Florida Department of
Environmental Protection

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3900 Commonwealth Boulevard
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Lt. Governor

Herschel T. Vinyard Jr.
Secretary

June 28, 2012

Ms. Sine Murray
Planning Manager
Office of Park Planning
Division of Recreation and Parks
Department of Environmental Protection
3900 Commonwealth Boulevard, MS 525
Tallahassee, Florida 32399-3000

RE: Terra Ceia Preserve State Park – Lease numbers 4191 and 4673

Dear Ms. Murray:

The Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the Terra Ceia Preserve State Park land management plan. The next management plan update is due June 28, 2022.

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. Pursuant to the conditions of your lease, please forward copies of all permits to this office upon issuance.

Sincerely,

Marianne S. Gengenbach
Office of Environmental Services
Division of State Lands

MSG/ci

Terra Ceia Preserve State Park

APPROVED
Unit Management Plan

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks
June 15, 2012

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INTRODUCTION

Terra Ceia Preserve State Park is located in Manatee County (see Vicinity Map). Access to the park's administrative office is off Terra Ceia Road via U.S. Highway 41. Access to the park is from Harbor Road via U.S. Highway 41 (see Reference Map). The Vicinity Map also reflects significant land and water resources existing near the park.

The first parcel of what would become the state park was acquired in 1995 with initial funding provided by the Southwest Florida Water Management District (SWFWMD). In 1998, the SWFWMD and the Board of Trustees for the Internal Improvement Trust Fund (Trustees) purchased over 1,400 additional acres. Since that joint acquisition, the Trustees have purchased additional parcels and received lands by donation from the SWFWMD. The Department of Environmental Protection (DEP), Office of Coastal and Aquatic Managed Areas (CAMA) initially leased and managed the original lands as a state buffer preserve before the lands came under lease and management by the Division of Recreation and Parks (DRP) in 2004.

Currently, the park contains 1,948.03 acres and is the designated single use for public outdoor recreation and conservation of the property. There are no legislative or executive directives that constrain the use of this property.

PURPOSE AND SIGNIFICANCE OF THE PARK

Terra Ceia Preserve State Park protects the water quality of Tampa Bay, while preserving lands for rare interconnected natural communities and cultural resources located within a highly urbanized area of the state and provides Florida residents and visitors with outstanding recreational and wildlife observational opportunities.

Park Significance

- Terra Ceia Preserve State Park preserves a significant amount of the remaining natural near-shore upland habitat along Tampa Bay.

- The park provides a substantial and complex natural buffer for some of the region's most diverse hardbottom habitat (native limestone outcroppings) located in the Terra Ceia Aquatic Preserve, and protects critical shore bird nesting sites.

- The park's uplands are rich in pre-Columbian archaeological sites and historic cultural artifacts, including the 1909 Haley House, an excellent example of early Florida architecture.

- Terra Ceia Preserve State Park provides residents of Florida's second largest metropolitan area access to quality outdoor recreation, including paddling trails adjacent to old growth mangrove forests and snorkeling over submarine meadows and sponge communities.

The park is classified as a state preserve in the DRP's unit classification system. In the management of state preserves, preservation and enhancement of natural conditions is all important. Resource considerations are given priority over user considerations and development is restricted to the minimum necessary for ensuring its protection and maintenance, limited access, user safety and convenience, and appropriate interpretation. Permitted uses are primarily of a passive nature, related to the aesthetic, educational and recreational enjoyment of the preserve, although other compatible uses are permitted in limited amounts. Program emphasis is placed on interpretation of the natural and cultural attributes of the preserve.

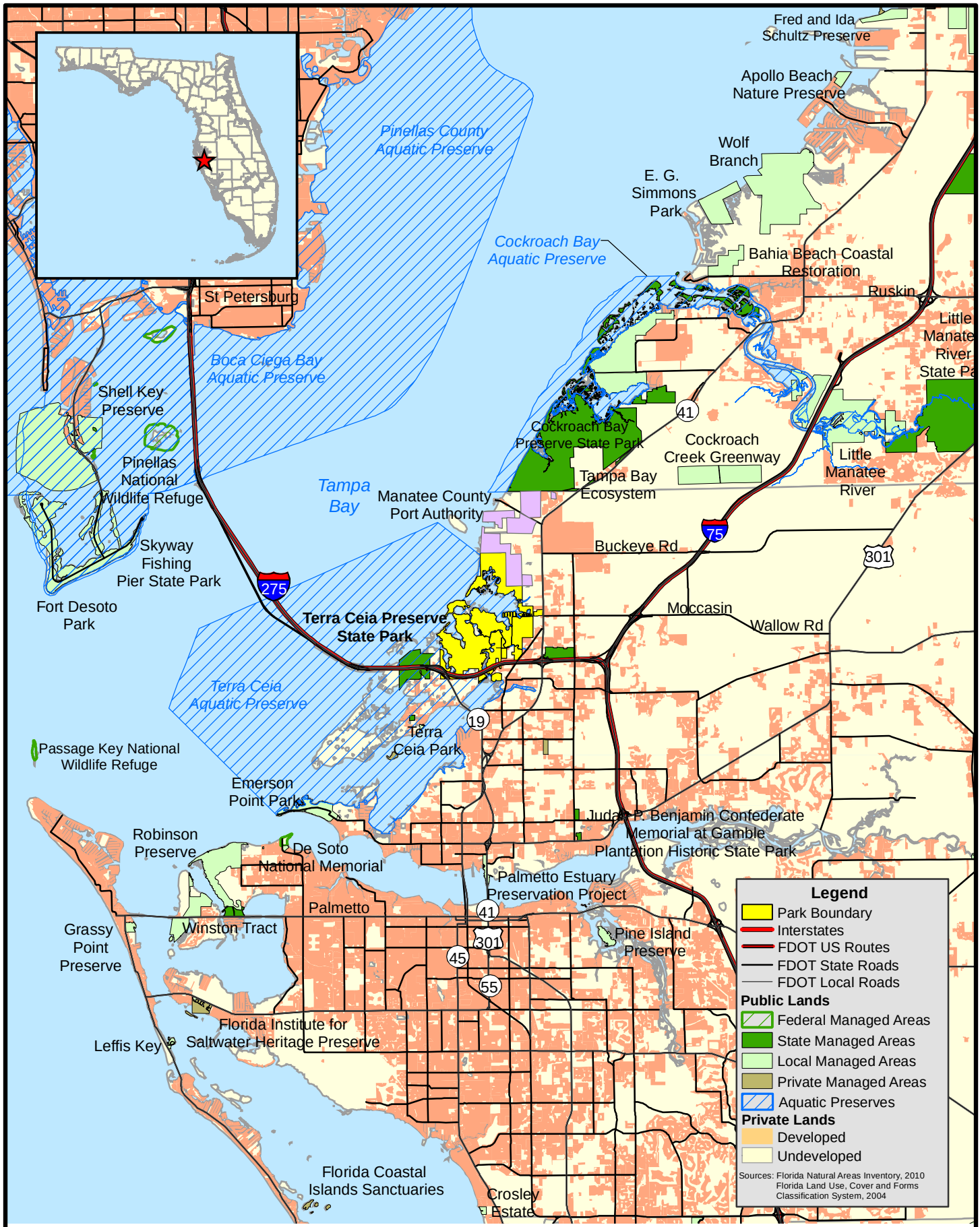
PURPOSE AND SCOPE OF THE PLAN

This plan serves as the basic statement of policy and direction for the management of Terra Ceia Preserve State Park as a unit of Florida's state park system. It identifies the goals, objectives, actions and criteria or standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives and provide balanced public utilization. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and is intended to be consistent with the State Lands Management Plan. Upon approval, this plan will replace the park's previous management plan approved in July 2001.

The plan consists of three interrelated components: the Resource Management Component, the Land Use Component and the Implementation Component. The Resource Management Component provides a detailed inventory and assessment of the natural and cultural resources of the park. Resource management needs and issues are identified, and measurable management objectives are established for each of the park's management goals and resource types. This component provides guidance on the application of such measures as prescribed burning, exotic species removal, imperiled species management, cultural resource management and restoration of natural conditions.

The Land Use Component is the recreational resource allocation plan for the park. Based on considerations such as access, population, adjacent land uses, the natural and cultural resources of the park, current public uses and existing development, measurable objectives are set to achieve the desired allocation of the physical space of the park. These objectives locate use areas and propose the types of facilities and programs and the volume of public use to be provided.

The Implementation Component consolidates the measurable objectives and actions for each of the park's management goals. An implementation schedule and cost estimate is included for each objective and action. Included in this table are (1) measures that will



TERRA CEIA PRESERVE STATE PARK

VICINITY MAP

LEGEND

- Park Boundary
- Southwest Florida Water Managment District Lands
- Terra Ceia Aquatic Preserve
- Service Roads
- Manatee County Paddling Trails

MANATEE COUNTY PORT AUTHORITY OVERLAY DISTRICT

PEANUT LAKE PARCEL

CSX RAILROAD

TAMPA BAY

BISHOP HARBOR

41

BISHOP HARBOR RD

EXISTING BOAT RAMP

Aldermans Bayou

EXISTING NURSERY AREA

Williams Bayou

BAYSHORE RD.

FROG CREEK

FROG CREEK/ TERRA CEIA RIVER

275

RUBONIA RD

HIGHTOWER RD

TERRA CEIA RD

HALEY HOUSE/ ADMINISTRATION OFFICE

McMULLEN CREEK

TERRA CEIA HISTORIC OVERLAY DISTRICT

19

TERRA CEIA BAY

BAYSHORE RD.

TERRA CEIA PRESERVE STATE PARK

N

0 750 1,500 3,000 Feet

Florida Department of Environment Protection
Division of Recreation and Parks

REFERENCE MAP

be used to evaluate the DRP's implementation progress, (2) timeframes for completing actions and objectives and (3) estimated costs to complete each action and objective.

In the development of this plan, the potential of the park to accommodate secondary uses was analyzed. These secondary uses were considered within the context of the DRP's statutory responsibilities and the resource needs and values of the park. This analysis considered the park natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that no secondary uses could be accommodated in a manner that would not interfere with the primary purpose of resource-based outdoor recreation and conservation. Uses such as water resource development projects, water supply projects, stormwater management projects, linear facilities and sustainable agriculture and forestry (other than those forest management activities specifically identified in this plan) are not consistent with this plan.

The potential for generating revenue to enhance management was also analyzed. Visitor fees and charges are the principal source of revenue generated by the park. It was determined that multiple-use management activities would not be appropriate as a means of generating revenues for land management. Instead, techniques such as entrance fees, concessions and similar measures will be employed on a case-by-case basis as a means of supplementing park management funding.

MANAGEMENT PROGRAM OVERVIEW

Management Authority and Responsibility

In accordance with Chapter 258, Florida Statutes and Chapter 62D-2, Florida Administrative Code, the DRP is charged with the responsibility of developing and operating Florida's recreation and parks system. These are administered in accordance with the following policy:

> It shall be the policy of the Division of Recreation and Parks to promote the state park system for the use, enjoyment, and benefit of the people of Florida and visitors; to acquire typical portions of the original domain of the state which will be accessible to all of the people, and of such character as to emblemize the state's natural values; conserve these natural values for all time; administer the development, use and maintenance of these lands and render such public service in so doing, in such a manner as to enable the people of Florida and visitors to enjoy these values without depleting them; to contribute materially to the development of a strong mental, moral, and physical fiber in the people; to provide for perpetual preservation of historic sites and memorials of statewide significance and

interpretation of their history to the people; to contribute to the tourist appeal of Florida.

In addition, the Trustees have granted management authority of certain sovereign submerged lands to the DRP under Management Agreement MA 68-086 (as amended January 19, 1988). The management area includes a 400-foot zone from the edge of mean high water where a park boundary borders sovereign submerged lands fronting beaches, bays, estuarine areas, rivers or streams. Where emergent wetland vegetation exists, the zone extends waterward 400-feet beyond the vegetation. The agreement is intended to provide additional protection to resources of the park and nearshore areas and to provide authority to manage activities that could adversely impact public recreational uses.

Many operating procedures are standardized system-wide and are set by internal direction. These procedures are outlined in the DRP's Operations Manual (OM) that covers such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, public use regulations, resource management, law enforcement, protection, safety and maintenance.

Park Management Goals

The following park goals express the DRP's long-term intent in managing the state park.

1. ..... Provide administrative support for all park functions.
2. ..... Protect water quality and quantity in the park, restore hydrology to the extent feasible and maintain the restored condition.
3. ..... Restore and maintain the natural communities/habitats of the park.
4. ..... Maintain, improve or restore imperiled species populations and habitats in the park.
5. ..... Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.
6. ..... Protect, preserve and maintain the cultural resources of the park.
7. ..... Provide public access and recreational opportunities in the park.
8. ..... Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.

Management Coordination

The park is managed in accordance with all applicable laws and administrative rules. Agencies having a major or direct role in the management of the park are discussed in this plan.

The Department of Agriculture and Consumer Services, Florida Forest Service (FFS), assists DRP staff in the development of wildfire emergency plans and provides the authorization required for prescribed burning. The Florida Fish and Wildlife Conservation Commission (FFWCC), assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within the park. In addition, the FFWCC aids the DRP with wildlife programs, including imperiled species management and Watchable Wildlife programs. The Department of State, Division of Historical Resources (DHR) assists staff to ensure protection of archaeological and historical sites. The DEP, Office of Coastal and Aquatic Managed Areas (CAMA) assists staff in aquatic preserves management programs.
DRP's will continue to participate in the Tampa Bay Estuary Program's Comprehensive Conservation Management Plan. DRP staff coordinates with the Tampa Bay Estuary Program and SWFWMD, the CAMA and Manatee County towards the restoration of approximately 1,800 acres of habitat in the Terra Ceia Aquatic Preserve and the state park. The National Oceanic and Atmospheric Administration (NOAA) and the Pinellas County Environmental Fund have both contributed funding to the project. The project involves the enhancement, restoration and management of various habitats typical of coastal natural areas within the region.

DRP will also continue to participate in the Terra Ceia Ecosystem Restoration Project. The Terra Ceia Ecosystem Restoration Project is managed by the SWFWMD under the Surface Water Improvement Program (SWIM). It is a multi-phased cooperative project between the water management district and DEP. The project is significant in meeting the management plan goals of SWIM and the Tampa Bay Estuary Program by maximizing intact native habitats, and restoring habitats and ecological processes throughout the site. Since the plan's implementation in 2002, 618 acres of various coastal habitats and 501 acres upland, including 117 acres of various estuarine and freshwater wetlands, have been restored.

Management coordination exists through a Memorandum of Agreement (MOA) between, the CAMA and DRP. The agreement directs their collaborative land management issues, facilities and other resources.

Public Participation

The DRP provided an opportunity for public input by conducting a public workshop and an Advisory Group Meeting to present the draft management plan to the public. These meetings were held on February 1, 2012 and February 2, 2012, respectively. Meeting notices were published in the Florida Administrative Weekly, January 20, 2012, Volume 38, Issue 03, included on the Department Internet Calendar, posted in clear view at the park, and promoted locally. The purpose of the Advisory Group meeting is to provide the Advisory Group members an opportunity to discuss the draft management plan (see Addendum 2).

Other Designations

Terra Ceia Preserve State Park is not within an Area of Critical State Concern as defined in Section 380.05, Florida Statutes, and it is not presently under study for such designation.

All waters within the park have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302, Florida Administrative Code. This park is within the Terra Ceia Aquatic Preserve as designated under the Florida Aquatic Preserve Act of 1975 (Section 258.35, Florida Statutes).

RESOURCE MANAGEMENT COMPONENT

INTRODUCTION

The Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP) in accordance with Chapter 258, Florida Statutes, has implemented resource management programs for preserving for all time the representative examples of natural and cultural resources of statewide significance under its administration. This component of the unit plan describes the natural and cultural resources of the park and identifies the methods that will be used to manage them. The management measures expressed in this plan is consistent with the DEP's overall mission in ecosystem management. Cited references are contained in Addendum 3.

The DRP's philosophy of resource management is natural systems management. Primary emphasis is placed on restoring and maintaining, to the degree possible, the natural processes that shaped the structure, function and species composition of Florida's diverse natural communities as they occurred in the original domain. Single species management for imperiled species is appropriate in state parks when the maintenance, recovery or restoration of a species or population is complicated due to constraints associated with long-term restoration efforts, unnaturally high mortality or insufficient habitat. Single species management should be compatible with the maintenance and restoration of natural processes, and should not imperil other native species or seriously compromise park values.

The DRP's management goal for cultural resources is to preserve sites and objects that represent Florida's cultural periods, significant historic events or persons. This goal often entails active measures to stabilize, reconstruct or restore resources, or to rehabilitate them for appropriate public use.

Because park units are often components of larger ecosystems, resource management can be affected by conditions and events that occur beyond park boundaries. Ecosystem management is implemented through a resource management evaluation program that assesses resource conditions, evaluates management activities and refines management actions, and reviews local comprehensive plans and development permit applications for park/ecosystem impacts.

The entire park is divided into management zones that delineate areas on the ground that are used to reference management activities (see Management Zones Map). The shape and size of each zone may be based on natural community type, burn zone, and the location of existing roads and natural fire breaks. It is important to note that all burn zones are management zones; however, not all management zones include fire-

dependent natural communities. Table 1 reflects the management zones with the acres of each zone.

Table 1: Terra Ceia Preserve State Park Management Zones		
Management Zone	**Acreage**	**Managed with Prescribed Fire**
TC-01	13.29	N
TC-02	3.17	N
TC-03	9.64	N
TC-04	26.71	N
TC-05	1.89	N
TC-06	4.65	N
TC-07	6.42	N
TC-08	35.88	N
TC-09	14.12	N
TC-10	41.89	N
TC-11	20.73	N
TC-12	16.90	N
TC-13	63.79	N
TC-14	78.43	N
TC-15	43.85	N
TC-16	146.59	N
TC-17	67.06	N
TC-18	107.36	N
TC-19	31.88	N
TC-20	13.45	N
TC-21	53.37	N
TC-22	21.54	N
TC-23	9.75	N
TC-24	37.58	N
TC-25	19.33	N
TC-26	86.18	N
TC-27	53.65	N
TC-28	135.40	N
TC-29	78.90	N
TC- 30	34.72	N
TC-31	40.86	N
TC-32	75.10	N
TC-33	82.19	N
TC-34	26.13	N
TC-35	10.47	N
TC-36	17.56	N

Table 1: Terra Ceia Preserve State Park Management Zones		
Management Zone	**Acreage**	**Managed with Prescribed Fire**
TC-37	36.33	N
TC-38	201.13	N
TC-39	113.77	N
TC-40	66.20	N

RESOURCE DESCRIPTION AND ASSESSMENT

Natural Resources

Topography

Terra Ceia Preserve State Park is located on the northwest coast of Manatee County and is bordered by Tampa Bay and several smaller inlets and bays to the west. The general topography is described as the Coastal Plain Province that is characterized by coastal lowlands with progressively rolling terrain to the east (Hyde and Hackle, 1983). Generally, the elevation ranges from sea level to 10 feet moving west to east. Uplands within the park's boundary consist of a mixture of oak and cabbage palm hammocks or fallow agricultural lands overgrown with ruderal vegetation. Mangrove fringe forests and interior salt flats comprise much of the remainder of the park. Other features on-site include a variety of wetlands (freshwater creek, freshwater marsh, depressions, high and low estuarine marshes, transitional marshes), and pre-Columbian midden and burial mounds with elevations up to approximately 30 feet.

Geology

Manatee County exists within part of the Terraced Coastal Lowlands, which is a subdivision of the Coastal Plain Province. "At the beginning of the Pleistocene, most of southeast Georgia, a portion of southwest Georgia, and probably the entire Florida peninsula were beneath the sea and part of the continental shelf" (New Georgia Encyclopedia, 2004). The Pleistocene was a time of fluctuating sea levels as the great continental glaciers of North America and Eurasia advanced and retreated, causing sea levels to rise and fall. During this time, five marine terraces and four shorelines were formed in Manatee County. The park predominantly occupies the most recently formed terrace known as the Pamlico Terrace. This terrace is made up of sand, muck and alluvium deposits formed when sea levels were approximately 20 feet above current levels. The Pamlico Terrace is underlain with layers of late Pleistocene sediments of sand, sandy limestone, and shell. The layers vary in thickness from a few inches up to 100 feet and are underlain by discontinuous Pliocene beds of Caloosahatchee marl, three to ten feet thick. The marl consists of sand, marine shell, fossilized bones and quartz and phosphorite pebbles.

Soils

Bradenton fine sand, Chobee loamy fine sand, Eau Gallie fine sand, Floridana-Immokalee-Okeelanta association, Wabasso fine sand, and Wulfert-Kesson association are soils that occur most frequently within the boundaries of the park (see Soils Map). A

detailed description of each soil type, their location within the park, and associated plant assemblages can be found in Addendum 4 (Hyde and Hackle 1983).

As an example of the anthropogenic influences to this area, in 1961 a local business conducted a dredge-and-fill project which created five finger-like projections along the southeastern shoreline of Bishop Harbor. The intent of this project was to create a Venetian-style housing community. The development was not completed and, recently, a more natural contour has been restored to most of the impacted shoreline.

The existing Bishop Harbor boat launch and parking area are located at the southwest corner of the remaining fingers and have been noted to contribute to sedimentation and turbidity. This rudimentary, unimproved boat launch serves as a facility for small crafts, and the DRP is in the process of designing the relocation of the facility. The improved boat launch and associated parking area will reduce erosion and improve public use and boating access to Bishop Harbor.

Minerals

Before the establishment of the park, shell and marl were mined for roadway construction. Although this product can be mined via excavation pits, evidence shows that it was taken from shell middens or temple mounds. No other mineral resources are known to occur in the park; however, a comprehensive survey for mineral resources has never been conducted. Piney Point was the name of a phosphate plant located northeast of Bishop Harbor, adjacent to the park's boundary. This plant was opened in 1966 by Borden Chemical Company, and decommissioned in 2001.

Hydrology

The park's hydrology has been severely impacted by extensive agricultural use. Restoring the hydrology is one of the focuses of the overall restoration of the park's natural communities. Measures implemented through the Southwest Florida Water Management District's (SWFWMD) Surface Water Improvement and Management (SWIM) program include the creation of intertidal wetlands and lagoons to increase wetland habitat, restoration of natural drainage patterns and freshwater wetlands via ditch blocks and removal of berms, and enhancement of high and low saltwater marsh systems to improve the quality of surface runoff. During the wetland creation and improvement under the SWIM program, approximately three miles of relic agricultural ditches were filled to surrounding grade. The water bodies in and adjacent to, the park have been designated as an Aquatic Preserve and an Outstanding Florida Water. These designations afford the highest regulatory protection possible with the intent of protecting natural resources and maintaining existing water quality.
Waters in and adjacent to, the park are also classified as Class II waters [section 62-302.400 (41) (j) F.A.C.]. Water quality in Class II waters is protected to provide for shellfish propagation or harvesting in addition to recreation, and propagation and maintenance of fish and wildlife. The areas under the Class II waters designation have

TC-39
TC-38
TC-40
TC-35
TC-34
TC-21
TC-20
TC-37
TC-36
TC-19
TC-28
TC-29
US 41
TC-32
TC-33
TC-18
TC-17
TC-27
TC-16
TC-26
TC-31
TC-08
TC-14
TC-15
TC-24
TC-30
TC-13
TC-22
TC-25
TC-11
TC-10
TC-23
TC-05
TC-09
I-275
TC-03
TC-04
TC-06
TC-07
TC-01
TC-12
TC-02
US 19

TERRA CEIA
PRESERVE STATE PARK

N

0 750 1,500 3,000 Feet

Florida Department of Environment Protection
Division of Recreation and Parks
Date of aerial: 2010

MANAGEMENT ZONES MAP

TERRA CIEA PRESERVE STATE PARK

SOILS MAP

LEGEND

- 5- Bradenton fine sand, limestone substratum
- 8-Canaveral fine sand, 0 to 5 percent slopes
- 13-Chobee loamy fine sand
- 14-Chobee Variant sandy clay loam
- 17-Delray-EauGallie complex
- 20-EauGallie fine sand
- 26-Floridana-Immokalee-Okeelanta association
- 33-Myakka fine sand, tidal
- 34-Okeelanta muck, tidal
- 48-Wabasso fine sand
- 53-Wulfert-Kesson association
- Water

N

0 750 1,500 3,000 Feet

Florida Department of Environment Protection
Division of Recreation and Parks
Date of aerial 2010

been classified as mostly "conditionally approved", except for Miguel Bay and Bishop Harbor which are "conditionally restricted", and Terra Ceia Bay which is "prohibited". All man-made ditches and canals are also "prohibited." For classification, explanation and water quality criteria, see Chapter 62-302 F.A.C.

The estuarine waters of Williams Bayou and Aldermans Bayou (a.k.a. Clambar Bay) are finger-like lagoons, which are approximately one to one-half mile long, located off the west coast of the park and partially surrounded by the park's boundary. Depths in Williams Bayou reach -3 feet National Geodetic Vertical Datum (NGVD) and -5 feet NGVD in Clambar Bay. Both water bodies have sand/silt substrates, but Clambar Bay has an additional organic component. Thick turtle grass *(Thalassia testudinum)* beds are present in both, and Williams Bayou may support widgeon grass *(Ruppia maritima)*. Three mangrove species, red *(Rhizophora mangle)*, black *(Avicennia germinans)*, and white (*Laguncularia racemosa*) surround both shorelines. Upland from the mangrove fringe are ridges of mesic hammock communities dominated by live oaks (*Quercus virginiana*) and cabbage palms (*Sabal palmetto*). Numerous wading birds have been observed utilizing both areas. The water quality in these two systems is generally very good.

Located in the north-central portion of the park, Bishop Harbor is a larger bay-like water body with depths to -5 feet NGVD. The substrate is sandy/ organic and supports turtle grass and manatee grass *(Syringodium filiforme)*. Three mangrove species are present, accompanied by a small percentage of salt marsh vegetation. Oyster bars occur intermittently, with two main concentrations located mid-harbor. Coastal strand communities occur sporadically around the harbor and include sea grape *(Coccoloba uvifera)* and southern red cedar (*Juniperus virginiana*). An upland ridge vegetated by mesic hammock species is located behind the coastal communities on the perimeter of the harbor. During extreme low tides, the harbor's mudflats support a diverse population of wading birds.

