preserve, there are currently no documented occurrences of any of these species in large, monospecific patches. As a result, it will not be necessary to follow up eradication efforts with revegetation of native plant species. Ongoing control efforts are expected to prevent the occurrence of any monospecific patches large enough to require re-vegetation, however, if any such areas do occur in the future, re-vegetation will be initiated immediately following the successful eradication of the invasive population.

Small numbers of other invasive and non-invasive exotics have been dumped as landscape debris along the boundary adjacent to residential development. These are removed or treated with herbicides as they are discovered by Conservation Services staff. The boundaries have been posted and letters delivered to residents adjacent to problem areas asking for their cooperation.

Conservation Services Team staff in their weekly to monthly visits to the site will continue to survey for exotic plant species and take appropriate actions to eliminate invasives upon identification.

Animals: Because of the combination of residential and agricultural land uses of the area surrounding the site, a wide variety of exotic animals can be expected to occur on the Preserve from time to time.

Domestic pets are expected to frequently wander onto the site from the yards of adjacent residences. The site will be posted with signs that state that all dogs must be restrained by a leash. If domestic cats are frequently sighted on the Preserve, an attempt will be made to identify the owners, and to educate nearby residents of the impacts to wildlife of free roaming housecats. If all else fails, live trapping may be used as a last resort. If any feral dogs or cats are documented, they will be removed by Hillsborough County Animal Services. Feral pigs have been observed on the site, and are a continuous problem on other preserve lands in the region. Both the County and the SWFWMD have active hog trapping programs, and this site will be included in an ongoing effort to maintain populations of this destructive animal at the lowest possible levels. Other feral animals, including non-native ducks, have not been documented, however, if these or other non-native nuisance species are discovered, appropriate measures will be taken to remove them.

Exotic animal control efforts will be initiated immediately following any documented occurrence of nuisance species. In the case of feral pigs, control efforts are ongoing and continuous, due to the presence of populations on adjacent private lands throughout the region, and the ability of this species to travel long distances. As a general rule, and for practical reasons, specific sites are not targeted for feral pig control unless the population increases to a point at which damage to the site begins to occur. Conservation Services Team staff in their weekly to monthly visits to the site will continue to survey for exotic animal species and take appropriate actions to eliminate feral animals upon identification.

# (2) Prescribed burning (also see Coordination Section)

Burn regimes will be re-established to reduce and suppress hardwood tree species and diversify habitat structural characteristics. Pine flatwoods communities will be burned at a target frequency of anywhere from 3 to 7 years. Sandhills will be burned more frequently, and scrub areas at longer intervals. With the exception of fuel reduction burns, which will be necessary due to the suppression of fire for many years, the preferred time of year for burns will be during the growing season. This mimics natural conditions. However, due to the reality of limited resources and the inability to burn during extremely dry conditions, prescribed burning will occur at all times of the year, when conditions permit. Existing snags will be preserved when time permits by clearing fuel in a circle around the base prior to initiating the burn prescription. Burn regimes may vary within any given burn unit depending upon the vegetative response to the previous burn.

Prescribed burns will be conducted by the County's in-house burn team. FDOF staff may be requested to participate, in a support capacity, if needed. All burn units are prepared well in advance, with fire lane construction or maintenance, surveys for significant resources, and development of burn unit objectives. Once a given unit has been prepared, a prescription is developed, which specifies the desired conditions for the burn, both seasonal and weather factors are addressed. When forcasted conditions are favorable, and burn permits are obtainable, the burn is conducted, assuming staff resources and equipment are adequate. On the day before a burn, and on the morning of the burn, a specific notification procedure is followed, to insure that the proper authorities, as well as adjacent landowners, are aware of the burn. In situations when a large number of residences are adjacent to a burn unit, advance notification, consisting of brochures and personal contacts by County staff, are used to inform the residents of the upcoming burn activity and to explain the needs and objectives involved.

A Burn Plan has been developed for the older portions of the site, consisting of the identification of burn units, and a brief description of how prescribed fire will be applied to each unit. The Burn Plan will be expanded to the recently acquired portions and the completed document will be forwarded to State DOF staff for review. Any comments received from that agency will be incorporated into this Plan by inclusion in Appendix E.

