

**FRED AND IDAH SCHULTZ PRESERVE
LAND MANAGEMENT AND
LAND USE PLAN**

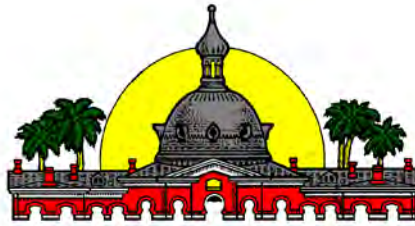


Photo by Gerold Morrison

**ENVIRONMENTAL LANDS ACQUISITION
AND
PROTECTION PROGRAM**

APRIL 2007

**FRED AND IDAH SCHULTZ PRESERVE
LAND MANAGEMENT AND LAND USE PLAN**



Hillsborough County
Florida

Prepared for

**ENVIRONMENTAL LANDS ACQUISITION
AND
PROTECTION PROGRAM**

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APRIL 2007

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FRED AND IDAH SCHULTZ PRESERVE

LAND MANAGEMENT AND LAND USE PLAN

1.0 GENERAL INFORMATION

1.1 Location of Fred and Idah Schultz Preserve

The Fred and Idah Schultz Preserve lies on a peninsula on the eastern coast of Hillsborough Bay, south of the Kitchen Nature Preserve, west of US 41, at the western terminus of Kracker Avenue. The Preserve is located in the southern portion of Section 4 and the southwestern portion of Section 3, Township 31 South, and Range 19 East. The surrounding land uses are predominantly agricultural, industrial, and low density residential. Vacant land belonging to the Tampa Port Authority comprises the southern half of the peninsula and lies adjacent to the southern boundary of the Preserve. IMC-Agrico and Tampa Electric Company own additional lands to the south of the peninsula. Figure 1 provides a location map of the Fred and Idah Schultz Preserve, as well as other public lands in the vicinity. Appendix A provides the legal description, warrantee deeds, boundary survey, easements, and other legal documents for the Preserve.

1.2 History and Objectives of the Preserve

The Fred and Idah Schultz Preserve originated as the Port Redwing peninsula within an area formerly known as the "Kitchen". The peninsula was created in the 1960s and 1970s by the deposition of spoil on 300 acres of seagrass beds, oyster bars, tidal flats, an island, mangroves, slatterns, and coastal uplands. The dredging was conducted to create a shipping facility, and resulted in up to 14 feet of spoil dredged from the bay bottom and subsequently piled on the peninsula. The port facility never materialized and the site lay fallow for over thirty years. During that time, the site became infested with Brazilian pepper, lead trees, cogon grass and other noxious weeds, and the open nature of the site made it a convenient area for the illegal dumping of tons of materials. The secluded nature of the site made it a popular spot for a variety of criminal activities.

In 1995, the northern 134 acres of the peninsula were purchased by SWFWMD and Hillsborough County through its Environmental Lands Acquisition and Protection Program. In 2000, the County and the Southwest Florida Water Management District (SWFWMD) entered into a cooperative agreement for the ecosystem restoration of the site. SWFWMD was responsible for the design and construction, and the County provides post-construction management of the restoration area. Construction was started in September 2003 and was completed in September 2004. Additional details regarding the restoration site and its progress are included in Section 6.



0 2,500 5,000 Feet



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FIGURE 1
Fred & Idah Schultz
Preserve
Location Map

2.0 NATURAL RESOURCES

2.1 Soils

2.1.1 Soils Distribution

The soils on the Fred and Idah Schultz Preserve are all dredged materials and their configurations have changed significantly since the last soil survey was published. The soils that existed on the Preserve prior to the restoration are provided here because this is the latest information available. According to the United States Department of Agriculture/Natural Resource Conservation Service (formerly Soil Conservation Service) Soil Survey of Hillsborough County (USDA 1989), there are five different classifications of soils found within the boundaries of the Fred and Idah Schultz Preserve. Table 1 lists the soils and the surface area they cover within the Preserve. Figure 2 highlights the five soil types and shows their distribution throughout the Preserve.

Table 1 Fred and Idah Schultz Preserve Soils Distribution		
Map Number	Soil Type	Acreage
4	Arents, nearly level	0.39
15	Felda fine sand	10.35
24	Kesson muck, frequently flooded	0.38
44	St. Augustine fine sand	107.41
57	Wabasso fine sand	1.43
100	Waters of Hillsborough Bay	13.94
	Total Acreage	133.9

2.1.2 Soils Description


Arents (4). This soil has been excavated, reworked and reshaped by earthmoving equipment, forming a heterogeneous mixture of soils with a resulting variety of layers, permeability, groundwater table, and other characteristics. This soil is found in the northeastern corner of the Preserve associated with the roadway. It comprises 0.3% of the surface soils.

Felda fine sand (15). Felda fine sand is nearly level and poorly drained and occurs on broad sloughs in flatwoods. The soil is found in the eastern side of the Preserve, in an area that may have not been affected by the spoil deposition. The natural vegetation on this soil includes canopy species such as red maple, cabbage palm, sweet gum, and slash pine, and understory species such as saw palmetto and wax myrtle. This soil type makes up 7.7% of the total surface soils.