Located in the upper northeastern corner of Bishop Harbor is a wastewater outfall known as the Northeast Head. This outfall releases stormwater, agricultural run-off and rock mining and chemical plant discharge from commercial operations located off-site. In times of abundant rainfall, DEP sampling records indicate excess wastewater from tailing storage ponds flows into ditches that lead to the harbor (DEP 2009).

Approximately six miles long and one mile wide at its broadest point, Terra Ceia Bay is the largest body of water adjacent to the park aside from Tampa Bay. This bay is located directly south of the park and separates it from the mainland to form a peninsula. The mouth of the bay meets Tampa Bay, and is bordered by Snead Island to the south and Rattlesnake Key to the north. The mouth of the Manatee River is on the south side of Snead Island. The shoreline is partially developed with rural residential housing and a few mobile home parks. The remainder is undeveloped. The bay's channel depth is -5 feet NGVD, with surrounding depths of -1 foot to -3 feet NGVD. Silty sands with some

organics comprise the substrate, and support turtle and manatee grasses. All three species of mangrove are present and have formed some solitary islands in the northern reaches of the bay. Water clarity (turbidity) can be poor at times and most likely coincides with storm event or high boater traffic. Because of this bay's size, there is adequate fetch to create small whitecaps and stir up sediments. Resident and migratory wading birds, as well as Forster's terns (*Sternula forsteri*) have been observed in flight, on mudflats and in mangroves.

Frog Creek extends inland in north and northeastern directions from where it flows into the Terra Ceia River. It flows approximately two miles along the boundary of the park, and then continues east approximately five miles. The headwaters appear to be a wetland complex located north of Moccasin Wallow Road. Manatee County's Erie Road wastewater treatment plant is also in the headwaters of Frog Creek. Cabbage Slough, Buffalo Canal and Cedar Drain are all channelized systems that drain into Frog Creek about one and a half miles east of the park's boundary. These systems efficiently drain large agricultural, transportation, and residential areas. Depths in the creek range from -1 to -3 feet NGVD in the lagoons, to -2 to -6 feet NGVD in the main channel. A few lagoons branch off from the creek in estuarine waters, and are characterized by shallow depths, mangrove perimeters, and hammock ridges. The lagoons appear to be collapsed limestone (karst) formations that have been connected to the main waterway. (DEP 2009)

Information obtained from SWFWMD surveys indicates that Frog Creek has a significant underlying "salt wedge" in its depths (Flannery 1996). In November 1996, 14 monitoring stations were established along the creek, located in fresh, brackish and saltwater. Results indicate that samples taken at stations considered "freshwater environments" at the surface (.5, 3, 3.2, and 7 ppt at 10 cm.), registered 15, 17, 27, and 25.8 ppt respectively when sampled at a depth of one meter. These results suggest favorable conditions for mixing zones, which promote the migration of fish up and downstream. These migration patterns are important for species such as snook (*Centropomus undecimalis*) and striped mullet (*Mugil cephalus*) to feed, breed, and overwinter.

Class II designated waters adjacent to the park are mostly "conditionally approved" for shellfish propagation or harvesting in addition to recreation, and propagation and maintenance of fish and wildlife, with the exception of Miguel Bay and Bishop Harbor, which are "conditionally restricted" and Terra Ceia Bay, which is "prohibited". All synthetic ditches and canals are also "prohibited" (FAC, Chapter 62-302).
Other water resources in the park include 40 known artesian wells. These wells are scattered throughout the park and were originally drilled for agricultural purposes. The wells varied in diameter from two inches to nearly eight inches, with depths from 60 to 675 feet. All of the known relic wells have been investigated by SWFWMD's Quality of Water Improvement Program (QWIP) to prevent any further degradation to

groundwater resources. A few of these well points will be stabilized and kept open for resource management purposes. Thus far, 35 have been abandoned and permanently capped (filled with concrete and rubble).

Natural Communities

This section of the management plan describes and assesses each of the natural communities found in the state park. It also describes of the desired future condition of each natural community and identifies the actions that will be required to bring the community to its desired future condition. Specific management objectives and actions for natural community management, exotic species management, imperiled species management and restoration are discussed in the Resource Management Program section of this component.

The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors such as climate, geology, soil, hydrology and fire frequency generally determine the species composition of an area, and that areas that are similar with respect to those factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, however, despite similar physical conditions. In other instances, physical factors are substantially different, yet the species compositions are quite similar. For example, coastal strand and scrub--two communities with similar species compositions--generally have quite different climatic environments, and these necessitate different management programs. Some physical influences, such as fire frequency, may vary from FNAI's descriptions for certain natural communities in this plan.

When a natural community within a park reaches the desired future condition, it is considered to be in a "maintenance condition." Required actions for sustaining a community's maintenance condition may include maintaining optimal fire return intervals for fire-dependent communities, ongoing control of non-native plant and animal species, maintaining natural hydrological functions (including historic water flows and water quality), preserving a community's biodiversity and vegetative structure, protecting viable populations of plant and animal species (including those that are imperiled or endemic), and preserving intact ecotones linking natural communities across the landscape.

The park contains 13 distinct natural communities as well as ruderal and developed areas (see Natural Communities Map). A list of known plants and animals occurring in the park is contained in Addendum 5. According to the habitat descriptions provided by FNAI, a Salt Flat community is considered a variant of a Salt Marsh community. Since FNAI lumps these two communities together, for the purpose of this plan, the acreage associated with these two communities will be combined and listed as Salt

Marsh. Nevertheless, for this descriptive section, these two communities will be discussed separately.

MESIC HAMMOCK

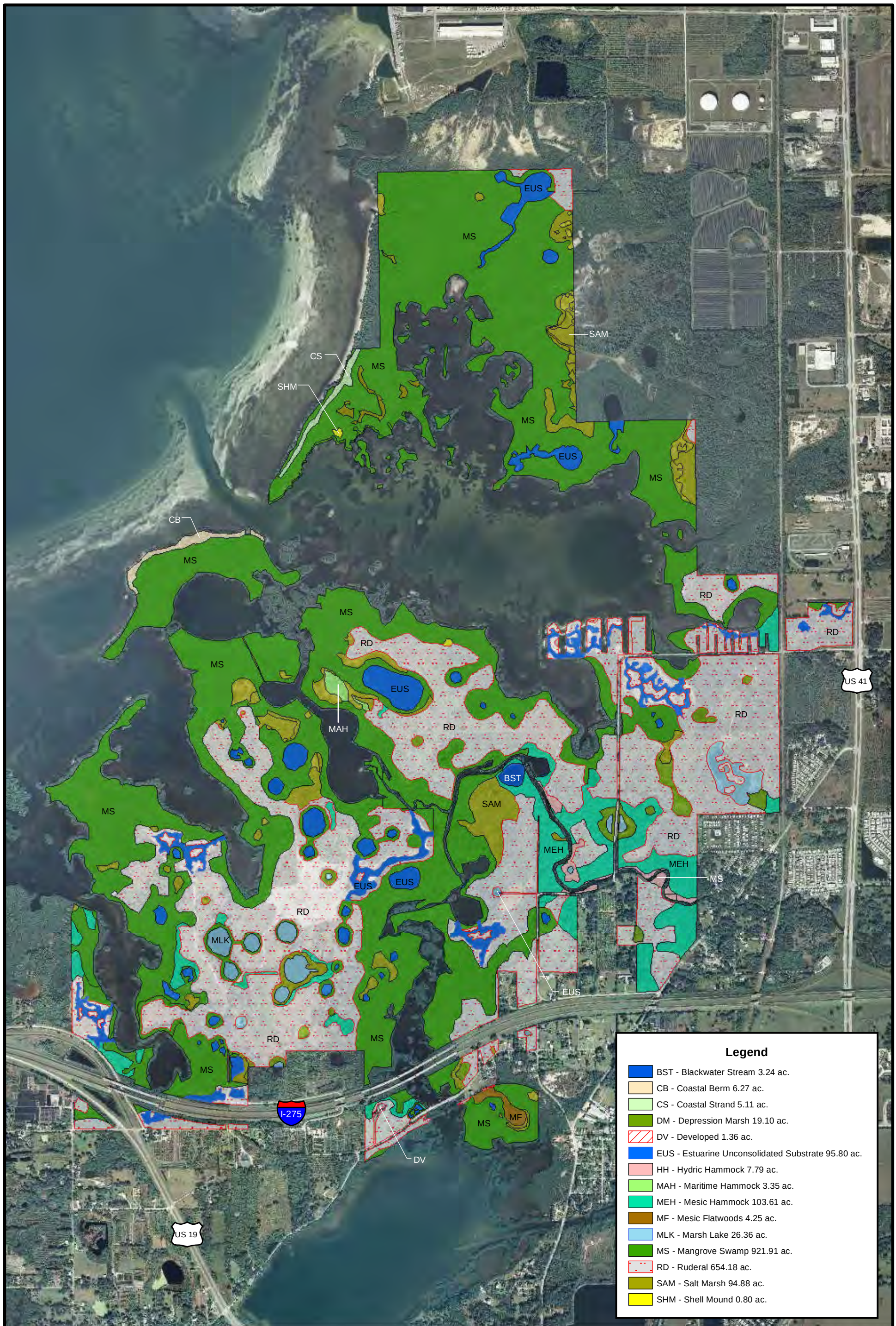
Desired Future Condition*:* This is a well-developed evergreen hardwood and palm forest which can occur, with variation, through much of peninsular Florida. The often-dense canopy will typically be dominated by live oak with cabbage palm mixed into the understory. Southern magnolia (*Magnolia grandiflora*) and pignut hickory can be common components in the sub-canopy as well. The shrubby understory may be dense or open, tall or short, and is typically composed of saw palmetto, beautyberry (*Callicarpa americana*), American holly (*Ilex opaca*), gallberry (*Ilex glabra*) and sparkleberry (*Vaccinium arboreum*). The groundcover may be sparse and patchy but generally contains panic grasses (*Panicum* sp.), switch grass (*Panicum virgatum*), sedges, as well as various ferns and forbs. Abundant vines and epiphytes occur on live oaks, cabbage palms, and other sub-canopy trees. Mesic hammocks will generally contain sandy soils with organic materials and may have a thick layer of leaf litter at the surface. Mesic hammocks are rarely inundated and not considered to be fire-adapted communities and are typically shielded from fire.

Description and assessment: This community type is one of the climactic stages of succession in coastal areas, and 103.6 acres can be found scattered throughout the park. Dominant species are cabbage palms, live oak, red cedar, laurel oak (*Quercus laurifolia*), wax myrtle (*Myrica cerifera*), saw palmetto, Brazilian pepper, and Australian pine (*Casuarina equistifolia*). Many of the live oaks support several species of epiphytes, including butterfly orchids *(Encyclia tampensis)*. A few south Florida slash pines occur in drier areas. These hammocks possess the greatest vegetative diversity in the park, hence they provide excellent and much-needed habitat for neo-tropical and over-wintering migrant birds, resident birds and small mammals. This community may have historically co-dominated the area with the mesic to hydric pine flatwood community.

General management measures: This community should be maintained free of exotic invasive plants.

MESIC FLATWOODS

Desired Future Condition: Dominant pines will usually be longleaf pine (*Pinus palustris*) and south Florida slash pine (*Pinus elliottii*). Native herbaceous groundcover should be over at least 50 percent of the area and less than 3 feet in height. Saw palmetto (*Serenoa repens*) will comprise no more than 50 percent of total shrub species cover, and are less than 3 feet in height. Shrub species include saw palmetto, gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), runner oak (*Quercus elliottii*), dwarf live oak (*Quercus minima*), shiny blueberry (*Vaccinium myrsinites*), and dwarf huckleberry (*Gaylussacia dumosa*). Shrubs are generally knee-high or less, and there are few if any



TERRA CEIA PRESERVE STATE PARK

Florida Department of Environment Protection
Division of Recreation and Parks
Date of aerial: 2010

NATURAL COMMUNITIES MAP

large trunks of saw palmetto along the ground. The optimal fire return interval for this community is 1-3 years.

Description and assessment: From land surveyor notes and witness trees, to personal accounts from families that have lived in this area for multiple generations, it is commonly thought that this habitat-type constituted the majority of the upland cover in this region. Unfortunately, this upland habitat also makes good agricultural land. The occurrence of mesic flatwoods is very limited because of the historical land uses at the park. Within TC-04 is approximately 4.25 acres of recognizable mesic flatwoods community. This area is referred to as Punk Island because of the dense melaleuca stand that existed on its southernmost tip at one time. The ecological condition of this area is poor to fair because of the infestation of exotic plants and hydrology alteration due to drainage ditches. Nevertheless, increasing the extent of this community is one of the objectives of the SWFWMD upland restoration projects, and it is anticipated that the number of acres of this type will increase in the near future.

General management measures: Regrettably, the hydrology of TC-04 will likely never be fully restored because the drainage ditches convey stormwater from the adjacent residential area to Terra Ceia Bay. Nevertheless, the area can be treated for invasive exotic plants. From 2004 to 2007, approximately three acres of Punk Island were treated by park staff and volunteers. Brazilian pepper, melaleuca and cogon grass were the primary target species, and Guinea grass and rosary pea were treated as well. The preservation of this habitat-type will rely heavily on the application of the prescribed fire plan.

COASTAL BERM

Desired Future Condition: Coastal berm habitat will be found on the seaward edge or landward edge of the mangroves or further inland depending on the height of the storm surge that formed them. They typically range in height from one to 10 feet, but at the park do not exceed five to six feet. Structure and composition of the vegetation is variable depending on height and time since the last storm event. This community will consists of a mixture of tropical herbs, shrubs and trees and is defined by a substrate of coarse, calcareous, storm-deposited sediment forming long narrow ridges that parallel the shore. The most stable berms may share some tree species with rockland hammocks, but generally have a greater proportion of shrubs and herbs. Tree species may include blolly (*Guapira discolor*), gumbo limbo (*Bursera simaruba*), and poisonwood (*Metopium toxiferum*). Characteristic tall shrub and short tree species include Spanish stopper (*Eugenia foetida*), hog plum (*Ximenia americana*), white indigoberry (*Randia aculeata*), seven-year apple (*Genipa clusiifolia*), blackbead (*Pithecellobium* sp.), and saffron plum (*Sideroxylon celastrinum*). Short shrubs and herbs include perfumed spiderlily (*Hymenocallis latifolia*), bayleaf capertree (*Capparis flexuosa*), buttonsage (*Lantana involucrata*), and rougeplant (*Rivina humilis*). More seaward berms or those more recently affected by storm deposition may support a suite of plants similar to beaches,

including shoreline sea purslane (*Sesuvium portulacastrum*), saltgrass (*Distichlis spicata*), and seashore dropseed (*Sporobolus virginicus*), or dense shrub thickets with buttonwood (*Conocarpus erectus*), black, red, and white mangroves, joewood (*Jacquinia keyensis*), and sea oxeye daisy (*Borrichia frutescens*).

Description and assessment: At Terra Ceia Preserve, this approximately 6.27-acre habitat-type is similar to that of the Coastal Strand. This community is found on the Tampa Bay coastline of Mariposa Key (TC-21). Historically this area might have been used as a spoil area for dredged material from the channel at the mouth of Bishop Harbor. Typical plant species found in this area include sea grape, buttonwood, cabbage palm and a variety of salt-tolerant herbaceous species. Brazilian pepper, Australian pine, and a few other exotic species have invaded this area. The infestation is quite dense, and insome areas constitutes 100 percent of the canopy. Because of exotic plants, this community was in poor condition.

General management measures: In 2010, a restoration plan was developed and implemented by WilsonMiller Inc., with funding from various local environmental organizations such as Tampa Bay Audubon, the USFWS's Coastal Program and the Tampa Bay Estuary Program. The focus of this project is to treat invasive exotic vegetation and plant native species (Mariposa Key Plan, 2010). WilsonMiller Inc.'s plan included three years of follow-up maintenance and monitoring. After this phase, the Key will be maintained free of exotic invasive plants by park staff. Tide and storm deposited trash and debris will also be monitored and removed from the Key.

COASTAL STRAND

Desired Future Condition: Characterized by stabilized, wind-deposited coastal dunes that are thickly vegetated with evergreen salt-tolerant shrubs, this ecotonal community generally lies between the beach dune and maritime hammock, scrub or tidal swamp. Coastal strand dunes contain deep, well-drained sands that are generally quite stable but become susceptible to severe damage if the vegetation is significantly disturbed. The park is south of the state's frost line that is typically drawn across the state at Cape Canaveral. North of this line, temperate plant species are dominate, while to the south, more tropical species dominate. The more prevalent tropical species include seagrape, swamp privit (*Forestiera segregata*), myrsine (*Rapanea punctata*), buttonsage (*Lantana involcrata*), white indigoberry, snowberry (*Chiococca alba*) and numerous others. Smoothed, somewhat domed canopies develop as the taller vegetation is "pruned" by the windblown salt spray that kills the outer buds. Significant debate has occurred on the role of fire here compared to similar inland communities. The DRP Fire Management Standard indicates the appropriate fire return interval is four to 15 years. However, intervals outside this range may occur based on site-specific conditions and management goals.

Description and assessment: This habitat is one of the most endangered in Florida because of its suitability for residential development. At the state park, this 5.11-acre community exists along the Tampa Bay coastline of Harbor Key (TC-40). There have likely been indirect impacts from anthropogenic activities , for example the Sunshine Skyway Bridge and its associated structures, may attenuate harsh winds and storm surges. This community is stable, but also dynamic, which makes it susceptible to invasion by exotic plant species.

General management measures: Without proper resource management this community could succeed to maritime hammock with a perimeter of mangrove dominated tidal swamp. In 2002, Tampa Bay Mitigation Funds were used to eradicate Brazilian pepper and other exotic plants from this community (Harbor Key Restoration Plan, 2003). This area will need continued maintenance and monitoring to ensure its integrity. Trash removal and exotic invasive plant maintenance is crucial.

MARITIME HAMMOCK

Desired Future Condition: This is a coastal evergreen hardwood forest occurring in narrow bands along stabilized coastal dunes. Canopy species will typically consist of live oak (*Quercus virginiana*), red bay (*Persea borbonia*), and cabbage palm (*Sabal palmetto*). The canopy is typically dense and often salt-spray pruned. Understory species may consist of yaupon holly (*Ilex vomitoria*), saw palmetto (*Serenoa repens*), and wax myrtle (*Myrica cerifera*). Very sparse or absent herbaceous groundcover will exist. Some tropical species may be present.

Description and assessment*:* This community type is scarce at the park, and only 3.35 acres are known to exist in TC-28. This community has evolved on an upland island that is surrounded by mangrove swamp, salt marsh, and salt flats. Live oak, cabbage palm, and southern red cedar dominate the canopy, while white stopper and Brazilian pepper occur in the mid-story. The dense canopy produces a considerable amount of shade, which results in very little herbaceous groundcover. However, there is a substantial amount of leaf littler and dead wood (fuel) built-up. The general condition of this habitat is poor because of the dense growth of Brazilian pepper.

General management measures: This community type desperately needs a restoration/ improvement project to treat the invading exotic vegetation. It is likely that the native vegetation will rebound and propagate after the overburden of invasive exotics species is removed. Nevertheless, this project could prove to be somewhat problematic because of its remote location in the park. There are no maintenance roads and access by foot is limited by the tides.

SHELL MOUND

Desired Future Condition: This community type is largely the result of human activities instead of natural and physical processes. Shell mounds are small hills or

mounds made up almost entirely of mollusk shells discarded by Native Americans. In some cases, the spoil created from modern hydrological alterations (e.g. mosquito ditching) may allowed for the formation of this community type, but to a lesser degree. Undisturbed shell mounds can support a variety of hardwood trees and shrubs, which may include white stopper (*Eugenia axillaris*), live oak, cabbage palm, red cedar, torchwood (*Amyris elemifera*), wild lime (*Zanthoxylum fagara*), saffron plum, soapberry (*Sapindus saponaria*), snowberry and false mastic (*Sideroxylon foetidissimum*). Desired future conditions include minimizing erosion and protecting sites from illegal digging.

Description and assessment: There is approximately one acre of this unusual community type within the park in TC-29 and 40. The associated plant species are white and Spanish stoppers, southern red cedar, live oak, coral bean (*Erythrina herbacea*), cabbage palm, cactus (*Opuntia* sp.), marlberry (*Ardisia escallonioides*), Jamaica capertree (*Capparis cynophallophora*) and saffron plum. The typical elevation for this community type is between zero and three feet, and the "mounds" are usually not recorded on topographic maps. However, one of these communities is quite extraordinary as it is approximately 30 feet above mean high water. This habitat-type is similar to maritime hammock, except for the presence a calciferous shell substrate.

General management measures: This community should be protected from disturbance, and maintained free of exotic invasive plants. Prescribed fire will assist in the maintenance and protection of these distinctive areas by impeding exotic growth and perpetuating native species. Extreme care will be given not to cut firebreaks or maintenance roads through these distinctive communities.

DEPRESSION MARSH

Desired Future Condition: Emergent herbaceous and low shrub species will be dominant over most of the area with open vistas. Trees are few and if present, will occur primarily on the fringe of the community. There is little accumulation of dead grassy fuels due to frequent burning; one can often see the soil surface through the vegetation when the community is not inundated. Dominant vegetation in basin marsh and depression marsh include maidencane (*Panicum hemitomon*), panic grasses (*Panicum* sp.), cutgrass (*Leersia* sp.), common reed (*Phragmites australis*), pickerelweed (*Pontederia cordata*), arrowhead (*Sagittaria* sp.), buttonbush (*Cephalanthus occidentalis*), St. John's wort (*Hypericum fasciculatum*), and willow (*Salix* sp.). Floodplain marsh dominants also typically include sand cordgrass (*Spartina alterniflora*) and sawgrass (*Cladium jamaicense*). The optimal fire return interval for this community is 2-10 years depending on fire frequency of adjacent communities.

Description and assessment: This habitat type was one of the more difficult to classify at the park because of historical agricultural practices. There are approximately 50 topographical depression features totaling 19.1 acres (TC-03, 10, 13, 16, 27, 28, 30, 31, 32 and 33). Most likely, the interior depressions were historically freshwater karst ponds,

hydrologically sustained by a flow of groundwater upward from the Floridan aquifer (M. Palmer, pers. comm.).

Any of these landlocked bodies of water (seasonally flooded or not) that were within or adjacent to an agricultural area were connected by ditches to the closest larger body of water, which was typically saltwater. This was necessary because, during periods of heavy rain, the depressional areas would stage water, consequently flooding adjacent areas. This natural occurrence was not favorable to the farmers who had their crops growing between the depressions. Connecting these freshwater depressions to saltwater bodies completely changed their hydroperiod, vegetative structure and source of water.

Before ditching, the dominant vegetation would have been freshwater marsh grass species; post-ditching, these areas became tidally influenced, oligo- to hyper-saline systems with a mangrove fringe. As a part of SWIM's wetland creation project, some of these tidal connections were severed by filling the ditches. This has returned the main input to freshwater and is slowly changing the vegetation structure.

General management measures: This community was targeted for restoration by the SWIM program. Specifically, ditch blocks were used to eliminate tidal influences where they were historically not present, and berms were removed to promote sheet flow of water. In addition, new freshwater wetlands were created**.** This natural community should be maintained free of exotic invasive plants. Occasional prescribed burning may occur when adjacent upland has been restored.

HYDRIC HAMMOCK

Desired Future Condition: A closed canopy, evergreen hardwood and/or palm forest with a variable understory dominated by palms, with sparse to moderate groundcover of grasses and ferns. Typical canopy species will include laurel oak (*Quercus laurifolia*), cabbage palm (*Sabal palmetto*), live oak (*Quercus virginiana*), sweetbay (*Magnolia viginiana*), swamp tupelo (*Nyssa sylvatica biflora*), American elm (*Ulmus americana*), red maple (*Acer rubrum*) and other hydrophytic tree species. Soils are poorly drained, with a normal hydroperiod seldom over 60 days per year. Hydric hammock should occasionally burn by allowing fires to naturally burn across ecotones from fires originating in adjacent upland natural communities.

Description and assessment: This community type covers 7.79 acres along Frog Creek in management zones TC-26, 27, 30, and 31. In the absence of a well-developed floodplain, this habitat-type has developed along Frog Creek. The spoil material piled on the northern and southern banks are evidence that the creek has been dredged in the past. These berms interfere with the normal sheet-flow associated with periods of high water, and trap water landward of the creek. Over time, the berms have failed in some locations, allowing floodwater to ebb and flow more easily. These areas are currently dominated by leather fern, sand cord grass, black needle rush, and exotic Mexican

petunia. In some areas, Brazilian pepper has completely taken over and out-competed any native vegetation to achieve pockets of 100 percent coverage. In other areas, Brazilian pepper coverage is sparse, but the potential still exist for complete coverage.

General management measures*:* In 2002, a grant to fund contract exotic plant removal on the banks of the creek was obtained from the Bureau of Invasive Plant Management's Suncoast Working Group. In 2006, another grant was received to treat the exotic-infested areas south of Bishop Harbor Road. SWIM's Phase 6 Upland Restoration Project in 2010 included the disturbed areas on the northern bank of the creek on the eastern and western sides of Bishop Harbor Road (SWFWMD/ SWIM Restoration Plan for TCPSP, 2002-2009). This community will require continued maintenance to ensure invasive exotic plants do not spread into new areas or re-infest treated areas.

SALT MARSH

Desired Future Condition: A largely herbaceous community that occurs in the portion of the coastal zone affected by tides and seawater and protected from large waves. Salt marsh typically has distinct zones of vegetation based on water depth and tidal fluctuations. Saltmarsh cordgrass (*Spartina alterniflora*) dominates the seaward edge; the area is most frequently inundated by tides. Needle rush (*Juncus roemerianus*) dominates the higher, less frequently flooded areas. Other characteristic species include Carolina sea lavender (*Limonium carolinianum*), perennial saltmarsh aster (*Symphyotrichum tenuifolium*), wand loosestrife (*Lythrum lineare*), marsh fimbry (*Fimbristylis spadicea*), and shoreline seapurslane (*Sesuvium portulacastrum*). A landward border of salt-tolerant shrubs including groundsel tree (*Baccharis halimifolia*), saltwater falsewillow (*Baccharis angustifolia*), marshelder (*Iva frutescens*), and Christmasberry (*Lycium carolinianum*) may exist. Soil salinity and flooding are the two major environmental factors that influence salt marsh vegetation. While there are little data on natural fire frequency in salt marshes, fire probably occurred sporadically and with a mosaic pattern, given the patchiness of the fuels intermixed with creeks, salt flats, etc.

