WEEDON ISLAND PRESERVE
RESOURCE MANAGEMENT PLAN
(Lease #3376 - "The Gateway Tract")
(Lease #3985 - "Weedon Island")

FINAL REPORT

Submitted to:
Office of Environmental Services
Division of State Lands
Florida Department of Environmental Protection

Submitted by:
Pinellas County Department of Environmental Management
Environmental Lands Division

April 25, 2002
Mr. David Sumpter  
Pinellas County, DEM  
Environmental Lands Division  
1001 Lora Lane  
Tarpon Springs, Florida 34688

Re: Weedon Island Preserve  
Lease Number: 3985 & 3376

Dear Mr. Sumpter:

On April 25, 2002, the Acquisition and Restoration Council recommended approval of the Land Management Plan for Weedon Island Preserve. Therefore, the Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund approves this plan. Pursuant to Section 253.034 and 259.032, Florida Statutes, and Chapter 18-2, Florida Administrative Code the plan’s five-year update will be due in April 2007.

Approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities.

Sincerely,

Delmas T. Barber, OMC Manager  
Office of Environmental Services  
Division of State Lands

"More Protection, Less Process"

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WEEDON ISLAND PRESERVE MANAGEMENT PLAN

EXECUTIVE SUMMARY

Weedon Island Preserve, including the Gateway Tract, is an approximately 3,164 acre preserve that extends along the west side of Tampa Bay in Pinellas County. It is the second largest Preserve in Pinellas County and the largest Preserve on Tampa Bay. Mangrove-dominated islands and shoreline define the eastern edge of the Preserve. The landward sections of the Preserve are comprised of pyrogenic upland communities (pine flatwoods, scrub, scrubby flatwoods) and hammocks. Collectively, the Gateway Tract and Weedon Island Preserve are a dominant feature along the western bank of Tampa Bay. The Gateway Tract, the northernmost property, encompasses approximately 5 miles of shoreline; it is bisected by the Howard Frankland Bridge. The Gandy Bridge defines the southern boundary of the Gateway Tract and the northern boundary of Weedon Island Preserve. The islands, adjacent shoreline, and uplands that comprise the Preserve are dotted with an impressive array of cultural features that include artifacts, which illustrate the land’s significant role in virtually all historical cultures that define Florida’s anthropological history. Some of these cultural features include a Native American burial mound, shell middens, and Spanish Conquistador era attire.

From an ecological management perspective, it is most efficient to manage all adjacent preserved lands comprehensively. Therefore, this management plan recognizes “The Weedon Island Preserve” as including the following parcels: the original Weedon Island Preserve (herein referred to as Weedon Island Preserve South and identified in State Lease #3985), the Gateway Tract (herein referred to as Weedon Island Preserve North; identified in State Lease #3376), parcels of land managed under lease agreement with Florida Power, and parcels of land adjacent to Weedon Island and recently purchased by Pinellas County’s Real Estate Department.

The goal of Weedon Island Management is: to effectively coordinate the management of the site’s ecological and cultural resources using methods that promote public education and encourage compatible recreational activities. This plan serves as the basic statement of policy and direction for the management of the Weedon Island Preserve and the Gateway Tract as a unit of Pinellas County’s Environmental Lands Division.

This plan provides the detail necessary to effectively manage the property to promote indigenous species use (with emphasis on listed species), to maintain a temporal and spatial ecological diversity through the application of management tools (e.g., prescribed burns, removal of exotic species), to protect the site’s rich array of cultural resources, to continue to identify, and then encourage compatible recreational land uses, and to encourage the promotion of restoration, education, and research.

Accompanying the plan are several tools that were developed to assist with management:

- A computer database has been generated that contains many overlays of information including the trail systems, logical burn units, preserve infrastructure, wildlife management areas, natural systems, soils, and topography.

- A floral and faunal observation log in which species occurrences for each habitat polygon are identified. This can be linked as metadata to a Geographic Information System natural system map.
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- Dr. Craig Huegel, Division Administrator, ELD
- Tim Ahlstrom, Asst. Director, DEM
- Will Davis, Director, DEM
- Delmus T. Barber, OMC Manager, Department of Environmental Protection
INTRODUCTION

Weedon Island Preserve\(^1\) is an approximately 3,164 acre preserve that extends along the west side of Tampa Bay in Pinellas County (See Figure 1). It is the second largest Preserve in Pinellas County and a dominant feature along the western bank of Tampa Bay. Weedon Island North and South are bisected by the Gandy Bridge. The Preserve extends in a northerly direction approximately 5 miles to the north of the Howard Frankland Bridge. Portions of the Preserve south of the Gandy Bridge are owned by Florida Power and managed as part of the Preserve. The islands, adjacent shoreline, and uplands that comprise the Preserve are dotted with an impressive array of cultural features that include artifacts, which illustrate the land’s significant role in virtually all historical cultures that define Florida’s anthropological history. Some of these cultural features include a Native American burial mound, shell middens, and Spanish Conquistador era attire.

*Weedon Island Preserve South* (the original Weedon Island Preserve). The original Weedon Island Preserve (approx. 1396 acres) was established in 1974 as the first purchase under the State of Florida’s Environmentally Endangered Lands Act. Management of this State-owned resource has been the responsibility of Pinellas County Board of County Commissioners since October 1, 1993 (as per Lease Agreement # 3985). An additional 43 acres was purchased with funding from the Office of Greenways and Trails (Sublease # 4103-03 - See Figure 7). The County’s Environmental Lands Division (ELD) is responsible for management of the Preserve. The area defined as Weedon Island Preserve South is dominated by lands owned by the State but includes additional lands purchased by the County and owned by Florida Power. As per management agreement with Florida Power, the ELD has assumed management responsibility for the undeveloped lands owned by Florida Power – all lands outside the power plant facility (See Easements Section: Figure 7).

*Weedon Island Preserve North* (formerly known as the Gateway Tract). To the north is a parcel of land owned by the state and managed by the County (Lease # 3376). The Gateway Tract of Weedon Island, is 1768 acres of predominantly mangrove forest islands that have been managed by Pinellas County’s Environmental Lands Division since its purchase by the state’s CARL program in 1984.

This plan serves as the basic statement of policy and direction for the management of the Weedon Island Preserve and the Gateway Tract as a unit of Pinellas County’s Environmental Lands Division.

\(^1\) From an ecological management perspective, it is most efficient to manage all adjacent preserved lands comprehensively. Therefore, this management plan recognizes “The Weedon Island Preserve” as including the following parcels: the original Weedon Island Preserve (herein referred to as Weedon Island Preserve South and identified in State Lease #3985), the Gateway Tract (herein referred to as Weedon Island Preserve North; identified in State Lease #3376), parcels of land managed under lease agreement with Florida Power, and parcels of land adjacent to Weedon Island and recently purchased by Pinellas County’s Real Estate Department.
Figure 1. Weedon Island Preserve Management Plan. Project location map.
GOALS AND OBJECTIVES

Goals of Purchase. The original Weedon Island Preserve was purchased primarily because of its value as a cultural and ecological resource. Weedon Island Preserve North was one of the environmentally sensitive lands identified in the Pinellas County’s Red Flag Charrette Study completed by the Pinellas Planning Council in 1972, and targeted as a valuable ecological resource worth protecting.

Goals and Objectives of Management. The goal of Weedon Island Management is: to effectively coordinate the management of the site’s ecological and cultural resources using methods that promote public education and encourage compatible recreational activities.

To achieve this goal, there are several management objectives:

- To preserve, restore, enhance, and maintain the site’s natural plant communities,
- To maintain and or establish through species-specific management strategies stable, viable populations of listed species and wildlife indigenous to the region,
- To preserve and interpret the site’s cultural resources,
- To re-establish and/or maintain natural burn regimes in all fire-adapted communities,
- To phase any archaeological surveys or studies in a manner that is efficient and coordinated with prescription burns,
- To continue to eradicate nuisance exotic species as defined by the Exotic Pest Plant Council,
- To continue to coordinate and assist with all current and proposed ecological and cultural research and educational opportunities²,
- To enhance natural systems through consideration of ecological restoration strategies designed to re-introduce natural habitat/biological diversity,
- To maintain the Preserve’s current and future infrastructure. This includes, but is not limited to the maintenance of: fire breaks, parking areas, maintenance facilities, boardwalks, restrooms, and trails, interpretive displays and signage, and the future Education Center.
- To develop a dynamic GIS-based interactive management plan that may be updated electronically and is actively used as a guiding tool for Preserve management. The completion of this management plan initiates the process of interactive management plan development.

State and Local Comprehensive Plan Compliance

The plan is intended to meet the planning requirements of Section 253.034, Florida Statutes, and Chapter 18-2, Florida Administrative Code (See Appendix A). Proper management of the Weedon Island Preserve will also assist the County in implementing the goals,

² The Preserve is managed by the County’s Environmental Lands Division (ELD) which consists of three programs: Land Management, Education, and Research. The Land Management Program is responsible for site management. Management decisions are carefully planned in coordination and with full cooperation from the Education and Research Programs.
objectives, and policies of the County’s Comprehensive Plan and, more specifically, the Future Land Use, Natural, Historic, and Cultural Resource Elements (See Appendix A).

Plan Organization

Many of the issues in this plan - including habitat descriptions, wildlife use, management strategies, burn unit histories – are likely to change through time. The information with respect to the topics documented in this plan represent a snapshot of conditions at the time this plan was developed. Therefore, this information has been stored in interactive databases, which can be updated as necessary. This is an Interactive Management Plan (IMP) which will assist the land manager with collecting, organizing, and querying data as well as tracking trends, and ultimately gauging the success of management in meeting management goals and objectives.

The Management Plan has been organized as follows:

SECTION 1. EXISTING CONDITIONS: provides site history, describes natural and physical characteristics, infrastructure, adjacent land uses, and easements. Current conditions relate to conditions at the time of plan development, not the time of acquisition.