# (3) Listed Species Recovery Plans

All management strategies identified in the wildlife and plant listed species sections of this plan will be implemented. Application of these strategies will lead to the documentation of all listed species occurrences on site. Specific management strategies will be applied to species known to occur:

- At a minimum, informal surveys will be conducted to determine the presence and distribution of key listed species, such as the gopher tortoise and Florida golden aster. If funds are made available to conduct more intensive surveys, small mammal trapping and herpetofaunal arrays will be established to determine tortoise burrow associate utilization.
- Re-establishing a variable burn regime will serve to enhance the suitability of the Preserve for a larger diversity of species. A frequent regime in the flatwoods favors the gopher tortoise and its associates. A less frequent regime favors several nonlisted species including common yellowthroat, rufoussided towhee, white-eyed vireo, and Carolina wren.

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# **Environmental Education Programs**

The hiking trails will take advantage of scenic vistas as well as ecologically interesting features. Interpretive kiosks at each of the Preserve's three main entrances will describe the general natural features of the Preserve, and brochure dispensers will provide a trail guide that, along with numbered trail markers, will interpret any interesting or environmentally significant features encountered along the trails. The kiosks near the parking areas will direct people to remain on the trails and respect wildlife.

As with other sites purchased through the ELAP program, interested individuals have been directed to ELAPP by Hillsborough County's "Volunteers in Public Service" (VIP's). Since volunteer activities are led by an ELAPP staff member, this provides educational opportunities. Staff typically cover not only natural history and information concerning the Preserve's habitat, but also management needs and activities (such as prescribed burning and exotic control). Passive education (interpretive signs, nature trail, etc.) has been described above. The Preserve will be made available for field trips by groups including Audubon, Native Plant Society, Sierra Club, school ecology clubs, etc., with ELAPP staff guidance when requested. Furthermore, it will be made available for use as a field trip site and outdoor laboratory for USF, the University of Tampa, and Hillsborough Community College. This type of educational support will not require additional facilities.

Education Program development will begin once Park-related infrastructure is developed.

# Coordination

Prescribed Burning. Some portions of the Preserve are located in areas that are still comparatively free of smoke sensitive areas; however, residential development does exist immediately adjacent to some portions of the Preserve, and residential development is expected to continue in the forseeable future. Several public roads border the Preserve, but Fish Hawk Boulevard and Lithia-Pinecrest Road are the only ones with high traffic levels at the current time. As the surrounding area continues to develop, smoke sensitive areas will increase as well. Any prescribed burning must be conducted under conditions that minimize or avoid impacts to these areas. In general, burn units will be smaller than average due to the configuration of the Preserve. The overall burn strategy will be developed in cooperation with the Florida Department of Agriculture and Consumer Service's Division of Forestry (DOF). Well in advance of any burning activities, the Conservation Services Team will fill out a Prescribed Burn Plan Pre-Burn Data sheet (Appendix F). This form provides a checklist of individuals to notify which includes the DOF, Environmental Protection Commission Air Management, Hillsborough County Fire Department, Hillsborough County Public Information Office, County Administrator's Office, and the Parks, Recreation and Conservation Department. All adjacent land owners are also notified. Accompanying this notification should be a brief synopsis of why it is necessary to burn (See Appendix F for example).

The County will coordinate with the DOF on the development of the prescribed burn plan. In addition, the Florida Fish and Wildlife Conservation Commission (FWC) will be asked to review the plan in order to evaluate the effectiveness of the overall strategy in terms of recovery of the gopher tortoise population and any other critical species. Coordination will be initiated by providing the DOF and FWC with copies of the draft management plan along with a request for review and comment. Any comments or recommendations received from those agencies will be incorporated into the Plan by inclusion in Appendix E. This information will also be forwarded to FCT, along with a summary of any proposed management activities necessary to implement those recommendations, for review and approval by FCT.

<u>Management.</u> The County will coordinate management of the Preserve with the development and management of other public lands in the area, particularly within the Alafia River watershed. As with all publicly owned lands in the County, the managing agencies will collect and share data on biotic communities and the ecological response to management strategies.

<u>Listed Species.</u> The County will continue to coordinate with the FWC for appropriate guidance, recommendations and/or necessary permits to avoid impacts to listed species. Upon FCT approval of the management plan, a copy will be submitted to the FWC for comment.