Description and assessment: There is relatively little of this community type in the park, but the 67 acres are productive in terms of biomass, and provide a transition zone between terrestrial and aquatic habitats. These tidally influenced ecotones are generally found between tidal flats and tidal swamps. In fresher areas, cattail is a cohabitant. Migrant marsh birds such as bitterns and rails utilize this community.

General management measures: A simple comparison of aerial photographs over the last couple of decades will reveal that this habitat is dwindling in size, but the magnitude of loss is unknown. The reasons are also unknown, but may include anthropogenic changes to local hydrology and sea level rise. Because of the inhospitable conditions, invasive exotic plant species are typically not an issue. However, feral hogs pose a threat to these areas. Feral hogs frequently utilize salt marsh to forage for

crustaceans and tubers. The damage is often quite drastic. A family of three to seven individuals could alter a few acres in a single night. The majority of the obvious damage is from rooting, but the trails that result from heavy hoof traffic also affect sheet flow into and out of the salt marsh.

Salt Flat (variant of Salt Marsh)

Desired Future Condition: Within a salt marsh, areas of slightly higher elevation, flooded only by storms and extreme high tides and isolated from sources of freshwater become very saline and desiccated due to constant evaporation. These areas are dominated by species that can tolerate the extreme salinity including saltwort (*Batis marittima*), annual glasswort (*Salicornia bigelovii*), perennial glasswort (*Sarcocornia ambigua*) and sea oxeye daisy or short grasses, such as saltgrass (*Distichlis spicata*), seashore paspalum (*Paspalum vaginatum*), and shore grass (*Monanthochloe littoralis*). Older more established sites might include scattered or small clumps of trees or shrubs. Typical animals include ghost crab (*Ocypode quadrata*), fiddler crab (*Uca pugilator*), several species of shorebirds such as willet (*Catoptrophorus semipalmatus*), Wilson's plover (*Charadrius wilsonia*), and black-necked stilt, may nest in this community. If no major storm event floods the community with sand and saltwater, it may succeed to Coastal Strand.

Description and assessment: These are very harsh and dynamic communities, which mostly occur in the northern coastal portions of the park. From an aerial perspective, salt flats are easy to pick out because of their typical treeless, open white sandy areas. Some of the more extensive salt flat exists in TC-04, 08, 10, 14, 17, 18, 19, 20, 28, 34, and 38. This habitat type is characterized by relatively treeless, flat or gently undulating land with barren sand or a sparse to dense groundcover of grasses, prostrate vines, and other herbaceous salt-tolerant species that are adapted to the hyper-saline maritime conditions. Only the hardiest plants reside here, such as black needle rush *(Juncus roemerianus)*, salt marsh hay *(Spartina patens)*, salt grass (*Distichlis spicata*), jointed seashore paspalum (*Paspalum vaginatum*), glasswort and saltwort. The landscape of this habitat type is constantly changing. Semidiurnal tidal oscillations continuously re-sculpt these areas creating new channels and sand deposits. Historical earthen berms and drainage/mosquito ditch also riddle these areas and affect the hydrology and vegetation structure. Between TC-18 and TC-19, an earthen berm was erected to prevent storm and tidal waters from encroaching southward into the agricultural areas. Ironically, the remnants of this berm have resulted in the creation of a specialized ecosystem niche. The small spoil piles from the ditching have proven to be excellent habitat for the threatened species Florida mayten (*Maytenus phyllanthoides*). Small populations of this species grow on spoil mounds within the salt flats in the southeast corner of TC-18 and northeast corner of TC-28. On the berm between TC-18 and TC-19, the endangered species wild cotton (*Gossypium hirsutum*) grows amongst southern red cedar, Brazilian pepper and sea oxeye daisy. Unfortunately, these very same berms also negatively effect the sheet flow in the salt flats community. Despite the seemingly

inhospitable conditions, several shorebirds desire this community for nesting due to its flat, open sand substrate, which aids in the detection of predators. Salt flats may succeed into coastal strand or flatwoods if the frequency of over-wash is reduced due to natural or artificial processes. There are 28 acres of this community.

General management measures: This community should be maintained free of exotic invasive plants and animals. The foraging practices of feral hogs could drastically alter the flow patterns of water, both storm and tidal, and subject these dynamic areas to longer or shorter periods of inundation. Over time, this could allow for the transition of a relatively barren salt flat into an herbaceous salt marsh.

MANGROVE SWAMP

Desired Future Condition: These areas are typically dense forest occurring along relatively flat, low wave energy, marine and estuarine shorelines. The dominant overstory includes red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and buttonwood (*Conocarpus erectus*). These four species can occur either in mixed stands or often in differentiated, monospecific zones based on varying degrees of tidal influence, levels of salinity, and types of substrate. Red mangroves typically dominated the deepest water, followed by black mangrove in the intermediate zone, and white mangroves and buttonwood in the highest, least tidally influenced zone. Mangroves typically occur in dense stands (with little to no understory) but may be sparse, particularly in the upper tidal reaches where salt marsh species predominate. When present, shrub species can include sea oxeye daisy, and vines including gray nicker (*Caesalpinia bonduc*), coinvine (*Dalbergia ecastaphyllum*), and rubbervine (*Rhabdadenia biflora*), and herbaceous species such as saltwort (*Batis maritime*), shoregrass (*Monanthocloe littoralis*), perennial glasswort (*Sarcocornia perennis*), and giant leather fern (*Acrostichum danaeifolium*). Soils are generally anaerobic and are saturated with brackish water at all times, becoming inundated at high tides. Mangrove swamps occur on a wide variety of soils, ranging from sands and mud to solid limestone rock. At Terra Ceia Preserve, this community can be found on calcareous marl muds, oyster bars and siliceous sands. In some of the older mangrove swamps, layers of peat have built up over the soil from decaying plant material (primarily red and black mangrove roots).

Description and assessment: This community type occupies 921.9 acres, the largest natural community within the park. It ecologically important as wildlife habitat and for providing storm protection for interior park lands. Mangrove communities are abundant, hosting all three species of mangroves (red, black and white) and buttonwood. Their fallen leaves produce detrital matter, which provides the base of the aquatic food chain. Avian species such as black-necked stilt, heron species, white ibis and ducks depend on mangroves for nesting, loafing and roosting. The roots of mangroves trap sediments and act as a land-building mechanism, which, over time, may add upland acreage to the park. They also serve as fish nursery habitat. Worth

noting are the old-growth mangroves on the coastlines surrounding Williams Bayou and Clambar Bay, which display extensive prop roots and heights up to 25 feet. Due to the historic agricultural use of park lands, all of the former freshwater ponds and wetland areas have been connected via ditches to the surrounding salt water of Tampa Bay or Bishop Harbor. Ditching has affected the development of the freshwater system and has allowed the establishment of mangrove species along these ditch shorelines.

General management measures: This community should be maintained free of exotic invasive plants. As a part of the hydrological restoration plan for the park these ditches will be filled or blocked where appropriate. Consideration will be given to maintaining connections where the system is functioning as a productive fish nursery.

MARSH LAKE

Desired Future Condition: Often associated with depression marshes, which are characterized as shallow, generally round or elliptical depressions, vegetated with concentric bands of aquatic vegetation. Depending upon the depth and slope of the depression, an open water zone, with or without floating plants, may occur at the center. The open water zone is considered a marsh lake if it is small in comparison to the surrounding marsh. Otherwise, the system is considered a flatwoods lake or a prairie lake, depending upon the surrounding community. The hydrosoil will typically be acidic sand with some peat and occasionally a clay lens. Although water levels may fluctuate significantly, water is typically present year-round.

Description and assessment*:* There are approximately 26.4 acres of this community type in the park within management zones: TC-05, 10, 12, 13, 15, 26, 27, 31, and 33. Multiple bird species, American alligator, otters and various turtles have been observed utilizing these small open water areas. Most of these areas are in poor condition, and scarcely exhibit the characteristics to be classified as this habitat-type. The combination of invasive exotic plants infestations and hydrological impacts has contributed to this condition. Invasive exotic vegetation, mainly Brazilian pepper, has out-competed almost all of the native shoreline vegetation. Fortunately, there are some isolated pockets of native vegetation remaining, mostly leather fern, cabbage palm and willow. All of these ponds have been included in some phase of SWIM's upland restoration project. During these projects, the invasive exotic vegetation was mechanically and/ or chemically treated and, in some cases, manmade drainage ditches were filled or blocked. The focus of these projects is upland habitat restoration. Thus, no wetland species were planted to replace the dead exotic plants. Although the treatment of invasive exotic vegetation is beneficial, the resultant mostly barren shorelines lack their natural concentric bands of wetland vegetation.

General management measures: This community should be maintained free of exotic invasive plants. If native vegetation does not rebound and fill in the open areas left by the exotic removal project, a vegetation enhancement project should be implemented.

Feral hogs could drastically alter the shoreline zone by uprooting planted or naturally occurring vegetation. This should be monitored and corrected as needed.

BLACKWATER STREAM

Desired Future Condition: These are perennial or intermittent watercourses originating in lowlands where extensive wetlands with organic soils collect rainfall and runoff, discharging it slowly to the stream. The stained waters are laden with tannins, particulates, and dissolved organic matter derived from drainage through adjacent swamps resulting in sandy bottoms overlain by organic matter. Emergent and floating vegetation (including golden club (*Orontium aquaticum*), smartweeds (*Polygonum* sp.), grasses and sedges) may occur but is often limited by steep banks and dramatic seasonal fluctuations in water levels. Desired conditions include minimizing disturbance and alterations and preserving adjacent natural communities.

Description and assessment: This habitat-type best describes the main waterway bisecting the park, Frog Creek. The legal boundaries of Terra Ceia Preserve State Park typically start and stop at the banks of Frog Creek. The only exception is found within management zone TC-26 where there is approximately 3.24 acres of this habitat type within the boundary. Even though Frog Creek is predominately not included within the boundaries of the park, for descriptive purposes the entire system will be discussed.

Where it enters the park, Frog Creek is predominantly freshwater. It then gradually becomes tidal and, finally, noticeably brackish approximately three-quarters of a mile downstream from the Bishop Harbor Road Bridge. The creek banks are incised and there are spoil berms in some locations that have prevented the development of a well-defined floodplain. Carolina willow *(Salix caroliniana)*, southern cattail *(Typha domingensis)*, bulrush *(Scirpus* sp.*),* Mexican petunia *(Ruellia tweediana)*, leather fern *(Acrostichum danaefolium)*, torpedo grass *(Panicum repens)*, wild taro *(Colocasia esculenta)*, pickerelweed *(Pontederia cordata)*, and alligator weed *(Alternanthera philoxeroides)* dominate the banks in freshwater regions. Marsh elder shrub *(Iva frutescens)* and sea oxeye daisy are also present, but in smaller numbers. The flanking ecosystems transition from hydric and mesic hammocks to salt marsh and mangrove swamp further downstream towards Terra Ceia Bay. In some of these upland areas, there are considerable amounts of Brazilian peppers *(Schinus terebinthifolius)*. The freshwater-saltwater transitional zone is marked by a swamp lily *(Crinum americanum)*/leather fern association. A few estuarine lagoons that branch off from the creek are characterized by shallow depths, mangrove perimeters and adjacent hammock ridges. From aerials, these lagoons appear to be karst formations, which over time, have naturally connected to the main waterway. The first appearance of black mangroves occurs approximately one-half mile downstream of the Bishop Harbor Road Bridge. Some of the older individuals in this region of the creek reach heights of 20-25 feet.

Approximately one mile downstream from the bridge, Frog Creek flows into Terra Ceia River, which connects to Terra Ceia Bay and Bishop Harbor. The creek and its immediate environs provide habitat for several species of reptiles, amphibians, songbirds and small mammals that otherwise could not use the estuarine habitats in the park. Another notable feature is the variety and abundance of *Tillandsia* species in the branches of hammock trees, buttonwoods *(Conocarpus erectus)*, and mangroves.

General management measures: This community should be protected from disturbance, and maintained free of exotic invasive plants. Some of this habitat type has been included in SWIM's Phase 6 Restoration Project and Phase II Wetland Creation. (SWFWMD/SWIM Restoration Plan for TCPSP, 2002-2009)

ESTUARINE UNCONSOLIDATED SUBSTRATE

Desired Future Condition: This community will consist of expansive unvegetated, open areas of mineral-based substrate composed of shell, coralgal, marl, mud and sand (sand beaches). Desired conditions include preventing soil compaction, dredging activities and disturbances such as the accumulation of pollutants.

Description and assessment*:* This community includes 95.8 acres of shallow brackisk water found throughout the park. These inland ponds are typically connected via a ditch to a body of saltwater.

General management measures: These areas should be protected from detrimental actives such as illegal dumping, dredging and excess erosion.

RUDERAL

Desired Future Condition: The ruderal areas within the park will be managed to remove priority invasive plant species (EPPC Category I and II species). Other management measures include limited restoration efforts designed to minimize the effect of the ruderal areas on adjacent natural areas. Cost-effectiveness, investment returns and consideration of higher priority restoration projects within the park will determine the extent of restoration measures in ruderal areas.

Description and assessment: Essentially, the term ruderal describes any natural area that has been significantly impacted and altered by anthropogenic activities. Because of these disturbances, ruderal areas no longer represent a recognized naturally occurring native habitat or community as defined by the Florida Natural Areas Inventory (FNAI). At approximately 654.2 acres, ruderal communities represent the second largest land-cover in the park. The reason for this is simple; from the 1880s to the 1970s, the lands that constitute the park were used extensively for farming purposes and then left fallow. During this period, almost all of the uplands were farmed, from mangrove edge to mangrove edge. An extensive ditching system with one-way culverts was developed at the landward side of the mangrove line to mitigate for tidal and storm water

intrusion. This practice effectively created a linear dike that has prevented the natural systems from functioning and maintaining their natural character. Ruderal areas at the park are characterized by having a disturbed sandy substrate, typically with varying densities of invasive exotic cover. There is very little, if any, native vegetation in these areas and usually the hydrology has been negatively affected as well.

Included in this category are an exotic landscape plant nursery (The Old Nursery/ TC-31) and cattle pasture (Hagen Parcel/ TC-30). The nursery is located immediately north of Frog Creek and east of Bishop Harbor Road. This area is densely populated with exotic palm species such as Chinese fan palm (*Livistona chinensis*), Senegal (reclining) date palm (*Phoenix reclinata*), traveler's palm (*Ravenala madagascariensis*), queen palm (*Syagrus romanzoffiana*), slender lady palms (*Rhapis humilis*), and bamboo palms (*Chamaedorea seifrizi*). There are also some native species planted in this area, such as bald cypress (*Taxodium distichum*) and sycamore (*Platanus occidentalis*), but they are outside their native range. Approximately eight acres of the nursery area was used as a citrus grove as well. The ruderal areas will require a long-term restoration plan, and ongoing maintenance and monitoring.

The Terra Ceia Ecosystem Restoration Project is the largest coastal ecosystem restoration effort ever performed in Tampa Bay. Due to the complexity of the restoration project, the communities created through this effort are still indentified as ruderal on the NC map. Over time, as monitoring continues and there is evidence that these communities have become established the NC map will be gradually updated to reflect the final mosaic of both natural and created NC community types found throughout the park.

General management measures: Since 2002, the SWFWMD's SWIM program has been conducting large-scale restoration projects within these ruderal areas. As of 2010, restoration projects have been initiated on approximately 618 acres of ruderal upland. In the same year, SWIM began working on their sixth phase of upland restoration and improvement. (SWFWMD/ SWIM Restoration Plan for TCPSP, 2002-2009) This project includes the aforementioned exotic landscape plant nursery.

Due to the highly significant concentration of archaeological resources in the park, all future ground disturbing restoration activities require extraordinary care to avoid damage to the park's archaeological resources. This may include monitoring of restoration work by a professional archaeologist and not a certified Archaeological Resource Monitor.

DEVELOPED

Desired Future Condition: The developed areas within the park will be managed to minimize the effect of the developed areas on adjacent natural areas. Priority invasive

plant species (EPPC Category I and II species) will be removed from all developed areas. Other management measures include proper stormwater management and development guidelines that are compatible with prescribed fire management in adjacent natural areas.

Description and assessment: A developed area differs from ruderal in that developed areas consist of natural communities that have been replaced by structures and permanently cleared areas. At approximately 1.36 acres, the only developed area within the park are the site of the historic Haley House and its associated buildings (TC-01) and one strip of road that was built during the agriculture era (TC-10). TC-01 is the location of administrative offices and shop facilities for staff of the park, as well as the Tampa Bay Aquatic Preserve. Historically, this area has supported a citrus grove, exotic nursery and research greenhouse. At one time the front yard area was manicured and landscaped with exotic vegetation such as Surinam cherry (*Eugenia uniflora*), philodendron (*Epipremnum pinnatum*), Australian pine, queen crape myrtle (*Lagerstroemia speciosa*), bougainvillea (*Bougainvillea* sp.) and redberry stopper (*Eugenia confusa*). The entrance driveway to the Haley House was planted with royal palms (*Roystonea regia*) in the 1930's by Mr. Roy Amerson and his father. Mr. Amerson's nursery remains open to this day and is adjacent to the west side of the Haley House site. Research has indicated that royal palms, growing outside their native range, can grow about one foot per year and have a life expectancy of approximately 75-85 years; over half of the stately trees have already perished. Restoration activities have occurred at this site since 2002, and the area is approximately 85 percent exotic free. Subsequent native plantings have included south Florida slash pine, saw palmetto, sand cord grass, Fakahatchee grass (*Tripsacum dactyloides*), and muhly grass.

General management measures: This community should be maintained free of exotic invasive plants that may spread to nearby natural areas, and any ground-disturbing activities associated with further development should be conducted under the guidelines established by the Department of State, Division of Historical Resources (DHR).

Imperiled Species

Imperiled species are those that are (1) tracked by FNAI as critically imperiled (G1, S1) or imperiled (G2, S2); or (2) listed by the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FFWCC) or the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened or of special concern.

The parks native hammocks are home to several listed epiphytes including the Florida butterfly orchid (Encyclia tampensis) and species of Tillandsia. However, some of the imperiled plant species at the park are found growing in anthropogenically altered

areas. There are different two occurrences of wild cotton (Gossypium hirsutum) in the park, one is on an agricultural berm that was utilize to prevent saltwater tides from flooding croplands in TC-18, and the other is on a fence line adjacent to a neighbor's horse pasture in TC-30. Likewise, Florida mayten (Maytenus phyllanthoides) is frequently found growing on spoil piles that were created during mosquito ditch construction. Additional designated plant species are likely to be discovered as the inventory of the flora continues.

The mangrove swamps, salt marshes and surrounding waters of the park are inhabited by several designated animal species. Numerous shorebirds, including Yellow-crowned night-herons *(Nyctanassa violacea)* roost in the park's many diverse wetland communities.

In 2009 and 2010, a small colony of least terns (Sternula antillarum) was discovered nesting in TC-16 (the "Airplane"). During this time, SWFWMD/SWIM was experimenting with the 16 acre, Australian pine and clay deposal site, as outlined in the Soils section of this plan. When this disposal site was newly constructed, the white lime rock- based clay materials must have appeared to be a white sand beach from the air. Unfortunately, alligator, hog, raccoon, coyote, bobcat and human tracks were noted throughout the colony, and no fledglings were observed. The "Airplane" clay deposal site has since filled in with grassy species and a nesting colony did not return in 2011.

American bald eagles *(Haliaeetus leucocephalus)*, ospreys (*Pandion haliaetus*), and other listed raptors have been sighted in flight and perched within the park. Information obtained from the FFWCC indicates the closest bald eagle nest occurs approximately one mile to the southeast of Rubonia near U.S. Highway 41. This nest is identified as MN024 and has been active every year from 2006-2010. It is doubtful eagles would take up residence in the park due to the low number of mature pine trees, but restoration of coastal pinelands will add potential nesting sites for eagles.

The eastern indigo snake *(Drymarchon couperi)*. Several other listed reptile, bird and mammal species occur at the park and are listed in Addendum 5. Although gopher tortoise (Gopherus polyphemus) is listed in Table 2, the only individual found in the park was walking along the right-of-way in TC-35. It is possible that a park visitor abandoned this individual on the side of the road. Casual field observations have not revealed any active gopher tortoise burrows in the park.

Table 2 contains a list of all known imperiled species within the park and identifies their status as defined by various entities. It also identifies the types of management actions that are currently being taken by DRP staff or others, and identifies the current level of monitoring effort. The codes used under the column headings for management actions and monitoring level are defined following the table. Explanations for federal and state status as well as FNAI global and state rank are provided in Addendum 6.

Table 2: Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FFWCC	**USFWS**	**FDACS**	**FNAI**		
PLANTS						
Redberry stopper *Eugenia confusa*			LE	G5/S1	13	1
Wild cotton *Gossypium hirsutum*			LE	G4G5/ S3	2,9	2
Florida mayten *Maytenus phyllanthoides*			LT		2,9	2
Shell mound prickly-pear *Opuntia stricta*			LT		2	1
Florida royal palm *Roystonea regia*			LE	G2G3/ S2	13	1
Giant air plant *Tillandsia utriculata*			LE			
REPTILES						
American alligator *Alligator mississippiensis*	FT (S/A)	T (S/A)		G5/S4	10,13	1
Eastern indigo snake *Drymarchon couperi*	FT	LT		G3/S3	10,13	1
Gopher tortoise *Gopherus polyphemus*	ST	LT		G3/S3	10,13	2
Suwannee cooter *Pseudemys concinna suwanniensis*	SSC			G5T3/ S3	10,13	1
BIRDS						
Limpkin *Aramus guarauna*	SSC			G5/S3	10,13	1
Little blue heron *Egretta caerulea*	SSC			G5/S4	10,13	1
Reddish egret *Egretta rufescens*	SSC			G4/S2	10,13	1
Tricolored heron *Egretta tricolor*	SSC			G4/G5	10,13	1
White ibis *Eudocimus albus*	SSC			G5/S4	10,13	1

Table 2: Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FFWCC	**USFWS**	**FDACS**	**FNAI**		
SE American kestrel *Falco sparverius paulus*	ST			G5T4/ S3	10,13	1
American oystercatcher *Haematopus palliatus*	SSC			G5/S2	10,13	1
Wood stork *Mycteria americana*	FE	LE		G4/S2	10,13	1
Brown pelican *Pelecanus occidentalis*	SSC			G4/S3	10,13	1
Roseate spoonbill *Platalea ajaja*	SSC			G5/S2	10,13	1
Black skimmer *Rhynchops niger*	SSC			G5/S3	10,13	1
Least tern *Sternula antillarum*	ST			G4/S3	10,13	3
MAMMALS						
West Indian manatee *Trichechus manatus*	FE	LE		G2/S2	10,13	1

Management Actions:

1 Prescribed Fire
2 Exotic Plant Removal
3 Population Translocation/Augmentation/Restocking
4 Hydrological Maintenance/Restoration
5 Nest Boxes/Artificial Cavities
6 Hardwood Removal
7 Mechanical Treatment
8 Predator Control
9 Erosion Control
10 Protection from visitor impacts (establish buffers)/law enforcement
11 Decoys (shorebirds)
12 Vegetation planting
13 Outreach and Education
14 Other

Monitoring Level:

Tier 1. Non-Targeted Observation/Documentation: includes documentation of species presence through casual/passive observation during routine park activities (i.e. not conducting species-specific searches). Documentation may be in the form of *Wildlife Observation Forms*, or other district specific methods used to communicate observations.

Tier 2. Targeted Presence/Absence: includes monitoring methods/activities that are specifically intended to document presence/absence of a particular species or suite of species.

Tier 3. Population Estimate/Index: an approximation of the true population size or population index based on a widely accepted method of sampling.

Tier 4. Population Census: A complete count of an entire population with demographic analysis, including mortality, reproduction, emigration, and immigration.

Tier 5. Other: may include habitat assessments for a particular species or suite of species or any other specific methods used as indicators to gather information about a particular species.

Detailed management goals, objectives and actions for imperiled species in this park are discussed in the Resource Management Program section of this component and the Implementation Component of this plan.

Exotic Species

Exotic species are plants or animals not native to Florida. Invasive exotic species are able to out-compete, displace or destroy native species and their habitats, often because they have been released from the natural controls of their native range, such as diseases, predatory insects, etc. If left unchecked, invasive exotic plants and animals alter the character, productivity and conservation values of the natural areas they invade.

Much of the property that makes up the park was historically used for farming and other agricultural purposes. As a result, over the last 30 or so years, the highly disturbed fallow fields have transformed into invasive exotic plant havens. Brazilian pepper, Guinea grass (*Panicum maxima*), and climbing fern (*Lygodium microphyllum* and *L. japonicum*) pose the largest threat to the natural and restored/ improved communities. Other invasive exotic species such as air potato vine (*Dioscorea bulbifera*), cogon grass (*Imperata cylindrica*), punk tree (*Melaleuca quinquenervia*) Chinaberry (*Melia azedarach*) and Australian pine (*Casuarina equisetifolia*) are also present, but to a slightly lesser amount. GPS and GIS will be used to track treatment of specific areas and species.

The treatment of exotic species will be an ongoing management activity at the park. The seed bank of invasive exotic species has been accumulating for many years, and will make 100 percent eradication improbable during the next 10 years. To compound this situation, many of the invasive exotic species that infest the park, also exist on adjacent private properties and local plant nurseries. Nevertheless, the restoration projects at the

park have begun to curtail the growth and spread of these malicious species. Furthermore, with the return of more natural processes (predominately-prescribed fire and a more natural hydrological pattern) one day these species may be under control.

Table 3 contains a list of the Florida Exotic Pest Plant Council (FLEPPC) Category I and II invasive, exotic plant species found within the park (FLEPPC, 2009). The table also identifies relative distribution for each species and the management zones in which they are known to occur. An explanation of the codes is provided following the table. For an inventory of all exotic species found within the park, see Addendum 5.