SECTION 2. LAND MANAGEMENT ACTIVITIES: describes ongoing maintenance, security, resource management, coordination, and volunteer programs.

SECTION 3. FUTURE LAND MANAGEMENT ACTIVITIES: summarizes future infrastructure expansion (the education center) and resource management strategies.

SECTION 4. TIME LINE AND BUDGET: provides a time line for all ongoing and proposed land management initiatives and the Preserve-operating budget.

APPENDICES: provides relevant supporting documents and information that may be used to assist land managers with implementing land management.
SECTION 1: EXISTING CONDITIONS

General Setting.

Weedon Island Preserve is an approximately 3,164 acre preserve that extends along the west side of Tampa Bay in Pinellas County (See Figure 1). The Preserve is predominantly comprised of aquatic habitats; mangrove swamps, shoreline, and seagrass beds. Several of the islands contain patches of fire-adapted mesic and xeric habitats, including pine flatwoods, sand pine scrub, and various hammocks (upland and wetland forests where fire has been excluded). The scattering of islands that dominate the eastern portions of the Preserve as well as landward portions of the Preserve are dotted with an impressive array of cultural resources that illustrate the land’s significant role in virtually all historical cultures that define Florida’s anthropological history. Some of these cultural resources include: Native American burial mound, shell middens, and Spanish Conquestador chest plates, helmets and remains.

Topography.

Weedon Island Preserve ranges in elevation from 12 feet below mean sea level to 26 feet above mean sea level (see Figure 2); the Indian mound is at the highest elevation. Located in the Gulf Coastal Lagoons of the Gulf Coastal Lowlands, Weedon Island Preserve is relatively flat. Slopes of zero to five percent are common. There are a few exceptions along the northwest shoreline of Riviera Bay which exhibit slopes of five to twelve percent (Vanatta, Jr. et. al., 1972).

Geology.

Weedon Island consists of two zones, an upper zone of unconsolidated deposits and a lower zone of consolidated rock. The upper zone, commonly referred to as the Surficial Deposits, consists chiefly of beds and lenses of fine sand, gravel, sandy clay and clay, ranging in total thickness from less than ten feet to as much as 200 feet. The geologic units comprising the surficial deposits are the Hawthorne formation of Miocene age and the overlying differentiated deposits of Holocene age. The consolidated rocks consist mostly of beds of hard and soft limestone ranging in texture from densely crystalline to granular; gypsum and dolomite are commonly interbedded with limestone in the deeper zones. These rocks extend vertically to a depth of 10,000 feet or more.

Hydrology.

There are three hydrological influences on the Preserve - the semi-diurnal tides, surficial aquifer, and Florida aquifer. The presence of the surficial aquifer is limited because of the
Figure 2. Weedon Island Preserve Management Plan. Topographical map.
SOURCE: SWFWMD
peninsular geological features discussed above. Tidal waters and the Florida aquifer flow are the major regional concern.

Waters flood and ebb from and to Old Tampa Bay through Papy's Bayou and Riviera Bay; therefore, water quality of Tampa Bay is of great significance to Weedon Island Preserve. The volume of the tides is greatest during severe weather associated with hurricanes and tropical storms. Since 1830, approximately 22 hurricanes and 29 tropical storms have passed within 50 miles of St. Petersburg. The Floridan aquifer flows west and south from Hillsborough and Pasco counties, south through Pinellas County then under Weedon Island. Being located at the discharge area of the aquifer, any pollutants and/or reductions of volume would be evident and influence the Preserve.

The Floridan aquifer is located at a depth of approximately 20 feet and extends to a depth of approximately 80 feet. This aquifer is the primary potable water supply. Facilities at Weedon Island are supplied with treated water from the Florida aquifer by the City of St. Petersburg. Very little of the surface water is retained long enough to percolate through the confining layers for recharging purposes.

The surficial aquifer can be found at depths of five feet or less throughout the Preserve. Since Weedon Island is located at the southern end of a narrow peninsula, the aquifer is recharged primarily by local rainfall. Due to the shallow soils, the surficial aquifer is depleted quickly by drainage, plant absorption and evaporation.

Low elevations and shallow soils make Weedon Island subject to frequent flooding. The higher elevations (greater than four feet above mean sea level) flood every time there is a tropical storm or a hurricane. The lower elevations, flood frequently with the numerous localized thunderstorms during the rainy season. These frequent floods drain off quickly from most areas of the uplands. There are a few areas, which are poorly drained and retain water for several days after being flooded.

Dredge and fill developments of the land to the south, west and north of Weedon Island Preserve South have increased the tidal flow into and out of Riviera Bay. This has in turn increased the shifting of sands along Papy's Bayou. The abundance of grass beds, marine tidal marsh and marine tidal swamp have minimized the detrimental effects of the tidal flow; however, additional increases of flow, storm water drainage and/or contamination with pollutants could seriously alter the natural communities. Relatively recent suburban development has claimed the uplands west of Weedon Island North. This recent development is subject to local and state permit compliance that require avoidance, minimization, and mitigation of all wetland and, consequently surface flow and stormwater impacts.

Soils.

Information retrieved from the Southwest Florida Management District database indicates Weedon Island consists of 11 different soil classifications (See Figure 3). These soil types reflect modifications of the Pinellas County Soil Survey (Vanatta et al., 1972). The
Figure 3. Weedon Island Preserve Management Plan. Soils map.
SOURCE: SWFWMD
soils have been grouped into three categories: xeric, mesic, and hydric. Xeric soils correspond to sandhill, scrub, and xeric hammock. They occur at the highest elevations. Mesic soils correspond to pine flatwoods or mesic hammock communities. Hydric soils correspond to the various wetland habitats on site (see habitat descriptions section, below). The most common soils are hydric due to the mangrove tidal swamps that dominate Weedon Island Preserve.

**Xeric Soils**

**Astatula Fine Sand** (1 to 5 percent slopes) is excessively drained and nearly level to gently sloping. The water table is usually below 60 inches throughout the year. The surface layer is about 5 inches of dark-gray fine sand. The layers beneath are yellowish-brown and yellow sand that are approximately 80 inches deep. This soil type supports sand pine scrub and turkey oak sandhill. At Weedon xeric and maritime hammock communities are found growing in Astatula fine sands.

**Arents-Urban Land Complex** (0 to 5 percent slopes) The original soil in these areas has been modified for urban development. Little if any of the original soil material remains. Most if this area is either paved roads and parking or covered by the structures for the Weedon Island office area or the Florida Power Facility.

**Paola Fine Sand** (0 to 5 percent slopes) is excessively drained, acidic sandy soil formed from thick beds of marine sand and is nearly level to gently sloping. The water table is below 60 inches throughout the year. The surface layer is 3 inches of light-gray fine sand. A 19-inch layer of loose white sand sits beneath the top layer. Below this is a one-inch discontinuous layer of brown weakly cemented fine sand. Twenty-eight inches of yellow fine sand with dark reddish round pebbles and root channels coated with dark brown fine sand and filled with fine white sand sits beneath the third layer. The fourth layer consists of very pale brown loose fine sand that extends to a depth of 80 inches. Paolo supports sand pine scrub communities. On site, habitats found on this soil type include xeric and maritime hammocks, pine/scrubby flatwoods, a coastal berm and developed areas.

**Pomello Fine Sand** (0 to 5 percent slopes) is moderately well drained, acidic, sandy soil formed in beds of almost pure quartz marine sand. The slope is nearly level to gently sloping. The water table is usually at a depth between 40 to 60 inches, but may rise above 40 for short times during wet periods. The surface layer is usually 3 inches of light gray fine sand. Forty-one inches of fine sand sits below this surface layer. The upper part of this layer is light gray while the lower portion is white with thin vertical stripes of dark gray along root channels. Below this is 5 inches of weakly cemented, organic-matter stained layer of black fine sand. Extending to a depth of 80 inches sits a dark yellowish-brown, loose fine sand layer. Sand pine scrub communities are supported by

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3 Hammocks, by definition, are temperate hardwood forests that occur along the coastal plain of the southeastern United States from Carolinas to eastern Texas (Platt and Schwartz, 1990). Hammocks in Pinellas County, particularly xeric and mesic hammocks, are often a result of fire suppression. In urbanized areas, remnant patches of scrub, turkey oak sandhill or pine flatwoods often succeed to a hammock. Hammocks, however, are naturally more common on small islands, such as Googe or Ross Island, where fires started by lightning are less likely.

9
Pomello soils. At the Preserve, xeric hammocks with a small area of pine/scrubby flatwoods are found on this soil type.

**St. Lucie Fine Sand** (5 to 12 percent) is excessively drained, acidic sandy soil formed in beds of nearly pure quartz marine sand. The water table is below a depth of 80 inches throughout the year. The surface layer consists of about 3 inches of gray fine sand. Beneath this sits 55 inches of white loose fine sand. The third layer extends to a depth of 80 inches and consists of yellow loose fine sand. St. Lucie fine sand supports the sand pine scrub ecological community. At the Preserve a xeric hammock and coastal berm are found on this soil.

**Mesic Soils**

**Immokalee Fine Sand** is poorly drained, acidic sandy soils and is nearly level. The water table is usually at a depth of 10 to 40 inches. It is near the 10-inch depth for about 1 to 2 months during the rainy season. The surface layer is usually about 5 inches of black fine sand. Below this is gray to white fine sand around 31 inches thick. The third layer is around 14 inches of reddish-brown fine sand. The upper part of this layer is slightly darker and is weakly cemented. Beneath the third layer is pale brown fine sand that extends to an 80-inch depth. South Florida flatwoods are supported by this soil type. Ross and Googe Islands are dominated by this soil type. Other habitats within this soil type are: maritime hammock, pine/scrubby flatwoods, small areas of tidal marsh and ruderal growth.