<u>Water Quality.</u> The County will coordinate with SWFWMD to ensure that development of the Project Site is done in a manner consistent with the protection of the Alafia River's water quality. Coordination shall be initiated upon completion of the management plan; SWFWMD will be provided a summary of the proposed site development and involved in the plans to permit the construction of the park infrastructure.

# **Greenway Management**

The Fish Hawk Creek/Alafia River Corridor Preserve is recognized in the Hillsborough Greenways Conceptual Plan as part of a Natural Greenway Corridor (Hillsborough Greenways Master Plan). The Hillsborough Greenways Master Plan identifies a network of greenways that extend throughout the County (Figure 2).

The term "greenways" refers to linear parks or open spaces that connect natural, cultural, recreational, and historic resources. They can be hard surfaced pathways that permit different recreational uses such as walking, jogging, and biking, or they can be natural corridors with a simple path along a stream or riverbank. Many greenways connect destination points such as parks, libraries, schools, and shopping areas. A utility or drainage right-of-way or an abandoned railroad corridor can be converted to a pedestrian bike or walkway. Conservation areas protecting a community's natural resources, such as rivers, wetlands, wildlife and floodways are often included in greenways. Greenways benefit the community in many ways by providing opportunities for recreation and alternative transportation, improving environmental protection, providing places for environmental education, and stimulating economic development. Because of their diverse functions, they fulfill many needs.

The Fish Hawk Creek/Alafia River Corridor Preserve falls within the Alafia River natural greenway corridor. Major sections of the middle and upper sections of this corridor are already in public ownership. The Fish Hawk Creek/Alafia River Corridor Preserve is ecologically connected to these other public lands, increasing its significance as an important habitat refuge for wildlife species that utilize the riverine corridor. A secondary greenway corridor function is the passive recreational benefit that the Preserve provides to the public. An existing hiking trail will be extended onto the FCT portions of the Preserve, more than tripling its length, and long range plans provide for continuing the trail system onto adjacent SWFWMD owned lands, with the potential of eventually extending the trail all the way to the Balm-Boyette Scrub and Triple Creek Greenway preserves. Protection of the natural resources of the Project Site, as described in this Management Plan, will ensure that the site continues to fulfill its role as a part of the Greenway Corridor System.

Coordinated management of the various publicly owned parcels within the greenway network is virtually assured by the fact that the majority are owned and/or managed by Hillsborough County. This includes not only the Project Site, but also the Rhodine Scrub, Bell Creek Greenway (FKA Sterling Downs Greenway), Triple Creek Greenway, Balm-Boyette Scrub, Alderman's Ford Park and Preserve, and Alafia River Corridor. This ensures that each of these preserve areas are being

managed under the same goals and objectives, which increases the overall effectiveness of the efforts to control exotic species, provide enhanced corridor function through habitat restoration, and the ability to provide recreational facilities such as hiking, horseback riding, and canoe trails. The only large tracts of land within the immediate region that are not under County management are Alafia River State Park and the SWFWMD owned tract associated with the new water reservoir. The County will work with the District and the State Park staff to develop a coordinated management strategy for the areas managed by the three agencies. This effort will be initiated within twelve months following the approval of this Plan.

# Preservation

The site is protected under the provisions of the County's Park Ordinance #97-14, as well as the various ELAPP Ordinances which restrict lands acquired with funds collected under the program. In addition, the County's zoning and development review processes provide for the protection of natural preservation areas. During the County's zoning review process, various county agencies, including the Parks, Recreation and Conservation Department, may recommend conditions necessary to reduce or eliminate negative impacts from proposed developments. During the permitting process, the County's Land Development Code includes a provision requiring the applicant to prepare a Project Compatibility Plan, which must detail actions to be taken and conditions imposed in order to avoid or minimize negative impacts to adjacent natural preservation areas.

Using these mechanisms, the County will monitor adjacent development activities to ensure that such activities do not negatively affect the resources on the Preserve. Measures such as vegetated buffers, site design, height limitations, etc. shall be required as necessary to ensure that resources and planned outdoor recreation activities on the Preserve are protected from adverse impacts of adjacent land uses.