Table 3: Inventory of FLEPPC Category I and II Exotic Plant Species

Common and Scientific Name	FLEPPC Category	Distribution	Management Zone
PLANTS			
Rosary pea *Abrus precatorius*	I	3	TC-03,17,18,30,31
Alligatorweed *Alternanthera philoxeroides*	II	0	TC-39
Coral vine *Antiginon leptopus*	II	1	TC-20
Sprenger's aspargus fern *Aspargus aethiopicus*	I	2	TC-31
Wax begonia *Begonia cucullata*	II	1	TC-31
Brown's blechum *Blechum pyramidatum*	II	2	TC-19
		3	TC-30
Bottlebrush *Callistomon viminalis*	II	2	TC-31
Australian pine *Casuarina equisetifolia*	I	2	TC-02,28,29,31,33
Bamboo palm *Chamaedorea seifrizi*	II	1	TC-31
Camphor tree *Cinnamomum camphora*	I	1	TC-07
Carrotwood *Cupaniopsis anacardioides*	I	1	TC-03,22,23
		2	TC-01,30,31,32
Air-potato *Dioscorea bulbifera*	I	2	TC-03,16,17,25,30
Common waterhyacinth *Eichornia crassipes*	I	2	TC-39
Golden pothos *Epiprenmum pinnatum*	II	1	TC-17,31

Table 3: Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone**
Surinam cherry *Eugenia uniflora*	I	2	TC-17,31
Indian laurel *Ficus microcarpa*	I	2	TC-17
Cogon grass *Imperata cylindrical*	I	2	TC-17,20,22,25,29,31,32,33
		3	TC-24
		4	TC-30
Life plant *Kalanchoe pinnata*	II	2	TC-30
Flamegold tree *Koelreuteria elegans* sp. *formosana*	II	1	TC-07,30
Lantana *Lantana camara*	I	2	TC-07,17,18,20,22
White leadtree *Leucaena leucocephala*	II	2	TC-02,03,17,18,25,31,33
Chinese fan palm *Livistonia chinensis*	II	1	TC-31
Japanese honeysuckle *Lonicera japonica*	I	1	TC-32
Peruvian primrose *Ludwigia peruviana*	I	2	TC-11,25,30,31
Japanese climbing fern *Lygodium japonicum*	I	2	TC-16,24,30
Old World climbing fern *Lygodium microphyllum*	I	2	TC-25,30,31
Punktree, melaleuca *Melaleuca quinquenervia*	I	2	03,19,22,27,29,30
Rose Natal grass *Melinis repens*	I	2	TC-01,07,17,25,29,31,32
		3	TC-16
Chinaberry tree *Melia azedarach*	I	2	TC-08,20,26,30,31
Tuberous sword fern *Nephrolepis cordifolia*	I	2	TC-03,30,31

Table 3: Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone**
Skunkvine *Paederia foetida*	I	2	TC-08,20,26,30
Guineagrass *Panicum maximum*	II	2	TC-08-11,13-17,18,26-29,34,35
		3	TC-01,02,03,06,07,19,20,24, 25,30,32,33
		4	TC-31
Torpedograss *Panicum repens*	I	2	TC-15,17,24,25,29
Napiergrass *Pennisetum purpureum*	I	3	TC-11,35
Senegal date palm *Phoenix reclinata*	II	2	TC-18,22,27,29,30,31,32
Water lettuce *Pistia stratiotes*	I	2	TC-39
Strawberry guava *Psidium cattleianum*	I	1	TC-31
Guava *Psidium guajava*	I	1	TC-31
Castorbean *Ricinus communis*	II	2	TC-08,20,26,31
Mexican petunia *Ruellia britoniana*	I	2	TC-25,30,31
Bowstring hemp *Sansevieria hyacinthoides*	II	2	TC-31
Chinese tallowtree *Sapium sebiferum*	I	2	TC-08
Queensland umbrella tree *Schefflera actinophylla*	I	1	TC-31
Brazilian pepper *Schinus terebinthifolius*	I	2	TC-06,09,10,11,14-20,23,24,35,36
		3	TC-5,30
		4	TC-01-04, 21,22,25,27-29,31,32,33
Wedelia *Sphagneticola trilobata*	II	3	TC-17,30,31

Table 3: Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone**
Arrowhead vine *Syngonium podophyllum*	I	3	TC-17,30,31
Java plum *Syzygium cumini*	I	2	TC-30,31
Caesar's weed *Urena lobata*	I	3	TC-06-09,16,17,22,24,30,31
Para grass *Urochloa mutica*	I	3	TC-39
Washington fan palm *Washingtonia robusta*	II	1	TC-20,26,31
Arrowleaf elephantear *Xanthosoma sagittifolium*	II	2	TC-31

Distribution Categories:

0 No current infestation: All known sites have been treated and no plants are currently evident.

1 Single plant or clump: One individual plant or one small clump of a single species.

2 Scattered plants or clumps: Multiple individual plants or small clumps of a single species scattered within the gross area infested.

3 Scattered dense patches: Dense patches of a single species scattered within the gross area infested.

4 Dominant cover: Multiple plants or clumps of a single species that occupy a majority of the gross area infested.

5 Dense monoculture: Generally, a dense stand of a single dominant species that not only occupies more than a majority of the gross area infested, but also covers/excludes other plants.

6 Linearly scattered: Plants or clumps of a single species generally scattered along a linear feature, such as a road, trail, property line, ditch, ridge, slough, etc. within the gross area infested.

Exotic animal species include non-native wildlife species, free ranging domesticated pets or livestock, and feral animals. Because of the negative impacts to natural systems attributed to exotic animals, the DRP actively removes exotic animals from state parks, with priority being given to those species causing the greatest ecological damage.

In some cases, native wildlife may also pose management problems or nuisances within state parks. A nuisance animal is an individual native animal whose presence or activities create special management problems. Examples of animal species from which nuisance cases may arise include raccoons, venomous snakes and alligators that are in public areas. Nuisance animals are dealt with on a case-by-case basis in accordance with the DRP's Nuisance and Exotic Animal Removal Standard.

Detailed management goals, objectives and actions for management of invasive exotic plants and exotic and nuisance animals are discussed in the Resource Management Program section of this component.

Special Natural Features

The unique natural features within the park include the small, relatively undisturbed areas of coastal strand community, the mesic hammocks with various epiphytic species, as well as many scenic vistas.

Terra Ceia Preserve State Park possesses some of the only remaining undeveloped coastal upland in the Tampa Bay area. Even though the vast majority of the upland areas are fallow agriculture fields, they were never developed into residential subdivisions or industrial parks. In this region, the majority of the coastal developments have built right down to the landward side of the mangrove swamp. In extreme cases, developers have filled mangrove swamp and installed seawalls.

This region of the state is outstanding for its density of cultural and archaeological sites. The park has 90 known sites and there are likely many more yet to be discovered. Most notable among known sites are the temple mound and animal effigy on Harbor Key. Most of these sites contain shell middens, which support shell mound natural communities. Only two of the 90 known sites are identified on the Natural Communities Map due to their small size.

In 1994, a hard-bottom mapping study performed for the Tampa Bay National Estuary Program indicated extensive hard-bottom habitat within the Terra Ceia Aquatic Preserve. These hard- bottom areas support a variety of fishes and motile invertebrates not found on nearby unconsolidated sediments. The park functions as a buffer for these hard-bottom areas, filtering coastal runoff and sediment that, otherwise, would be deposited on the substrate.

Cultural Resources

This section addresses the cultural resources present in the park that may include archaeological sites, historic buildings and structures, cultural landscapes and collections. The FDOS maintains the master inventory of such resources through the Florida Master Site File (FMSF). State law requires that all state agencies locate, inventory and evaluate cultural resources that appear to be eligible for listing in the

National Register of Historic Places. Addendum 7 contains the FDOS, DHR management procedures for archaeological and historical sites and properties on state-owned or controlled properties; the criteria used for evaluating eligibility for listing in the National Register of Historic Places, and the Secretary of Interior's definitions for the various preservation treatments (restoration, rehabilitation, stabilization and preservation). For the purposes of this plan, significant archaeological site, significant structure and significant landscape means those cultural resources listed or eligible for listing in the National Register of Historic Places. The terms archaeological site, historic structure or historic landscape refer to all resources that are or will become 50 years old during the term of this plan.

Condition Assessment

Evaluating the condition of cultural resources is accomplished using a three-part evaluation scale, expressed as good, fair or poor. These terms describe the present condition, rather than comparing what exists to the ideal condition. Good describes a condition of structural stability and physical wholeness, where no obvious deterioration other than normal occurs. Fair describes a condition in which there is a discernible decline in condition between inspections, and the wholeness or physical integrity is and continues to be threatened by factors other than normal wear. A fair assessment is usually a cause for concern. Poor describes an unstable condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests immediate action is needed to reestablish physical stability.

Level of Significance

Applying the criteria for listing in the National Register of Historic Places involves the use of contexts as well as an evaluation of integrity of the site. A cultural resource's significance derives from its historical, architectural, ethnographic or archaeological context. Evaluation of cultural resources will result in a designation of NRL (National Register or National Landmark Listed or located in an NR district), NR (National Register eligible), NE (not evaluated) or NS (not significant) as indicated in the table at the end of this section.

There are no criteria for use in determining the significance of collections or archival material. Usually, significance of a collection is based on what or whom it may represent. For instance, a collection of furniture from a single family and a particular era in connection with a significant historic site would be considered highly significant. In the same way, a high quality collection of artifacts from a significant archaeological site would be of important significance. A large herbarium collected from a specific park over many decades could be valuable to resource management efforts. Archival records are most significant as a research source. Any records depicting critical events in the

park's history, including construction and resource management efforts, would all be significant.

The following is a summary of the FMSF inventory. In addition, this inventory contains the evaluation of significance.

Prehistoric and Historic Archaeological Sites

Desired future condition: All significant archaeological sites within the park that represent Florida's cultural periods or significant historic events or persons are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public.

Description: The Terra Ceia area is rich in pre-Columbian sites, as well later cultural sites. Seventy-seven of the park's archaeological sites are included in the approximately 90 sites identified in the Florida Forever project boundary. These sites have been surveyed by park staff and listed in the Florida Master Site File. Descriptions and recommendations for the management of the identified sites were also prepared.

The earliest artifacts found at the park suggest human occupation within the area began as early as 300 BC. Radiocarbon analysis of pre-Columbian samples from the area's mounds and middens has identified the site as a temple mound complex, most likely from the Safety Harbor period (beginning circa AD 1000). In addition, the complex appears to have been constructed on or near the foundations of earlier inhabitants, dating from 180 BC. In 2001, the elevation of the largest known mound within the complex had a height of 20 feet (Department of State, 2002). Discoveries of unknown sites are anticipated both above and below sea level. Pre-Columbian sites within the park have the potential of yielding information and allowing interpretation of societies and cultures of the contact period, including Tocobaga, Pooy, Uzita, Yagua and Neguarete, as well as earlier Paleo-Indian peoples (Department of State, 2002).

Most of the historic sites include artifact scatter, with some historic refuse. Various samples of building debris represent the American-20th century period from 1910 through the 1950s. Agricultural operations, as well as the workers' quarters, and homestead sites are some of the artifact sources.

Condition Assessment: Archaeological work has revealed that the park contains sites of prehistoric human use dating from as early as 1200 BC to the era of European contact, as well as sites from early and more recent historic eras. Many of the sites are in good condition, although some sites have been looted, vandalized and/or damaged by hogs or erosion.

Level of Significance: Applying the criteria for listing in the National Register of Historic Places involves the use of contexts as well as an evaluation of integrity of the

site. Every significant archaeological site's significance derives from historical or archaeological contexts. Evaluation will result in a designation of NRL (National Register or National Landmark Listed or located in an NR district), NR (National Register eligible), NE (not evaluated) or NS (not significant) as indicated in the table at the end of this section.

A 2010 cultural resources assessment report of Terra Ceia by B. W. Burger, which was conducted in conjunction with the SWIM project contains the following statement: "It could be presented that none of the individual sites found by the present survey, or any of those previously recorded . . . are particularly significant in and of themselves. . . . But taken as a whole, these sites, located with a circumscribed area, present a significant sample of a large part of Florida's past. Excepting the Paleo-Indian time span, this body of sites includes examples of Archaic, Transitional, woodland, and Mississippian prehistoric eras, as well as Seminole, Territorial/ early Statehood and early mid-20th century historic areas. This author feels certain that all of these sites would be adjudged as contributing in a nomination of the Terra Ceia area as a National Register Archaeological District.

In February 2010, the Division of Historical Research accepted the report and stated that they concurred with Burger's findings that the area around Terra Ceia was potentially eligible for listing in the National Register of Historic Places as an Archaeological District. Based on these findings, the entire area which constitutes the park will need to be treated as a listed I the National Register of Historic Places. This means that all work that affects both the physical and visual qualities of the district will need to be reviewed by the Division of Historic Resources.

In terms of significance, this park contains one of the largest concentrations of recorded archaeological sites of any state park and as such is a rare and important resource. During the SWIM project, SWFWMD took extreme care to avoid damage of any of the recorded resources near projects areas and utilized the services of a professional archaeologist to guide and assist the contractors working on the project. It is recommended that future ground disturbance activities of any size be monitored by a professional archaeologist and that testing be conducted in advance of most proposed work, even in the ruderal areas. Caution also needs to be used in any work in submerged areas because Burger states that submerged areas most likely contain sub-water sites from times of lower sea levels

General management measures: The goal of preservation is to maintain the physical integrity of the park's archaeological sites. Stabilization is the primary preservation treatment recommended for most historic and prehistoric archaeological sites. This treatment will require control of feral hogs and management of erosion with the use of protective vegetation, filter cloth and control of recreational uses, as needed. Many sites are designated for preservation treatment, including protection from damage by natural

causes, unintentional damage from resource management and construction and intentional damage from illegal looting. A treatment is indicated in the table for each site assessed to date, and listed as NRL, NR or NE. Finally, any archaeological sites that will be potentially impacted from construction or other land altering activities will be subjected to situation-specific preservation and mitigation treatments.

Historic Structures

Desired future condition: All significant historic structures and landscapes that represent Florida's cultural periods or significant historic events or persons are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public.

Description: During the 17th and 18th centuries, the Tampa Bay area attracted Spanish-Cuban commercial fishermen. The Armed Occupation Act of 1842 resulted in the first settlements. Terra Ceia Island became a hub of trade and communications between Bradenton and Fort Brooke in Tampa during the Civil War

In 1866, the nearby City of Palmetto was founded. The majority of the uplands were farmed for vegetables, citrus crops and ornamentals. Agricultural artifacts of this era have been observed in the park, but have not been collected.

During the late 1880s, phosphate speculators purchased many of the lands surrounding the park. Phosphate shipments from other regions became a major economic focus, and an incentive for the development of processing plants, railroads and port facilities. During Prohibition, smugglers used the park's islands and shallow waters to evade law enforcement. In the early 1930s, the railroad line into Palmetto was discontinued due to storm damage. Farming and mineral processing continued and the real estate market developed. (DEP, April 2007).

The Haley House is an early 20th century historic feature at Terra Ceia Preserve State Park. The structure is an excellent example of early Florida architecture. The House was built in 1909 as a model home for a planned subdivision known as Terra Ceia Estates. Terra Ceia Estates was developed by a Connecticut corporation with interests in the citrus industry and tropical and sub-tropical fruit research. In 1919, D.G. Haley, a prominent real estate attorney in the Tampa Bay area and pioneer in commercial gladiolus farming, purchased the property. At one time, the Haley family owned most of the park's lands. The estate had two stocked freshwater fishponds, which now have varying degrees of salinity. The house is commonly referred to as the Haley House, and was the Haley's residence until the estate was sold in 1972 to another development company. The Haley House and outbuildings are the only remaining historic structures at the park.

Condition Assessment: The Haley House is in fair condition and is presently used as an administrative office for the DRP. The outbuildings are in very poor condition and removal of the structures is being evaluated.

Level of Significance: Applying the criteria for listing in the National Register of Historic Places involves the use of contexts as well as an evaluation of integrity of the site. Every significant historical or cultural resource's significance derives from historical contexts. Evaluation will result in a designation of NRL (National Register or National Landmark Listed or located in an NR district), NR (National Register eligible), NE (not evaluated) or NS (not significant).

The Haley House (8MA1241) is eligible for listing in the National Register of Historic Places under National Register Criteria A, B and C. It is significant under Criterion A as a remaining example of the real-estate boom and the development of large-scale commercial farming in late nineteenth and early twentieth century Florida. The building is significant under Criterion B, initially as the home of T. Ralph Robinson, a senior physiologist with the United States Department of Agriculture noted for his research in the development of hardy and disease-resistant citrus fruits, and then of D.G. Haley. The building is significant under Criterion C as an excellent example of Craftsman style architecture. The outbuildings relative to Haley House are currently being evaluated for potential National Register significance by Bureau of Natural and Cultural Resources staff.

General management measures: The Haley House is being rehabilitated and maintained for adaptive reuse for administration and research support. The surrounding landscape will be restored to both a historic appearance and mesic flatwoods. Several outbuildings associated with the Haley House are being utilized for temporary storage and workspace. The buildings will be evaluated for permanent reuse or removal.

Collections

Desired future condition: All historic, natural history and archaeological objects within the park that represent Florida's cultural periods, significant historic events or persons, or natural history specimens are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public.

Description: The park does not maintain a collection. The objects from the park are part of the State's collection and are located in the Bureau of Archaeological Research collection facility (DHR). Most of the historic artifacts consist of bottles, plates and other glassware. A few prehistoric items, such as ceramic artifacts and shell tools, are also included. The collection has been catalogued and is approximately 10 file boxes in volume. The items were donated by a local archeologist and were collected before the land was acquired by the State of Florida.

Since all Division owned artifacts are in the possession of the DHR, no discussion concerning condition, significance or management measures are discussed here. DHR has strict climate control and curatorial policies that provide foe adequate management of the objects.

Detailed management goals, objectives and actions for the management of cultural resources in this park are discussed in the Cultural Resource Management Program section of this component. Table 4 contains the name, reference number, culture or period, and brief description of all the cultural sites within the park that are listed in the Florida Master Site File. The table also summarizes each site's level of significance, existing condition and recommended management treatment. An explanation of the codes is provided following the table.

Table 4: Cultural Sites Listed in the Florida Master Site File

Site Name and FMSF #	Culture/Period	Description	Significance	Condition	Treatment
8MA013 Harbor Key 1	Deptford 700B.C.-300B.C, Perico Island, Safety Harbor A.D. 1000-1500, Weedon Island I	Archaeological Site - Human remains, mound, midden	NR	F	ST
8MA014 Harbor Key 2	Weedon Island AD450-1000	Archaeological Site - Artifact scatter	NR	NA	
8MA015 Harbor Key 3	Prehistoric	Archaeological Site - Aboriginal ceramics, lithics	NR	NA	
8MA040 NN	Prehistoric	Archaeological Site - Shell food remains	NR	NA	
8MA147 Hells Half Acre 1	Perico Island, Safety Harbor A.D. 1000-1500	Archaeological Site - Shell midden	NR	NA	

Table 4: Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
8MA148 Hells Half Acre 2	Perico Island, Weedon Island A.D. 450-1000	Archaeological Site - Shell midden	NR	NA	
8MA149 Hells Half Acre 3	Perico Island, Weedon Island A.D. 450-1000	Archaeological Site - Shell midden	NR	NA	
8MA150 NE Head	Safety Harbor AD 1000-1500, Weedon Island AD 450-1000	Archaeological Site - Scatter, midden	NR	F	P
8MA151 Kersey Midden	Indeterminate	Archaeological Site - Lithics, aboriginal ceramics	NR	F	P
8MA152 Moses Hole Roadside Midden 1	Safety Harbor A.D. 1000-1500, Weedon Island AD450-1000	Archaeological Site - Lithics, aboriginal ceramics	NR	G	P
8MA153 Moses Hole Roadside Midden 2	Indeterminate	Archaeological Site - Lithics, aboriginal ceramics	NR	G	P
8MA154 SE Head	Safety Harbor A.D. 1000-1500, Weedon Island AD450-1000, Seminole	Archaeological Site - Artifact scatter	NR	G	P
8MA155 Oak tree Hammock	Perico Island, Weedon Island	Archaeological Site - Artifact scatter, midden	NR	NA	

Table 4: Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
8MA156 Moses Hole Exit Canal Midden	Safety Harbor A.D. 1000-1500, Weedon Island,450-1000	Archaeological Site - Artifact scatter, midden	NR	NA	
8MA157 Campsite Midden	Indeterminate	Archaeological Site - Artifact scatter, shell midden	NR	G	P
8MA158 Hand axe	Indeterminate	Archaeological Site - Artifact scatter, shell midden	NR	NA	
8MA159 Clambar Hammock	Indeterminate	Archaeological Site - Shell midden	NR	G	P
8MA161 Williams Bayou 2	Indeterminate	Archaeological Site - Shell midden	NR	NA	
8Ma162 Williams Bayou 3	Indeterminate	Archaeological Site - Shell midden	NR	NA	
8MA163 Terra Ceia River 1	Indeterminate	Archaeological Site - Shell midden	NR	NA	
8MA164 Terra Ceia River 2	Indeterminate	Archaeological Site - Lithics	NR	NA	
8MA165 Terra Ceia River 3	Indeterminate	Archaeological Site - Shell midden	NR	NA	
8MA166 Terra Ceia River 4	Indeterminate	Archaeological Site - Shell midden	NR	NA	
8MA167 Terra Ceia River 4	Indeterminate	Archaeological Site - Shell midden	NR	NA	

Table 4: Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
8MA168 Devils Elbow	American 1821-present	Archaeological Site - Shell midden	NR	NA	
8MA172 Hells Half Acre 4	Indeterminate	Archaeological Site - Shell midden	NR	NA	
8MA276 Williams Bayou 4	Prehistoric	Archaeological Site - Shell midden	NR	NA	
8MA277 Williams Bayou 5	Prehistoric	Archaeological Site - Shell midden, artifact	NR	F	ST
8MA278 Williams Bayou 6	Prehistoric	Archaeological Site - Shell midden	NR	G	P
8MA279 Williams Bayou 7	Prehistoric	Archaeological Site - Shell midden, artifact	NR	G	P
8MA280 Williams Bayou 8	Prehistoric	Archaeological Site - Shell midden,	NR	NA	
8MA281 Williams Bayou 9	Prehistoric	Archaeological Site - Shell midden,	NR	NA	
8MA282 Abel Road	Prehistoric	Archaeological Site - Shell midden,	NR	NA	
8MA283 Abel Road	Prehistoric	Archaeological Site - Shell midden	NR	NA	
8MA284 Double Pond	Prehistoric	Archaeological Site - Shell midden	NR	G	P

Table 4: Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
8MA287 Sylvan	Manasota 700 BC-AD 700	Archaeological Site - Artifact scatter	NR	NA	
8MA288 Chicken Snake	Prehistoric	Archaeological Site - Shell midden	NR	NA	
8MA289 Palm	Prehistoric	Archaeological Site - Shell midden	NR	NA	
8MA290 Alderman Bayou	Prehistoric	Archaeological Site - Shell midden	NR	NA	
8MA291 Alderman Bayou 2	Prehistoric	Archaeological Site - Shell midden	NR	NA	
8MA292 Johnson Flat 1	Prehistoric	Archaeological Site - Artifact, midden	NR	NA	
8Ma293 Johnson Flat 2	Prehistoric	Archaeological Site - Shell midden	NR	P	P
8MA294 Bigford 1	Prehistoric	Archaeological Site - Shell midden	NR	G	P
8MA295 Bigford 2	Prehistoric	Archaeological Site - Shell midden	NR	G	P
8MA296 Bishop Harbor Road	Prehistoric	Archaeological Site - Shell midden	NR	G	P
8MA297 Frog Bank 1	Prehistoric	Archaeological Site - Shell midden	NR	G	P

Table 4: Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
8MA298 Frog Bank2	Prehistoric	Archaeological Site - Shell midden	NR	NA	
8MA299 Frog Bank 3	Prehistoric	Archaeological Site - Shell midden	NR	NA	
8MA300 Big pond	Prehistoric	Archaeological Site - Artifact scatter	NR	G	P
8MA301 Moses Hole Road	Prehistoric	Archaeological Site - Shell midden	NR	G	P
8MA302 Mariposa Key	Perico Island, Safety Harbor A.D. 1000-1500	Archaeological Site - Historic refuse, shell midden	NR	F	ST
8MA1241 Haley House	20th century	Historic Structure - Craftsman house	NR	F	ST
8MA1259 SE Head 2	Prehistoric	Archaeological Site - Artifact scatter	NR	G	P
8MA1260 Fred	Prehistoric	Archaeological Site - Artifact scatter	NR	NA	
8MA1261 Hall	20th century	Archaeological Site - Homestead, artifact scatter	NR	F	P
8MA1262 Gillette Picnic Grounds	20th century	Archaeological Site - Artifact scatter	NR	G	P

Table 4: Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
8MA1263 Highway View	Prehistoric	Archaeological Site - Artifact scatter	NR	G	P
8MA1264 Alfonso	20th century	Archaeological Site - Artifact scatter	NR	G	P
8MA1265 Durrance	20th century	Archaeological Site - Artifact scatter	NR	F	ST
8MA1266 Hornsby	20th century	Archaeological Site - Artifact scatter	NR	F	ST
8MA1267 Barn	20th century	Archaeological Site - Farmstead	NR	F	ST
8MA1269 Taylor	Prehistoric	Archaeological Site - Artifact scatter	NR	NA	
8MA1270 Spoil	Prehistoric	Archaeological Site - Artifact scatter	NR	F	ST
8MA1271 Haley Rental#3	20th century	Archaeological Site - Artifact scatter	NR	G	P
8MA1272 Coot Pond	Manasota 700 BC-AD 700	Archaeological Site - Artifact scatter	NR	G	P
8MA1273 Sweet	Prehistoric	Archaeological Site - Artifact scatter	NR	G	P
8MA1274 Jones Grove	Safety Harbor AD 1000-1500	Archaeological Site - Artifact scatter	NR	G	P

Table 4: Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
8MA1275 Jones/Petty Dump	20th century	Archaeological Site - Artifact scatter	NR	F	ST
8MA1276 Jones Siding	20th century	Archaeological Site - Artifact scatter	NR	G	P
8MA1277 Jones South	Prehistoric	Archaeological Site - Artifact scatter	NR	G	P
8MA1278 McLean/McLaughlin Packinghouses	20th century	Archaeological Site - Artifact scatter	NR	G	P
8MA1279 Haley Rental #1	20th century	Archaeological Site - Artifact scatter	NR	G	P
8MA1281 Haley Rental #2	20th century	Archaeological Site - Artifact scatter	NR	G	P
8MA1282 Abel Road West	19th, 20th century	Archaeological Site - Artifact scatter	NR	G	P
8MA1283 Abel Road East	20th century	Archaeological Site - Artifact scatter	NR	G	P
8MA1285 McLaughlin's Quarters	19th,20th century	Archaeological Site - Artifact scatter	NR	G	P
8MA1287 Williams/Robertson Homestead	19th,20th century	Archaeological Site - Artifact scatter	NR	G	P

Significance:

NRL National Register listed
NR National Register eligible

NE	not evaluated
NS	not significant

Condition

G	Good
F	Fair
P	Poor
NA	Not accessible
NE	Not evaluated

Recommended Treatment:

RS	Restoration
RH	Rehabilitation
ST	Stabilization
P	Preservation
R	Removal
N/A	Not applicable

RESOURCE MANAGEMENT PROGRAM

Management Goals, Objectives and Actions

Measurable objectives and actions have been identified for each of the DRP's management goals for Terra Ceia Preserve State Park. Please refer to the Implementation Schedule and Cost Estimates in the Implementation Component of this plan for a consolidated spreadsheet of the recommended actions, measures of progress, target year for completion and estimated costs to fulfill the management goals and objectives of this park.