**Malabar Fine Sand** is poorly drained and nearly level. The soil is medium acidic to 25 inches, neutral 25 to 30 inches, and mildly alkaline below to a depth of 62 inches. The water table is between 10 to 30 inches for 2 to 6 months and with 10 inches 1 to 2 months during the rainy season. Normally the surface layer is 4 inches of very dark gray sand. Loose fine sand extends 25 inches below the surface layer. This second layer is light gray mottled with white and brownish yellow in the upper few inches. The lower portion is very pale brown with mottled with the same white and brownish sand. The third layer is about 5 inches of yellowish-brown fine sand mottled with gray. The next layer is yellowish-brown sandy loam that is about 5 inches thick. Below this is a layer of pale yellow fine sand mixed with shell fragments that extends to a depth of 62 inches. South Florida flatwoods and slough communities are what can be found on Malabar soils. Four small patches of this soil are found on the west edge of Weedon Island Preserve North.

**Myakka Fine Sand** is poorly drained, acidic sandy soil and nearly level. The water table is usually at a depth between 10 to 30 inches. It will rise to the surface for short periods during the wet seasons and fall below 30 inches during times of drought. The surface is usually about 4 inches of black fine sand. This surface covers a 12 inch layer of loose gray fine sand. Below this is a layer of organic matter stained weakly cemented and that is about 14 inches thick. This layer is black on top, dark reddish brown in the middle and dark yellowish brown on the bottom. The next layer extends to a depth of about 84 inches and is comprised of light colored fine sand. Myakka fine sand supports South
Florida flatwoods. On site these area contain pine/scrubby flatwoods, xeric and maritime hammocks, and a small-developed area.

*Hydric Soils*

**Estero Muck** (Frequently Flooded) is usually covered by water several inches at low tide and 1 to 2 feet during high tide. The surface layer can range from fibrous peat 6 to 18 inches thick to sandy clay to stratified sand and organic matter. The subsurface layers can consist of gray to pale brown sand mixed with shell fragments to loam or marl. The soil usually contains varying amounts of seashells and shell fragments at different depths. This soil type supports the growth of salt marsh and mangrove swamp communities. On Weedon Island Preserve the majority of this soil supports tidal swamps with some small areas of tidal marsh. Most of the tidal swamps are crisscrossed with mosquito ditches.

**Felda Fine Sand** (depressional) is poorly drained sandy soil in depressions that form in stratified, unconsolidated sandy and loamy marine sediments. The soil is strongly acidic to a depth of 26 inches and slightly acidic between 26 to 34 inches. Neutral soil occurs between 34 and 38 inches and becomes moderately alkaline below to a depth of about 62 inches. The area is covered with water during the wet season and only the lowest areas hold water during the dry season. Normally the surface layer is 3 inches of very dark gray fine sand. The next layer goes to a depth of 26 inches and consists of light gray loose fine sand mottled with brown. The third layer is 8 inches of dark grayish brown fine sandy loam mottled with yellowish brown. The next 4 inches is a grayish brown loamy fine sand mottled with gray and olive brown. Extending to a depth of 62 inches is a pale brown loamy sand mixed with shells. Cypress swamps and freshwater marsh and pond communities occur on this soil type. There are two areas of less than 1 acre located on the western edge of Weedon Island North where this soil type is found.

**Myakka Fine Sand** (tidal) is very poorly drained, acidic sandy soil and nearly level. The water table is usually near the surface and will be inundated at time due to tidal action. The surface is usually about 4 inches of black fine sand. This surface covers a 12-inch layer of loose gray fine sand. This layer is black on top, dark reddish brown in the middle and dark yellowish brown on the bottom. The next layer extends to a depth of about 84 inches and is comprised of lighter colored fine sand. This soil supports salt marsh communities. Within the Preserve, this soil is only found along the western edges of Weedon Island Preserve North. The communities growing there are tidal marshes and swamps.
Habitat Descriptions.\(^4\)

The habitats that comprise the Weedon Island Preserve are predominantly estuarine, mangrove forest, and seagrass. Weedon Island Preserve North is entirely comprised of intertidal zones of seagrass and mangrove islands. The larger islands within the Weedon Island Preserve complex, Googe Island and Ross Island, contain 19 and 30 acres of uplands, respectively. These upland areas are comprised of scrubby flatwoods and xeric hammock (see descriptions below).

Weedon Island is no longer an island – it is connected to the mainland by a land bridge north of Riviera Bay. The majority of Weedon Island is mangrove as well, however the landward side is comprised of xeric hammock, pine/scrubby flatwoods, and ruderal communities (see descriptions below).

All habitats were classified using the system described by Florida Natural Areas Inventory (FNAI, 1990). General descriptions of habitats found on Weedon Island follow. More detailed polygon-by-polygon vegetative distribution may be found in Appendix B.

**Xeric Hammock**\(^5\) (85 acres) This community is an advanced successional stage of scrub or sandhill. The soils found in these areas (Astatula fine sand, Paola fine sand, Pomello fine sand, and St. Lucie fine sand) suggest that both sandhill and scrub could exist in Weedon Island Preserve South. However, since fire has been excluded for many years, the areas are now dominated by xeric hammocks. Xeric areas where fire exclusion is approaching 30 years, begin to take on hammock-like conditions. A xeric hammock that has formed on scrub soils is typically characterized by an overstory of sand live oak\(^6\), live oak, myrtle oak, Chapman oak, and sand pine. If the hammock is of sandhill origin, turkey oak and long-leaf pine are present. Hammock canopies are dense and thus prohibit much understory growth. Consequently, fuel loads are gradually reduced and fire is less likely to occur. These areas are predominantly associated with some of the Preserve’s shell middens and burial mounds. There are a handful of remnant species of sandhill (i.e., wiregrass, turkey oak) and scrub plants (i.e., sand pine, rosemary). These areas are now dominated by a live oak, sand live oak and cabbage palm canopy. Understories differ in each of the hammocks found on Weedon Island Preserve but, some common plants include saw palmetto, beautyberry, and hog plum.

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\(^4\) Habitat or Vegetative community nomenclature corresponds to polygon labels in Figure 4 and 5. These habitat maps are modifications of the SWFWMD Land Use maps. The lands within the Preserve boundary have been modified to reflect ground truthing.

\(^5\) Hammocks are dotted with shell and burial mounds as well as other shell middens.

\(^6\) See Appendix B. for a complete list of Scientific Names.
Figure 4. Weedon Island Preserve Management Plan. Existing Land Use (North).  
Source: SWFWMD
Figure 5. Weekom Island Preserve Management Plan. Existing Land Use (South).
Source: SWFWMD outside preserve boundary
Ground truthing within preserve
Maritime Hammock (72 acres) This community occurs on old coastal dunes that have been stabilized long enough for the growth of a forest. The generally mesic conditions of well developed maritime hammock communities inhibit natural fire. Fire introduction may alter the appearance. This community is the final stage of succession in coastal areas. Typical vegetation includes live oak, cabbage palm, red bay, beautyberry and wild coffee.

Shell Mounds\(^7\) are predominantly restricted to the hammocks, both maritime (north of Florida Power access road) and xeric (Ross Island). There is one exception, a narrow, exposed shell midden located along the north shore of Riviera Bay. This area is comprised of a relatively impenetrable layer of shell and sand w/ scattered cabbage palm, sand live oak, grape vines, and rattle box. As the name suggests there are shell and shell fragments found mixed within the soil. These communities are a result of the activities of Indians not natural physical and biological factors. Most of the shell middens on Weedon are closely associated with hammock communities and therefore contain similar vegetative qualities.

Pine/Scrubby Flatwoods (79 acres) These areas dominate the uplands, particularly adjacent to the maintenance area and along the upland trail. These habitat types have been grouped because they are difficult to distinguish in the field as a result of fire frequency and drainage alterations. The mesic pine flatwoods that do occur on site are approaching a more dry, xeric, condition – characteristics indicative of scrubby flatwoods. Topographically, these areas occur on high ridges in the pine flatwoods. Soil types (Immokalee Fine Sand, Malabar Fine Sand, Myakka Fine Sand) suggest that they should be present. However, scrubby flatwoods are found on much of these soils. Dominant vegetation found in these communities includes slash pine, wiregrass, saw palmetto and rusty lyonia.

A natural fire regime for scrubby flatwoods is 8 to 25 years. A more frequent fire schedule of 1 to 8 years is more appropriate in the less xeric flatwoods area (burn unit W2 – see Figure 10).

Ruderal - There is a small 1.5-acre area on Weedon Island that contains this community. The area was disturbed decades ago during the airport days. Vegetation such as Bahia grass, lantana, grape vine and sensitive plant dominate. Due to the soil type (Immokalee fine sand) and nearby vegetation the area should mostly likely be returned to a flatwoods community.

Marine Unconsolidated Substrate - The southern tip of Googe Island contains approximately 5 acres of this community type. This beach area is characterized as relatively open areas of subtidal, intertidal and supratidal zones which lack dense populations of vegetation.

Coastal Berm (11 acres) This community is found on the west side of Weedon Island bordering Riviera Bay. Coastal berms are ridges formed from storm deposited sand,

\(^7\) This is not a habitat type, but an anthropogenic disturbance. Shell mound locations are known but acreages have not been quantified to date.
shells, and debris. Typical vegetation includes cabbage palms, seagrape, live oak, and marsh elder. The berm grades into a narrow band of mangrove tidal swamp.

**Tidal Swamp** (2610 acres) This community dominates Weedon Island Preserve; approximately 60 percent is tidal swamp. This community is characterized as dense mangrove forests. These areas contain extensive areas of dredged mosquito ditches. Mangroves are the typical vegetation including the black, red and white species.

**Tidal Marsh** (15 acres) This community is found on Ross Island and the mainland of Weedon Island Preserve. Both of these areas are protected and grade into mangrove tidal swamps. The typical vegetation includes black needle rush, smooth cordgrass, glassworts and saltworts.