Legend

 Preserve Boundary

Soil Type


 4 - Arents, nearly level

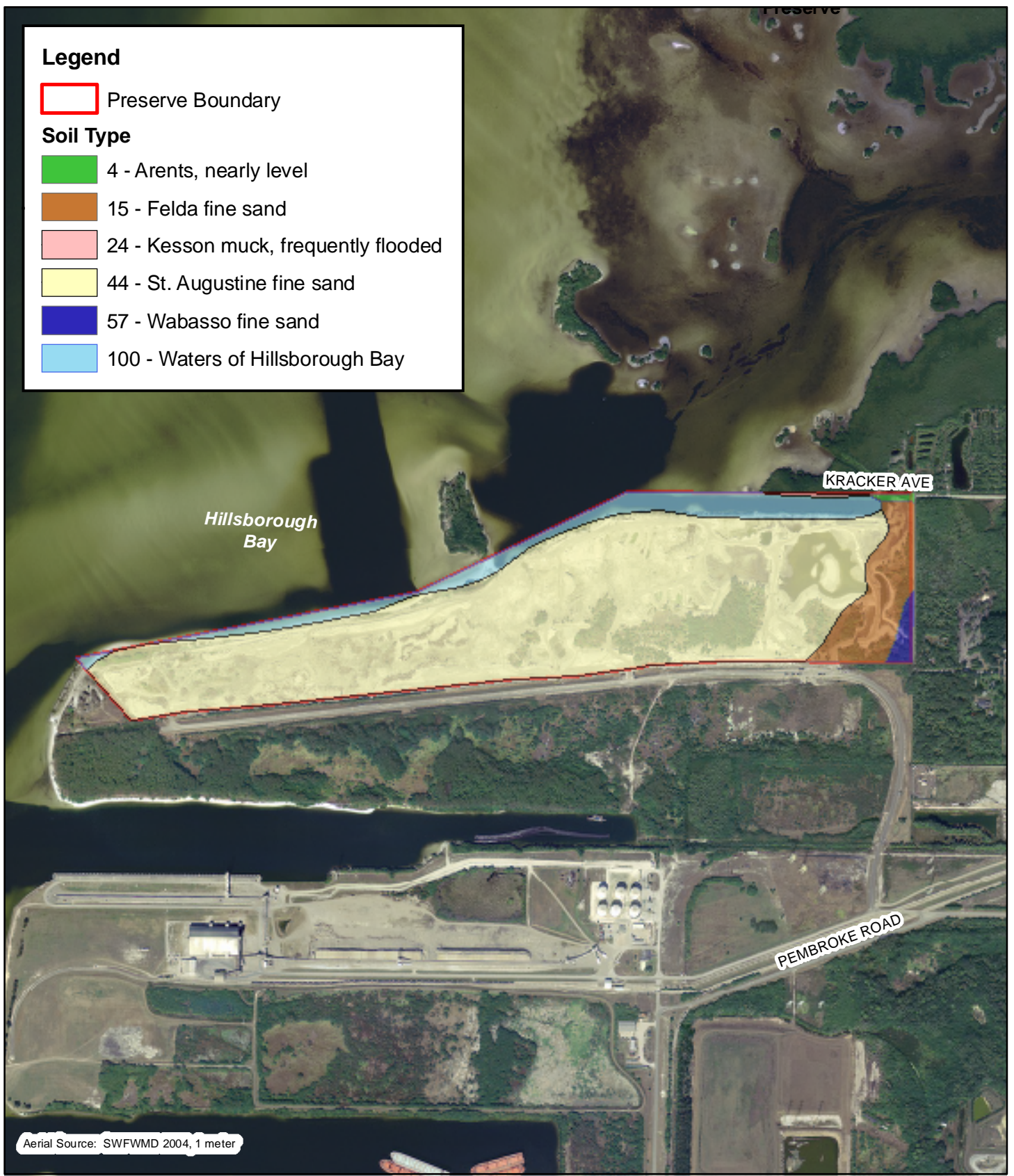
 15 - Felda fine sand

 24 - Kesson muck, frequently flooded

 44 - St. Augustine fine sand

 57 - Wabasso fine sand

 100 - Waters of Hillsborough Bay



Aerial Source: SWFWMD 2004, 1 meter



0 500 1,000 Feet



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FIGURE 2
Fred & Idah Schultz
Preserve
Soil Map

Kesson muck (24). This black, mucky soil is found in a tiny strip of land on the northern boundary of the Preserve and may be a remnant of the original mangrove forest. This soil currently supports mangroves and buttonwood and comprises approximately 3% of the total surface soils.

St. Augustine fine sand (44). This soil is nearly level and poorly drained and occurs on flats and ridges bordering Tampa Bay. This soil makes up 80.2% of the total surface soil of the Preserve and includes the majority of the spoil materials spread on the site. The properties and characteristics of this soil will vary, due to the fact that it was reworked and mixed by earthmoving equipment.

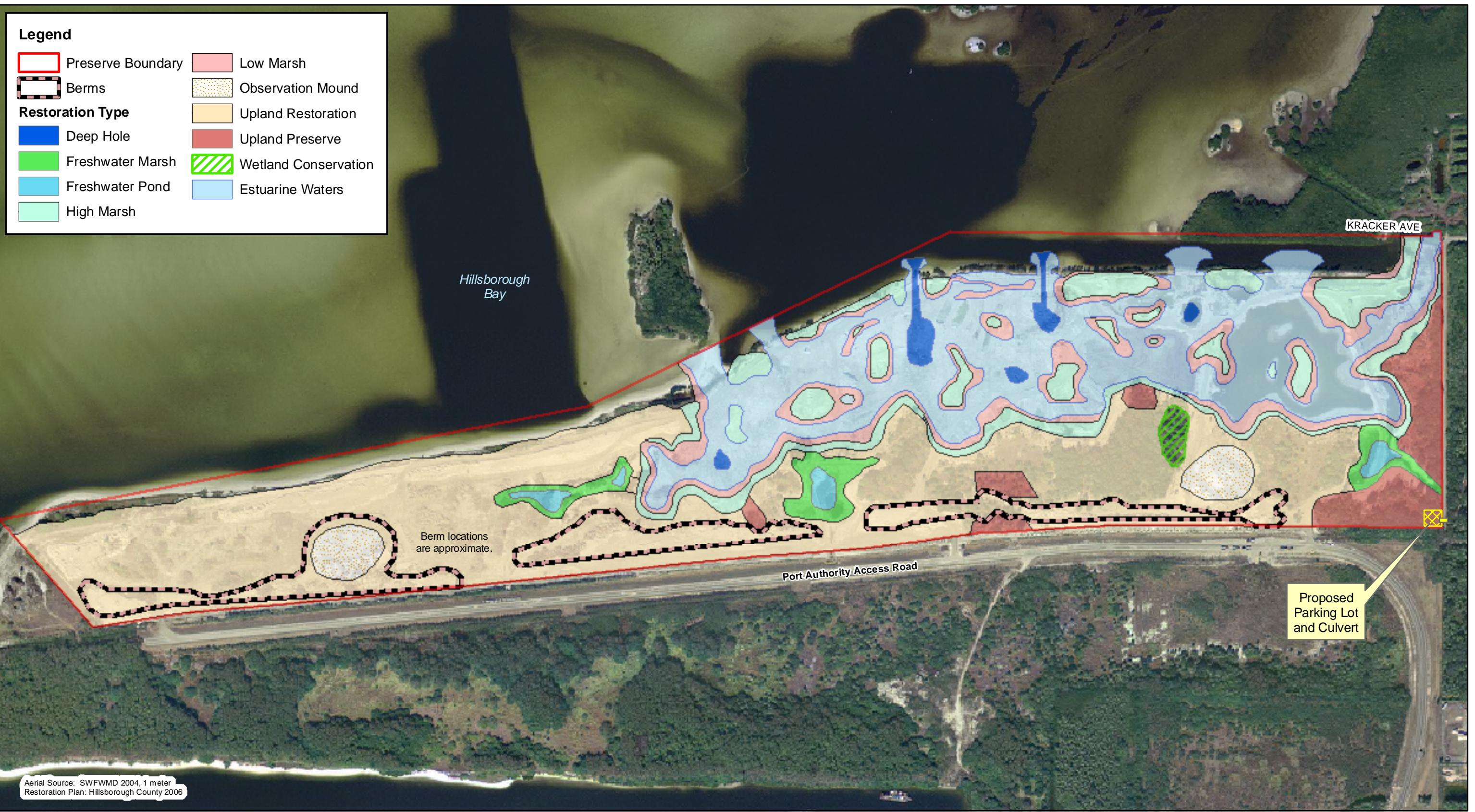
Wabasso fine sand (57). One very small portion (1.1% of the total) of this soil type is located in the southeastern corner of the Preserve. This nearly level, poorly drained soil supports flatwoods vegetation such as longleaf, slash pine, and cabbage palm with an understory of palmetto. This soil is a remnant of the former soil composition.

2.1.3 Soils Management Measures

No special management measures are required to preserve existing soil conditions. The goals and objectives of the management plan will preserve the integrity of the native soils by taking action to prevent erosion and subsidence, should these occur. There are no facilities or actions proposed in this ten-year plan that would require impacts to soils with the exception of the creation of fire breaks and access and maintenance roads. Any future management measures not included in this plan and that require earthwork will implement Best Management Practices prior to construction to preserve the character of the restored grade and to avoid negative impacts to the restored ecosystems. (http://www.na.fs.fed.us/spfo/pubs/n_resource/wetlands/index.htm).

2.2 Vegetation Communities

The natural communities on this Preserve were created by the designers of this restoration project. The goals of the design were to create a complex matrix of coastal habitats including tidal flats, seagrass beds, oyster bars, marsh/mangrove shorelines and islands. In addition, the design included the creation of freshwater wetlands identified by the Tampa Bay Estuary Program as severely limited in the fringe around Tampa Bay. The restoration project also provided treatment of stormwater draining from the surrounding watershed prior to discharge to Tampa Bay, and finally, the Preserve was established to provide wildlife habitat and limited public use. The restoration project was completed in September of 2004. The following paragraphs describe the different vegetation communities currently found on the Preserve, and the vegetation communities are shown on Figure 3. Figure 3 was created by digitizing the vegetation areas from a hard copy of the design onto aerial photography (date: 2004, scale: 1 inch equals 200 feet) of the site. Some of the areas were necessarily approximated. The site design and planting plan is included in this report as Appendix B.