While, the DRP utilizes the ten-year management plan to serve as the basic statement of policy and future direction for each park, a number of annual work plans provide more specific guidance for DRP staff to accomplish many of the resource management goals and objectives of the park. Where such detailed planning is appropriate to the character and scale of the park's natural resources, annual work plans are developed for prescribed fire management, exotic plant management and imperiled species management. Annual or longer- term work plans are developed for natural community restoration and hydrological restoration. The work plans provide the DRP with crucial flexibility in its efforts to generate and implement adaptive resource management practices in the state park system.

The work plans are reviewed and updated annually. Through this process, the DRP's resource management strategies are systematically evaluated to determine their effectiveness. The process and the information collected is used to refine techniques,

methodologies and strategies, and ensures that each park's prescribed management actions are monitored and reported as required by Sections 253.034 and 259.037, Florida Statutes.

The goals, objectives and actions identified in this management plan will serve as the basis for developing annual work plans for the park. Since the plan is based on conditions that exist at the time the plan is developed, the annual work plans will provide the flexibility needed to adapt to future conditions as they change during the ten-year management planning cycle. As the park's annual work plans are implemented through the ten-year cycle, it may become necessary to adjust the management plan's priority schedules and cost estimates to reflect these changing conditions.

Natural Resource Management

Hydrological Management

Goal: Protect water quality and quantity in the park, restore hydrology to the extent feasible and maintain the restored condition.

The natural hydrology of most state parks has been impaired prior to acquisition to one degree or another. Florida's native habitats are precisely adapted to natural drainage patterns and seasonal water level fluctuations, and variations in these factors frequently determine the types of natural communities that occur on a particular site. Even minor changes to natural hydrology can result in the loss of plant and animal species from a landscape. Restoring state park lands to original natural conditions often depends on returning natural hydrological processes and conditions to the park. This is done primarily by filling or plugging ditches, removing obstructions to surface water "sheet flow," installing culverts or low-water crossings on roads, and installing water control structures to manage water levels.

Objective: Conduct/obtain an assessment of the park's hydrological restoration needs.

All available hydrological information should be compiled and reviewed with SWIM cooperators to determine if there is any other hydrological restoration necessary. (Other than those identified here) If so, then devise a prioritization master plan.

The park's hydrology has been severely impacted by historic agricultural use of its lands. Improving the general hydrology within the park, and its immediate watersheds and basins, is one of the primary goals for the ecosystem restoration and improvement projects. To achieve this objective, DRP staff will hold meetings to review all available hydrological data that has been collected by numerous agencies over the past 10 to 20 years. During these meetings we will analyze all of the drainage ditches, berms, ditch blocks, roads, culverts and other artifacts of previous land use that may affect hydrological processes. All of the associated attributes of these features will be measured and recorded. As a result of these meetings, we will be able to devise a

master hydrological restoration plan that contains: 1) prioritized hydrologic restoration plan for corrective measures that includes phases; 2) timeframes for implementation and 3) approximate costs.

Objective: Restore natural hydrological conditions and functions to approximately 15 acres of marsh lake, depression marsh and mesic hammock.

This objective refers to the filling or blocking of two relic agricultural ditches in management zones TC-10, 12 and 13. The ditch in TC-13 is approximately 824 feet long and runs from west to east draining the three ponds in the middle of the management zone into Terra Ceia River. The other ditch is approximately 258 feet long and runs northeast to southwest to drain a one-acre marsh lake into Williams Bayou. Filling or blocking these drainage ditches should restore the marsh lakes to depression marshes, with typical concentric bands of vegetation regulated by seasonal fluctuations in water level.

Objective: Monitor the results of wetland creation conducted by the SWFWMD's Surface Water Improvement and Management (SWIM) program.

SWFWMD's SWIM program has designed and implemented multiple projects at the park, including the creation of ten tidal wetlands, inter-tidal wetlands and lagoons to provide habitat and restore the watershed. Parcels at the headwaters of Frog Creek that contain a borrow pit have been acquired by SWIM to restore and improve the water quality of the park's main source of freshwater. They have also re-created freshwater wetlands by installing ditch blocks and by removing some agricultural berms. This has allowed for sheet flow and the re-establishment of high and low salt marsh, as well as freshwater marsh, to improve the quality of surface water runoff. All project sites will require annual monitoring to control invasive exotic species and erosion. Photo stations, wildlife usage observations and vegetative monitoring sites will be established.

Objective: Determine the appropriate corrective measures for haul roads and residual spoil piles from grading operations under the SWIM program.

The waters surrounding the park constitute the Tampa Bay Aquatic Preserve, which is managed by the Office of Coastal and Aquatic Managed Areas (CAMA). CAMA has expressed a concern that the high clay content of fill material that was excavated during the wetland creation phase and consequently used to improve maintenance roads and to fill in one of the exotic plant management areas (the Australian pine "airplane"/ TC-16) is adversely affecting the function of adjacent wetlands. Some of the adjacent depressional marshes appear to be turbid, especially after a rain event. Aside from the erosion problem, these roads are very difficult, if not impossible, to navigate when they are wet. A cooperative assessment of the haul roads and other clay deposition sites is needed to determine whether corrective measures are necessary, and to identify the measures that should be taken.

Natural Communities Management

Goal: Restore and maintain the natural communities/habitats of the park.

As discussed above, the DRP practices natural systems management. In most cases, this entails returning fire to its natural role in fire-dependent natural communities. Other methods to implement this goal include large-scale restoration projects as well as small-scale natural communities' improvements. Following are the natural community management objectives and actions recommended for the state park.

Prescribed Fire Management: Prescribed fire is used to mimic natural lightning-set fires, which are one of the primary natural forces that shaped Florida's ecosystem. Prescribed burning increases the abundance and health of many wildlife species. A large number of Florida's imperiled species of plants and animals are dependent on periodic fire for their continued existence. Fire-dependent natural communities gradually accumulate flammable vegetation; therefore, prescribed fire reduces wildfire hazards by reducing these wild land fuels.

All prescribed burns in the Florida state park system are conducted with authorization from the FDACS, Division of Forestry (DOF). Wildfire suppression activities in the park are coordinated with the DOF.

Objective: Within 10 years, have 400 acres of the park maintained within the optimum fire return interval.

This objective will be facilitated by the park's Fire Management Plan. This plan will provide guidance for managing natural communities with prescribed fire.

Table 5 contains a list of all fire-dependent natural communities found within the park, their associated acreage and optimal fire return interval, and the annual average target for acres to be burned.

Table 5: Prescribed Fire Management

Natural Community	Acres	Optimal Fire Return Interval (Years)
Coastal strand	5.11	unknown***
Depression marsh	28.05	1-3*
Mesic flatwoods	4.25	1-3
Ruderal	692.38	1-7
Salt Marsh	67.0****	2-7*
Annual Target Acreage***	TBD**	

Notes:
*Implementation of this interval will be dependent on restoration of adjacent habitat. The frequency of fire will be a function of the fire frequency in the surrounding matrix community, as well as the fire-carrying characteristics of the developing communities.
**The maximum acreage will be determined as ruderal acreage is restored.

***The actual fire return interval is currently unknown for this community. It is likely that fire was rare (26-100 yrs) or very spotty. Nevertheless, prescribed fire may be used to maintain the vegetative structure and reduce fuel loads.
**** On the natural communities map, the acreage associated with this community type includes the salt marsh variant, salt flat (67.07 ac salt marsh + 27.82 ac salt flat = 94.88 ac, as shown on the map.
*****Annual Target Acreage Range is based on the fire return interval assigned to each burn zone. Each burn zone may include multiple natural communities.

At this time, the park's intact natural communities are not maintained by prescribed fire. It is anticipated that eventually some of the ruderal acreage will be more representative of flatwood-type or hammock-type community and require fire to maintain and perpetuate that community type. (On the Natural Communities Map, these areas are shown as RD-Ruderal). Based on the extent of soil types that are indicative of flatwoods or other fire-type communities (mostly Bradenton fine sand and Wabasso fine sand), the extent of pyrogenic habitats will most likely exceed 625 acres. The plan will also include a spreadsheet to track burn history and any restoration or improvements. This spreadsheet will guide day-to-day management, and complement the statewide database.

The Fire Management Plan will address: establishing a public relations program to educate local citizens about prescribed fire; establishing fire breaks and freshwater sources (to refill brush trucks); and the procurement of other resources necessary to safely conduct prescribed fire.

> ***Objective: Supplement the Fire Management Plan with a plan for the application of prescribed fire to promote the recovery of upland natural communities on SWFWMD/ SWIM ecosystem restoration, improvement and creation lands.***

The SWIM project has included six phases of upland restoration and one phase of wetland creation to-date, for an approximate total of 618 acres (SWFWMD/ SWIM Restoration Plan for TCPSP, 2002-2009). The upland project phases focused on the chemical and mechanical treatment of invasive exotic vegetation on fallow agricultural fields. The project's ecological restoration and improvement plan is a long-term, costly endeavor. These project areas are going to require extensive maintenance to ensure they do not revert to their previously degraded state. To accomplish this, prescribed fire will be employed as a maintenance tool to control the re-growth of invasive exotic species, and perpetuate the overall restoration goals. Prescribed fire will be used to promote native species (planted and naturally recruited) and reduce the fuel accumulation resulting from the initial and follow-up treatments of exotic plants.

To facilitate this effort, the Fire Management Plan will include a section outlining the use of prescribed fire for the maintenance of the restoration, creation and improvement project areas. The supplemental section will discuss the overall goals, objectives and

success criteria for the use of prescribed fire on these project areas. The most important criterion will be to determine at which point the "project area" becomes a "natural community." This is very important because, at that point, the associated acreage will be incorporated into an annual burn plan.

To provide adaptive responses to changing conditions, fire management requires careful planning based on annual and very specific burn objectives. Each annual burn plan is developed to support and implement the broader objectives and actions outlined in this ten-year management plan. Monitoring the results of burning will be instrumental to adapting techniques that are successful in restoration.

Natural Communities Restoration: In some cases, the reintroduction and maintenance of natural processes is not enough to reach the natural community desired future conditions in the park, and active restoration programs are required. Restoration of altered natural communities to healthy, fully functioning natural landscapes often requires substantial efforts that may include mechanical treatment of vegetation or soils and reintroduction or augmentation of native plants and animals. For the purposes of this management plan, restoration is defined as the process of assisting the recovery and natural functioning of degraded natural communities to desired future condition, including the re-establishment of biodiversity, ecological processes, vegetation structure and physical characters.

Examples that would qualify as natural communities' restoration, requiring annual restoration plans, include large mitigation projects, large-scale hardwood removal and timbering activities, roller-chopping and other large-scale vegetative modifications. The key concept is that restoration projects will go beyond management activities routinely done as standard operating procedures such as routine mowing, the reintroduction of fire as a natural process, spot treatments of exotic plants, and small-scale vegetation management.

Following are the natural community/habitat restoration and maintenance actions recommended to create the desired future conditions in the ruderal community at the park.

Due to the highly significant concentration of archaeological resources in the park, all future ground disturbing restoration activities require extraordinary care to avoid damage to the park's archaeological resources. This may include monitoring of restoration work by a professional archaeologist and not a certified Archaeological Resource Monitor.

Research into relevant background information (soil surveys, historical photos, remnant vegetation, first person accounts, etc.) indicates that mesic to hydric flatwoods and hammocks--dotted with an occasional freshwater marsh--constituted most of the

interior upland communities before extensive agricultural practices began at Terra Ceia. Restoration efforts should also include re-introducing these communities where appropriate. Due to the high concentration of significant archaeological resources within the park, all future ground disturbing restoration activities will require extraordinary care to avoid damage to these resources and may include monitoring by a professional archaeologist.

Objective: Continue coordination with SWIM for the Phase 7 Upland Restoration project.

Phase 7 includes the enhancement and restoration of 67.3 acres of coastal upland and three years of quarterly site maintenance. It also includes three years of quarterly maintenance on 320 acres of previously restored upland. Initial treatments will target areas zones TC-03, 04, 18, 27, 28, and 29. For the areas in need of restoration, scattered native plant communities exist, but sites are generally dominated by various non-native and nuisance plant species such as Brazilian pepper, Guinea grass, natal grass, and dog fennel (Eupatorium capillifolium). Various other non-native and nuisance species are scattered over the sites and could include non-native plants such as Australian pine trees, cogon grass, white leadtree, air potato, primrose willow (Ludwigia peruviana), women's tongue, castor bean, carrot wood, latex plant, morning-glory, and danglepod (Sesbania herbacea). Infestations of non-native and nuisance vegetation in native hardwood hammocks vary from light to heavy. Previously restored areas (Phase 3), only in need of maintenance, vary from having zero to moderate amounts of scattered non-native plants, with Guinea grass most prevalent.

Natural Communities Improvement – Improvements are similar to restoration but on a smaller, less intense scale. This typically includes small-scale vegetative management activities or minor habitat manipulation. Following are the natural community/habitat improvement actions recommended at the park.

Objective: Continue maintenance and monitoring of the ecosystem improvement project on 86.5 acres within the Haley House complex, Hagen parcel, Mariposa Key, and Harbor Key.

The Haley House complex includes the Haley House parcel (TC-01, 13 acres), "Two Acre Tract" (TC-02, 3 acres), "Parcel 6" (TC-03, 9.5 acres), and "Punk Island" (TC-04, 26 acres). Most of the ongoing improvement projects within the complex consist of exotic plant removal and maintenance in addition to the replanting of native species. Related work is conducted by staff, interns and volunteers. In 2010, park staff implemented a restoration project on the Hagen Parcel (TC-30, 35 acres) funded through a grant cooperative with National Fish and Wildlife Foundation (Hagen Restoration at Terra Ceia Preserve, 2010). Mariposa and Harbor Key were part of a project conducted and funded by other agencies (Mariposa Key Restoration Plan, 2010 and Harbor Key Restoration Plan, 2003).All of these improvement areas will receive continued maintenance and monitoring to ensure their success.

Objective: Expand the scope, but not the acreage, of the existing ecosystem improvement project at the Haley House parcel.

The Haley House Parcel Improvement Project was developed in 2006 and will be revised to include two additional ecosystem improvement phases. Phase I of the plan includes a limited plant list, soil occurrence, exotic plant treatments, and some replanting of native plants. Phase II will include transforming portions the existing lawn area into mesic flatwoods in addition to installing native landscaping around the Haley House structure. The reestablishment of the historic royal palm allee will also be addressed during Phase II. Phase III will include the establishment of a prescribed fire burn zone and ongoing exotic maintenance and monitoring.

Objective: Conduct natural community/habitat improvement activities on 623 acres of natural communities.

The park's staff continually works with law enforcement agencies to protect all areas of the park from unfavorable activities. New boundary fencing would improve the park's natural communities by protecting native plant and animal species from reoccurring poaching, and natural systems from illicit access (both vehicular and pedestrian) and dumping. A total of 41,030 feet of fencing is recommended to protect park lands that are accessible from paved roads. First priority fencing should be installed within the next ten years and will require approximately 23,090 feet and would provide protection to about 623 acres of natural and restored communities. These areas are located along Bishop Harbor Road and Stotz Road and are subject to ongoing illegal access and dumping. If additional funding becomes available, second priority areas will include approximately 8,792 feet or fencing to protect approximately 36 acres of restored land located along the CSX railroad. Third priority fencing will consist of approximately 14,665 feet of fencing to complete gaps in existing sections.

Objective: Assess the feasibility for upland ecosystem improvements in areas that have not received a project by SWIM/ SWFWMD.

By the time SWIM has completed their upland restoration phase, all of the large areas of invasive exotic vegetation will be treated. The few remaining pockets of invasive exotic vegetation are likely to be less than 30 acres. These areas will be documented and a priority treatment list created. There are also some relatively untouched and minimally impacted areas. These areas might receive a high priority to retain or maintain the character of the community.

A list of areas absent from SWIM project phases will be compiled. This list will prioritize criteria such as soil type, level of disturbance, existing successional stage, anticipated cost and presence and density of invasive exotic plants.

Imperiled Species Management

Goal: Maintain, improve or restore imperiled species populations and habitats in the park.

The DRP strives to maintain healthy populations of imperiled plant and animal species primarily by implementing effective management of natural systems. Single species management is appropriate in state parks when the maintenance, recovery or restoration of a species or population is complicated due to constraints associated with long-term restoration efforts, unnaturally high mortality or insufficient habitat. Single species management should be compatible with the maintenance and restoration of natural processes, and should not imperil other native species or seriously compromise park values.

In the preparation of this management plan, DRP staff consulted with staff of the FFWCC's Imperiled Species Management or that agency's Regional Biologist and other appropriate federal, state and local agencies for assistance in developing imperiled animal species management objectives and actions. Likewise, for imperiled plant species, DRP staff consulted with FDACS. Data collected by the USFWS, FFWCC, FDACS and FNAI as part of their ongoing research and monitoring programs will be reviewed by park staff periodically to inform management of decisions that may have an impact on imperiled species at the park.

Ongoing inventory and monitoring of imperiled species in the state park system is necessary to meet the DRP's mission. Long-term monitoring is also essential to ensure the effectiveness of resource management programs. Monitoring efforts must be prioritized so that the data collected provides information that can be used to improve or confirm the effectiveness of management actions on conservation priorities. Monitoring intensity must at least be at a level that provides the minimum data needed to make informed decisions to meet conservation goals. Not all imperiled species require intensive monitoring efforts on a regular interval. Priority must be given to those species that can provide valuable data to guide adaptive management practices. Those species selected for specific management action and those that will provide management guidance through regular monitoring are addressed in the objectives below.

Objective: Update baseline imperiled species occurrence inventory lists for plants and animals, as needed.

The current species list will be validated over the next few years. The park will establish a verified species occurrence database that includes geo-referenced data where possible. Species whose presence can not be confirmed will be noted in the database as "reported but not documented."

Objective: Monitor and document 11 imperiled wading birds and shorebirds in the park.

Use of the park by imperiled wading birds and shorebirds will be monitored and documented at a Tier 2 level by the park's staff; particularly within management zones

TC-10, 11, 12, 13, 15, & 16.Staff will implement monitoring protocols used for these species at other state parks in southwestern Florida.

Objective: Monitor and document 2 selected imperiled plant species in the park.

Two of the documented imperiled plant species will receive Tier 2 monitoring. These species are wild cotton and Florida mayten.

Exotic Species Management

Goal: Remove exotic and invasive plants and animals from the park and conduct needed maintenance control.

The DRP actively removes invasive exotic species from state parks, with priority being given to those causing the ecological damage. Removal techniques may include mechanical treatment, herbicides or biological derived agents.

Objective: Annually treat 100 acres of exotic plant species in the park.

Restoration of approximately 501 upland acres of upland in the park has been initiated through the SWIM program. These upland acres will require continuous monitoring and maintenance activities to control re-growth and new infestations. The annual treatment objective assumes that every acre will be re-treated at least twice during the ten-year planning cycle.

Contractors are currently performing maintenance. When the follow-up maintenance and monitoring for these projects are completed by SWIM's contractors, the responsibility for these areas will fall to the DRP's staff. Currently, park staff consists of one biologist and one park service specialist. It is critically imperative that continued maintenance of approximately 618 acres (501 acres of upland and 117 acres of wetland) of these restoration sites be continued by the DRP. In order to maintain and promote these restoration areas, staff will seek funding through grants, utilize volunteer resources and initiate the prescribed fire plan/program.
Whenever practical, local academic institutions and other groups will be encouraged to set up monitoring programs to track the success of restoration. A number of local groups have expressed interest in conducting restoration-related research in the park.

Objective: Implement control measures on one (1) nuisance and exotic animal species in the park.

Feral hogs need to be controlled to minimize damage to the remaining intact upland natural communities such as mesic hammock, to sites undergoing restoration, and to wetlands when water levels are low. Monitoring for signs of damage should guide the intensity of the removal effort, which may involve park staff as well as contracted services. Destruction from these pest can be found in TC-01, 08, 10-18, 27, 28, 29, 31, 32, and 33. If park staff is unable to devote sufficient time and effort to this objective, contractors will be hired as funds allow.

Special Management Considerations

Timber Management Analysis

During the development of this plan, an analysis was made regarding the feasibility of timber management activities in the park. It was determined that the primary management objectives of the unit could be met without conducting timber management activities for this management plan cycle.

Arthropod Control Plan

All Division lands are designated as "environmentally sensitive and biologically highly productive" in accordance with Ch. 388 and Ch. 388.4111. If a local mosquito control district proposes a treatment plan, the Division responds within the allotted time and reaches consensus with the mosquito control district. By policy of the Department since 1987, no aerial adulticiding is allowed, but larviciding and ground adulticiding (truck spraying in public use areas) is typically allowed. The Division does, not authorize new physical alterations of marshes through ditching, or water control structures. Mosquito control plans temporarily may be set aside under declared threats to public or animal health, or during a Governor's Emergency Proclamation.

Additional Consideration

The SWIM Program- Terra Ceia Ecosystem Restoration Project: The Terra Ceia Ecosystem Restoration Project is the largest coastal ecosystem restoration effort ever performed in Tampa Bay. A single and multi-family golf-course residential subdivision (Terra Ceia Estates) was intended for the land purchased in 1995 by the Southwest Florida Water Management District and the State of Florida, at a foreclosure auction, from the Resolution Trust Corporation. Restoration of the 1,800-acre property was spearheaded by the SWIM Program of SWFWMD in cooperation with the Florida Park Service and Aquatic Preserve Programs of the DEP.

Approximately 900 acres of the original purchase contained various naturally occurring estuarine habitats. The remaining 900 acres had undergone severe impacts from various anthropogenic activities such as dredging and filling wetlands, ditching, diking and other agricultural activities. The dredge and fill activities included the creation of finger-fills in Bishop Harbor, residential intertidal canals dredged in uplands, and excavation of a matrix of agricultural drainage ditches. Abandoned agriculture lands were rapidly covered with non-native vegetation. Forests of Australian pine and Brazilian pepper with meadows of cogon grass and Guinea grass infested the landscape. Feral hogs also became widespread throughout the site. Isolated relic wetland and upland habitats were scattered throughout. Agricultural areas were ringed by large berms that destroyed natural hydrologic function. Decades of illegal dumping resulted in tons of debris strewn throughout the tract.

Since 2002, 618 acres of coastal habitats have been restored through the implementation of the Terra Ceia Ecosystem Restoration Plan. Due to the complexity and scale of the

project, extensive planning was required prior to the work. Funding for the project was secured over multiple fiscal years and included grants from several entities.

Work began with surveys, including GPS mapping of the distribution of native versus non-native habitats, topographic and bathymetric surveys, archaeological surveys, geotechnical surveys, water well surveys, mapping of distribution of illegal dumping, three years of monthly monitoring of surficial (ground) water levels and salinities via 15 piezometers scattered over the site, and 19 months of stream flow and water quality monitoring of Frog Creek. After consideration of all the variables, a restoration plan was developed to retain and enhance intact native habitats, restore lost and degraded habitats and restore ecological functions and processes throughout the site. The plan provided for the re-establishment of a mosaic of native habitats that historically existed onsite or normally found in undisturbed Tampa Bay coastal areas. Typical desired future conditions of upland communities included mesic and hydric flatwoods and hammocks. The plan carefully preserved sites of cultural significance. Private contractors and SWFWMD provided project construction.

To accomplish the upland restoration and improvement objectives, SWIM took a multi-year, phased approach (see Table 6). Phases 1 and 2 began in 2002 and completed in 2005. The scope of these phases included mechanically clearing and grubbing exotic vegetation, installation of 12-18 inches of off-site mulch, and planting south Florida Slash pine, saw palmetto, and beautyberry. These initial phases also included three years of follow-up chemical treatments for exotic plant control.

Phase 3 included mechanical treatment of exotic vegetation; selective planting of south Florida slash pine, saw palmetto and beautyberry; and three years of exotic maintenance. For this phase, the scope of chemical maintenance was expanded to the entire project area, because the new maintenance criteria for this phase took four years to complete.

The procedures for Phase 4 where similar to Phase 3, however this phase did not include the installation of supplemental native plantings. Phase 4 also included breaching the perimeter berm in five selected locations to facilitate sheet flow.

Phase 5 involved the re-treatment of the areas included in Phases 1 and 2. These first two phases were not successful in controlling exotic plants or establishing native plants. The first wetland creation and enhancement phase was planned for fallow agricultural areas. Eleven tidal and five freshwater wetlands were excavated. The freshwater wetlands varied from ephemeral to permanent pool habitats, whereas estuarine habitats included tidal channels and lagoons, deeper “holes” for refugia, hard bottom, islands, low and high marsh intertidal platforms with transitional zones grading to upland habitats. Emphasis was placed on the creation of as much low salinity, oligohaline, fish nursery habitats as possible. The project’s design incorporated liberal amounts of high

marsh and transitional zones, in anticipation of rising sea levels, thereby giving the wetland an opportunity to migrate upslope over time. Of the 600,000 cubic yards of fill excavated some was used to fill or block historical agricultural ditches found in TC-15, 32, and 33. As with the upland phases, this phase also included three years of follow-up exotic control maintenance.

Phase 6 consists of 13 different upland areas for a total of 159 acres. The scope of work for this phase is similar to phases 3 and 4 (mechanical treatment, native plantings, and three years of exotic maintenance). A summary of the restoration effort is presented in Table 6.