**Saltern** (6 acres) There are two small patches of this community nestled in the mangrove tidal marshes. Salterns develop at an elevation just high enough to receive fewer tidal inundations that adjacent seaward zones. Long periods between flooding prevent dilution and favor water loss by percolation and evaporation. The flatness across tidelands is formed by the daily ebb flow of tides, which act as a leveling agent. Erosion of adjacent uplands during storm tides contributes sand to the bordering saltern area.

**Freshwater Pond** - There is a 4.5-acre freshwater pond located with Weedon Island Preserve. The vegetation includes willow, cattail, and Brazilian pepper.

**Seagrass** (unknown acreage) This community occurs in subtidal zones in clear coastal waters where wave energy is moderate. Seagrasses beds most frequently occur on unconsolidated substrate of marl, muck or sand. Other factors that affect the establishment and growth of seagrass beds include water temperature, salinity, wave energy, tidal activity and available light. In Tampa Bay waters light availability is one of the main factors in the growth of seagrass beds. Higher standards for wastewater discharge into Bay waters and enforcement of non-point source pollution discharges into stormwater systems have helped the nutrient levels in the Bay to decline. With the decline in nutrients in the water column, the turbidity levels have also been declining, improving the water clarity in the Bay.

Motorboat use in shallow seagrass areas also leads to the decline in bed coverage. Seagrass regrowth, in prop scarred areas, can take many years and, at times, recovery never occurs. Limiting combustion engine boat access and establishment of minimum and no wake zones can also help in the protection of the seagrasses surrounding Weedon Island.

**Mollusk Reef** (unknown acreage) Marine and estuarine mollusk reefs are faunal based natural communities typically characterized as expansive concentrations of sessile mollusks occurring in intertidal and subtidal zones to a depth of several feet. In Florida, the most developed Mollusk Reefs are generally restricted to estuarine areas.

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8 Not delineated on map – not readily distinguishable from aerial photographs.
The major threats to mollusk reefs continue to be pollution and substrate degradation due, in large part, to upland development. As stated in the above seagrass section, there have been improvements in Tampa Bay water quality. Substrate degradation due to upland development is not likely, as the areas surrounding Weedon Island are already established developed lands.

Developed. The develop areas, which consist of approximately 10 acres, are comprised of roads, parking areas, and the maintenance facilities for the preserve.

Wildlife.

A literature review revealed that several formal and informal wildlife surveys have been conducted at the Weedon Island Preserve over the past two decades. These include surveys conducted and compiled by Park volunteers (Shrewsbury, 1998) as well as Audubon birding expeditions and herpetofaunal surveys conducted on some of the outer islands. Previous compilation studies have been conducted by Audubon Society, independent trapping efforts, County and State staff, and County Volunteers.

Small mammal surveys using Sheman’s live traps were conducted in the preserve’s upland areas in early 1997 (Sempier). In 345 Sherman’s live trap nights, only the hispid cotton rat⁹ was captured. Later that year, Yancura (1997) conducted a similar study and logged an additional 565 trap nights. Other mammals documented were the gray squirrel, raccoon, opossum, eastern cottontail, marsh rabbit, otter, gray fox, and nine-banded armadillo.

Access to the Bay waters, fishing along the Preserve’s mangrove fringe, and flats fishing have resulted in the documentation of a variety of marine life including aquatic invertebrates, fish, birds, reptiles, and mammals. Gopher tortoise surveys have been conducted in all appropriate areas annually since 1987 and every three to five years since 1989 (see protected species below). Timing of these surveys corresponded with prescription burns – surveys are conducted subsequent to the controlled burning of one of a given burn unit. Bird surveys have included, but are not limited to, Christmas bird counts, breeding bird surveys, and early fall surveys. Each of these surveys is conducted annually and has been conducted since the late 1980’s.

To date, vertebrates species documented within the Preserve’s limits total: 30 mature fish species, 64 species of juvenile fish species, 4 amphibian species, 12 reptile species, 99 species of birds, and 10 species of mammals.

Based upon review of known geographic ranges, specific distribution records, and species-specific habitat requirements, 15 species of amphibians, 38 species of reptiles, 159 species of birds, and 34 species of mammals potentially utilize the Preserve. The results of this review are arranged in matrices that identify potential habitat use by each species and season of occurrence in the case of birds (Appendix C). Habitat labels used

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⁹ See Appendix C. for a complete list of Scientific Names.
within the matrices correspond to labels on the map and those described in the preceding section, Habitat Descriptions.

**Listed Species.**

*Plants*
The vegetative communities supporting listed species include all natural habitats on site. Known or potential occurrence of listed species was determined through: (1) review of Florida Natural Areas Element Occurrence Records for the region (See Appendix D), (2) review of on site selected surveys, and (3) review of known geographic ranges and species-specific habitat requirements of listed plants. (Table 1). Seven federally- and/or state listed species of plants potentially occur on the Weedon Island Preserve. The potential for occurrence of one federally listed plant species includes Florida golden aster (*Chrysopsis floridana*). A small population of asters has been documented in sandy, disturbed, scrubbly habitat in west central Pinellas County (U. S. Fish and Wildlife Service, 1988).

In addition to the federally listed species, there is potential for six state listed species. These species include: Curtiss’ Milkweed (*Asclepias curtissii*), Erect Prickly Pear Cactus (*Opuntia stricta*), Garberia (*Garberia heterophylla*; already verified), Nodding pinweed (*Lechea cernua*), and Pine pinweed (*Lechea divaricata*).

*Animals*
Eighteen federally and/or state listed species of wildlife occur or could potentially occur on Weedon Island Preserve (Table 2). Of these18, only one, the short-tailed snake, has not been observed on site. The short-tailed snake may already be on site but because of their size and habitat may not have been seen. There is only on freshwater pond on site that could provide breeding habitat for gopher frogs (as well as other frogs). If indigenous species are not currently on site, they would need to be relocated onto the Preserve because, due to the developed nature of all adjacent lands, there is no opportunity for recruitment.

**Exotic Species** (See Appendix E)

1) Exotic Species Removal – Exotic plants have an adverse impact on the natural integrity and original appearance of the native plant and animal communities. Accordingly, exotic removal is an actively pursued resource management objective at Weedon Island Preserve. In general, nuisance exotic species are pervasive in Pinellas County; the lands adjacent to Weedon Island Preserve are no exception. Without any exotic species eradication, spoil mounds created when mosquito ditches were excavated in mangrove habitats in and along Tampa Bay are typically dominated by Category I plants as defined by the Florida Exotic Pest Plant Council (1999).
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>FWC</th>
<th>USFWS</th>
<th>Habitats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curtiss Milkweed</td>
<td><em>Asclepias curtissii</em></td>
<td>E</td>
<td></td>
<td>Sand pine scrub and xeric hammock</td>
</tr>
<tr>
<td>Erect Prickly Pear Cactus</td>
<td><em>Opuntia stricta</em></td>
<td>T</td>
<td></td>
<td>Shell midens, dunes and coastal hammocks</td>
</tr>
<tr>
<td>Florida Golden Aster</td>
<td><em>Chrysopsis floridana</em></td>
<td>E</td>
<td>E</td>
<td>Sand pine scrub and rarely oak hammocks</td>
</tr>
<tr>
<td>Garberia*</td>
<td><em>Garberia heterophylla</em></td>
<td>T</td>
<td></td>
<td>Sand pine scrub and oak scrub</td>
</tr>
<tr>
<td>Nodding Pinweed</td>
<td><em>Lechea cernua</em></td>
<td>T</td>
<td></td>
<td>Sand pine scrub</td>
</tr>
<tr>
<td>Pine Pinweed</td>
<td><em>Lechea divaricata</em></td>
<td>E</td>
<td></td>
<td>Sand pine scrub, scrubby and pine flatwoods</td>
</tr>
</tbody>
</table>

* Documented on site

1Florida Fish and Wildlife Conservation Commission (FWC): E = Endangered; T = Threatened