# Maintenance/Staffing

Site maintenance will be the responsibility of the Hillsborough County Parks, Recreation and Conservation Department. This Department's Maintenance Unit II will be responsible for:

- maintaining all facilities and landscaping located at the recreational park site, including the following routine tasks
- emptying the garbage receptacles that will be located at the picnic area and park access point,
- picking up litter,
- keeping all interpretive literature dispensers stocked,
- facilities upkeep, and
- reporting any fires, vandalism, theft, hunting, or any other trespassing observed within the project area.

The County Parks, Recreation and Conservation Department's Conservation Services Office will be ultimately responsible for fencing installation and repairs (as necessary) as well as the planning and implementation of all management strategies identified in the Resource Enhancement Section of this report including, but not limited to:

- the application of prescription burns with assistance from the Division of Forestry (if necessary),
- the construction and maintenance of roads, trails and fire lanes,
- baseline and annual floral and faunal surveys,
- exotic species identification and eradication,
- development of interpretive materials,
- volunteer coordination, and
- reporting any fires, vandalism, theft, hunting, or any other trespassing observed within the project area.

The Conservation Services Team currently consists of nineteen permanent staff positions, and several temporary/seasonal staff. Most activities will be performed by teams of two or three staff members, including plant and animal inventories, exotic plant control, trail maintenance, etc. Prescribed burns will be conducted by a burn crew consisting of a burn boss and Conservation Services Team members, with a Division of Forestry (DOF) unit on site in stand-by mode if conditions warrant. Volunteer participation has been used for ELAPP site management on most of the County's natural preserve sites and includes activities such as plant and animal inventories, exotic plant control, nest box construction, installation and maintenance, trash removal, habitat restoration (planting natives), fence and gate installation and repair, site patrol, trail installation and maintenance, etc. The County's Conservation Services staff will work with local residents who express an interest in preservation and management of the site. Such volunteers can be invaluable in reporting unauthorized activities, as well as providing additional site observations such as wildlife sightings and public usage.

Staff located at Litha Springs County Park and Alderman's Ford County Park are responsible for certain management activities related to the State designated Alafia River Canoe Trail. This includes maintenance of the canoe launches in the two parks and the canoe rest stops located in between, two of which are within the Preserve.

Preserve staff, volunteers, and adjacent land owners will be instructed to contact the appropriate agency/department in the event of a wildfire, or any suspected infractions (see Coordination Section).

# Security and Safety

Security will be the responsibility of the County. Boundary and entry signs will be erected in accordance with state posting requirements. There are currently a total of fifteen separate gated access points for site maintenance. Each gate will be secured and replaced if necessary, and signs will be erected providing essential information about the property. Any gates that are designated as public access points will have a sign installed providing information about rules and regulations for use of the Preserve. Security patrols will be conducted on an ongoing basis. Local residents that frequently use the Preserve will be encouraged to report any unlawful uses. Law enforcement will be the responsibility of the Hillsborough County Sheriff's Office and the Florida Fish and Wildlife Conservation Commission (FWC). The Sheriff's Office will be contacted if any criminal infractions occur on the property. The FWC will be kept abreast of all or any infractions related to Florida's fish and wildlife resources. These responsibilities will be identified on signage at the Preserve's main entrance.

The County has been experiencing ongoing security related problems in one section of the Preserve that was purchased in 1991. In this area, the adjacent property has recently undergone residential development as part of the Fish Hawk community. Unfortunately, the Fish Hawk development was approved before the County had instituted a number of new regulations designed to lessen or mitigate the impacts of development on adjacent preserve lands. Some of the first problems encountered as the homes were constructed consisted of encroachment into the Preserve in the form of vegetative clearing, laying of St. Augustine sod over property lines into the Preserve, and placement of structures such as storage sheds, playground equipment, etc. on the Preserve land. The main reason these problems developed was because of a delay in the approval of a new fencing contract, which prohibited the County from installing a new fence before the houses were constructed. However, even after a fence was finally installed, problems have continued to occur. The fence has been illegally cut, and private gates have been installed by several homeowners. This usually results in disposal of landscaping debris in the preserve, often in the middle of the fire lane which the County constructed adjacent to the fence line to protect the new homes. Disposal of trash in the Preserve, especially during construction activities, has been a continuing problem. Once home construction is completed and new residents move in, children often create impacts to the Preserve from inappropriate activities such as creating dirt bike tracks, paint ball games, burning fires, cutting trees, etc.