Table 6: Surface Water Improvement and Management Restoration Summary

Upland Phase	**Begin/ End**	**Management Zones**	**Acres**	**Treatment**	**Maintenance Notes**
1 & 2	2002 - 2005	TC-12, 32, 33 & 36	149	Clearing and grubbing, 12-18 inches of mulch & native planting	3-years limited chemical treatment for exotic plant maintenance
3	2005 - 2009	TC-16, 18, 28 & 29	294	Mechanical treatment & native planting	3-years holistic chemical treatment for exotic plant maintenance
4	2006 - 2009	TC-18, 28 & 29	58	Mechanical treatment & without native planting	3-years chemical treatment for exotic plant maintenance; breached perimeter berm to re-establish some sheet flow
Upland Phase	Begin/ End	Management Zones	Acres	Treatment	Maintenance Notes
5	2009 - 2011	TC-12, 32, 33 & 36	149	Selective chemical treatment and mechanical mowing	Re-treatment of Phases 1 & 2; 3-years chemical treatment for exotic plant maintenance
6	2006 - present	TC-06, 07, 08, 22, 26, 27, 34 & 35	159	Mechanical treatment & native planting	3-years chemical treatment for exotic plant maintenance
Wetland Phase	Begin/ End	Management Zones	Acres	Treatment	Maintenance Notes

Table 6: Surface Water Improvement and Management Restoration Summary					
1	2006-2010	TC: 07, 08, 09, 10, 15, 16, 17, 24, 33, 34, 35 & 36	117	Excavation - creating 11 saltwater and 5 freshwater wetlands; filled/blocked ditches in TC-15, 32, 33	3-years chemical treatment for exotic plant maintenance

Cultural Resource Management

Cultural Resource Management

Cultural resources are individually unique, and collectively, very challenging for the public land manager whose goal is to preserve and protect them in perpetuity. The DRP is implementing the following goals, objectives and actions, as funding becomes available, to preserve the cultural resources found in Terra Ceia Preserve State Park.

Goal: Protect, preserve and maintain the cultural resources of the park.

The management of cultural resources is often complicated because these resources are irreplaceable and extremely vulnerable to disturbances. The advice of historical and archaeological experts is required in this effort. All activities related to land clearing, ground disturbing activities, major repairs or additions to historic structures listed or eligible for listing in the National Register of Historic Places must be submitted to the FDOS, Division of Historical Resources (DHR) for review and comment prior to undertaking the proposed project. Recommendations may include, but are not limited to concurrence with the project as submitted, pre-testing of the project site by a certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effect. In addition, any demolition or substantial alteration to any historic structure or resource must be submitted to DHR for consultation and the DRP must demonstrate that there is no feasible alternative to removal and must provide a strategy for documentation or salvage of the resource. Florida law further requires that the DRP consider the reuse of historic buildings in the park in lieu of new construction and must undertake a cost comparison of new development versus rehabilitation of a building before electing to construct a new or replacement building. This comparison must be accomplished with the assistance of DHR.

Objective: Assess and evaluate 33 of 77 recorded cultural resources in the park.

In Table 4 there are 33 sites that under the Condition heading have an "NA"- non-applicable – designation. This designation was given because this sites have not been

evaluated since they were discovered. Each these sites with an "NA" designation will be visited and evaluated. Furthermore, each recorded cultural site in the park will be assessed at least once over the period of this ten-year plan. Cultural sites that are at greater risk of disturbance from erosion or other natural sources, as well as those at risk of disturbance by visitors, will be assessed more often, as necessary. Photo points will be used, where practical, as an aid to documenting the assessment. Projects to correct deficiencies noted during assessments will prioritized relative to the urgency of stabilization, preservation and/or protection by law enforcement agencies.

Objective: Compile reliable documentation for all recorded historic and archaeological resources.

The FMSF will be updated with new information as the cultural resource assessments are completed. All ground-disturbing activities within the park will be monitored by staff and volunteers with Archaeological Resource Management (ARM) certification. All land-altering construction and development that might potentially affect a known site will be reviewed by DHR and BNCR.

Objective: Bring 9 of 77 recorded cultural resources into good condition.

Prehistoric and historic sites are identified in Table 4 for stabilization after disturbance mostly due to feral hogs or erosion. In a few cases, as mentioned above, vandalism or relic hunting have occurred.

As previously discussed in the Resource and Description and Assessment section, the park's main historic structure is the Haley House (8MA1241) and is undergoing rehabilitation for adaptive reuse. Initially implemented by CAMA, the rehabilitation project will provide park staff with administration offices and small meeting area. When completed, staff will implement a regular maintenance program to keep the Halley House in good condition.

Resource Management Schedule

A priority schedule for conducting all management activities that is based on the purposes for which these lands were acquired, and to enhance the resource values, is located in the Implementation Component of this management plan.

Land Management Review

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation and recreation lands titled in the name of the Board of Trustees are being managed for the purposes for which they were acquired and in accordance with their approved land management plans.

Terra Ceia Preserve State Park was subject to a land management review on December 19, 2007**.** The review team made the following determinations:

The land is being managed for the purpose for which it was acquired. The actual management practices, including public access, complied with the management plan for this site.

LAND USE COMPONENT

INTRODUCTION

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP). These responsibilities are to preserve representative examples of original natural Florida and its cultural resources, and to provide outdoor recreation opportunities for Florida's citizens and visitors.

The general planning and design process begins with an analysis of the natural and cultural resources of the unit, and then proceeds through the creation of a conceptual land use plan that culminates in the actual design and construction of park facilities. Input to the plan is provided by experts in environmental sciences, cultural resources, park operation and management, through public workshops, and environmental groups. With this approach, the DRP objective is to provide quality development for resource-based recreation throughout the state with a high level of sensitivity to the natural and cultural resources at each park.

This component of the unit plan includes a brief inventory of the external conditions and the recreational potential of the unit. Existing uses, facilities, special conditions on use, and specific areas within the park that will be given special protection, are identified. The land use component then summarizes the current conceptual land use plan for the park, identifying the existing or proposed activities suited to the resource base of the park. Any new facilities needed to support the proposed activities are described and located in general terms.

EXTERNAL CONDITIONS

An assessment of the conditions that exist beyond the boundaries of the unit can identify any special development problems or opportunities that exist because of the unit's unique setting or environment. This also provides an opportunity to deal systematically with various planning issues such as location, regional demographics, adjacent land uses and park interaction with other facilities.

Terra Ceia Preserve State Park is located within Manatee County about seven miles north of the City of Bradenton in the southwestern part of the state. Nearly 3,131,265 people reside within 50 miles of the park and include all or portions of Charlotte, DeSoto, Hillsborough, Manatee, Pasco, Pinellas, Polk and Sarasota counties (Census, 2000). The estimated populations of Manatee, Hillsborough, Pinellas and Sarasota counties have grown 14 percent since 2000 and are projected to grow an additional 11 percent by 2020 (BEBR, University of Florida, 2009). There are approximately 50,000 acres of public lands offering public recreation within 15

miles of the park, including Weedon Island Preserve, Pinellas National Wildlife Refuge, Pine Island Preserve, Emerson Point Preserve, Shell Key Preserve and Fort Desoto Park. State parks within the vicinity include Madira Bickel Mound State Archaeological Site, Judah P. Benjamin Confederate Memorial at Gamble Plantation Historic State Park, Little Manatee River State Park, Egmont Key State Park, Cockroach Bay Preserve State Park and Skyway Fishing Pier State Park. There are also 372,000 acres of aquatic preserves within the 15 miles of the park, including Terra Ceia and Cockroach Bay Aquatic Preserves.

Outdoor recreational opportunities within the region include equestrian, camping, wildlife viewing, hiking, canoe and kayaking, boating, fishing and swimming. Manatee County has been particularly active in developing a 75-mile paddling trail system, the second largest in the United States. Paddlers navigating the Florida Circumnavigational Saltwater Paddling Trail also have water access to the park's mangrove swamp communities and newly created wetlands. The paddling trail begins at Big Lagoon State Park near Pensacola, extends around the Florida peninsula and Keys, and ends at Fort Clinch State Park near the Georgia border. The trail is 1,500 miles long and divided into 26 segments. Segment 9 of the paddling trail accesses the Terra Ceia Aquatic Preserve adjacent to the park. The development of the paddling trail was coordinated by the Office of Greenways and Trails in cooperation with state agencies and local governments.

Recreational boating in waters adjacent to the preserve is limited by water depth to kayaks/canoes, skiffs, pontoon boats, ski boats and other shallow-draft boats. Private and public boat ramps within the area provide access to some local waters. Public boat ramps are located north of the preserve at Cockroach Bay and south of the preserve on the Manatee River in the cities of Palmetto and Bradenton. Private ramps are located south of the park on the Manatee River in Ellenton and Palmetto and on Terra Ceia Bay, also in to Palmetto. No formal boat launching facilities exist in the park.

Existing Use of Adjacent Lands

Terra Ceia Preserve State Park is centrally located in the Tampa Bay area on the southeastern shore of Tampa Bay. The park is framed by shipping port and industrial facilities to the north; residential and remnant agricultural uses to the east; Interstate Highway 275 (I-275) and mixed-use property along its southern boundary; and the aquatic preserve waters of Tampa Bay to the west. Park lands create the shorelines of Bishop Harbor, which is part of the Terra Ceia Aquatic Preserve. Adjacent land based transportation corridors include I-275, U.S. Highway 41 (US-41) and the CSX Transportation Railroad. The Intracoastal Waterway and International shipping lanes lie west of the park and the Terra Ceia Aquatic Preserve.

Planned Use of Adjacent Lands

The County's 2006 Comprehensive Plan identifies the development of the remaining open lands surrounding the park for residential and commercial uses. Large planned developments have been approved along the Interstate Highway 75 corridor with infill advancing west towards US-41. Future Land Use designations of lands adjacent to the park include industrial, office, commercial and residential with higher densities concentrated on the eastern boundary of the state park (Manatee County, 2006). Two adjacent overlay districts are identified in the County's comprehensive plan to the north and south of the preserve. The overlay district to the north is identified as the Planned Development Port Manatee (PDPM). The PDPM is intended to accommodate both current and future seaport needs. Port expansion is currently underway in anticipation for servicing the largest international containerized ships navigating the newly expanded Panama Canal. The Terra Ceia Historical and Archaeological Overlay District (HA) lies southwest of the park within parts of Terra Ceia Island to the west of U.S. Highway 19 (US-19). This overlay district protects distinctive historic and archaeological elements that define the area's history and heritage. The overlay district also provides historic context for the park's century-old Haley House that contains the park's field office (Manatee County, 1998).

As the County's Future Land Use Plan fulfills projected build-outs, the preserve will be significantly impacted by dense population and supporting infrastructure. Historically, urbanization adjacent to park lands accelerates exotic plant and feral and domestic animal encroachment, curtails prescribed burning required for restoration and habitat maintenance, and affects hydrology with impervious surfaces and the concentration of degraded stormwater. Protection of the islands and seagrass beds from inappropriate use, vandalism and boating activities will become more difficult as growing populations gain access to the area. Increased population adjacent to the park has the potential to affect the visitor experience through increased noise, light pollution and a more visible built environment.

PROPERTY ANALYSIS

Effective planning requires a thorough understanding of the unit's natural and cultural resources. This section describes the resource characteristics and existing uses of the property. The unit's recreation resource elements are examined to identify the opportunities and constraints they present for recreational development. Past and present uses are assessed for their effects on the property, compatibility with the site, and relation to the unit's classification.

Recreation Resource Elements

This section assesses the unit's recreation resource elements those physical qualities that, either singly or in certain combinations, supports the various resource-based recreation activities. Breaking down the property into such elements provides a

means for measuring the property's capability to support individual recreation activities. This process also analyzes the existing spatial factors that either favor or limit the provision of each activity.

Land Area and Shoreline

Lands within the park have undergone significant changes during the largest coastal ecosystem restoration effort within the Tampa Bay region. Present and future recreational resources must be considered in tandem with greater flexibility in land use planning to adapt to modifications during the major restoration process occurring at the park. The creation and enhancement of approximately 501 acres of uplands and 117 acres of wetlands and the re-established natural areas and wildlife have provided recreational assets by providing future scenic trails and enhanced venues for paddling, fishing and wildlife viewing. Restored shorelines will enhance recreation by reshaping steep-sided shorelines into natural configurations capable of supporting mangrove communities while providing greater opportunities for canoe/kayak user groups, anglers, birdwatchers and photographers. Newly created uplands will support restored flatwoods communities and provide future visitors with scenic trails and picnic areas.

Present recreational opportunities within newly created or emerging natural communities provide park visitors with opportunities for gaining knowledge of ecological functions and processes in a landscape of reestablishing and developing habitats. Stewardship of natural resources can be fostered within this environment through interpretive panels on proposed trails and at launch sites.

Water Area

Water is park's greatest asset for recreational opportunities by providing visitors with a mosaic of water bodies, including bays, rivers and ponds. Landlocked waters within the park include a number of karst ponds with varying levels of salinity. Current restoration plans call for restoring a portion of these water bodies to historic fresh water features for greater habitat and wildlife diversity. As further discussed in the Conceptual Land Use Plan, visitors will learn about the process and progression of restoration through the park's interpretive programs and the recreational experience will be biologically enriched with the reestablishment of freshwater habitats.

Frog Creek is an estuarine/tidal creek adjacent to the park and is one of the few relatively undeveloped riverine systems in the Tampa Bay watershed. The creek's headwaters are fed by channelized wetlands located five miles northeast of the park. The final two miles of Frog Creek are framed by the park and retain natural bank of oak hammocks and tidal fringe forests. Water depths range between two and six feet and provide visitors with scenic paddling and occasional encounters with manatees.

Adjacent aquatic preserve waters carry designations of Aquatic Preserve and Outstanding Florida Waters rewarding visitors with higher concentrations of wildlife for viewing and sport fishing. The largest sheltered waters adjacent to the park include Bishop Harbor, Williams Bayou, Alderman's Bayou and the Terra Ceia Bay. The depths of the aquatic preserve's waters fluctuate between one to five feet and require adequate channel markers to prevent damage from boats to seagrass beds and hard bottom habitats.

Natural Scenery

The view sheds of Bishop Harbor and the bayous are protected by mangroves and lush islands; a welcome reprieve for area residents and visitors. The removal of large bosques of exotic invasive plants during the restoration process has created dramatic changes to the park's scenery. The remaining original fragments of the park's natural scenery include undeveloped estuarine and freshwater shorelines, karst ponds punctuated by the vivid plumes of roosting birds, and the stark beauty of the salt flats. As the park develops, visitors will have a unique opportunity of observing the transformation of ruderal wastelands into productive native habitats.

Natural Features

Despite past agricultural use and subsequent colonization by exotic plants, the historic landforms of park lands remain intact. Mosquito ditching and localized dredge and fill sites have not dramatically altered the karst landscape and shoreline features that provide a diversity of wildlife habitats. Visitors to the park will enjoy relatively unaltered geological conditions of the park including sinkhole ponds and bayous, which are characteristic of a naturally "drowned" shoreline precipitated by karst geological activity. These geological features support relict native plant communities including maritime hammock, coastal strands, pine/palmetto flatwoods, salt barrens and mangrove forests that interact seamlessly with the submerged systems of the adjacent Terra Ceia Aquatic Preserve.

Archaeological and Historical Features

The County's Terra Ceia Historical and Archaeological Overlay district would be enhanced if the district's boundaries were expanded to include the many historical and archeological features in the park. Looting of the park's pre-historic and historic resources has been documented and resource protection strategies are currently being addressed. Decisions regarding future public access to cultural sites will be addressed on a case-by-case basis and in consultation with Florida Department of State, Division of Historic Resources (DHR). Visitors to the Terra Ceia Bay area currently have access to similar sites, including the Emerson Point Preserve featuring the Portavent Mound, one of the largest temple mounds in Florida, and the Madira Bickel Mound Archaeological State Park.

The historic Haley House, located on Terra Ceia Road, was built in 1909 and was associated with agriculture and real estate land development interests until

acquired by state in the 1990s. As discussed in the RMC, the structure was built as a company show place and residence for T. Ralph Robinson, a respected horticulturist noted in the field of agricultural research. In 1919, the property was purchased by D.G. Haley, a prominent real estate attorney in the Tampa Bay area and a horticultural specialist in the gladiolus nursery trade. Today, the house, commonly referred to as the Haley House by the local community, is considered an area landmark. Remnants of the historic landscape include a wagon-width drive leading to the house and the flanking allée of old Florida royal palms (*Roystonea regi*).

Assessment of Use

All legal boundaries, significant natural features, structures, facilities, roads and trails existing in the unit are delineated on the base map (see Base Map). Specific uses made of the unit are briefly described in the following sections.

Past Uses

Earliest known land alterations by humans within the park began with a change in topography as pre-Columbian predecessors began collecting shellfish and depositing the debris for village foundations. Following the abandonment of the site by these inhabitants, the land remained virtually unused by humans until the 19th century when European agricultural techniques and mine exploration began altering the landscape into its present day configuration of abandoned agriculture fields.

The traditional use of an earthen boat ramp is also located in the park off Bishop Harbor Road. The informal ramp provides limited boating access to Bishop Harbor and Tampa Bay and includes a small, unimproved parking area.

Historic uses within and adjacent to the park's boundaries have significantly altered both the hydrology and the natural community compositions. Nevertheless, current restoration efforts of natural resources can enhance the public's recreational experiences within the improved natural areas as both water and land access to fishing and wildlife areas are developed in concert with the restoration efforts.

Future Land Use and Zoning

The Manatee County Land Development Code identifies three Future Land Use (FLU) designations and five zoning designations for parcels within the park. FLU/zoning designations include Conservation (CON)/zoned for Conservation (CON), Conservation (CON)/zoned for Planned Development-Residential (PD-R), Residential-1 (RES-1)/zoned for Residential Single Family (RSF-1), Residential-1 (RES-1)/zoned for Agriculture-1 (AG-1), and Industrial-Light (IL)/zoned for Planned Development-Port Manatee (PD-PM). Most of the lands within the park are designated as Conservation (CON), the most restrictive. Recreational use and passive activities on these lands may require an Administrative Permit from the

TERRA CEIA PRESERVE STATE PARK

N

0 750 1,500 3,000 Feet

Florida Department of Environment Protection
Division of Recreation and Parks
Date of aerial: 2010

BASE MAP

County for typical state park activities and support facilities (Manatee County, 1998). The DRP works with local governments to establish consistency between comprehensive plans and zoning codes and permit typical state park uses and facilities necessary for the provision of resource-based recreation opportunities.

Current Recreational Use and Visitor Programs

The park is considered the gateway to the Terra Ceia Aquatic Preserve with visitation concentrated at the existing boat launch. Anglers and crabbers also access the water at undesignated entry points near bridges and roads. Boating within the aquatic preserve's waters requires shallow-drafts due to the limited depths and rich natural resources throughout. The park supports additional water recreation, including wildlife observation and access to paddling trails via the Manatee County Blueways Network located within Bishop Harbor and Terra Ceia Bay.

The park has no standard park entry to assess annual attendance nor is the park well configured for this type of support facility. As an alternative, visitors access the recreational resource facilities using County and local roads. By DRP estimates, 10,310 people visited the park during the fiscal year of 2010-2011 and the park contributed more than $644,000 in direct economic impact and the equivalent of twelve jobs to the local economy (Florida Department of Environmental Protection, 2011).

The park's existing boat ramp is currently being redesigned and permitted. An improved boat ramp area is identified in the 2001 approved land management plan for the Terra Ceia State Buffer Preserve. As proposed, the redeveloped area will include an improved boat ramp and floating dock; canoe launch and drop-off; and paved parking for boat trailers (13 spaces) and passenger vehicles (8 spaces). Site amenities will include a portable restroom, pedestrian trails, boardwalk/bridges and interpretive signs.

Park staff utilizes the Haley House and grounds as an administration area. The administration area includes offices, storage facilities and parking. An existing nursery area is used by staff to support restoration projects within the park. Potential impacts to cultural resource sites will be addressed.

Protected Zones

A protected zone is an area of high sensitivity or outstanding character from which most types of development are excluded as a protective measure. Generally, facilities requiring extensive land alteration or resulting in intensive resource use, such as parking lots, camping areas, shops or maintenance areas, are not permitted in protected zones. Facilities with minimal resource impacts, such as trails, interpretive signs and boardwalks are generally allowed. All decisions involving

the use of protected zones are made on a case-by-case basis after careful site planning and analysis.

At Terra Ceia Preserve State Park, approximately 1,911 acres have been designated as protected zones including coastal berm, coastal strand, coastal grassland, shell mound, blackwater stream and estuarine grass bed, as delineated on the Conceptual Land Use Plan.

Existing Facilities

Recreation Facilities

Bishop Harbor Area
Boat ramp
- Earthen ramp
- Unimproved parking, approx. 8 vehicle/trailer spaces
- Picnic tables (2)
- Informational kiosk

Support Facilities

The Haley House and surrounding grounds are currently utilized by the DRP for office and support purposes for the park.

Haley House Administrative Area
- Administration office (Haley House)
- Unimproved parking (10 spaces)
- Picnic tables (2)

Service Area
- Shop building
- Storage sheds (2)
- Unimproved parking (5 spaces)
- Well and pump (fenced and covered)

Nursery Area
- Field nursery area
- Unimproved parking, non-designated spaces

CONCEPTUAL LAND USE PLAN

The following narrative represents the current conceptual land use proposal for this park. As new information is provided regarding the environment of the park, cultural resources, recreational use, and as new land is acquired, the conceptual land use plan may be amended to address the new conditions (see Conceptual Land Use Plan). A detailed development plan for the park and a site plan for specific facilities will be developed based on this conceptual land use plan, as funding becomes available.

LEGEND

- Park Boundary
- Protected Zones
- Proposed Development
- Proposed Kayak Launch
- Proposed Facilities
- Proposed Trails
- Proposed Stabilized Road
- Park Service Roads & Connecting Roads

TAMPA BAY

BISHOP HARBOR

ALDERMANS BAYOU

WILLIAMS BAYOU

TERRA CEIA BAY

CSX TRANSPORTATION

BOAT RAMP/ CANOE/KAYAK REDEVELOPMENT AREA

BISHOP HARBOR RD

PRIMITIVE PADDLE-IN CAMPING AREA
- 2 PRIMITIVE CAMPSITES
- PORTABLE RESTROOM
- 2 CAMPING PLATFORMS

PROPOSED TRAILHEAD

ERDG CREEK

PROPOSED TRAILHEAD

PROPOSED TRAILHEAD

BAYSHORE RD

CENTRAL SHOP & RESIDENCE AREA
- OFFICE
- 3 BAY SHOP
- 2 RESIDENCES
- 6 VOLUNTEER SITES
- STABILIZED ROAD

CANOE/KAYAK LAUNCH & PICNIC AREA

41

TERRA CEIA RIVER

275

GROUP CAMPING AREA
- SMALL BATHHOUSE
- MEDIUM PAVILION
- STABILIZED ROAD

STOTZ RD

PROPOSED TRAILHEAD

HIGHTOWER RD

TERRA CEIA RD

TERRA CEIA RD

HALEY HOUSE ADMINISTRATION AREA
- OFFICES
- MEETING SPACE
- INTERIM VOLUNTEER RV SITES (4)

19

TERRA CEIA PRESERVE STATE PARK

N

0 750 1,500 3,000 Feet

Florida Department of Environment Protection
Division of Recreation and Parks

CONCEPTUAL LAND USE PLAN

During the development of the management plan, the DRP assessed potential impacts of proposed uses or development on the park resources and applied that analysis to decisions on the future physical plan of the park as well as the scale and character of proposed development. Potential impacts are more thoroughly identified and assessed as part of the site planning process once funding is available for facility development. At that stage, design elements (such as existing topography and vegetation, sewage disposal and stormwater management) and design constraints (such as imperiled species or cultural site locations) are more thoroughly investigated. Municipal sewer connections, advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Stormwater management systems are designed to minimize impervious surfaces to the greatest extent feasible, and all facilities designed and constructed using best management practices to avoid impact and to mitigate those that cannot be avoided. Federal, state and local permit and regulatory requirements are met by the final design of the projects. This includes the design of all new park facilities consistent with the universal access requirements of the Americans with Disabilities Act (ADA). After new facilities are constructed, the park staff monitors conditions to ensure that impacts remain within acceptable levels.

Potential Uses

Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities in the park.

The existing recreational activities and programs of the park are appropriate to the natural and cultural resources in the park and should be continued. New and improved activities and programs are also recommended and discussed below.

Objective: Maintain the park's current recreational carrying capacity of 32 users per day.

Power boating, canoeing and kayaking are the park's current recreational activity. Visitors currently access the Terra Ceia Aquatic Preserve, County blueways and Tampa Bay via a small earthen boat launch located on Bishop Harbor Road.

Objective: Expand the park's recreational carrying capacity by 232 users per day.

The DRP will construct three additional canoe/kayak launches to provide paddlers with access to the aquatic preserve, Tampa Bay, Frog Creek, Terra Ceia Bay and paddling trails developed by Manatee County. Paddlers will also have access to a primitive paddle-in camping area off Tampa Bay. Visitors will also be able to hike to the park's natural communities from three proposed trailheads and trail systems designed to provide access to freshwater and saltwater wetland communities, old stands of slash pine, salt flats, and wildlife viewing areas and newly created

habitats undergoing long-term restoration. Amenities that include small picnic shelters, restrooms and interpretive panels are proposed at the new launch sites and at the trailhead located off Hightower Road. Group Camping will also be offered to youth groups. The primitive campsites will be located near the southern shores of Frog Creek.

Objective: Continue to provide the current offering of three interpretive and educational programs on a regular basis.

The park currently offers three interpretive programs to the public. Two outreach programs are designed to foster community stewardship for the park's lands and natural resources. A third outreach program is implemented on campuses of local colleges for volunteer recruitment. Each year, park staff visits local campuses to provide students with an interpretation of the park's natural resources and restoration projects. The program is a successful volunteer catalyst for the park and informs students about opportunities for work experience in land management and natural resource restoration.

Objective: Develop three new interpretive and recreational programs.

A program will be developed to interpret the park's natural and cultural resources. The program will utilize interpretive panels in addition to the proposed hiking trails and canoe/kayak launch sites. Content for interpretive panels will be developed to provide hikers with information about the park's habitat enhancement and restoration projects. Panels at launch sites will provide information about the adjacent aquatic preserve and outlying waters, wildlife and aquatic habitats.

Park visitors will be provided with two recreational programs that utilize proposed hiking and paddling trails. Six and one half miles of new hiking trails will guide visitors to locations with distinctive or exceptional wildlife, plant species, cultural resources and/or natural communities and habitat restoration areas. Three additional launch sites will provide users with access to the County's paddling trails and the park's interior waterways. The new interpretive and recreational programs will provide users with opportunities to learn about and develop appreciation for the park's resources and their importance to the Tampa Bay region.

Proposed Facilities

Capital Facilities and Infrastructure

Goal: Develop and maintain the capital facilities and infrastructure necessary to implement the recommendations of the management plan.