Legend

Preserve Boundary	Low Marsh
Berms	Observation Mound
Restoration Type	
Deep Hole	Upland Restoration
Freshwater Marsh	Upland Preserve
Freshwater Pond	Wetland Conservation
High Marsh	Estuarine Waters

Hillsborough Bay

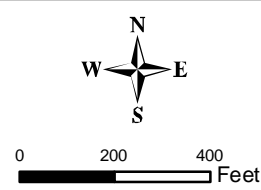
KRACKER AVE

Berm locations are approximate.

Port Authority Access Road

Proposed Parking Lot and Culvert

Aerial Source: SWFWMD 2004, 1 meter
Restoration Plan: Hillsborough County 2006



PARSONS
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FIGURE 3
Fred & Ida Schultz
Preserve
Restoration Plan

2.2.2 Vegetation Community Descriptions

Uplands. There are 60 acres of upland restoration on the Preserve, and the plants installed include slash and longleaf pines, wax myrtles, cabbage palms, saw palmetto, laurel and live oaks, native grasses, and numerous other species. The plants were installed to provide wildlife habitat, prevent soil erosion, screen the proposed port facility on the south side of the project, and provide aesthetics. No specific planting plan is available for the uplands.



This photograph shows some of the upland vegetation planted on the berms. The eastern red cedars and the herbaceous species all seemed to have flourished on the site.

There were also several areas of remnant upland preservation. These areas are located predominantly along the eastern and southern portions of the Preserve. The preservation areas were vegetated predominantly with laurel oaks, cabbage palms, saw palmetto and other native upland species.



This photograph shows one of the upland restoration areas, photographed from the observation mound.

Freshwater Marsh and Pond. Approximately 10 acres of freshwater wetlands were created by this project. The freshwater wetlands provide important wildlife habitat, especially for white ibis. White ibis hatchlings cannot tolerate saltwater fish and require freshwater fish during their early development. The Preserve is located near one of the main nesting areas for while ibis, so the creation of freshwater marshes was a priority to the design team.

There are freshwater ponds associated with the three freshwater marshes on the project. The ponds are actually deeper central areas within the marsh that will function like natural wetlands in the avian feeding strategy. As the dry season progresses, the water recedes, and fish are concentrated in the pond areas which facilitates the predation of the wading birds. The ponds were initially planted with spatter dock; however, recent invasion by cattails has reduced its coverage significantly.



One of the freshwater ponds is pictured to the left. This pond has been taken over by cattail, but some of the native vegetation still exists.



This photograph depicts another of the freshwater wetlands. The open water areas were planted with spatter dock, which appears to have expired.

Mangroves. Mangroves were not planted for this project because of the relative ease with which they can colonize an area. There is a mangrove fringe along the canals on the eastern and northern boundaries and some have colonized the marsh areas around the islands on the north boundary.



This photograph shows mangroves recruiting in the ditch in the northeast corner of the project. Within a few years this may be a solid wall of mangroves, blocking the view of the Preserve from the road.

Salt marshes. The marsh areas are named for their placement with respect to the water elevation. They were designed predominantly as littoral shelf areas within the estuarine system to provide treatment of runoff from the site and habitat for aquatic species. They were planted with bulrush, arrowhead, leather fern, and various grasses and reeds. See Figure 3 for a more detailed description of the marshes.



A kayaker enjoys the serenity of the Preserve within the estuarine system with salt marshes on either side.

High salt marsh. Several flat areas were formed within the estuarine waters to provide areas that will be exposed at low tide. These high salt marshes are valuable habitat for aquatic species as nursery and foraging areas. The high salt marshes were planted with seaside paspalum.



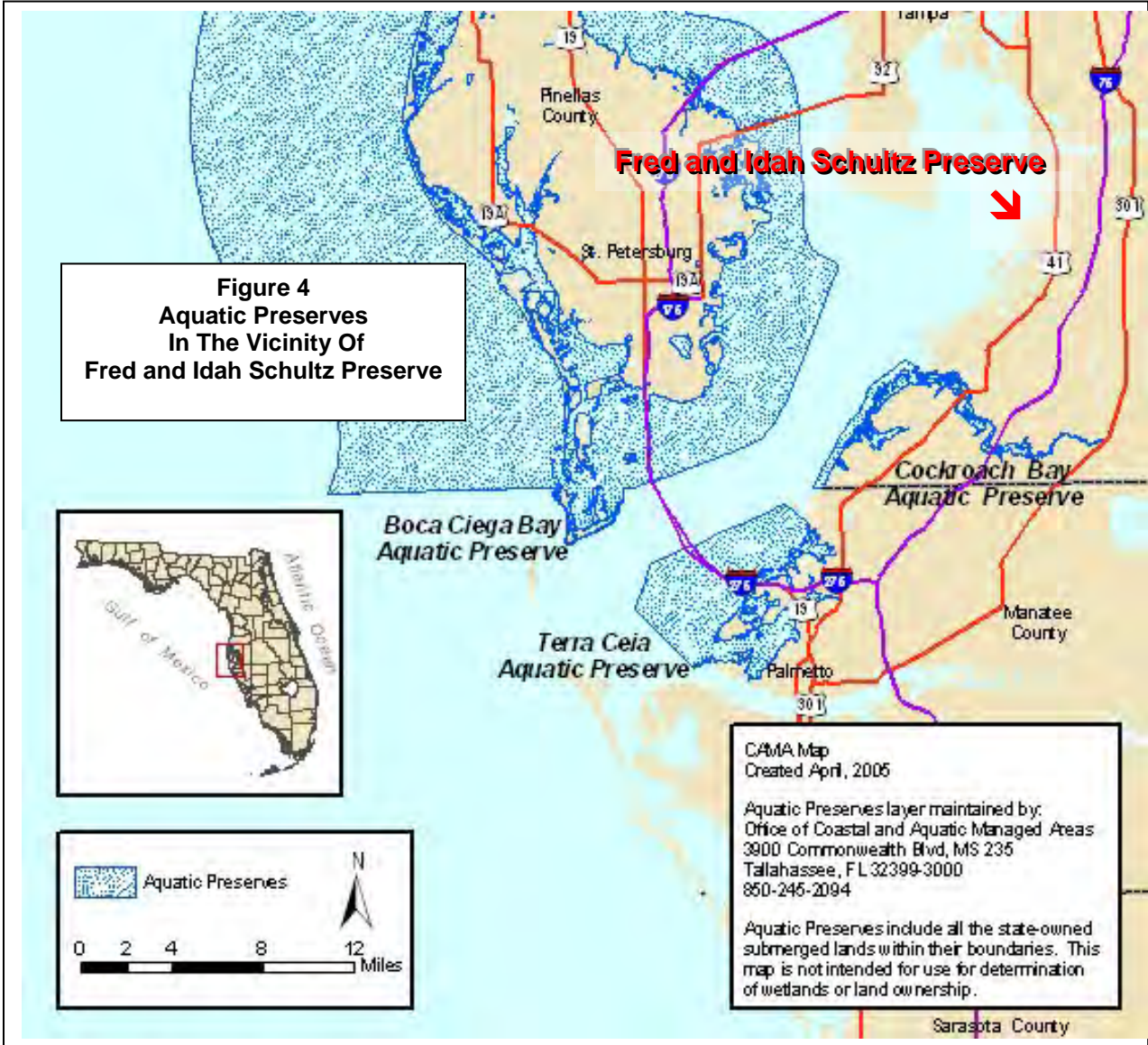
The high marsh is clearly visible in this photograph. It is the unvegetated area above the current water line.

Estuarine open waters. The estuarine waters were designed as an area for the mixing of fresh water from the canals entering the site from the east with the saline waters entering the project on the tides. Estuarine systems are important nursery and foraging areas for aquatic wildlife.

2.3 Water Resources

2.3.1 Aquatic Preserves and Outstanding Florida Waters

The Fred and Idah Schultz Preserve is not within or in the vicinity of an Aquatic Preserve or an Outstanding Florida Water. The Preserve lies approximately one and one half miles south of the confluence of Bullfrog Creek and Tampa Bay, and five miles north of the Cockroach Bay Aquatic Preserve. Bullfrog Creek often has the poorest water quality in the County and has been considered an impaired water body. Water quality is improving, however. Figure 4 below shows the location of the Preserve with respect to the Cockroach Bay Aquatic Preserve.