2United States Fish and Wildlife Service (USFWS): E = Endangered; T = Threatened
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>FWS¹</th>
<th>USFWS²</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gopher frog</td>
<td><em>Rana capito</em></td>
<td>SSC</td>
<td></td>
<td>Use tortoise habitats. Freshwater ponds on site are possible breeding habitats.</td>
</tr>
<tr>
<td>American alligator*</td>
<td><em>Alligator mississippiensis</em></td>
<td>SSC</td>
<td>T(S/A)</td>
<td>Observed on site. Uses freshwater pond.</td>
</tr>
<tr>
<td>Eastern indigo snake*</td>
<td><em>Drymarchon corais couperi</em></td>
<td>T</td>
<td>T</td>
<td>Observed on site. Occur in dry sandy habitats. Use gopher tortoise burrows for shelter.</td>
</tr>
<tr>
<td>Gopher tortoise*</td>
<td><em>Gopherus polyphemus</em></td>
<td>SSC</td>
<td>C2</td>
<td>Observed on site. Occur in scrub, scrubby flatwoods, pine flatwoods, and old field. Also occurs on the fringes of sand pine forest. Require open dry areas with adequate forage.</td>
</tr>
<tr>
<td>Short-tailed snake</td>
<td><em>Stilosoma extenuatum</em></td>
<td>T</td>
<td>C2</td>
<td>Prefer sandhills; none occur on site. Also uses sand pine scrub and xeric hammocks.</td>
</tr>
<tr>
<td>Roseate spoonbill*</td>
<td><em>Ajaia ajaja</em></td>
<td>SSC</td>
<td></td>
<td>Observed foraging on site. Nest in mangroves. Forage in shallow waters.</td>
</tr>
<tr>
<td>Little blue heron*</td>
<td><em>Egretta caerulea</em></td>
<td>SSC</td>
<td></td>
<td>Observed foraging on site. Nest in mangrove, cabbage palm, Brazilian pepper.</td>
</tr>
<tr>
<td>Snowy egret*</td>
<td><em>Egretta thula</em></td>
<td>SSC</td>
<td></td>
<td>Observed foraging on site. Forages and nests in estuarine habitats. Nest in mangroves.</td>
</tr>
<tr>
<td>Tricolored heron*</td>
<td><em>Egretta tricolor</em></td>
<td>SSC</td>
<td></td>
<td>Observed foraging on site. Forages and nests in estuarine habitats. Nest in mangroves.</td>
</tr>
<tr>
<td>White ibis*</td>
<td><em>Eudocimus albus</em></td>
<td>SSC</td>
<td></td>
<td>Observed foraging on site. Forage in marshes, mudflats, lake edges, and mangrove lagoons. Nests in mangroves.</td>
</tr>
<tr>
<td>Artic peregrine falcon*</td>
<td><em>Falco peregrinus tundrius</em></td>
<td>E</td>
<td></td>
<td>Observed on site. Possible migratory habitat on open areas on Florida Power property.</td>
</tr>
<tr>
<td>Southeastern American kestrel</td>
<td><em>Falco sparverius paulus</em></td>
<td>T</td>
<td></td>
<td>Possible migratory habitat on open areas on Florida Power property.</td>
</tr>
<tr>
<td>American oystercatcher*</td>
<td><em>Haematopus palliatus</em></td>
<td>SSC</td>
<td></td>
<td>Observed foraging on site. Forage in tidal mudflats and salt marshes.</td>
</tr>
<tr>
<td>Wood stork*</td>
<td><em>Mycteria americana</em></td>
<td>E</td>
<td>E</td>
<td>Observed foraging on site. Forages mainly in freshwater. Nests in cypress swamps and mangroves.</td>
</tr>
<tr>
<td>Brown pelican*</td>
<td><em>Pelecanus occidentalis</em></td>
<td>SSC</td>
<td></td>
<td>Observed foraging on site. Nests in mangroves.</td>
</tr>
<tr>
<td>Black skimmer*</td>
<td><em>Rynchops niger</em></td>
<td>SSC</td>
<td></td>
<td>Observed foraging on site. Nest on open sandy beaches; none suitable occur on site. Preserve suitable for foraging.</td>
</tr>
<tr>
<td>Least tern*</td>
<td><em>Sternula antillarum</em></td>
<td>T</td>
<td></td>
<td>Observed foraging on site. Occur in bays and salt flats.</td>
</tr>
<tr>
<td>West Indian manatee*</td>
<td><em>Trichechus manatus</em></td>
<td>E</td>
<td>E</td>
<td>Overwinter near Florida Power plant's artificial warm water source.</td>
</tr>
</tbody>
</table>

¹Florida Fish and Wildlife Conservation Commission (FWC)
E = Endangered; T = Threatened; SSC = Species of Special Concern
²United States Fish and Wildlife Services (USFWS):  
C2 = A candidate for listing with some evidence of vulnerability, but for which not enough data exist to support listing.
T(S/A) = Threatened due to Similarity of Appearance
* Observed on site.
Category I plants are defined as species that are invading and disrupting native plant communities in Florida. These include Brazilian pepper (*Schinus terebinthifolius*), melaleuca (*Melaleuca quinquervia*), Carrotwood (*Cupaniopsis anacardioidis*), and woman's tongue (*Albizia lebbeck*). There are also many Category II species that occur at the preserve: castorbean (*Ricinus communis*), Indian Rosewood (*Dalbergia sissoo*), Australian pine (*Casuarina litorea*), Creeping Oxeye (*Wedelia trilobata*). Category II species are defined as species that have shown a potential to disrupt native (Florida) plant communities.

Other exotic species documented on the Preserve but not currently recognized as invasive include: periwinkle (*Catharanthus roseum*), Turk’s-cap mallow (*Malvaviscus arboreus*), bahiagrass (*Paspalum notatum*), Guineagrass (*Panicum maximum*) and guava (*Psidium guajava*). With the exception of bahiagrass, all are likely to have been introduced to the preserve through wind born seeding, brought in by birds or attached to the hair of animals. All appear to have propagated in disturbed sites. Bahiagrass was introduced to the preserve during construction of the new facilities as ground cover to prevent erosion.

**Archeological/Historical Resources** (Figure 6)

Paleoindians were the first native inhabitants of Florida and are estimated to have entered the area approximately 12,000 years ago during the late Pleistocene epoch. The environment of Florida at that time was markedly different from the modern environment. The sea levels were 135 to 165 feet lower, and the shorelines extended as much as 100 miles beyond the present coastal boundaries. The Paleoindians hunted large mammals such as mammoths at watering holes in shallow lakes or deep springs. After the extinction of the Pleistocene megafauna, human subsistence strategies became more diverse, and included the collection of the new terrestrial plants and animals and aquatic species.

A gradual warming trend with less arid conditions and rising sea levels changed the way people lived on the Florida peninsula during the Archaic period (BC 8000-2500). Indigenous peoples lived and thrived on the abundant fish, shellfish, plants and wild animals in the environs of Tampa Bay beginning over 5,000 years ago. The Manasota culture evolved from this mobile culture of hunters and gatherers who roamed Florida during the Archaic period. Unlike their ancestors, Manasota peoples were fully adapted to living in a coastal setting. Beginning about 500 BC, Manasota groups hunted and fished in the woods, bays, and estuaries of prehistoric Florida from Tampa Bay southward to Charlotte Harbor. Small Manasota villages were typically built in hammocks located near the bays. The elaborately decorated pottery found in Manasota burials links them with the social and religious life of other indigenous groups living to the north, known collectively as the Weeden Island culture (alternate spelling).

In coastal areas and in northern Florida, the emergence of Weeden Island culture begins at about AD 400. The Weeden Island culture derives its name from the type-site located on Weedon Island. Early Weeden Island culture is characterized by the appearance of
Figure 6. Weedon Island Preserve Management Plan. Archaeology.
complicated-stamped pottery along with decoration by punctating and incising. Weeden Island sites have yielded whole vessels sometimes formed into animal effigies such as fish or birds. Following the Weeden Island period, the Safety Harbor culture flourished on the Gulf coast of Florida from the mouth of the Withlacoochee River south to Charlotte Harbor. The Safety Harbor culture was more socially complex than, and grew out of, the previous Weeden Island culture around AD 900. Most Safety Harbor sites are shell middens and/or shell and earth mounds found along the Gulf Coast, but Safety Harbor sites also occurred inland and consisted of camps, villages, and mounds. Indigenous peoples of Tampa Bay built their villages to include a temple or platform mound as high as 20 feet, arranged around a central plaza. Middens, marking the locations of their houses surrounded the plaza. The Safety Harbor culture persisted well into the historic period.

During the early sixteenth century, Spanish Conquistadors Panfilio de Narvaez and Hernando de Soto landed in the Tampa Bay area. The survivors of their expeditions were the first to record several native Safety Harbor groups living around Tampa Bay. According to the early accounts, the Uzita, Mocoso, Pohoy and Tocobago lived along the shoreline, and the Guacozo, Lua, Vicela and Tocate lived to the north of the bay. Contact with Europeans had a profound effect on the native populations of Florida. By the middle of the eighteenth century most of the indigenous groups of Florida had been decimated by disease and warfare. Beginning in the late 1700s, groups of Creek Indians began to move south from Alabama and Georgia into Florida. These groups arrived at various times and were pushed off their ancestral lands by European pressure, inter-tribal warfare, and slaving raids.

The Spanish also settled in Cuba in the early sixteenth century, after which Havana fishing interests made inroads into southwestern Florida for the plentiful supply of fish. Cuban fishermen lived and worked along the Gulf Coast of Florida from the seventeenth century to the mid-nineteenth century. They sailed the waters of Tampa Bay and Charlotte Harbor catching drum, grouper, mullet, redfish and pompano.

Some of the native peoples who survived the earlier slaving raids from the north migrated to Cuba with the Spanish who withdrew from St. Augustine after 1763, but there is little in the historical record of those who stayed behind. They may have blended with the Hispanic fisherman and with the native groups moving into Florida from the north, who later became known as the Seminoles.

At the time of Narvaez's arrival in 1528, there were several major villages, the largest believed to be Tocobagon located near what is current day Phillipe Park. The Tocobagon culture was predominantly agricultural and not inclined towards aggression. Consequently, their villages and people were easy prey for early conquistadors such as Narvaez and DeSoto, early Spanish explorers in search of gold and jewels. Pillaging and looting drove the Timucuans out of their villages, but more ravaging to the population was the disease that Europeans brought. Prior to European exploration, there were border skirmishes between the Timucuans and the more war-like, hunter/gatherer Calusa tribes to the south. The Caluas aggressive behavior postponed their inevitable demise for a
few short decades. As with the Calusas, their susceptibility to diseases transmitted by Europeans led to their extirpation as a culture and race.

Upon his arrival, Narvaez quickly moved towards establishing his dominance by killing the mother of a Timucuan chief, Hirrihiqua, and cutting off his nose and part of his face. Consequently future explorers to the region were met with hostility. A Catholic missionary was struck down on a mission of conversion and a small band of Spaniards sent on an expedition to find Narvaez were brutally murdered upon reaching the area. One man was spared due to an appeal to Chief Hirrihiqua by his daughter and wife. This man, Juan Ortiz, lived among the Timucuan for eleven years until the arrival of DeSoto. DeSoto systematically slaughtered the Timucuan men he encountered and as one of his soldiers raised a weapon to strike down Ortiz, he was spared with a phrase that is now famous in local folklore, “Spare me for I am a Christian!” This well-documented tale of Ortiz and Uele (Hirrihiqua’s daughter) made its way back to Europe and is believed by some to have inspired John Smith’s story of his encounter with Pocahontas.

Recent History.

In 1824, the U.S. Government built Fort Brooke over in current day Tampa as a supply depot and staging area to control the Seminoles in western Florida. This sparked a population surge in the area of present day Tampa. Lorenzo Dow “Papy” Ross10, (1836-1889), a veteran of the Seminole wars and a Confederate soldier, was given what is now Ross Island by his father in-law, Elias Hart. He built a home on the southern tip of the island and raised a family of six on the island until his death in 1889. His wife, Inez, left the island and lived in Jensen Beach Florida until she died in 1942.