The existing facilities of this state park are appropriate to the natural and cultural resources in the park and should be maintained. New construction, as discussed further below, is recommended to improve the quality and safety of the recreational

opportunities that visitors enjoy while in the park, to improve the protection of park resources, and to streamline the efficiency of park operations. The following is a summary of improved or renovated and new facilities needed to implement the conceptual land use plan for Terra Ceia Preserve State Park:

Objective: Maintain all public and support facilities in the park.

All capital facilities, trails and roads within the park will be kept in proper condition through the daily or regular work of park staff and/or contracted help.

Objective: Improve/repair one existing facility.

Major repair projects for park facilities may be accomplished within the ten-year term of this management plan, if funding is made available. These include the modification of existing park facilities to bring them into compliance with the Americans with Disabilities Act (a top priority for all facilities maintained by the DRP). The park will continue to seek funding to ensure the Haley House is brought into compliance. The following discussion of other recommended improvements and repairs are organized by use area within the park.

Haley House Administration Area. The DRP anticipates the relocation of shop and volunteer RV sites to be constructed at a central support area located near the park's existing nursery area off Bishop Harbor Road. Once the central support area is developed, the Haley House will be evaluated for adaptive reuse. In the interim, the Haley House will continue as an office and support facility for park staff.

Outbuildings adjacent to the Haley House will also be evaluated for reuse or removal by the DRP in consultation with the DHR. Stabilized parking for up to 15 vehicles for staff and visitors is recommended at the current parking area and at the site of the adjacent buildings, if the buildings are removed. As mentioned in the RMC, historical landscaping is included in Phase II of the ecosystem improvement project at the Haley House, including the reestablishing the historic Florida royal palm allée that lines the entry drive.

Interim Shop Area. Up to interim four volunteer-RV sites are proposed at the park's current shop facility located adjacent to the Haley House. The sites will be located within an existing developed area just north of the main house and tie into the park's existing septic system. Volunteer-RV sites will be relocated to the proposed central shop and residence area discussed in the following objective.

Objective: Construct ten new facilities, 6.5 miles of trail and 0.45 mile of road.

<u>Recreation Facilities</u>

Group Camping Area. A primitive group camping area for youths is proposed for park land south of Frog Creek. The parcel is enclosed by fencing, while providing

controlled access from Bayshore Road to Frog Creek and well-maintained mesic hammock habitat. A small bathhouse, canoe/kayak launch fire rings, medium picnic pavilion 0.25-mile stabilized road and stabilized parking for up to 10 vehicles are also recommended. If feasible, the restroom should tie into county sewer services.

Trails and Interpretive Facilities. A hiking trail system incorporating various coastal ecosystems is recommended for the park. The park will provide the public with three trailheads: two located off Bishop Harbor Road, and one located off Hightower Road. All trailheads will have stabilized parking for up to six vehicles, interpretive signs and honor boxes.

A trailhead is proposed for the west side of Bishop Harbor Road, just south of the boat ramp area. The trail will provide visitors with a 1.5-mile loop trail that skirts wetland restoration sites for opportunities to observe wildlife. A second trailhead is also recommended for the east side of the road, about a half-mile south of the previously discussed trailhead area. Approximately 2.5 miles of trail will include two spur trails that meander through wetland and riverine habitats, old stands of slash pine, and upland restoration areas.

A third potential trail is recommended to provide access from Hightower Road to remote areas of the park north of I-275 and west of Frog Creek. The 2.5-mile trail will feature a rookery and salt flats with trail spurs leading to karst ponds and scenic mangrove-rimmed inlets. DRP staff will consult with FWC during trail development, to determine appropriate setbacks for wildlife viewing areas and may limit trail access during breeding season. Due to the wet nature of the surrounding landscape, sections of the trail may require boardwalks to allow for use throughout the year. An observation platform adjacent to the salt flats and a bird blind adjacent to karst ponds will provide visitors with destination sites with views of expansive landscapes and resident wildlife. The park will also provide hikers with a small picnic shelter and small restroom near the parking area.

Canoeing and Kayaking. Three new public launch sites are recommended: two on the upper and lower areas of Frog Creek, and one at the wetland restoration site adjacent to Stotz Road (see Conceptual Land Use Plan). The construction of the proposed lower Frog Creek launch site is dependant on the feasibility of breaching an existing berm on the west bank of the creek and adjacent to Haley House. Each launch site will provide visitors with a small restroom, small picnic pavilion, stabilized parking for six vehicles, honor boxes and interpretive signs.

Primitive Paddle-in Camping Areas. A new primitive camping area geared for paddlers navigating the County's blueways and Florida Circumnavigational Saltwater Paddling Trail is recommended. Up to two primitive campsites,

canoe/kayak landing, honor box and a portable restroom will be located within a scenic natural area of the park and convenient to Tampa Bay. Two camping platforms will be evaluated for two tent sites within the proposed camping sites.

Concession Area. The park would like to establish a concessionaire-modular pay station for kayak rentals. This includes room for trailer parking and an area for a locking kayak storage rack. This facility will be placed at the most appropriate location(s) adjacent the proposed canoe/kayak launches.

Support Facilities

Shop and Residence Area. A central shop compound, two residences, and six volunteer sites are proposed near the existing nursery area off Bishop Harbor Road. Road improvements and stabilized parking for up to 10 vehicles are also recommended. The shop area will include an office, 3-bay equipment shelter, 3-bay shop, chemical and flammable and storage buildings. Redevelopment of the nursery area is recommended to facilitate native plant stock production for ongoing natural community restoration within the park.

Facilities Development

Preliminary cost estimates for these recommended facilities and improvements are provided in the Implementation Component of this plan. These cost estimates are based on the most cost-effective construction standards available at this time. The preliminary estimates are provided to assist the DRP in budgeting future park improvements, and may be revised as more information is collected through the planning and design processes.

New facilities and improvements to existing facilities recommended by the plan include:

Recreation Facilities

Bishop Harbor Road Trail (east)
- Stabilized parking area (up to 6 vehicles)
- Interpretive Trail (1.5 miles)
- Honor box
- Interpretive Signs (6)

Bishop Harbor Road Trail (west)
- Stabilized parking area (up to 6 vehicles)
- Interpretive Trail (1.5 miles)
- Honor box
- Interpretive Signs (10)

Hightower Road Trail
- Stabilized parking area (up to 6 vehicles)
- Interpretive Trail (2.5 miles)

Honor box
Small Picnic Shelter
Small restroom (1)
Interpretive Signs (10)
Sign-in station
Observation platform
Bird blind
Boardwalk (2000 feet)

Frog Creek Paddling Trail (upper and lower creek areas)
Small picnic shelters (2)
Kayak/canoe launches (2)
Honor box
Small restrooms (2)
Stabilized parking areas (2, up to 6 vehicles each) interpretive signs (2)

Stotz Road Canoe Launch
Small picnic shelter
Kayak/canoe launch (1)
Honor box
Small restroom (1)
Interpretive sign (1)
Stabilized parking area at upper creek area (up to 6 vehicles)

Primitive Paddle-in Camping Area
Primitive camp sites (2)
Canoe/kayak landing
Honor box
Camping platforms (2)
Portable Restroom

Group Camp Area
Primitive tent sites
Small bathhouse
Medium picnic pavilion
Canoe/kayak launch
Stabilized road (.25 mile)
Stabilized parking (up to 10 vehicles)

<u>Support Facilities</u>

Relocated Shop Area
Three bay shop (1)
Three bay pole shelter (1)

Staff residences (2)
Volunteer RV sites (6)
Flammable storage building (1)
Chemical storage building (1)
Pump house (1)
Wastewater treatment (1)
Improved access road (.2 mile)
Stabilized parking area (up to 10 vehicles)

Nursery area
Stabilized parking area (up to 3 vehicles and trailer) Haley House Administrative Area
Haley House Rehabilitation
Interim volunteer RV sites (4)
Building demolition (pending evaluation study)
Stabilized parking area (up to 15 vehicles)

Existing Use and Recreational Carrying Capacity

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 7).

The recreational carrying capacity for this park is an estimate of the number of users the unit could accommodate after the current conceptual development program has been implemented. When developed, the proposed new facilities would approximately increase the unit's carrying capacity as shown in Table 7.

Table 7--Existing Use and Recreational Carrying Capacity

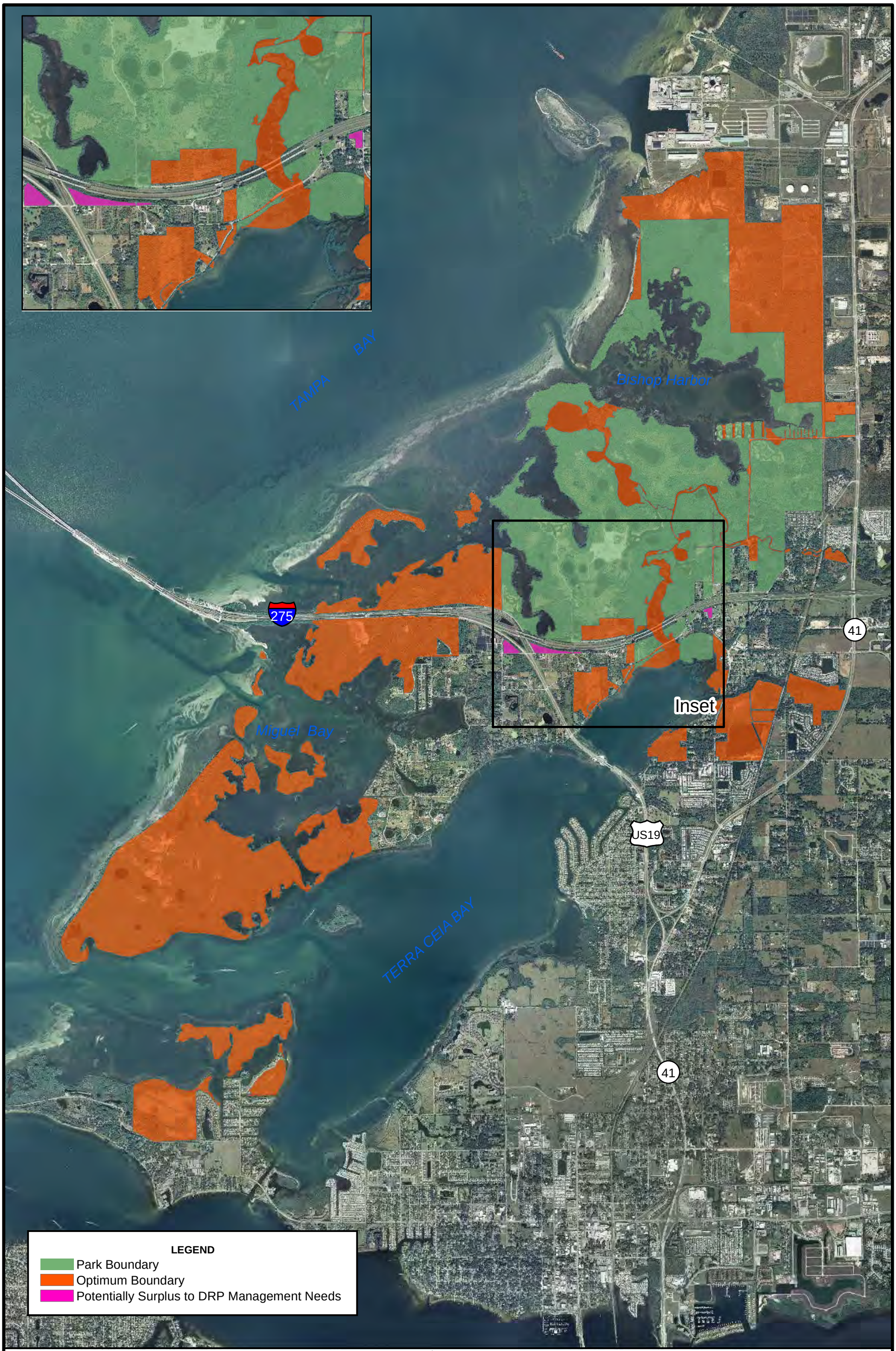
	Existing Capacity		Proposed Additional Capacity		Estimated Recreational Capacity	
Activity/Facility	One Time	Daily	One Time	Daily	One Time	Daily
Primitive Paddle-in Camp	0	0	8	8	8	8
Group Camp	0	0	60	60	60	60
Trails	0	0	36	72	36	72
Canoeing/kayaking	0	0	36	72	36	72
Boating	16	32	10	20	26	52
TOTAL	**16**	**32**	**150**	**232**	**166**	**264**

Proposed carrying capacities for canoeing/kayaking and boating reflect the proposed launch and landing sites and the redeveloped Bishop Harbor Road ramp. Although paddlers may launch from the boat ramp, their numbers are assumed to be included in the estimated existing and proposed boating capacity in this table.

Optimum Boundary

The optimum boundary map reflects lands that have been identified as desirable for direct management by the DRP as part of the state park. These parcels may include public as well as privately owned lands that improve the continuity of existing parklands, provide the most efficient boundary configuration, improve access to the park, provide additional natural and cultural resource protection or allow for future expansion of recreational activities. The map also identifies lands that are potentially surplus to the management needs of the DRP. As additional needs are identified through park use, development, or research, and changes to land use on adjacent private property occurs, modification of the park's optimum boundary may be necessary (see Optimum Boundary Map).

Identification of parcels on the optimum boundary map is intended solely for planning purposes. It is not to be used in connection with any regulatory purposes. Any party or governmental entity should not use a property's identification on the optimum boundary map to reduce or restrict the lawful rights of private landowners. Identification on the map does not empower or suggest that any government entity should impose additional or more restrictive environmental land use or zoning regulations. Identification should not be used as the basis for permit denial or the imposition of permit conditions.



TERRA CEIA
PRESERVE STATE PARK

N

0 1,250 2,500 5,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of areial: 2009

OPTIMUM BOUNDARY MAP

Approximately 2,900 acres of land are identified in the optimum boundary for Terra Ceia Preserve State Park. These parcels are primarily the essential remaining parcels of the Florida Forever Terra Ceia land acquisition project or are lands not in the project boundary that, if acquired, would connect a separated area of the current park property and enhance recreation and land management.

Bishop Harbor Road offers a centralized corridor that currently allows access to the boat ramp, proposed trailhead, proposed shop and existing nursery area. Acquiring parcels to facilitate entry to park lands from Bishop Harbor Road is recommended. These additions would benefit the park by providing faster emergency access and better patrol capabilities by law enforcement, and visitors with a convenient access to lands cut off from vehicular access by private lands. Acquiring parcels adjacent to Hightower Road north of I-275 would provide visitors with improved parking and better visibility for the proposed trailhead and trails located in the northwest sections of the park. The parcels would also provide the DRP with controlled access in this area of the park. At this time, three parcels are being considered for surplus to the management needs of the park. An isolated 2-acre parcel is located south of I-275 at the intersection of Terra Ceia Road and Bishop Harbor Road. A 4.6-acre parcel is located south of I-275 east and west of US-19 and is not contiguous to the park's boundary. A third 6-acre parcel and an additional forth half-acre parcel are owned by SWFWMD. These parcels are not contiguous to the park's boundary and are located south of I-275 and east of US-19.

As additional needs are identified through park use, development, research, and as changes to adjacent land uses on private properties occurs, modification of the park's optimum boundary may be necessary. Examples for modification are the enhancement of natural and cultural resources, improve recreational values and management efficiency, and the removal of parcels that are no longer desirable for state park management.

IMPLEMENTATION COMPONENT

The resource management and land use components of this management plan provide a thorough inventory of the park's natural, cultural and recreational resources. They outline the park's management needs and problems, and recommend both short and long-term objectives and actions to meet those needs. The implementation component addresses the administrative goal for the park and reports on the Division of Recreation and Parks (DRP) progress toward achieving resource management, operational and capital improvement goals and objectives since approval of the previous management plan for this park. This component also compiles the management goals, objectives and actions expressed in the separate parts of this management plan for easy review. Estimated costs for the Ten--year period of this plan are provided for each action and objective, and the costs are summarized under standard categories of land management activities.

MANAGEMENT PROGRESS

Since lands within Terra Ceia Preserve State Park came under lease and management by the DRP, significant work has been accomplished and progress made towards meeting the DRP's management objectives for the park. These accomplishments fall within three of the five general categories that encompass the mission of the park and the DRP.

Acquisition

- The State purchased 35 additional acres for the park in 2007.

Park Administration and Operations

- A slide-in firefighting unit was purchased with grant funding.
- Park staff obtained grant funding to purchase a heavy disc harrow for resource management.
- In collaboration with CAMA, park staff established a conference room and offices in the Haley House.
- Park staff established a volunteer program at the park.

Resource Management

Natural Resources

- Park staff procured a grant from National Fish and Wildlife Foundation to restore the Hagen Parcel. The $83,441 grant funded invasive exotic plant treatments for Category I and II species and provided native plants for the reintroduction of trees, shrubs and groundcover.
- 328,821 plants were installed in wetland and upland restoration zones, including 290,922 native freshwater and estuarine plant species and 37,899 native upland trees, shrubs, and grasses.
- Over 1000 of the park's Sabal palms (*Sabal palmetto*) were transplanted from wetland excavation project areas to adjacent upland communities within the park. Approximately 95 percent of the relocated palms survived.

- Thirty-two of the park's abandoned agricultural water wells have been located, logged and permanently sealed.
- More than 50 tons of illegally dumped debris (tires, auto parts, boats, furniture, building materials, etc.) was removed from the park.
- In partnership with the Department of Environmental Protection and the Tampa Bay Watch program, the Surface Water Improvement and Management (SWIM) organized 17 volunteer events at the park. As a result, more than 1,200 volunteers donated over 6,000 hours clearing debris and installing almost 90,000 upland and wetland plant species.
- The largest Tampa Bay volunteer marsh-planting event was conducted at the park in 2007. Within 2 hours, 350 volunteers installed 34,000 plugs of marsh grasses on 32 acres of restored intertidal habitats.
- Park volunteers saved taxpayers an estimated $120,000 for marsh planting and debris cleanup.
- Staff initiated a feral hog removal program for the park.

Cultural Resources

- In 2006, a historic preservation-matching grant was utilized for structural, interior and exterior repairs, ADA compliance projects, electrical work and the installation of a new HVAC system at the Haley House.
- More than 70 cultural sites have been identified within the park.
- In 2010, all the park's known cultural sites were located by an archeologist and staff.

Recreation and Visitor Services

- Park staff conducted interpretive talks at adjacent commercial campgrounds.
- A 0.5-mile interpretive trail was established at the Haley House to teach visitors natural community identification.
- Interpretive programs have been developed to recruit interns from local colleges.

Park Facilities

- Engineered drawings have been completed for the redevelopment of the boat ramp area located on Bishop Harbor Road. The facility will include a boat ramp, a canoe/kayak launch and parking. The project is currently in permitting.

MANAGEMENT PLAN IMPLEMENTATION

This management plan is written for a timeframe of ten years, as required by Section 253.034 Florida Statutes. The Ten-Year Implementation Schedule and Cost Estimates (Table 7) summarize the management goals, objectives and actions that are recommended for implementation over this period, and beyond. Measures are identified for assessing progress toward completing each objective and action. A time frame for completing each objective and action is provided. Preliminary cost estimates for each action are provided and the estimated total costs to complete each objective are computed. Finally, all costs are consolidated under the following five standard land

management categories: Resource Management, Administration and Support, Capital Improvements, Recreation Visitor Services and Law Enforcement.

Many of the actions identified in the plan can be implemented using existing staff and funding. However, a number of continuing activities and new activities with measurable quantity targets and projected completion dates are identified that cannot be completed during the life of this plan unless additional resources for these purposes are provided. The plan's recommended actions, time frames and cost estimates will guide the Division's planning and budgeting activities over the period of this plan. It must be noted that these recommendations are based on the information that exists at the time the plan was prepared. A high degree of adaptability and flexibility must be built into this process to ensure that the Division can adjust to changes in the availability of funds, improved understanding of the park's natural and cultural resources, and changes in statewide land management issues, priorities and policies.

Statewide priorities for all aspects of land management are evaluated each year as part of the process for developing the Division's annual legislative budget requests. When preparing these annual requests, the Division considers the needs and priorities of the entire state park system and the projected availability of funding from all sources during the upcoming fiscal year. In addition to annual legislative appropriations, the Division pursues supplemental sources of funds and staff resources wherever possible, including grants, volunteers and partnerships with other entities. The Division's ability to accomplish the specific actions identified in the plan will be determined largely by the availability of funds and staff for these purposes, which may vary from year to year. Consequently, the target schedules and estimated costs identified in Table 7 may need to be adjusted during the ten-year management planning cycle.

Table 8
Terra Ceia Preserve State Park
Ten-Year Implementation Schedule and Cost Estimates
Sheet 1 of 4

NOTE: THE DRP'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.				
Goal I: Provide administrative support for all park functions.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Continue day-to-day administrative support at current levels.**	Administrative support ongoing	C	**$135,847**
Objective B	**Expand administrative support as new lands are acquired, new facilities are developed, or as other needs arise.**	Administrative support expanded	UFN	**$300,000**
Goal II: Protect water quality and quantity in the park, restore hydrology to the extent feasible, and maintain the restored condition.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Conduct/obtain an assessment of the park's hydrological restoration needs.**	Assessment conducted	C	**$29,733**
Action 1	Continue to coordinate and assist the SWFWMD with assessing the Preserve's hydrological needs	Hydrology restored	C	$29,733
Objective B	**Restore natural hydrological conditions and functions to approximately 15 acres of marsh lake, depression marsh, and mesic hammock.**	# Acres restored or with restoration underway	LT	**$9,752**
Action 1	Fill-in approximately 0.2 miles of relic agricultural drainage ditches.	# Miles of ditches filled	LT	$9,752
Objective C	**Monitor the results of wetland creation conducted by the SWFWMD/SWIM program.**	Monitoring ongoing	C	**$131,664**
Action 1	Establish photo stations, wildlife usage observations and vegetative monitoring sites	surveys		$131,664
Objective D	**Determine the appropriate corrective measures for haul roads and residual spoil piles from grading operations under the SWIM program.**	Study complete	ST	**$2,107**
Goal III: Restore and maintain the natural communities/habitats of the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Within 10 years have 400 acres of the park maintained within optimal fire return interval.**	# Acres within fire return interval target	LT	**$39,387**
Action 1	Develop/update annual burn plan.	Plan developed	C	$16,000
Action 2	Manage fire dependent communities for ecosystem function, structure and processes by burning between 30 - 40 acres annually, as identified by the annual burn plan.	Average # acres burned annually	C	$20,000
Action 3	Develop a Fire Management Plan and burn prescriptions for each appropriate management zone.	Plan and burn prescriptions developed	ST	$3,387

* 2012 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Table 8
Terra Ceia Preserve State Park
Ten-Year Implementation Schedule and Cost Estimates
Sheet 2 of 4

NOTE: THE DRP'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.				
Objective C	**Supplement the Fire Management Plan with a plan for the application of prescribed fire as a tool to promote the recovery of upland natural communities on SWFWMD/ SWIM ecosystem restoration, improvement, and creation lands.**	Plan supplement developed	ST	**$16,000**
Objective D	**Continue coordination with SWIM for the Phase 7 Upland Restoration project.**	# Acres created of creation underway	LT	**$9,806**
Objective E	**Continue maintenance and monitoring of the ecosystem improvement project on 86.5 acres at the Haley House complex, Hagen parcel, Mariposa Key, and Harbor Key.**	# Acres improved or with improvement underway	UFN	**$89,388**
Action 1	Continue to improve ecosystems within 86.5 acres of the Halley House complex by chemically and/or mechanically treating invasive exotic plants.	# Acres treated	ST	$74,582
Action 2	Continue to replant native species within the complex.	# Acres planted	UFN	$14,806
Objective F	**Expand the scope, but not the acreage, of the ecosystem improvement project at the Haley House parcel.**	# Acres improved or with improvement underway	UFN	**$24,477**
Objective G	**Conduct natural community/habitat improvement activities on 623 acres of natural communities**	# Acres improved or with improvement underway	UFN	**$185,000**
Objective H	**Assess the feasibility for upland ecosystem improvements in areas that have not received a project by SWIM/ SWFWMD.**	Assessment completed	UFN	**$1,377**
Goal IV: Maintain, improve or restore imperiled species populations and habitats in the park.		**Improvement underway**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Update baseline imperiled species occurrence inventory lists for plants and animals, as needed.**	List updated	C	**$10,108**
Action 1	Vaildate current species lsit	List updated	ST	**$8,608**
Action 2	Establish a verified species occurrence database that includes geo-referenced data where possible.	Database initiated	ST	**$1,500**
Objective B	**Monitor and document 11 imperiled wading birds and shorebirds in the park.**	# Species monitored	C	**$11,903**
Objective C	**Monitor and document 2 selected imperiled plant species in the park (wild cotton and Florida mayten) at Tier 2.**	# Species monitored	C	**$5,165**

* 2012 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Table 8
Terra Ceia Preserve State Park
Ten-Year Implementation Schedule and Cost Estimates
Sheet 3 of 4

NOTE: THE DRP'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.				
Goal V: Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Annually treat 100 acres of exotic plant species in the park.**	# Acres treated	C	**$142,000**
Action 1	Annually update, and implement exotic plant management work plan.	Plan updated and implemented	C	$16,000
Action 2	Implement annual work plan by treating 100 acres in park, annually, and continuing maintenance and follow-up treatments, as needed.	Plan implemented	C	$126,000
Objective B	**Implement control measures on one (1) nuisance and exotic animal species in the park (feral hogs).**	# Species for which control measures implemented	UFN	**$153,290**
Goal VI: Protect, preserve and maintain the cultural resources of the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Assess and evaluate 33 of 77 recorded cultural resources in the park.**	Evaluation completed	LT	**$2,468**
Action 1	Complete 33 assessments/evaluations of archaeological sites. Prioritize preservation and stabilization projects.	Assessments complete	LT, ST	$2,468
Objective B	**Compile reliable documentation for all recorded historic and archaeological resources.**	Documentation completed	LT	**$23,377**
Action 1	Ensure all known sites are recorded or updated in the Florida Master Site File.	# Sites recorded or updated	ST	$12,260
Action 2	Complete a predictive model for high, medium and low probability of locating archaeological sites within the park.	Map completed	UFN	$11,117
Objective C	**Bring 9 of 77 recorded cultural resources into good condition.**	# Sites in good condition	LT	**$31,600**
Action 1	Design and implement regular monitoring programs for 3 cultural sites	# Sites monitored	C	$15,900
Action 2	Create and implement a cyclical maintenance program for each cultural resource.	Programs implemented	C	$15,700
Goal VII: Provide public access and recreational opportunities in the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Maintain the park's current recreational carrying capacity of 32 users per day.**	# Recreation/visitor opportunities per day	C	**$108,678**
Objective B	**Expand the park's recreational carrying capacity by 232 users per day.**	# Recreation/visitor opportunities per day	UFN	**$700,000**
Action 1	Develop 3 new canoe/kayaking, 4 new picnicking 4 new hiking opportunities, 1 primitive group camping and 1 canoe/kayak primitive camping opportunities.	# Recreation/visitor opportunities per day	UFN	$700,000

* 2012 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Table 8
Terra Ceia Preserve State Park
Ten-Year Implementation Schedule and Cost Estimates
Sheet 4 of 4

NOTE: THE DRP'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.				
Objective C	**Continue to provide the current offering of 3 interpretive and educational programs on a regular basis.**	# Interpretive/education programs	C	**$18,000**
Objective D	**Develop 3 new interpretive, educational and recreational programs.**	# Interpretive/education programs developed	UFN	**$15,000**
Goal VIII: Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Maintain all public and support facilities in the park.**	Facilities maintained	C	**$108,678**
Objective B	**Continue to implement the park's transition plan to ensure facilities are accessible in accordance with the American with Disabilities Act of 1990.**	Plan implemented	UFN	**$10,000**
Objective C	**Improve or repair 1 existing facility as identified in the Land Use Component.**	# Projects completed	UFN	**$207,000**
Objective D	**Construct 10 new facilities, 6.5 miles of trail and 0.45 mile of road as identified in the Land Use Component.**	# Projects completed	UFN	**$3,570,000**
Objective E	**Expand maintenance activities as existing facilities are improved and new facilities are developed.**	Facilities maintained	UFN	**$1,000,000**
Summary of Estimated Costs				

Management Categories		**Total Estimated Manpower and Expense Cost* (10-years)**
Resource Management		**$918,603**
Administration and Support		**$435,847**
Capital Improvements		**$4,895,678**
Recreation Visitor Services		**$841,678**
Law Enforcement Activities[1]		
	1Law enforcement activities in Florida State Parks are conducted by the DEP Division of Law Enforcement and by local law enforcement agencies.	