2.3.2 Water Quality

The Fred and Idah Schultz Preserve was briefly mentioned in the Bullfrog Creek/Wolf Branch Creek watershed study conducted by engineer and science contractors hired by the Stormwater Division of the Hillsborough County Public Works Department (http://www.hillsborough.wateratlas.usf.edu/upload/documents/Final_Bullfrog.pdf). The Preserve is not really part of the watershed because it drains and discharges directly to Hillsborough Bay. The water quality and water quantity concerns within the watershed do not affect the Preserve, as it is a tidally dependent system and is only slightly affected by the discharges from the unnamed ditch on the northern boundary.

2.3.3 Water Resource Management Measures

Management measures required with respect to maintaining or improving the water quality in the vicinity of the Preserve would be to:

- control exotic and nuisance vegetation with an approved herbicide used according to the label, or use biocontrol agents if available,
- avoid soil disturbances to prevent erosion and subsequent turbidity and sedimentation in surface waters,
- preserve or restore vegetation in riparian habitat to act as buffers against surface water impacts,
- always implement best management practices during any construction or other disturbance of the soils or vegetation.

2.4 Fish and Wildlife Resources

2.4.1 Existing Conditions

The Preserve provides new, virtually unspoiled habitat in the salt water marshes on the site, and the grasslands will eventually provide forested areas for wildlife habitat. No formal wildlife surveys have been conducted to date to determine what species may be present on the Preserve, but an extensive bird count has been undertaken. A preliminary list of the species observed to date on the Preserve is included as Appendix C. The list will be updated on a regular basis when the surveying and monitoring program is initiated.

2.4.2 Management Measures for Fish and Wildlife Resources

Prior to implementing any specific management measures for fish and wildlife, it is beneficial to know what species are present, especially on this site with its potential for protected species. To date, two surveys have been completed for the Fred and Idah Schultz Preserve. A bird survey was completed in 2007 with extensive volunteer work performed by Ms. Ann Paul of the Florida Audubon Society and a plant survey was compiled by Mr. Steve Dickman in January 2007. Appendix C contains copies of both of these surveys.

In addition, formal surveys which include trapping and tagging are recommended to identify the wildlife resources on the site. These surveys should be conducted seasonally to include the use of the site by migrant species and those species only active on a seasonal basis to provide a truly comprehensive list of the species present. Surveys should include herpetofaunal drift fencing or pitfall arrays, small mammal trapping, and conducting pedestrian transects throughout the Preserve, sampling all habitat types.

The main management measure for the protection and conservation of wildlife on the Fred and Idah Schultz Preserve is the maintenance of nuisance exotic vegetation and animals. This program is ongoing in the Preserve on an as-needed basis, and as prioritized by the Conservation Services staff. Other measures include maintaining site security to prevent trespassing and poaching, illegal dumping, and the control of exotic wildlife, such as feral hogs, cats, and dogs.

2.5 Special Status Species

Information regarding the special status species on Fred and Idah Schultz Preserve was obtained from the two recent surveys, Conservation Services staff, local experts, and relevant literature. Because a comprehensive wildlife survey has not been completed, it is possible that there are species present that have not been recorded. Since the Preserve is recently constructed, it not surprising that the avifauna are the first of the listed species to utilize the site. As the site matures, usage by mammals, herps, and other animals will likely increase.

Table 2 Special Status Species Observed in the Fred and Idah Schultz Preserve			
Common Name	Scientific Name	Ranking/Status	
		USFWS	FFWCC
Roseate spoonbill	<i>Ajaja ajaja</i>		SSC
Little blue heron	<i>Egretta caerulea</i>		SSC
Reddish egret	<i>Egretta rufescens</i>		SSC
Snowy egret	<i>Egretta thula</i>		SSC
Tri-colored heron	<i>Egretta tricolor</i>		SSC
White ibis	<i>Eudocimus albus</i>		SSC
Peregrine falcon	<i>Falco peregrinus</i>		E
Sandhill crane	<i>Grus canadensis praetense</i>		T
American oystercatcher	<i>Haematopus palliatus</i>		SSC
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	T
American wood stork	<i>Mycteria americana</i>	E	E
Brown pelican	<i>Pelecanus occidentalis</i>		SSC
Black skimmer	<i>Rhynchops niger</i>		SSC
Least tern	<i>Sterna antillarum</i>		T
Erect pricklypear	<i>Opuntia stricta</i>		T

2.5.1 Descriptions of Special Status Species

Roseate spoonbill. The numbers of roseate spoonbills nesting in the Tampa Bay area is steadily increasing from 183 pairs in 2001 to 303 pairs in 2003 (Zink 2003). Most of

the nests are in the Alafia Bank Sanctuary, but a few pairs nest in Pinellas County coastal waters. While the Preserve provides abundant foraging opportunities for spoonbills and other piscivorous, and mangroves for roosting, it is not known if this species is nesting in the tract. These species prefer nesting on islands separated from the mainland by broad areas of open water to protect their nests from predation by raccoons and other land mammals. Spoonbill diets consist mainly of small fish, but they are also known to eat shrimp, crayfish, isopods, amphipods, and insects (Rodgers *et al.* 1996). While the populations in Tampa Bay are increasing, management measures should be implemented to ensure that this trend continues.

Management measures for the roseate spoonbill. Management of foraging habitat for the roseate spoonbill includes the preservation of existing natural wetlands on site, control of exotic and nuisance plant species and feral animals, maintaining water quality to protect fish populations, and limiting human interference. All of these management measures are currently being addressed and will continue in perpetuity.

Little blue heron. Little blue herons require shallow freshwater, brackish or saltwater habitats for foraging. Their diet consists of fish, amphibians, and invertebrates, but nesting herons need freshwater fish for their young. Their numbers have been steadily declining due to the loss of foraging habitat as more and more wetlands are drained or altered. Also contributing to their decline is exposure to pesticides and heavy metal contamination, and the alteration of wetland hydrocycles (Rodgers *et al.* 1996).

Management measures for the little blue heron. The Preserve provides foraging and roosting habitat for the little blue heron, but not likely any nesting habitat. This species prefer to nest on islands surrounded by a broad expanse of open water to reduce nest predation. Management of foraging habitat includes the preservation of wetlands on site, control of exotic and nuisance species, and limiting human interference. All of these management measures are currently being addressed and will continue in perpetuity.

White ibis. The white ibis has been observed foraging on the Preserve for insects, crayfish, and small amphibian and reptiles. Ibis will also eat fish when abundant. Nesting ibis require freshwater foraging areas because their fledglings cannot tolerate salt and will decline and die if salt is ingested.

Some of the state's most important nesting sites for white ibis are located north of the Kitchen Preserve near the mouth of the Alafia River. This nesting colony has supported as many as 17,000 nesting pairs during wet years, but the populations fluctuate with the climate and disturbance. White ibis are very vulnerable to disturbance and one episode of human impact on a nesting colony can result in massive mortality of young birds (Rodgers *et al.* 1996).

Management measures for white ibis. The management measures for this species should include keeping feral dogs and cats out of the Preserve, maintaining water quality to support fish populations, controlling exotic and nuisance vegetation, preserving the

natural vegetation on the site, and limiting human interference. All these measures are currently in place and will be provided in perpetuity.

Florida sandhill crane. Sandhill cranes have been observed foraging in the Preserve on numerous occasions. They require freshwater marshes for nesting, however, and the Preserve does not provide nesting habitat. These cranes feed mainly on seeds and berries but have also been known to eat insects, invertebrates and small vertebrates which are plentiful on the site.

Management measures for the Florida sandhill crane. The greatest threats to sandhill cranes are loss or degradation of habitat and human interference. The foraging habitat in the Preserve is conserved in perpetuity but this does not prevent the potential for human interference. Boaters, anglers, and other visitors to the Preserve may temporarily disturb foraging cranes.