In order to address these development related problems, the County land management staff has devoted a great deal of time and effort to correcting and repairing the damage, meeting with the developer's representatives and sales staff, talking to individual homeowners, providing educational materials about the Preserve to homeowners associations, working with volunteers in the community to develop trails and increase awareness of the management issues and the need to protect and manage the site. As a last resort, the County has asked the Sheriff's office to issue warning notices to repeat offenders, to be followed with a citation if the illegal actions continue. These efforts have no doubt been successful in reducing the overall level of impact to the Preserve and its inhabitants, but it is clear that most of these problems will continue to occur. The most optimistic outlook is that the situation will improve as time goes on and a majority of the residents become more aware of the existing regulations and the need to protect the Preserve from harmful activities.

The County may install a site security residence in the Preserve, located within the area designated as park site # 1 (FCT # 02-073-FF2). The site would require a residential water well and septic system, adequate to serve a single mobile home. The residence would be occupied by either an employee of the Parks, Recreation and Conservation Department, or a law enforcement officer.

Safety - County Parks, Recreation and Conservation Department staff shall identify significant potential hazards to public health within the project area and take appropriate measures to minimize risk. Hillsborough County's Environmental Enforcement Unit will investigate any reported promiscuous dumping. The Division of Forestry shall be contacted in the event of a wildfire. The County is self-insured for any injuries that occur during permitted access.



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## V. COST ESTIMATE AND FUNDING SOURCE

Funding for development and ongoing implementation of the Fish Hawk Creek/Alafia River Corridor Preserve will be taken from the reserve fund set aside as Site Management funds for all ELAPP acquisitions. The County has been awarded grants from a number of different sources for land management activities including exotic nuisance plant control, habitat restoration, public education, and recreational facilities development on natural preserve lands within the County. Lands that have been jointly acquired with the SWFWMD are eligible for cost sharing of site management expenses. Some portions of the Preserve qualify for these funds. Funding for construction of the park sites will be requested through the County's Capital Improvement Program, which includes impact fees assessed to private development for park infrastructure development.

Operational expenses associated with maintenance of the neighborhood park/access area, including playground equipment, picnic shelters, parking area, landscaping, etc., will be budgeted by the Parks, Recreation and Conservation Department as part of its non-programmed parks maintenance program. The Department's Unit II Maintenance Section will be responsible for the upkeep of this facility.

Estimated costs for the preserve are as follows:

(1) Fencing: \$1,000 first year, \$100/yr. ongoing.

- (2) Firelane Installation: \$30,500
- (3) Recreation-related infrastructure development per site- This includes the following items:

Park Site #1~FY 2009 (FCT Award #02-073-FF2): Design (\$15,000) Site Prep (\$25,000) Children's Play Area (\$26,000) Shade Shelter/pavilion (2 @ \$21,000 ea. = \$42,000) Open Play Field (\$12,000) Multi-purpose Court (\$15,000) Parking (+/- 20 spaces \$40,000) Sidewalks (\$12,000) Landscaping (\$25,000) Kiosk and entry sign (\$4,000) Park Equipment (\$10,000) Fencing (\$24,000) Security Residence (\$18,000)

Total \$268,000.00

Park Site #2~FY 2011 (FCT Award #03-015-FF3): Design (\$5,000) Site Prep (\$6,000) Children's Play Area (\$26,000) Single Table Picnic Shelters (4 @ \$7,000 each = \$28,000) Parking (\$40,000) Sidewalks (\$6,000) Landscaping (\$5,000) Kiosk and entry sign (\$4,000) Park Equipment (\$5,000)

Total \$125,000.00

Park Site #3~FY 2011 (FCT Award #04-029-FF4): Design (\$5,000) Site Prep (\$6,000) Children's Play Area (\$26,000) Single Table Picnic Shelters (4 @ \$7,000 each = \$28,000) Parking (\$40,000) Sidewalks (\$6,000) Landscaping (\$5,000) Kiosk and entry sign (\$4,000) Park Equipment (\$5,000)

Total \$125,000.00

- (4) Park Site Maintenance: \$5,000.00/year/site following completion.
- (5) Ecological monitoring (floral/faunal surveys and exotic species id): \$1,000.00/yr.
- (6) Prescribed burns (@\$2,000/burn event): \$8,000.00/yr.
- (7) Exotic Species control: \$2000 first two years, \$400/yr. ongoing.
- (8) Miscellaneous ecological improvements (supplemental plantings, bird boxes, etc.) \$400.00/yr.
- (9) Habitat restoration and enhancement (+/- \$500,000.00 total over a ten year period)
- (10) Derelict Building Removal: (\$10,000)

Total for Park Development: \$518,000.00

Fire Lanes/Building Removal: \$40,500.00

Annual cost of site maintenance and management: +/- \$15,000.00/yr.