In 1886, the land now known as Weedon Island was purchased with War Bonds by Captain W.B. Henderson and gifted to his daughter Blanche on her wedding day. Blanche married a Doctor from Tampa named Leslie Weedon. They used the island for a weekend getaway. In 1923, Weedon sold the island with the exception of one house lot to a land developer, Eugene Elliot, who advertised the land as real estate with pictures of the mounds. These pictures captured the attention of Dr. Walter Fewkes, head archaeologist of the Smithsonian Institution in Washington. The cultural resources of the island, as summarized above, were first described by Fewkes in 1924.

Elliot intended to turn the Island into the “Riviera of Florida”11 with hotels, nightclubs, and residential development. Elliot remodeled Leslie Weedon’s house (into what later became Sun Haven Studio) and established the Narvaez Dance Club, a “speak easy” during prohibition. The Club burned down and was replaced by the San Remo Club in 1926. The Club was located north of the Florida Power access road.

In April 1928, St. Petersburg City commissioners considered leasing or purchasing Weedon Island for recreational purposes; however, this did not come to pass. On September 18, 1929, plans to build Grand Central Airport were announced. The airport was designed to accommodate dirigibles and seaplanes in addition to conventional

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10 Papy' Bayou to the south, and Ross Island were both named for Lorenzo Dow “Papy” Ross.
11 Riviera Bay to the south and west was named by Elliot.
aircraft. The airport was to be the center point of a large industrial park, which was never built. Nevertheless, the airport was relatively successful until 1937 when it began to decline financially. The Airport was leased to the government during World War II; foreclosure led to abandonment of the airport in 1951. The Airport was used as a training facility for Army and Navy pilots during World War II. The facilities burned to the ground on June 27, 1963. Remnants of the airport and runways can be seen east and south of the Preserve parking lots. The runways are now vegetated with cabbage palm. During the 1930's, the casino also failed and was converted to a movie studio, used for several film productions, then abandoned.

Despite public opposition, Florida Power purchased the northern portion of the island with intentions to build a power plant. The three largest mounds, Weedon's house and the old movie studio are all located on Florida Power's property.

The National Park Service began considering Weedon Island for the DeSoto Memorial Park in 1930 and, in 1935, further plans were made by the National Park Service for establishing the park; however, these plans were never executed. After the demise of the Dance Club, the Airport, and the Movie Studio, the portions of the island not owned by Florida Power were used as a dumping ground for old cars, refrigerators, and miscellaneous trash. Locals recognizing the cultural and historical significance of the region pleaded with the state, via Representative Jim Robinson, to purchase the land. In 1972 the area was put on the National Register of Historic Sites and in February 1974, the State of Florida purchased the land with money from the State's Endangered Lands Program. The Preserve officially opened to the public as a State Park on December 28, 1980. In 1993, an agreement for the County to manage the properties owned by the County, State, and Florida Power was signed into effect.

Easements (See Figure 7).

A lease agreement with the Florida Power Corporation and the Department of Environmental Protection (formerly the Florida Department of Natural Resources) outlined access agreements and management responsibilities (See Appendix K). This agreement, titled the "Weedon Island Use Agreement and License among the Florida Department of Natural Resources, Pinellas County, Florida, and the Florida Power Corporation", identifies each party's access and management responsibility.

Designations.

All permanent water bodies within the Preserve have been designated as Outstanding Florida Waters (OFW). Administered by the Department of Environmental Protection (DEP), this program was created by Section 403.061, Florida Statutes, and protects lakes, rivers and streams against degradation of existing ambient water quality. Surface waters in this unit are also classified as Class II waters by DEP.
Figure 7. Weedon Island Preserve Management Plan. Ownership map (South).
The submerged portions of the Weedon Island Preserve are designated as an aquatic Preserve under the provision of the Florida Aquatic Preserve Act of 1975 (section 258.35, Florida Statutes). Aquatic Preserve management programs emphasize the protection of existing natural values as well as the promotion of compatible outdoor recreational uses such as boating, fishing, skin diving, and nature appreciation.

The Indian burial mound on Weedon Island is a Registered Historic Place on the National Registry of Historic Places. Weedon Island Preserve has not been designated an Area of Critical State Concern. Currently, it is not under study for such designation.

Adjacent Land Uses

Florida Power operates a power plant and owns a considerable portion of land that is managed as Preserve south of Snug Harbor (See Figure 7). The adjacent lands are predominantly developed single-family residential.

Existing Improvements (See Figure 8)

Buildings

- Supervisor's residence
- Three bay workshop with two offices, restroom, and additional enclosed work space.
- Pole barn – for storing boats and other management equipment
- Restrooms – at landward end of pier
- Guard house and improvements associated with the Preserve's entrance

Recreation Facilities

- Fishing pier
- 45' observation tower
- 6,600 FT of ADA accessible boardwalk with three observation platforms
- Upland trail one-half mile long.
- Canoe trails
- Hiking trails

Signage

Entrance signs are currently located at the Preserve's main entrance off Weedon Drive Road. Postings located at the kiosk next to the pier and pamphlets that are provided at a receptacle adjacent to the pier display the Preserve name, the owner and managing entity, and a brief description of the Preserve. The Preserve's landward boundary is clearly posted with signage that identifies the Preserve boundaries. Additionally, the waterward
Figure 8. Weedon Island Preserve Management Plan. Existing & Future Infrastructures.
portions of the Preserve are demarcated by regulatory zone signage. Zone designations have been established to protect seagrasses and manatee foraging/loafing areas. Boundary and entry signs have been erected in accordance with state posting requirements. Tidal information, fish identification posters, and state laws pertaining to the preserve and management of its resources are posted at the kiosk located near the pier.

**Access**

The main point of access is a paved road (Weedon Drive) that winds eastward from San Martin Boulevard. San Martin Boulevard extends north to Gandy Boulevard west of the Gandy Bridge. The Preserve may be accessed by water via the two canoe trails and the pier.

**Parking**

There are 17 parking spaces (1 handicapped) that line the road that leads to the pier. There are 116 parking spaces in the main parking lot (3 handicapped) and four bus spaces. There are four spaces at picnic area #1, and four at the trailhead for the Boy Scout Trail. An additional 9 spaces are at the maintenance area. All parking spaces are paved.

**Roadways**

The only paved roads are Weedon Drive, which enters the Preserve and terminates at the pier, and the maintenance area access road, which terminates at the Preserve Supervisor’s residence and the maintenance shop.

**Trails**

Trails and fire lanes have been established using, for the most part, existing trails and pathways. The existing trail network supports a combination of uses including: maintenance, hiking, fire lanes, and bike trails.

**Other**

- Fire lanes
- Maintenance access trails
- Kiosks with interpretive literature
- Picnic areas – four. Each has one or two picnic tables and a trash receptacle.
- Access trails to picnic areas

**Recreational Activities**

The following recreational activities are compatible with resource management and currently authorized at the Preserve.
Recreational Activities

- Fishing
- Hiking
- Picnicking
- Boating and canoeing
- Nature Study

SECTION 2. EXISTING LAND MANAGEMENT ACTIVITIES

The Department of Environmental Management, Environmental Lands Division (ELD) is charged with the responsibility of managing all of Pinellas County's Environmental Lands and Preserves. Weedon Island Preserve represents the largest estuarine preserve in the County. Land management activities support: the maintenance and enhancement of the site's natural resources, passive recreational activities compatible with management of said resources, protection of the Preserve’s cultural resources, and maintenance of all supporting infrastructure.

Maintenance

All maintenance needs are the responsibility of the ELD, which currently employees six staff members that are primarily responsible for Weedon Island Preserve land management activities. Staff includes a preserve supervisor (that lives on site), an assistant preserve supervisor, a craft worker, a park ranger, a nuisance exotic spray technician, and a park maintenance worker. This staff is responsible for routine facility, preventative and corrective maintenance.

Routine Facility Maintenance is that maintenance which is performed on a daily or regularly scheduled basis. Routine maintenance at Weedon Island Preserve includes mowing, pruning and trimming; garbage and debris removal; facilities clean up; and painting and staining. Objectives for routine maintenance tasks include visitor or employee health and safety, visitor service, enhancement of work environment, improvement of productivity, preventive measure, and aesthetics. The authority under which management may assign routine maintenance task includes policies and rules. Task performance is ensured through scheduling, inspection, and visitor input.

Preventive Maintenance at the unit includes vehicle and equipment maintenance, building painting, boardwalk maintenance, sign, and display maintenance. Preventive maintenance program objectives include safety, extended facility and equipment service, efficiency, conservation, protection, and aesthetics. Preventive maintenance tasks may be assigned on the basis of manufacturer's specifications, policy, scheduling, historic data, inspection, and visitor input.

Corrective Maintenance programs at the unit include repairs to vehicles, equipment, building and other facilities, utilities, roadways, and parking lots. Objectives for each
Corrective maintenance program include safety, productivity, economy, conservation, aesthetics, and visitor service. Corrective maintenance tasks may be assigned, and task performance checked, through inspection and visitor input. The County’s General Services Department is responsible for major repairs related to the Preserve’s support facilities.

**Security**

Security is ultimately the responsibility of the County. Weedon Island Preserve is protected by a multi-faceted program. First, land access to the Preserve is possible only by one road, which is equipped with an entrance station and gate. This station can be staffed during regular business hours (currently sunrise to sunset) and is staffed during all other hours by Florida Power security as part of their contract. This arrangement restricts public use of the Preserve to regular business hours when staff can monitor public activity and makes it very difficult to gain access at other times.