Snowy egret. The snowy egret nests in both inland and coastal wetlands, often in mangroves or willows, but also in cypress, buttonbush and Brazilian pepper. Nesting occurs over shallow water or on islands separated from the mainland by broad expanses of open water. They forage almost anywhere the water is shallow and calm, and their diet consists of small fish, frogs, small rodents, prawns, crayfish, grasshoppers, worms, and a variety of other aquatic invertebrates. The snowy egret is declining due predominantly to the loss of nesting and foraging habitats. (Rodgers *et al.* 1996)

Management measures for the snowy egret. As with the little blue heron, the Preserve provides foraging and roosting habitat for the snowy egret. This species, as well as the other wading bird species listed prefer to nest on islands over a broad expanse of open water to reduce nest predation. Management of foraging habitat includes the preservation of existing natural wetlands on site, control of exotic and nuisance species, maintaining water quality to protect fish populations, and limiting human interference. All of these management measures are currently being addressed and will continue in perpetuity.

Tricolored heron. The tri-colored heron prefers mangrove islands for their nesting colonies, but can also be found nesting in Carolina willow in freshwater wetlands. Other less frequent nesting trees include Australian pine, cypress, Brazilian pepper, and saltbush. Almost all nesting areas are over standing water or on islands. The Tricolored herons forage in almost any shallow wetland and on the edges of ponds and lakes. Their diet is similar to that of the snowy egret, but small fish are their most preferred food. These birds are declining due to the loss of nesting and feeding habitat, and due to disturbance during breeding (Rodgers *et al.* 1996).

Management measures for the tricolored heron. As with the birds listed previously, the Preserve provides foraging and roosting habitat for the tricolored heron, but it is not known if this species is nesting in this tract. The management measures listed for the previous species also apply to the tricolored heron.

Reddish egret. The reddish egret nests exclusively on coastal islands located near suitable foraging habitats. They nest in mangroves, and sometimes in Brazilian pepper or other terrestrial vegetation on spoil islands. These egrets forage in the shallow water on tidal flats, salt marshes, and in the open scrubby mangrove areas. The mangrove and salt flat communities on the Preserve provide nesting and foraging habitat for the reddish egret. These birds are declining due to the loss of the coastal habitat on which they rely, and human disturbance during nesting season (Rodgers *et al.* 1996).

Management measures for reddish egret. The reddish egret is a habitat specialist and it requires tidal salt flats for foraging. The shallow tidal areas created during the construction of the Preserve provide foraging habitat for these birds and will continue to benefit this species as long as they remain open and free of mangroves. Other management measures for this species should include keeping feral dogs and cats out of the tract, maintaining water quality to support fish populations, controlling exotic and nuisance vegetation, preserving the natural vegetation on the site, and limiting human interference. All these measures are currently in place and will be provided in perpetuity.

American wood stork. No rookeries are known to occur on the site or in the vicinity, but wood storks have been observed foraging on the Preserve. Wood storks are birds of freshwater and brackish wetlands, primarily nesting in cypress or mangrove swamps. They feed in freshwater marshes, narrow tidal creeks, or flooded tidal pools. Particularly attractive feeding sites are depressions in marshes or swamps where fish become concentrated during periods of falling water levels. In the United States, wood stork declined from an estimated 20,000 pairs in the 1930s to about 10,000 pairs by 1960. Since 1978, fewer than 5,000 pairs have bred each year. The decline is believed to be due primarily to the loss of suitable feeding habitat, and human alteration of wetlands (Rodgers *et al.* 1996).

Management measures for the American wood stork. The Conservation Services staff currently manages the habitat by controlling exotic and nuisance vegetation. In addition, they would provide site security to prevent nesting interference and impacts to fledglings if any nesting activity occurs. These measures are the most important activities that can be undertaken to protect the wood stork on site.

Brown pelican. The brown pelican requires small to medium sized islands for nesting, and these islands are usually covered with mangroves. Approximately 20% of the Florida population of brown pelicans nests in the Tampa Bay area. In addition, the birds require mangrove islands and sandbars for loafing and roosting. This species, as with the others listed above, is declining due to the direct loss or degradation of habitat, nest disturbance, chemical spills, and human activity, such as getting tangled in fishing line, etc. (Rodgers *et al.* 1996). The Preserve provides potential roosting and nesting habitat for the brown pelican, but it is not known if the pelican is nesting.

Management measures for brown pelican. As with the other bird species discussed in this section, protecting water quality will protect the food supply of these species.

American oystercatcher The American oystercatcher needs extensive beach, sandbar, mudflat, and mollusk beds for feeding and roosting and they have been recorded as eating almost anything non-vegetative in the aquatic habitat, such as bivalves, marine worms, crustaceans, small fish, gastropods, and many insects. The American oystercatcher nests on sandy dunes, salt marsh islands, and dredge spoil islands, building its nest well above the high tide mark. The oystercatcher is extremely vulnerable to disturbance and is declining due to loss of undisturbed nesting habitat and introduced predators, among other factors.

Management Measures for the American oystercatcher. The status of the American oystercatcher on the Preserve needs to be determined. It is possible that this tract provides nesting habitat for this species in the extensive salt marsh area. Breeding season surveys (conducted April through August) are recommended. If the site is determined to be a nesting area, the area should be posted to prevent human interference. No exotic and nuisance vegetation control, fire preparation or other maintenance activity should be undertaken in the vicinity of active nests. If it is determined that the American oystercatchers are only foraging on the Preserve, then efforts to maintain water quality should continue.

Black skimmer. The black skimmer requires healthy estuaries for feeding and undeveloped coastlines for breeding and loafing. The skimmer nests in colonies on spoil islands, natural sandbars, small coastal islands and relatively un-vegetated beaches. Skimmers are ground nesters and are therefore vulnerable to high tides, storms and hurricanes, raccoons, dogs, discarded fishing line, and human disturbance. About half of the state's breeding population of black skimmers nest in the Tampa Bay area. Skimmers feed exclusively on small fish which they skim from the water surface. Calm waters are necessary for feeding, due to their unusual feeding behavior.

Management measures for black skimmer. The most critical need for black skimmers is for undisturbed, sandy beaches and islands for nesting. Skimmers do not always nest in the same place so they could be lured to new sites or back to abandoned sites if conditions are suitable. A study of potential nesting areas should be conducted to determine if there are areas within the Preserve that may be appropriate for nesting with a few improvements. If areas suitable for nesting are found, these areas should be protected from disturbance with fencing or signage. Other management measures include maintaining water quality, preventing dogs and other predators from entering the Preserve, educating humans so that they avoid disturbance to nesting areas, and surveying and monitoring to determine presence and status of nesting colonies.

Least tern. The least tern nesting habitat is characterized as a substrate of sand or gravel with about 20% shell fragments. They nest in colonies in areas bare of vegetation or with less than 20% cover of low growing plant species. Least terns are vulnerable to

disturbance and habitat loss and have declined in numbers since the 1880's. There are approximately 350 nesting pairs of least terns in the Tampa Bay Area but due to their habitat or moving around, this number is an estimate and it changes every year (http://www.audubonofflorida.org/birds_imperiled_colonial.html). Least terns respond readily to habitat improvements and will colonize spoil islands and other man-made areas.

Management measures for the least tern. Surveys to determine if the site provides suitable nesting areas for the least tern should be conducted prior to implementing any management plan objectives. If suitable habitat is present, it should be protected by barriers of some kind for a minimum distance of 175 meters (Rodgers 1996). The barrier may include fencing, moats, or other form of obstruction against human or other mammal interference. Habitat can be improved by removing vegetation, especially exotic and nuisance species, from coastal areas.