The picnic and parking areas, native plant landscaping, an interpretive kiosk and all recreational facilities with the exception of the hiking trail will be developed starting in the fifth year, and will be contingent on the budgeting of capital improvement project funds. The hiking trail network will be developed in phases, with in-house staff using volunteer support. The Preserve is open to foot traffic

during daylight hours, and the existing trails and interior roads are available for hiking.

The Tampa Audubon Society and Florida Native Plant Society have provided surveys (as needed) on lands acquired with ELAPP moneys for the County. These organizations include individuals with expertise in plant and animal identification. These organizations will be approached to conduct ongoing surveys of the Project Area.

The requirements imposed by other grant program funds that may be sought by the FCT Recipient for activities associated with the Project Site shall not conflict with the terms and conditions of the FCT award.

# VI. PRIORITY SCHEDULE

Implementation of all aspects of the management plan is based upon established priorities and the availability of funds. The tasks listed below are in order of appearance and are presented in a schedule in Table 3.

1) **Surveys** (boundary) have been completed. This information is being stored using Arc View. This information was used to create some of the Figures and Tables for this Plan and is compatible with Arc Info and Excel and will be used for site management.

2) **Agency Coordination -** with FNAI, SWFWMD, FFWCC, DOF and others. This process has been initiated with these agencies.

3) **Exotic species removal**. Exotic species removal has already begun and will continue indefinitely on an as needed basis.

4) **Implementation of a prescribed burn plan**. A burn plan has been developed and initiated for the portions of the Preserve which were acquired in 1991. Preliminary burn planning has been initiated in the current year, 2005, for the recently acquired portions as a part of this management plan, to be finalized upon receipt and incorporation of DOF and FWC input. Fire lane construction and maintenance will begin in 2006, soon after approval of the management plan by FCT. Prescription writing has already begun and will be expanded and implemented as prescription and other conditions allow. The burn plan will be modified based on the vegetative response to prescribed burns.

5) **Floral/faunal baseline surveys**. Baseline surveys have been initiated, and will continue to be performed as described in the Resource Enhancement Section of this report.

6) **Infrastructure development**. This task includes design and installation of perimeter fencing, parking areas, park access road, native plant landscaping, interpretive kiosk, picnic shelters and tables, bike racks, multipurpose courts, open playfield, trail locations finalized and marked, and interpretive literature developed. Time of completion: Site #1- six years after approval of initial Fish Hawk Creek Preserve management plan (2009); Sites #2&3- five years after approval of revised Fish Hawk Creek/Alafia River Corridor management plan (2011).

7) Exotic species patrol and removal as needed shall occur at least biannually in perpetuity.

8) Floral/faunal monitoring. At a minimum annual surveys shall be conducted.

9) **Prescription burns.** Prescription burns will be initially conducted under optimal conditions for fuel reduction and smoke management, and subsequently at all times of the year, with emphasis on the growing season unless fuel reduction becomes a problem in the future. The first prescribed burns will be conducted in 2006, and will be conducted in each year thereafter, unless prohibited by the Division of Forestry due to climatic and weather conditions.

10) **Park maintenance.** Fixing gates, fences, replacing picnic tables, policing the parking areas will be ongoing.