Our second level of protection is accomplished through a contract with the Pinellas County Sheriff Department to provide deputies assigned specifically to the Preserve and to enforce rules, ordinances and laws. The contract provides for seven deputies to patrol all environmental lands both by land and water. This contract is renewed annually and is part of the Preserve’s annual operating budget.

One full-time County employee also has been hired as a Park Ranger and it is his responsibility to patrol the Preserve, provide assistance to visitors and to gain acceptance and compliance of the visitors to Preserve rules and ordinances. The Park Ranger serves a valuable connection between the remainder of the staff and the County deputies.

Additionally, the Preserve Supervisor lives on site in a residence located just west of the maintenance facilities. The Supervisor’s round-the-clock presence provides another level of security and safety as well as a full time informational resource to the public.

All structures, office and residential, are equipped with smoke detectors and ten pound ABC type fire extinguishers. Each vehicle is equipped with a two and one half pound ABC type extinguisher. The facilities are inspected annually by the Pinellas County Fire Marshall and any deficiencies are corrected as soon as possible. Small tools are kept secure in the office/maintenance building. Larger tools and fire fighting tools are kept in a pole barn. Vehicles with keyed ignition systems are locked and the keys secured inside the Shop building.

Fencing and signage also serve a vital role in resource protection. The landward (west) side of the Preserve is fenced and posted to enforce trespassing laws and to protect against illegal activities such as dumping. The waterward extent of the Preserve is clearly posted with signage that identifies regulatory zones for boaters (i.e., motor boat exclusion zones). This was done to protect valuable sea grass beds and other natural resources. Other marine areas within the Preserve are posted as idle speed zones. Signage also is used within the Preserve to notify users of prescribed burn areas, educational issues, and special use information.
Resource Management

The Weedon Island Preserve Staff is ultimately responsible for most resource management strategies discussed in this report including, but not limited to:

- the application of prescription burns with assistance from the Division of Forestry (see below),
- the maintenance of fire lanes,
- annual floral and faunal surveys,
- exotic species monitoring and eradication (See Appendix G. Exotic Species Control Plans),
- Contribution to the development of interpretive materials,
- Volunteer coordination.

These activities are routine, that is, they are continued in perpetuity. To meet the goals and objectives of preserve management, several other management initiatives are in progress.

Prescribed Burning

The objectives of ecological burning are to restore and maintain a fire-frequency regime typical in the fire-adapted communities of Weedon Island Preserve. These objectives are accomplished through partitioning the unit into burn zones and implementing burn programs for each zone. Each burn unit was established with a long and short-term goal in mind. The short-term goal for all regimes was fuel reduction. This goal has been accomplished. The long-term goal is to maintain a fire-frequency regime typical of Weedon Island Preserve’s fire-adapted communities. All ecological burns conducted in the unit are permitted through the Department of Agriculture and Consumer Services, Division of Forestry.

At Weedon Island Preserve, the habitats that require periodic prescription burns are: the sandhill, pine flatwoods, and ridges of scrubby flatwoods. Sandhill vegetation covers approximately 85 acres of the Preserve. The natural fire frequency range of sandhills is 2 to 5 years (all burn regimes or frequencies are from Robbins and Myers, 1989).

Pine and scrubby flatwoods occupy approximately 79 acres of the Preserve. These flatwoods are hydrologically variable – the lower flatwoods that are dominated by palmetto and wax myrtle have a natural fire frequency of between 1 and 7 years. The higher or scrubby flatwoods have a fire return frequency of between 8 and 25 years. Collectively, these habitat types comprise the five burn units at Weedon Island Preserve.

The seasonal timing of ecological burns is as important as their frequency. As a general rule, winter burns are for fuel reduction; “ecological burns” mimic natural conditions in that they
occur during the growing season when lightening strikes occur and fires start naturally. Spring and summer fires are generally more intense than fall or winter fires.

Within each habitat type and each burn unit, natural variability is maintaining through varying the time of year that a fire is conducted and duration between fires.

Weedon Island Preserve has seven burn units labeled: W-1 through W-7 (See Figure 10). These zones utilize existing roads, fire lanes and ecotones between biological communities as their boundaries. As fuel loads are reduced, adjacent burn units may be burned with one prescription.

Units W-1, W-2 and W-3 are areas predominately consisting of pine flatwoods with ridges of scrubby flatwoods. The Preserve would have been protected from fires originating outside the peninsula therefore, fires starting by local lightning strikes would have set the burn interval. Duplicating this natural process and maintaining the aesthetic values of the preserve can be accomplished by rotating the prescribed burns in units W-1, W-2 and W-3. Burn frequency will need to be determined by an annual inspection of fuel build-up.

The uplands of Googe and Ross Islands, units W-4 and W-5 respectively, hold some xeric hammock communities. This biological community is less likely to burn in that fuel build up is virtually eliminated due to the establishment of a dense canopy, which precludes understory growth. Currently, managers at the preserve are considering removal of the prescribed burn program for the two islands in that prescription fires are introducing a component that is not necessary. Unlike the mainland, fires on the islands are naturally suppressed. Fires on Ross or Googe Island, under typical circumstances, are likely to occur at a greatly reduced frequency, because small islands are only prone to fire when subject to a direct lightening strike and subsequent wildfire. Comparable blocks of land on the mainland are subject to natural fires if lightening strikes anywhere within a mile or so of the area.

Units W-6 and W-7 occur in or adjacent to an area that is currently being restored to scrub/scrubby flatwoods (see below). Once appropriate vegetation is established, an appropriate burn regime will be introduced.

In those years when an ecological burn is indicated, a pre-burn conference is to be held with the Division of Forestry. The zone to burned should be inspected and preparations for containment planned letter should be sent to neighboring property owners (See Example Letter, Appendix G).

Restoration.

There are currently two aggressive restoration efforts underway.

2) Scrub restoration – Due west of the entrance station is an area that is characterized by Paola fine sands (a scrub soil type), and several scrub endemics including several scrub oaks, rosemary, garberia, and rusty lyonia. This area was blanketed in grapevines and cat briar that were reducing the natural fuel buildup and killing the
Figure 9. Weedon Island Preserve Management Plan. Burn Units.
3) desirable scrub vegetation. Consequently, the vines were removed and the area was bush-hogged to allow for natural scrub recruitment. The restoration process involves re-colonization of scrub vegetation from the adjacent areas supplemented with the planting of scrub endemics. Currently, the land has been cleared and the supplemental planting will commence in the early growing season.

4) Exotic Species Management (See Appendix E) - Exotic vegetation removal and control is an ongoing effort at Weedon Island Preserve. At present the majority of the exotic vegetation located on the upland areas of the State and County owned property (figure 11) is in the maintenance stage. Removal and/or herbicide treatment of mature, well-established nuisance exotic plants continues on these areas. Hand removal and herbicide treatment is a continuing effort in previously treated areas as new growth occurs from seeds or old stumps.

5) With the assistance of Pinellas County Animal Services, any feral dogs or cats that appear to reside on the site will be removed. The site has been posted with signs that state that all dogs must be restrained by a leash.

Monitoring

Monitoring activities that currently occur at Weedon Island are:

- Exotic species monitoring. After an area is targeted for aggressive removal of listed species, periodic site visits are conducted to monitor the area’s status.
- Pre-burn monitoring. Based on fuel loads and habitat structure, recommendations are developed for each burn unit annually.
- Post-burn monitoring. The characteristics of each burn are documented with attention to: overall effectiveness, severity of burn, completeness, etc.
- Pinellas County’s Environmental Management Department periodically tests Weedon Island Preserve’s ambient water quality. This is part of a county-wide monitoring effort. Pinellas County requires that they be kept advised of any research being conducted by state or federal agencies.

Coordination

Weedon Island Preserve is managed in accordance with all applicable County statutes and administrative rules. As is the case with all units under the Department's administration, a number of federal, state, regional and local agencies play a role in the various management aspects of the Preserve. Those agencies having a major or direct role in the management of the preserve are discussed below.

The Department of Agriculture and Consumer Services, Division of Forestry (DOF) will be asked to assist preserve staff in the development of ecological burn plans and wildfire emergency plans. They also furnish permits required for ecological burning.

The Florida Fish and Wildlife Conservation Commission (FWC) are encouraged to enforce state laws pertaining to wildlife, freshwater fish and other aquatic life existing within park
boundaries. In addition, the FWC will be encouraged to aid in implementation of wildlife management programs.

The Florida Marine Patrol assists in the management of the Preserve's saltwater resources and the enforcement of appropriate laws governing those resources.

The land owners of a significant portion of the area managed as the Weedon Island Preserve are the Florida Department of Environmental Protection’s Office of Environmental Services Division of State Lands. As per agreement with the State, the County must write a detailed progress report that details the progress of funding, staffing, and resource management activities. Additionally, we will coordinate with the DEP's Office of Coastal and Aquatic Managed Areas. In the future, an aquatic preserve manager will be included in the management plan advisory committee.

Internally, the Board of County Commissioners has contracted with the Pinellas County Sheriff Department to have a squad of seven deputies assigned to the County’s Environmental Lands. Through the course of the year these deputies are assigned to the areas where they are most needed. To date, one deputy as been on duty at the Preserve a minimum of eight hours per day seven days per week.

**Volunteer Programs**

The volunteer program of the Environmental Lands Division is comprised of 102 dedicated volunteers of various ages and ethnic backgrounds with a variety of skills, talents, and education. They have two things in common - they care about our natural resources and they are willing to be active participants in our Division’s goals. With a combined geographical area of 13,000+ acres in preserves and environmental lands and aggressive programs in Land Management, Research, and Environmental Education, we rely heavily on volunteers to help us provide services to the citizens of the Pinellas County and manage our natural resources for today’s citizens and future generations.

Our short-term goals for the volunteer program are to expand to meet the needs of new public programs opening soon at Weedon Island Preserve. These include guided hikes and guided canoe excursions.

Additionally, there is an organization named the “Friends of Weedon Island”12, which as a primary function, raises funds for educational programming at the Preserve.