Bald Eagle. Bald eagles have been observed flying over the Preserve and while the staff knows of no nesting pairs on the site, there may be eagles nesting in the vicinity. There are no active nests in the vicinity, according to FFWCC most recent data (2004) (<http://myfwc.com/eagle/eaglenests/Default.asp>). Most eagles nest near open water, and the same pair returns to the same nest site year after year. The main component of the eagle diet is fish; but small birds compose approximately 20% (Rodger 1996). The main factors threatening the survival of the bald eagle are habitat loss and human disturbance.

Management measures for the bald eagle. Although there are no suitable nesting trees on the Preserve, the foraging habitat on the Preserve is protected in perpetuity, should the bald eagle ever nest here. Prescribed fires and control of exotic and nuisance vegetation will prevent the degradation of potential habitat and provide nesting opportunities for the future when the trees on site reach a suitable size. The US Fish and Wildlife Service recovery plan for the bald eagle is available online at <http://www.fws.gov/verobeach/Programs/Recovery/vbms4.html>

Peregrine falcon. While peregrine falcons do not breed in Florida, the state is an important wintering area, and they seem to prefer coastal and barrier island shorelines, and other areas where prey is abundant. Peregrine falcons feed predominantly on other birds, especially shorebirds and waterfowl. They are especially vulnerable to habitat loss, and the development of coastal wetlands is a major cause of their decline (Rodgers *et al.* 1996).

Management measures for peregrine falcon. The management measures for this species should include keeping feral dogs and cats out of the Preserve, maintaining water quality to support fish populations and thus attracting waterfowl, controlling exotic and nuisance vegetation, preserving the natural vegetation on the site, and limiting human interference. All these measures are currently in place and will be provided in perpetuity.

2.5.2 Management Measures for All Special Status Species

Management measures for all protected species in the Preserve include the management of exotic and nuisance vegetation and animals, the maintenance of natural hydroperiods and drainage patterns, the restriction of vehicular traffic and inappropriate recreational uses, the apprehension and prosecution of poachers and trespassers, and periodic monitoring to assess the status of the various species. The public should be educated so that they know to avoid disturbing these species and that their carelessness with trash, cigarettes, and other debris could contribute to the decline of these protected species.

Wildlife surveys on an annual basis are recommended to determine the presence and monitor the status of the protected species on the Preserve. GPS tracking of burrows, nests, territories, and the location of listed plant populations is recommended for resident species or important foraging areas. The Resource Management Policies developed by ELAPP are provided as Appendix D.

3.0 CULTURAL RESOURCES

3.1 Definition of Terminology

There are five widely accepted categories of cultural resources: 1) archeological resources; 2) historic structures; 3) cultural landscapes; 4) ethnographic resources; and 5) museum collections. In the Fred and Idah Schultz Preserve, there are no archaeological or historic resources likely to be present because of the recent construction and earthwork conducted to create the site. As defined in the National Historic Preservation Act and its implementing regulations in *36 Code of Federal Regulations* (CFR) 800, historic properties are those buildings, Area of Potential Effects, sites, districts, artifacts, and remains that are related to culturally important places and events, and that are listed in or eligible for inclusion in the National Register of Historic Places. The significance of historic properties is assessed by the property's ability to meet the following four criteria for inclusion in the National Register of Historic Places (36CFR60.4):

- Association with events that made a substantial contribution to the patterns of our history;
- Association with the lives of persons important in our past;
- Sites that embody characteristics of a type, period, or methods of construction or that represent the work of a master, possess high artistic value, or represent a distinguishable entity; or
- Have yielded, or may be likely to yield, information important to prehistory or history.

Properties may be eligible for the National Register of Historic Places for contribution at the national, state, or local level. In order for a structure to be listed in the National Register of Historic Places, it must possess historic integrity of those features necessary

to convey its significance, such as location, designs, setting, workmanship, materials, feeling, and association in accordance with National Register guidelines.

3.2 Agency Correspondence

A letter was sent to Mr. Louis Tesar of the State Department of Historical Resources regarding any known cultural resources and the potential for cultural resources on the Fred and Idah Schultz Preserve. In his response, Mr. Tesar stated the Preserve does not “have any recorded archaeological sites or historic structures, nor are any such presently unrecorded properties likely to be present.” He also stated “since the Fred and Idah Schultz Preserve is part of an upland feature created by the deposition of fill soil, some of which likely came from Tampa Bay dredging, there is the possibility of encountering isolated artifacts in that disturbed soil. The presence of such artifacts, while of interest, would not constitute grounds for modifying any planned improvements on the property.” A copy of his response is included in Appendix E of this document.

3.3 Management Measures for Cultural Resources

Since the Preserve is predominantly filled mangroves and tidal areas, the presence of cultural resources on the site is highly unlikely. In addition, prior to the implementation of the restoration project, the SWFWMD and their contractors conducted an archaeological investigation to determine if there were historical or archaeological sites present on the Preserve (no reference available). No sites were found. In the unlikely event that cultural resources are present, the proposed management activities will not likely impact cultural resources. No additional excavation, grading or other earthwork is proposed for this site with the exception of the maintenance of access roads for the maintenance crews and the proposed parking lot in the southeast corner. Additional general information is available at the Florida Public Archaeology Network (<http://www.flpublicarchaeology.org>).

4.0 RECREATIONAL RESOURCES

4.1 Existing Recreational Facilities

There are no recreational resources currently on site, with the exception of the two observation mounds near the southern boundary of the site. These mounds were created to store excess soil materials and to provide an excellent vantage point for viewing the entire site. There are no marked hiking trails, access roads, or kiosk at the entrance of the Preserve. The Preserve is posted as a County-owned conservation area or nature preserve, however, along Kracker Road. The main access gate is located on the southeast corner of the site. The eastern side of the site is not adequately fenced, so pedestrian access to the site is available. There is no boat ramp, but canoes and kayaks may be launched from Kracker Road on the northeast corner of the site.

The Conservation Services staff prefers to keep the Preserve with a minimum of public access until the vegetation planted during the restoration have matured and are less

vulnerable to human impacts. At that time, the Preserve should be evaluated to determine the amount or type of recreation that should be provided to the public. If the Preserve supports sensitive habitat for endangered and threatened species, such as least terns then public access will be kept to a minimum.