| Table 4. | Fish Hawk/ARC Priority Schedule        |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|----------|--|----------|-------|-----|-----|----------|----------|----------|------|-----|------|-----|------|------|------|----------|------|-----|-----------|----------|----------|
|          |  |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          |  | _        | 2006  |     |     |          | 2007     |          |      |     | 2008 |     |      |      | 2009 |          |      |     |           |          |          |
| Task #   | Task Name                              | 1st      | 2nd   | 3rd | 4th | 1 st     | 2nd      | 3rd      | 4th  | 1st | 2nd  | 3rd | 4th  | 1 st | 2nd  | 3rd      | 4th  | 1st | 2nd       | 3rd      | 4th      |
| 1        | Security                               |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          |  |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
| 2        | Inventory and Monitoring               |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
| 3        | Exotic species removal                 |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          |  |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
| 4        | Habitat Restoration                    |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
| 5        | Land Use and Zoning Changes            |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
| 6        | Cultural Resources Survey              |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          |  |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     | ⊢         | ⊢        | ┣        |
| 7        | Site Improvements                      | _        |       |     | _   |          |          |          |      |     |      |     |      |      |      |          |      |     | <u> </u>  | <u> </u> |          |
|          | Trails                                 | _        |       |     |     |          | <u> </u> |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          | Parking/Picnic Area- #02-073-FF2       | _        |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          | Landscaping- #02-073-FF2               | <u> </u> |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          | Parking/Picnic Area- #03-015-FF3 & #04 | -029-    | FF4   |     | _   |          |          |          |      |     |      |     |      |      |      |          |      |     | $\square$ |          |          |
|          | Landscaping Program- #03-015-FF3 & #0  | 4-029    | 9-FF4 | 1   |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
| Table 4. | Fish Hawk/ARC Priority Schedule        |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          |  |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          |  | 2010     |       |     |     | 2011     |          |          | 2012 |     |      |     | 2013 |      |      |          | 2014 |     |           |          |          |
| Task #   | Task Name                              | 1st      | 2nd   | 3rd | 4th | 1 st     | 2nd      | 3rd      | 4th  | 1st | 2nd  | 3rd | 4th  | 1 st | 2nd  | 3rd      | 4th  | 1st | 2nd       | 3rd      | 4th      |
| 1        | Security                               |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          |  |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
| 2        | Inventory and Monitoring               |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
| 3        | Exotic species removal                 |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          |  |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
| 4        | Habitat Restoration                    |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
| 5        | Land Use and Zoning Changes            |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     | -         |          |          |
|          |  |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
| 6        | Cultural Resources Survey              |          |       |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          |  | -        |       |     | -   | _        |          |          |      |     |      |     |      |      |      |          |      |     |           | ┝──      | -        |
| 1        | Site Improvements                      | _        |       |     |     |          |          | -        |      |     |      |     |      |      |      |          |      |     | _         |          | -        |
|          | Trails                                 | _        |       |     |     |          | _        |          |      |     |      |     |      |      |      |          |      |     | <u> </u>  |          |          |
|          | Parking/Picnic Area- #02-073-FF2       | 1        |       |     | _   | <u> </u> |          | <u> </u> |      |     |      |     |      |      |      | <u> </u> |      |     | –         | _        | <u> </u> |
|          | Landscaping Program- #02-073-FF2       |          |       |     | 1   |          |          |          |      |     |      |     |      |      |      |          |      |     | _         | _        | I        |
|          | Parking/Picnic Area- #03-015-FF3 & #04 | -029-    | FF4   |     |     |          |          |          |      |     |      |     |      |      |      |          |      |     |           |          |          |
|          | Landscaping Program- #03-015-FF3 & #0  | 4-029    | -FF4  | 1   | 1   |          |          |          |      |     | 1    | 1   | 1    | 1    |      | L        | 1    |     | 1         | 1        | 1        |

# **VII. MONITORING**

The County is responsible for preparing and submitting an annual stewardship report to the Florida Communities Trust that evaluates implementation of the management plan. The progress of the management plan will be measured through careful consideration of the annual or more frequent monitoring events and comparison of conditions to goal conditions. Additionally, the progress of the aforementioned schedule may be used to gauge success.

The Conservation Services Office will assess the progress of all key management activities prior to the due date of the annual report. On or before the due date, the report will be submitted to the FCT for review. The annual stewardship report shall provide information including but not limited to: proposed changes in adjacent land uses, floral and faunal monitoring results, burns conducted in the past year and proposed for the subsequent year, the status of restoration/enhancement efforts, recreational uses, exotic species removal, infrastructure development, permit applications, new management recommendations, and any or all actions not discussed in this management plan. Any proposed revisions to this management plan resulting from the annual review process will be submitted to FCT for the required review and approval.

The annual stewardship report is due on January 30<sup>th</sup> of each year.