**SECTION 3. FUTURE LAND MANAGEMENT ACTIVITIES**

**Infrastructure and Improvements**

*Environmental Education Center*

An education center with public facilities and exhibits is proposed within the County’s five-year budget. The purpose of the center is to support the educational and extension

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12 The Friends of Weedon Island is a Citizen Support Organization that was established under the name of the Weedon Island Advisory Committee in 1988.
activities of the ELD. Emphasis will be on the rich cultural history and ecology of the Weedon Island Preserve. The Center will have several public use areas including classrooms and exhibits using the most efficient technologies at the time of development. The County anticipates that the education center will be opened by October 2002.

Friendship Trail Linkage

The Weedon Island Environmental Education Center will ultimately have a spur that extends to the Friendship Trail, bi-county trail that extends across the old Gandy Bridge from Hillsborough County to Pinellas County.

Gateway Tract Canoe Trail

Current Status: In conjunction with the proposed Friendship Trail extension\(^{13}\), a canoe launch will be established north of the Gandy Bridge.

Proposed Action: Location markers, navigation maps, and access point signage will be developed along the canoe trail that will ultimately wind through the mangrove islands of Weedon Island Preserve North.

Canoe Launch

Current Status: A canoe launch is being designed immediately east of the fishing pier.

Proposed Action: Canoe launch should be completed within the next year (2002).

Resource Management Strategies

To meet Preserve objectives, we anticipate an increase in exotic species removal, restoration, monitoring, and research.

Exotic Species Removal/Control

Current Status: Exotic species are under control for the most part in the upland areas of Weedon Island Preserve. The new purchases north of Florida Power are still dominated by exotic species as are many of the spoil mounds in Weedon Island Preserve North (the Gateway tract).

Proposed Action: We are applying for a Suncoast Grant to implement a “first strike” on the new acquisitions north of Florida Power. We anticipate that mitigation funds will be used to eradicate exotic species in the Weedon Island Preserve North.

\(^{13}\) The Friendship Trail is a bike/hiking trail that extends from Pinellas County to Hillsborough County on the old Gandy Bridge.
Cultural Resource Survey

Current Status: The original Weedon Island’s (Weedon Island Preserve South) history is relatively well documented, to date. We believe there is a need to conduct a comprehensive literature search and complete surveys to fill in the details of the “Weedon Island Story”.

Proposed Action: We are pursuing a grant to develop a three-phase project:

1. Conduct a literature search to sequence all that has been discovered at Weedon Island as well as locate where the artifacts are,
2. conduct selective field surveys conducted using techniques compatible with ecological management (plan archeological field surveys after prescribed burns), and
3. use findings to assist with the planning of the Weedon Island Education Center.

Mosquito Ditch Restoration

Current Status: The mangroves are hatched with a network of mosquito ditches. Consequently, salt marsh and salterns (evident as abundant in 1920’s aerial photography) are rare. In addition to losing some of the natural estuarine diversity, the spoil ridges are conduits for exotic species encroachment.

Proposed Action: We intend to selectively restore areas of mangrove with assistance from the Water Management District. We believe we can increase the saltern and salt marsh areas and in the long run reduce our exotic species eradication program work load.

Faunal/Floral Monitoring

Current Status: We currently conduct incidental wildlife and vegetation surveys within the Preserve.

Proposed Action: We are adding an additional Environmental Specialist to the Division that will identify survey needs at the Preserve and work with a team of ELD scientists to design and implement appropriate floral and faunal monitoring studies, specifically designed to document the success/failure of various restoration efforts. In concert with these efforts, the ELD has a Research Program that will soon target Weedon Island for directed research – possibly on the mangrove cuckoo, gopher tortoise population demographics on the various islands, seagrass restoration techniques, (etc.).

Weedon Island Preserve North (Gateway Tract) Mosquito Ditch Restoration

Overall Project Goal: To restore and enhance coastal habitats along publicly-owned parcels within Weedon Island Preserve North south of the Howard Frankland Bridge in Pinellas County. The project will remove extensive exotic vegetation that has invaded the site, regrade the majority of the non-wetland portions to the appropriate wetland
elevations and plant with native intertidal and estuarine species. This will restore the lost estuarine habitat historically located on the site (58 acres). Some of the impacted upland will be graded and planted with native coastal upland species (11 acres). Over half (35 acres) of the existing mangrove habitat will be enhanced with the backfilling of the mosquito ditches, exposing the roots of the Brazilian pepper on the spoil mounds to saltwater which will result in their mortality.

**Current Status:** Large portions of the historically pristine mangrove forest and intertidal marsh within the project area have been adversely impacted by dredge and fill activities associated with mosquito ditching, urban development, and highway construction. The majority of the existing filled upland transitional wetland habitat, and spoil mounds adjacent to the mosquito ditches have been heavily invaded by exotic vegetation including Brazilian pepper, Melaleuca, and Australian pine.

**Brief description of proposed work:** The site's vegetative, soil, hydrologic, and grade elevations have been evaluated and first phase design has been completed. After the second phase design, permit applications will be prepared and submitted to the appropriate agencies. After the permits are issued, construction activities will be conducted by either the SWFWMD Operations Dept. or a WMD selected contractor. Removal of exotic vegetation will be followed by excavation and grading of a majority of the disturbed filled uplands to appropriate intertidal elevations (70 acres). Once the wetland grades are established, the area will be planted with high marsh, low marsh, and transitional native vegetation (58.2 acres). There will also be an open water component (11.8 acres) within the intertidal areas, restored upland habitat (11.2 acres), and enhancement of the existing mangrove habitat (35 acres) through backfilling spoil into the mosquito ditches.

**Listed Species Habitat Enhancements**

**Gopher Tortoise**

**Current Status:** The flatwoods and xeric communities within the Weedon Island Preserve currently supports a viable population of gopher tortoise (n > 50) that is isolated by development to the west and estuarine habitats to the north, east and south. This isolation makes the population more susceptible to local extirpation by outbreaks of disease such as the current Upper Respiratory Disease (URD) that has infected a significant portion of the region’s tortoise population. To combat the potential of extirpation, all suitable tortoise habitats (Burn Units 1-7) shall be managed to optimize tortoise habitat. Optimal conditions include: an abundance of herbaceous ground cover (approaching 80% coverage; ref: Auffenberg and Iverson, 1979) and a relatively open canopy (less than 60%; Breininger et al., 1987). Currently herbaceous coverage is less than desirable and canopy coverage intermittently exceeds 60%.

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14 Reference – Mark Easley, URS, Tampa, FL
Proposed Action: Measure herbaceous coverage and canopy coverage for each burn unit. The burn regime, coupled with mechanical maintenance strategies (including disking and/or rollerchopping) may be used to reduce palmetto cover and increase herbaceous coverage.

Black-whiskered Vireo and Mangrove Cuckoo

Current Status: Currently, mangrove cuckoos nest on the site (unknown number); black-whiskered vireos do not. It is likely that the vireos nested throughout Weedon Island Preserve North and Weedon Island historically. Black-whiskered vireos have declined as a result of brood parasitism from brown-headed cowbirds and coastal development (Paul, 1987).

Proposed Action: Work with local ornithologists from the National Audubon Society to determine what actions can be taken to enhance onsite mangrove habitats for these species. Comparison of mangrove preferences and the effects of habitat alterations as a consequence of mosquito ditching may lead to habitat management strategies that may optimize conditions for these both the mangrove cuckoos and the black-whiskered vireos.

SECTION 4. TIME LINE AND BUDGET

A time line for all ongoing and proposed land management initiatives is presented in Table 3.

Operating Budget

The operation of the Preserve is the responsibility of the preserve supervisor. Identification of the Preserve's management needs are accomplished by evaluating the current level of service, protection, maintenance and administration, and determining what resources are required to maintain operations at a level consistent with established standards. Preparation of the funding request is accomplished at the preserve on forms provided by the department. Requests are justified through the presentation of historical data such as consumption rates in the case of expense items or the application of standard measures such as wear out and trade criteria in the case of vehicles. Salaries of permanent and temporary positions are justified by applying staffing criteria standards.

Personnel (burdened w/ overhead – approximate salaries and costs)

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<tr>
<th>Position</th>
<th>Salary</th>
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<td>Land Management Coordinator</td>
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<td>Assistant Preserve Supervisor</td>
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<td>------------------------------------------------</td>
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<tr>
<td>Education Center Development (See Section 3)</td>
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<tr>
<td>Exotic Species Control (See Section 3)</td>
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<tr>
<td>Cultural Resource Survey (See Section 3)</td>
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<td>Prescribe Burns (See Section 2)</td>
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<td>Scrub Restoration (See Section 2)</td>
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<td>Listed Species Habitat Enhancements (See Section 3)</td>
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<td>Canoe Launch (See Section 3)</td>
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**Contract Services**

Carpet Cleaning  $500.00

**Direct Expenditures**

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**Fire Team** (responsible for prescribed burns on all Parks and Preserves countywide):

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Control of expenditures is accomplished through the use of appropriation codes on purchase orders, which are monitored through analysis of computer statements supplied to the preserve on a monthly basis. These statements show the percentage of funds expended and funds remaining to date for each budget category.

Our Weedon Island Preserve budget for FY 2000 is outlined below. We anticipate cost of living/expense increases over subsequent years. Staff and expenses will be added in support of the future Education Center. We are also budgeting for an Environmental Scientist I (ES I) to primarily focus on floral and faunal monitoring activities.
Revenue and Receipts

There is no revenue generated at Weedon Island Preserve. Any revenue that may be collected at any time at the Preserve will be deposited in the appropriate County fund account.

Contracts

Contracts will follow the County's contract review process before execution by the Board of County Commissioners.

Grants

We will be pursuing some grant support over the next few years to accomplish specific tasks. Two grants we are proceeding with currently are the Suncoast Grant ($100,000.00) for exotic species removal, and the Historical Grants and Aids Program.
REFERENCES

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