4.2 Proposed New Facilities and Management Measure Recommendations.

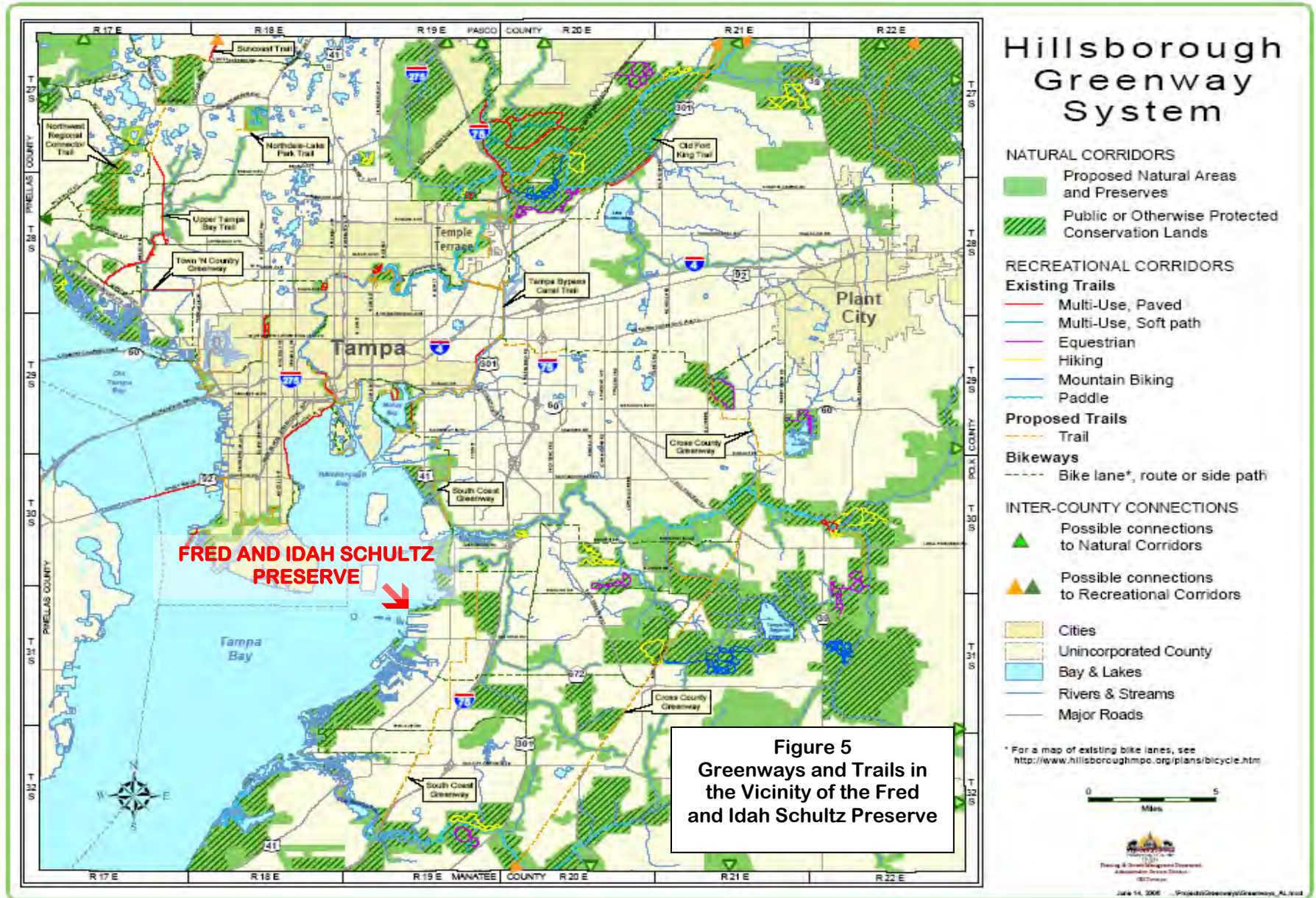
If it appears that the site will not attract least terns and other shore nesting species, the new recreational facilities may include a birding platform on the observation mounds, a canoe launch, a small parking area, and a marked hiking trail. The location of the proposed parking area is shown on Figure 3. If daytime hiking is found to be compatible, there will be walk-through gates and a kiosk installed. New fencing will be installed along Kracker Road. In addition, a Preserve brochure will be created and will be available on the department's website. The Department will need to post the main access points with addresses and signage. Development of proposed facilities is dependent upon available future funding.



Currently boats such as canoes, kayaks and even small fishing boats are launched from this point at the end of Kracker Road.

4.3 Greenways and Trails

The South Coast Greenway is the closest trail to the Fred and Idah Schultz Preserve in the southern portion of the county, but it extends from McKay Bay to River Bend Ranch north of the Little Manatee River, and does not extend to the Preserve. Figure 5 shows the Preserve in relation to the proposed and existing trails throughout Hillsborough County.



5.0 RESOURCE MANAGEMENT

5.1 Site Security.

The Preserve lies in unincorporated Hillsborough County and is therefore within the jurisdiction of the County Sheriff's Department. The Preserve is periodically patrolled by the Sheriff for vagrants, poachers, and trespassers.

The Preserve has experienced problems with illegal dumping and unauthorized parties which leave trash and debris behind. The Preserve should be patrolled by either the Sheriff's Department or the Florida Fish and Wildlife Conservation Commission on a regular basis. In addition, new fencing should be installed along Kracker Road and other fencing needs for this site should be evaluated.

5.2 Exotic and nuisance Species Management

5.2.1 Invasive Exotic Plants

The predominant invasive exotic and nuisance plants known to exist on the Fred and Idah Schultz Preserve are cogon grass, Brazilian pepper and lead tree, and these were predominantly found around the perimeter of the Preserve. At this time there is still a contract in effect for the maintenance of the exotic and nuisance vegetation, but this responsibility will soon fall to the County maintenance crews. Prior to purchase, the site was completely covered with invasive plant species so it is necessary to keep current with the maintenance or the site will revert to its disturbed state. New species and new infestations can occur frequently and the Conservation Services staff will survey the Preserve on a regular basis to prevent new infestations from becoming established. Sites are treated on an as needed basis, prioritized by the staff according to resources available.

Exotic and nuisance plants can be treated by mechanical, physical, chemical or biological methods or combinations of one or more of these methods. Mechanical treatments include the cutting or pulling of the vegetation and often is followed by the use of chemical spraying. Physical treatments include the use of prescribed fire or water impoundment to kill or at least slow the spread of the exotic and nuisance plants. Chemical treatments are the most widely used and usually most effective methodology. This involves the use of herbicidal sprays applied from back pack sprayers or even from helicopters. Biological controls are the slowest methodology of treatment, but when implemented properly, can be the most effective over the long term. Biological control involves the introduction of a natural predator or pathogen that destroys the exotic species. Biological treatment requires long years of testing to ensure that the introduced control does not create problems in the environment.

Treatment methodologies for exotic and nuisance plant species are continually changing as new herbicides and biological controls are developed. There are numerous references available for types of chemical herbicide application and biological treatment and the science is changing all the time. The Conservation Services Team is committed to using the latest technology and the safest methodology available to reduce existing infestations. Some resources on line include:

Center for Aquatic and Invasive Plants Web site <http://plants.ifas.ufl.edu>.

Florida Exotic Pest Plant Council Web site <http://fleppc.org>.

[Identification and Biology of Non-Native Plants in Florida's Natural Areas](#). K.A. Langeland and K. Craddock Burks. 165 pp. 1998. IFAS Publication SP 257.

[Control of Non-Native Plants in Natural Areas of Florida](#). K.A. Langeland and R.K. Stocker. 34 pp. 2001. IFAS Publication SP 242.

[Help Protect Florida's Natural Areas from Non-Native Invasive Plants](#) . K.A. Langeland. 1999. IFAS Circular 1204.

The most effective method for the treatment of exotic and nuisance plant infestations is prevention. This will require periodic monitoring of vulnerable areas in the Preserve and maintenance of all occurrences while they are in the early stage of development. It is also advisable to treat infestations near the Preserve, if possible, to prevent re-infestation. While the County typically can not treat infestations on private lands, they can work cooperatively through organizations such as the County's Invasive Species Task Force.

5.2.2 Invasive Exotic Animals.

There is no evidence of any exotic animals occurring on the Preserve since the land was purchased; however, there is a high probability for the presence of nuisance animals including, but not limited to, coyotes, feral pigs, Cuban tree frogs and Asian green mussels. Periodic monitoring to determine the presence of nuisance species is recommended so that removal action may be taken before the animals become a serious problem. Monitoring can be conducted during routine maintenance events, such as mowing, maintaining firebreaks, and exotic and nuisance vegetation maintenance and during native wildlife surveys.

5.3 Prescribed Burns.

5.3.1 The importance of fire

Prescribed fire is a land management tool used to restore and maintain fire-dependent ecosystems, enhance forest health, improve wildlife habitat, and prevent dangerous,

uncontrolled wildfire by reducing hazardous fuels. Fire promotes healthy ecosystems by clearing out competing vegetation, cycling nutrients into the soil, providing food for wildlife, and stimulating fire-dependent plants to grow and produce seed (http://www.fs.fed.us/fire/fireuse/rxfire/rx_index.html). Concerns regarding smoke created by prescribed fire are a priority, even in a relatively undeveloped area like that around the Preserve.

One of the greatest benefits of prescribed fire is that it reduces "fuels" such as the underbrush, branches, pine needles, leaves, and dead plant debris that have built up on the forest floor over time. If fuels are not reduced every few years, wildfires can become intense, hot, and destructive (http://www.fs.fed.us/fire/fireuse/rxfire/rx_index.html).

Because of Florida's long history of lightning fires, many of the state's natural systems are adapted to fire and depend on periodic fire to remain healthy. Prescribed burning is a vital tool for managing pine flatwoods, pine sand hills, and sand pine/oak scrub found in the region. These natural systems shelter many threatened and endangered plant and animal species that rely on fire to survive, such as Florida black bear, Florida scrub-jay, eastern indigo snake, gopher tortoise, and scrub holly. When fire is kept out of these areas, some plant and animal populations decline or even disappear (Myers, 1990).

Because natural fires can no longer move across the landscape as they did historically, prescribed fire at appropriate intervals is necessary to maintain these unique natural communities. For example, prescribed fire reduces the height of scrub vegetation to a level that is suitable for the Florida scrub jay and opens up sandy areas which allows the jays to store their acorns. Fire also generates fresh seeds, fruits, and native plant growth, providing food for these rare species (Myers, 1990).

Many people have expressed concern about the safety of wild animals during prescribed fires. Most wild animals migrate to safety during the relatively slow-moving prescribed fires. Some animals take refuge by moving to unburned or previously burned areas. Small animals seek shelter under logs, in old trees, and in burrows like those of the gopher tortoise. Few animals are killed by fire, especially during the growing season when it's warm and most animals are active. Mammals are rarely killed, and ground nesting birds build new nests and benefit from increased numbers of insects after the fire (Myers, 1990).

5.3.2 Management Measures for Fire.

At this time it is too soon after the initial planting to burn the Preserve, according to Conservation Services staff. The young plants will not be able to survive the fire. In addition, the site was heavily mulched when planted, and the mulch may cause more intense fires. Prescribed fires are anticipated to be appropriate for the Preserve near the end of this plan period, and a plan will be implemented at that time. Prescribed fires are conducted on ELAPP lands as resources become available and when climate conditions are appropriate. Preparation for burns includes the preparation of a burn plan, creation of

fire lanes, surveying pre-burn site conditions, and notifying homeowners that may be affected by the burn. A sample burn plan is included as Appendix E.

6.0 HABITAT RESTORATION

The vegetation communities and wildlife habitat in the Fred and Idah Schultz Preserve were created in 2004 and are in very good condition, with the exception of some areas impacted by exotic and nuisance vegetation. The detailed project design plan is provided as Appendix B. Extensive plantings with volunteers from the Tampa Bay Watch organization have already been completed. The latest planting was 5000 plugs of smooth cord grass (*spartina alterniflora*) in January 2007. Another planting is scheduled in the spring of 2007. If additional lands adjacent to the Preserve are purchased, these areas will likely require extensive restoration.

7.0 COMPLIANCE

7.1 ELAPP Policies and Ordinances

On January 7, 1987, the Board of County Commissioners approved an Environmentally Sensitive Land Ordinance (Ordinance No. 87-1) that took effect upon the passage of a referendum on March 3, 1987. The voters of Hillsborough County passed the Environmentally Sensitive Lands Referendum by a three to two margin, providing for a one-quarter mil tax over a four-year period to purchase sensitive land in Hillsborough County. The tax was projected to raise approximately twenty-one million dollars in revenues over a four-year period for the purchase or protection of these lands. In June 1990, another ordinance was approved (Ordinance No. 90-19) providing (among other things) for the issuance of general obligation bonds not to exceed \$100 million and the levy of ad valorem taxes not to exceed a quarter of a mill in any one year for a period not to exceed 20 years for the purpose of acquiring, preserving, protecting, managing and restoring environmentally sensitive lands, beaches and beach access, parks and recreational lands.

The Environmental Lands Acquisition and Protection Program (ELAPP) was established for the purpose of acquiring, preserving, and protecting endangered and environmentally sensitive lands, beaches, parks, and recreational lands in Hillsborough County. The purpose of acquiring such lands will be for resource protection; however, all lands shall be open for public use and enjoyment to the extent that the County finds such use compatible with the preservation and protection of these lands (Hillsborough County Parks, Recreation and Conservation Department 2005). The Environmentally Sensitive Land Ordinances are provided as Appendix G.

In 1997, the Parks ordinance (78-8) was repealed and replaced with Ordinance No. 97-14 to provide additional protection to the park and conservation lands of Hillsborough County. This ordinance provides regulations that conformed to those of the state and

federal government with respect to public lands. This ordinance is provided in its entirety in Appendix G.

7.2 Compliance with Comprehensive Plans

The Fred and Idah Schultz Preserve will assist Hillsborough County in implementing the goals, objectives and policies of the Conservation and Aquifer Recharge Element, Future Land Use Element, and Recreation and Open Space Element of the County's Comprehensive Plan. The preservation of wildlife habitats and the development of resource-based improvements and environmental conservation activities on the Preserve will help to accomplish or further enhance the following goals and objectives. Copies of the relevant elements of the County's Comprehensive Plan are included as Appendix H.

7.3 Proposed Expansion Opportunities

There are several undeveloped parcels around the Preserve which would enhance and protect it from negative impacts. The purchase of the parcels to the east of the site (Parcels 1 through 4 in Appendix I) and the removal of the dirt road would reduce the opportunity for illegal dumping which is still occurring on the Preserve. Parcel 5 (See Appendix H) is a 30 acre tract that consists mostly of mangroves. Purchase of this parcel would protect the mangrove fringe to the northeast of the site and connect the Preserve to The Kitchen Nature Preserve, another ELAPP preserve. The property south of the Preserve (Parcel #10, See Appendix I) would be a significant asset if purchased and would more than double the size of the existing Preserve. This land is owned by the Tampa Port Authority and it is not likely that they would be interested in selling. This 179 acre property would require an ecosystem restoration plan similar to the one for the Fred and Idah Schultz Nature Preserve.

Parcels 5 through 9 have evaluated and approved for purchase by the ELAPP Team members and are listed in the Hillsborough County Seventeenth Annual Year Report to the Board of County Commissioners (2005). The current status of these lands is not known at this time.

The SWFWMD Five-Year Land Acquisition Plan (2001) and the Florida Forever Work Plan Update (2004), state that "lands along the eastern shore of Tampa Bay, south of the (Alafia River) mouth...." are priority purchase lands, but do not list any specific areas.

8.0 SUMMARY OF MANAGEMENT GOALS AND OBJECTIVES

Listed below are the goals and objectives proposed for the 10-year period of this management plan. The items include those listed on a budget submitted to the SWFWMD on an annual basis. Examples of those budgets are provided in Appendix j. Hillsborough County receives 50% reimbursement for management costs through an agreement with SWFWMD.

TABLE 3 PROPOSED MANAGEMENT GOALS AND OBJECTIVES FOR FRED AND IDAH SCHULTZ PRESERVE		
OBJECTIVE	SCHEDULE	ESTIMATED COST
Fencing – Eastern boundary -Fence materials, linear feet, gates, walkthrough, etc. (\$700 per year)	Ongoing	\$7,000
Signs, man hours, etc. (\$400 first year, \$300 each subsequent year)	Ongoing	\$3,100
Wages for state and local law enforcement for patrol assistance, per negotiated contract. (\$1,500 per year)	Ongoing	\$15,000
Activities performed for general habitat management - Description of inventory, overall objective, man hours, etc.(\$750 per year)	Ongoing	\$7,500
Exotic removal – Type of exotics removed, type of removal, etc. (\$1,500 per year)	Ongoing	\$15,000
Development of Resource-based improvements (access roads/trails, culvert, parking lot)	TBD	TBD
	Total	\$

An access road needs to be established on the site and may simply require mowing consistently a road that does not impact the planted vegetation. The ditch on the eastern boundary will require a culvert if the access point is permanently installed in this location. A parking area is proposed in the southeastern corner of the preserve, to be accessed over the culvert mentioned above.

The treatment of exotic and nuisance vegetation should be conducted annually at a minimum to control the invasive vegetation and prevent impacts to habitat. If the treatments occur annually and are successful, then less herbicide and fewer treatments will be needed in the future.

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