* 2012 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Addendum 1—Acquisition History

Purpose of Acquisition:

The mangrove swamps and flatwoods on the islands and mainland around Terra Ceia Bay are some of the last natural lands left on the southeast shore of Tampa Bay. The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida ("Trustees") initially acquired Terra Ceia State Buffer Preserve to protect and restore this natural area, helping to preserve the fishery and manatee feeding grounds in the preserve and giving the public an area in which to fish, boat, and enjoy the original landscape of Tampa Bay.

Sequence of Acquisition:

On February 24, 1999, the Trustees acquired undivided 50% interest in a 1,372.02-acre property constituting the initial area of Terra Ceia State Buffer Preserve. The Trustees acquired the property from the Southwest Florida Water Management District ("SWFWMD"), which retained undivided 50% tile interest in the property. The Trustees acquired this interest in the property for $750,000, and the acquisition was funded under the Conservation and Recreation Lands ("CARL") program. Since the February 24, 1999, initial acquisition, the Trustees and SWFWMD have jointly acquired several parcels and added them to the preserve.

In addition to the parcels that it acquired jointly with the SWFWMD, the Trustees also purchased some parcels with 100 percent title interest to be managed as part of Terra Ceia State Buffer Preserve. One of these parcels was acquired through a donation, and others were purchased under Florida Forever Additions and Inholdings program.

Title Interest:

The Trustees and SJRWMD hold undivided 50% interest title interest in a certain portion of Terra Ceia Preserve State Park, and the Trustees has 100 % fee simple title to the remaining portion of the park.

Lease Agreement:

Since Terra Ceia Preserve State Park was initially purchased to be managed as a state buffer preserve, the property was leased to the Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas ("CAMA"). CAMA, which leased Terra Ceia State Buffer Preserve from the Trustees on March 17, 1999, managed the property under Lease No. 4191 until it transferred its leasehold interest to the State of Florida Department of Environmental Protection, Division of Recreation and Parks ("DRP"), on July 1, 2004.

Once the leasehold interest in Terra Ceia State Buffer Preserve was transferred to DRP, DRP changed the name of the property to "Terra Ceia Preserve State Park" and started managing the property under the same lease number, Lease No. 4191, but for public outdoor recreational, park, conservation and related purposes.

Since DRP took over the management of Terra Ceia Preserve State Park in July of 2004, the Trustees has purchased certain parcels with 100 percent fee title interest and leased them to DRP

to manage as part of Terra Ceia Preserve State Park. DRP manages these Trustees-owned parcels under a different lease, Lease No. 4673.

The two leases, Lease No. 4191 and 4673, are for a period of fifty (50) years each. Lease No. 4191, which commenced on March 17, 1999, will expire on March 16, 2049; and Lease No. 4673, which commenced on April 11, 2011, will expire on April 10, 2061. The two leases comprise the present area of Terra Ceia Preserve State Park.

DRP manages Terra Ceia Preserve State Park to develop, conserve and protect the natural and cultural resources of the property and to use the property for resource-based public outdoor recreation that is compatible with the conservation and protection of the property.

Special Conditions on Use:

Terra Ceia Preserve State Park is designated single-use to provide resource-based public outdoor recreation and other park related uses. Uses such as water resource development projects, water supply projects, storm-water management projects, and linear facilities and sustainable agriculture and forestry, unless specifically stated otherwise in the park's Unit Management Plan, are not consistent with the management purposes of the park and will be discouraged.

Addendum 2—Advisory Group Members and Report

Local Government Representatives

The Honorable Carol Whitmore, Chair
Manatee County Board of
County Commissioners
1112 Manatee Avenue West
Bradenton, Florida 34205

Jennifer Brunty, Chair
Manatee River Soil and Water
Conservation District
6942 Professional Parkway East
Sarasota, Florida 34240

Agency Representatives

Kevin Kiser, Park Manager
Gamble Plantation Historic State Park
3708 Patten Avenue,
Ellenton, Florida 34222

Mike Keegan
Florida Forest Service
4723 53rd Avenue East
Bradenton, Florida 34203

Paul Thomas, Biological Scientist IV
Florida Fish and Wildlife
Conservation Commission
3900 Drane Field Road
Lakeland, Florida 33811

Will Miller, Land Use and Project
Manager
Land Use & Protection Manager
Southwest Florida Water Management
District
2379 Broad Street
Brooksville, Florida 34604

Representative:
Manny Lopez
Senior Environmental Scientist
Southwest Florida Water Management
District
2379 Broad Street
Brooksville, Florida 34604

Gary Lytton, Environmental
Administrator
Coastal and Aquatic Managed Areas
Rookery Bay NERR
300 Tower Road
Naples, Florida 34113-8031

Environmental and Conservation
Representatives
Barb Singer, President
Manatee County Audubon Society
4458 Coco Ridge Circle
Sarasota, Florida 34233

Dave Feagles, President
Florida Native Plant Society,
Serenoa Chapter
5324 Potter Street
Sarasota, Florida 34232

Recreational User Representatives

Kurt Zuelsdorf
Kayak Nature Paddling Club
6201 9th Avenue S.

Richard Shaurette, Commodore
Bradenton Yacht Club
4612 Arlington Road
Palmetto, Florida 34221

Adjacent Landowner

Mr. Bill Burger
377 Terra Ceia Road
Terra Ceia Island, Florida 34250

Park Volunteer
Brian MacHarg
Director of Service Learning
Eckerd College
4200 54th Avenue South
St. Petersburg, Florida 33711

Terra Ceia Preserve State Park

DEP Advisory Group Staff Report

The Advisory Group meeting to review the proposed land management plan for Terra Ceia Preserve State Park was held at Judah P. Benjamin Confederate Memorial at Gamble Plantation Historic State Park on February 2, 2012 at 9:00 a.m.

Manny Lopez represented Will Miller. The Honorable Carol Whitmore (Chair, Manatee County Board of County Commissioners) was not in attendance. Ms. Jennifer Brunty was not in attendance, but attended the previous Public Workshop and did not provide written comments. All other appointed Advisory Group members were present. Members of the general public included David Smolker. Attending staff were Valinda Subic, Ezell (BJ) Givens, Kevin Kiser, Stephen Raymond and Jillaine (Jill) Owens.

Ms. Jill Owens began the meeting by explaining the purpose of the Advisory Group and reviewing the meeting agenda. She provided a brief overview of the Division's planning process and summarized public comments received during the previous evening's public workshop. She then asked each member of the advisory group to express his or her comments on the plans.

Summary of Advisory Group Comments

Ms. Barb Singer (Manatee County Audubon Society) said she was excited about the Park, encouraged the development of the proposed plan and said the proposals were in line with the Manatee County Audubon Society's conservation mission. She also provided corrections for the for the park's species list.

Mr. Kevin Kiser (Terra Ceia Preserve State Park) recognized comments provided at the Public Workshop regarding the need to include boundary fencing within the plan for the protection of resources and to control access to remote areas of the park.

Mr. Kurt Zuelsdorf (Kayak Nature Paddling Club) noted increased egret sightings within the Park's mangrove community. He expressed concern regarding the control and quality of water runoff from adjacent lands and needed stormwater improvements to protect the quality of the Park's resources and the visitor experience. He suggested that proposed trail design include recycle bins with corresponding interpretive signs. He encouraged DRP to charge admission fees and include honor boxes as soon as possible to bring additional revenue to the park and acclimate visitors to the practice. Mr. Zuelsdorf requested that the park consider a vendor maintained kayak shuttle service from the Haley House to the proposed launch sites to encourage visitor use. He also requested more information about the management of wild pigs within the park. Mr. Kiser identified the Park's use of honor boxes at boat launch. He also confirmed the presence of wild pigs within the park and explained that the park has an ongoing management program that includes trapping and removing to control the species.

Mr. Bill Burger (Adjacent Landowner) suggested the Division of Recreation and Parks (DRP) develop bilingual interpretive signs to encourage visitation from the adjacent large Spanish community. He supported the plan and said that management of the Park's cultural resources have been well addressed throughout the plan. Mr. Burger suggested edits and provided corrections to address historical shell removal, identified Terra Ceia as an island, due to the location of Frog Creek, and requested removal of information that compromised sensitive cultural sites. Mr. Burger provided clarification regarding cultural research and documentation, collaborative efforts between contracted archaeologists and the Department of Historical Resources (DHR), including the artifact storage. He said he planned to push for an expansion County's historic overlay district to include the town of Terra Ceia's eastern lands, which contain also contain Park lands. Mr. Burger said the Park did not contain one of the oldest pre-historic mounds within the Tampa Bay region, but contains the largest. He requested that the proposed trail alignments be restricted to the uplands to curtail the use of boardwalks, which require higher maintenance. Mr. Burger identified lands east of Robonia (Florida) that contain the headwaters of McMullen Creek and inquired if DRP was making efforts to acquire those lands. He also requested that Southwest Florida Water Management District (SWFWMD) lands be identified on the Optimum Boundary map. Mr. Burger also said his family is willing to donate or loan the park archeological objects related to the mounds. He expressed concern over the limits of the predictive model's role in the protection of cultural resources. Ms. Owens explained that the model was developed as a standardized survey to allow DRP to focus Phase I surveys and guides staff in the planning and development of facilities. She added that the model is a cost savings to the Park and suggested he contact the Bureau of Natural and Cultural Resources for further information. Mr. Raymond informed Mr. Burger that Office of Coastal and Aquatic Managed Areas (CAMA) had identified the McMullen Creek headwaters for acquisition. Ms. Subic identified the plan's Vicinity and Reference maps to use as references locate SWFWMD managed areas.

Mr. Dave Feagles (Florida Native Plant Society, Serenoa Chapter) informed the group he did not understand the scale and importance of the restoration efforts at the Park and was impressed by the project's success. He requested additional language in the opening paragraphs to highlight the significance of the restoration to the region. He requested honor boxes be provided to establish entry points and foster respect for the Park. He requested more information from staff regarding the restoration of Mariposa Key and the security needs of the park. Mr. Feagles stated that a final future use plan needed to be developed for the Park to improve management and protection of its resources. Mr. Feagles requested more information be included in the Resource Management Component (RMC) about natural community restoration strategies. He requested that the species list be expanded to include known mammals, including coyotes. He inquired about the Park's least tern colony and said restoration of the "airplane" area seemed to be in conflict with proposed monitoring of the birds. He asked for an explanation of the proposed Optimum Boundary and inquired if DEP had

a disaster plan addressing breaches of Piney Point's wastewater. Mr. Raymond gave an update of the current natural community conditions previously inhabited by the least terns. He said revegetation of newly created lands through the restoration process no longer offer nesting and resting conditions for the species. Mr. Raymond stated that DRP considers the acquisition and surplus of park lands based on the management needs of the park. Mr. Lopez informed the group that SWFWMD was also revising their land holdings based on similar criteria. Mr. Raymond identified a disaster plan developed by CAMA for the Terra Ceia Aquatic Preserve. Mr. Feagles followed up with a request for a revision to the RMC that includes a description of CAMA's plan.

Mr. Paul Thomas (Florida Fish and Wildlife Conservation Commission) recommended mentioning submerged community restorations in the Recreation Resource Elements section of the Land Use Component. Mr. Thomas suggested the park consult with him regarding restoration funds available through the Florida Fish and Wildlife Conservation Commission's (FFWC) grant program and interagency collaborative projects. He inquired about current public outreach programs that promote interest in conservation of natural resources among the youth. He said he liked the format of the 10-Year Implementation Component and Cost Estimates (Table 8) and that FFWCC would like to assist Park staff with water sampling to identify species. He also said FFWCC would provide guidance for obtaining a boating improvement grant. Ms. Owens explained that the park's interpretive programs would rely on visioning with respect to the reestablishment natural communities and need for conservation of existing resources. She said the proposed primitive group camp for youths would provide opportunities to teach through proposed interpretive and educational programs. Mr. Raymond thanked Mr. Thomas for identifying available resource management services and funding through FFWCC. He also identified the species list as a work in progress that will be updated as more information becomes available.

Mr. Brian MacHarg (Eckerd College Service Learning) supported the plan and suggested including volunteer statistics to emphasize the importance of human capital. He said additional information about the mutual benefits of service with regard to education and career opportunities would stimulate student interest in volunteerism. Ms. Owens said she would expand language to include additional information with respect to volunteer services and related mutual benefits.

Mr. Manny Lopez (Southwest Florida Water Management District) Mr. Lopez stated he liked the plan and that staff had accurately documented SWFWMD's interests. He said the Management Zones table (Table 1) needed clarification to distinguish the lands intended for prescribed fire. He also supported the use of park fees as a revenue source. Mr. Thomas asked about the types of user fees being discussed by DRP including, entrance, boat ramp and other facility fees. Mike Keegan added that fees would provide opportunities to sell annual passes. Mr. Lopez explained that the recent initiative to identify potential surplus lands provided an opportunity for Water Management

Districts to transfer management responsibly of some of their lands to the Trustees to benefit existing lands owned by the State. Mr. Lopez inquired if DRP had considered the borrow pit ponds east of the park for paddling gateways. He added that pond banks could be regraded to support safe recreational use and that the agencies combine efforts to retain resource lands that support their core missions. Ms. Subic said lands scheduled for burning this year would be identified within Table 1 for clarification. She also explained that other parks with main entrances have fees for boat ramps, but this park needed satellite honor boxes due to direct public road access. Mr. Raymond confirmed the difficulty of fee enforcement, but added that portions of the park could be fenced for visitor safety and resource protection. Mr. Raymond explained that management of the borrow pit pond area would be costly due to the site's extensive mowing requirements.

Mr. Richard (Rick) Shaurete (Bradenton Yacht Club) said the plan was well written. He said as a taxpayer and recreational user, he supported DRP's approach of balanced conservation and recreational use of state owned lands. He also requested the Park charge user fees to offset operational and capital improvement costs. He said he was concerned that the development of recreational facilities by State and Local governments might be wasting tax money due to overlapping public uses and that all recreational interests may not be met. Mr. Shaurete asked how capacity and recreational potential was determined in order to curtail the wasteful spending of tax money. Ms. Owens identified DRP's use of the Statewide Comprehensive Outdoor Recreation Plan, (SCORP), an outdoor recreation document that contains a statewide inventory of existing facilities and evaluations of future recreational needs. She explained that the document provided information that can be used to limit the development of overlapping facilities by Federal, State and Local governments. Mr. Shaurete requested the SCORP be mentioned in the plan to promote funding.

Mr. Mike Keegan (Florida Forest Service) commended DEP on the park's restoration efforts and identified the park as a very inviting place to learn about coastal habitat. He was concerned about future funding sources and said it was imperative for DRP to network to promote volunteers to maintain and continue restoration work. He said FFS would like to assist with the park with prescribed fires and acknowledged the challenge of smoke management with regard to the adjacent transportation corridors. He also asked why DRP had retained parcels east of the railroad tracks. Mr. Raymond thanked FFS for their support of the park's proposed burn program. Mr. Raymond explained that the parcels east of the railroad tracks had undergone restoration of natural communities by SWFWMD, provide the Park with frontage on US-41 frontage and protects the headwaters of McMullen Creek.

Summary of Public Comments

Mr. David Smolker requested to speak to the Advisory Group and then explained a development concept currently being considered by DEP for recreational and other facilities on Rattlesnake Key and adjacent areas.

Summary of Written Comments

Dr. Randy Runnels (CAMA) provided written comments. He requested protective buffers for the Park's surface waters and submerged communities that are linked to the natural systems of aquatic preserve. He identified existing and potential impacts from the ongoing erosion of clay-ladened fill of existing haul roads, ditch filling, and newly created uplands and wetlands. He requested further information be added to the plan about the boat ramp redevelopment area and possible impacts to wildlife and submerged communities. Dr. Runnels noted capacity limitations of the existing septic system for the Haley House and discouraged development of the primitive paddle-in camping area due to unauthorized use by power boaters, loss of rare habitat and limited emergency services.

Mr. Bill Burger (Adjacent Landowner) provided written comments reflective of his verbal comments presented to the Advisory Group.

Mr. Dave Feagles (Florida Native Plant Society, Serenoa Chapter) provided written comments reflective of his verbal comments presented to the Advisory Group.

Staff Recommendations

The staff recommends approval of the proposed management plans Terra Ceia Preserve State Park as presented, with the following significant changes:

Edits to the RMC will include updates to Table 1 that identify acreage scheduled for burns in 2012, removal of descriptions that may compromise the Park's cultural sites and correct information to reflect recent information about prehistoric sites. Addendum 5 will be updated to include additional documented mammal species. Updates to the RMC will include provisions for proposed boundary fencing and additional honor boxes. Property analysis descriptions will identify portions of the Park as an island, correct the regional significance and park's largest mound and add additional information regarding promoting volunteerism within the park. The CLUP map will reflect the extant of Frog Creek and Terra Ceia River. The LUC will be edited to include honor boxes for the proposed hiking and paddling trailheads.

Notes on Composition of the Advisory Group

Florida Statutes Chapter 259.032 Paragraph 10(b) establishes a requirement that all state land management plans for properties greater than 160 acres will be reviewed by an advisory group:
"Individual management plans required by s. 253.034(5), for parcels over 160 acres, shall be developed with input from an advisory group. Members of this advisory group shall include, at a minimum, representatives of the lead land managing agency, co-managing entities, local private property owners, the appropriate soil and water conservation district, a local conservation organization, and a local elected official."

Advisory groups that are composed in compliance with these requirements complete the review of State park management plans. Additional members may be appointed to the groups, such as a representative of the park's Citizen Support Organization (if one exists), representatives of the recreational activities that exist in or are planned for the park, or representatives of any agency with an ownership interest in the property. Special issues or conditions that require a broader representation for adequate review of the management plan may require the appointment of additional members. The Division's intent in making these appointments is to create a group that represents a balanced cross-section of the park's stakeholders. Decisions on appointments are made on a case-by-case basis by Division of Recreation and Parks staff.

Addendum 3—References Cited

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Palmer, M. 1999. Personal communication on June 29, about karst hydrology. King Engineering, Tampa, Florida.

Schnapf, A. A. 1999. Personal communication about migrant bird species at Terra Ceia. Audubon.

The New Georgia Encyclopedia. 2006. *Lower Coastal Plain and Coastal Islands*. Georgia Humanities Council and the University of Georgia Press.

USDA Soil Conservation Service. 1983. *Soil survey of Manatee County.* Washington, D.C. 159 pp + maps.

Addendum 4—Soils Descriptions

(5) Bradenton fine sand, limestone substratum – This is a nearly level, poorly drained soil on low-lying ridges and hammocks. Slopes are smooth and range from 0 to 2 percent.

Typically, the surface layer is very dark gray fine sand 6 inches thick. The subsurface layer in the upper part is grayish brown fine sand 11 inches thick and the lower part is brown fine sand 2 inches thick. The subsoil is fine sandy loam to a depth of 47 inches. In the upper part if is grayish brown to a depth of 30 inches, and below hat, it is mottled grayish brown, light brownish gray, and yellowish brown. Below the subsoil there is hard limestone that has fractures and solution holes.

Many areas are used for citrus or urban development. Some areas are used for vegetables. The native vegetation consists of slash pine, laurel and live oak, cabbage palm, waxmyrtle, magnolia, bluestems, sawpalmetto, and various vines.

(8) Canaveral fine sand, 0 to 5 percent slopes – This is a nearly level to gently sloping, moderately well drained to somewhat poorly drained soil on narrow to broad dunelike ridges on the larger islands and keys and in some places on the mainland. The most extensive areas are on Anna Maria and Longboat Keys, and they range from a few hundred yards to 2 miles in width.

Typically, the surface layer is dark grayish brown fine sand about 6 inches thick. The underlying material to a depth of about 17 inches is yellowish brown fine sand. Below that, to a depth of 34 inches it is light yellowish brown fine sand and about 45 percent shell fragments. It is very pale brown sand and shell fragments to a depth of 65 inches or more.

The natural vegetation consists of salt-tolerant grasses and scattered palmetto in areas near the Gulf of Mexico.

(13) Chobee loamy fine sand – This is a nearly level, very poorly drained soil that is in small to large depressions, poorly defined drainageways, and on broad, low flats. Slopes are smooth to concave and range from 0 to 2 percent.

Typically, the surface layer is black loamy fine sand about 8 inches thick. The subsoil is sandy clay loam 43 inches thick. In the upper part is very dark gray to a depth of 44 inches, and below that, it is dark gray. The substratum to a depth of 80 inches or more is calcareous gray loamy fine sand and fine sand.

In some areas this soil is in improved pasture, vegetables, and citrus. The natural vegetation in swampy areas consists of red maple, water oak, and cabbage palm and an understory of ferns and water tolerant grasses. In areas of open marshes and depressions it consists of maidencane, pickerelweed, smartweed, and patches of

Sawgrass.

(14) Chobee Variant sandy clay loam – This is a nearly level, very poorly drained soil in shallow depressions. Slopes are concave and less than 2 percent.

Typically, the surface layer is black to very dark gray sandy clay loam about 20 inches thick. The subsoil to a depth of 35 inches is sandy clay loam, and to a depth of 40 inches it is sandy loam. It is light gray and very high in carbonates. The substratum is light gray loamy sand to a depth of 70 inches and light gray and brownish yellow sand and common shell fragments to a depth of 80 inches or more.

The natural vegetation consists of swamp oak, swamp maple, cypress, grasses, vines, and forbs. In some areas it consists of prairie growth of Sawgrass, pickerelweed, various weeds and grasses, and scattered swamp maple. Most areas are used for timber or as range. Some areas are used for truck crops.

(17) Delray-EauGallie complex – This complex consists of soils in nearly level, broad grassy sloughs that have poorly defined stream channels in some places. Some areas are located around the larger ponds. The soils are in the western part of the county, generally at an elevation of less than 40 feet. The soils are so intermixed that they could not be mapped separately at the scale selected for mapping. Slopes are less than 2 percent.

Delray soils make up about 45 percent of this complex, EauGallie soils make up 35 percent, and scattered areas of Anclote, Felda, Floridana, and Wabasso soils make up 20 percent. Typically, Delray soils are at a slightly lower elevation than EauGallie soils. Typically, the surface layer of Delray soils is black fine sand about 15 inches thick. The subsurface layer is grayish brown and light brownish gray fine sand about 40 inches thick. The subsoil is grayish brown and greenish gray fine sandy loam and sandy clay loam to a depth of 80 inches or more.

Typically, the surface layer of EauGallie soils is dark gray fine sand about 4 inches thick. The subsurface layer is light gray fine sand 9 inches thick. The subsoil in the upper part is dark reddish brown and dark brown fine sand. Below that, it is gray sand 5 inches thick. In the lower part it is gray fine sandy loam to a depth of 76 inches or more.
The natural vegetation consists of scattered pine trees, clumps of sawpalmetto, gallberry, and a stand of grasses such as bluestem, lopsided indiangrass, maidencane, and pineland threeawn.

(20) EauGallie fine sand – This is a nearly level, poorly drained soil in broad areas of flatwoods. Slopes are smooth and range from 0 to 2 percent.
Typically, the surface layer is very dark gray fine sand 5 inches thick. The subsurface layer is grayish brown and light brownish gray fine sand to a depth of about 28 inches.

The subsoil in the upper part is black fine sand that is coated with organic matter to a depth of 42 inches. In the lower part it is grayish brown sandy clay loam to a depth of 50 inches. The substratum is grayish brown fine sand, loamy fine sand, and fine sandy loam to a depth of 65 inches.

The natural vegetation is slash pine, sawpalmetto, waxmyrtle, gallberry, and pineland threeawn in open forest and bluestem, panicum, and other grasses.

(26) Floridana-Immokalee-Okeelanta association – This map unit consists of nearly level, very poorly drained Floridana soils, poorly drained Immokalee soils, and very poorly drained Okeelanta soils. It is about 35 percent Floridana soils, 30 percent Immokalee soils, 20 percent Okeelanta soils, and 15 percent minor soils. These soils are in small to large shallow grassy ponds mainly in the central and eastern parts of the country. Generally, Okeelanta soils are in the lowest places near the center of the ponds; Floridana soils are in an intermediate position; and Immokalee soils are along the edges of ponds. Slopes are less than 2 percent. Areas of the individual soils are large enough to map separately, but in considering the present and predicted use they were mapped as one unit. Most of the mapped areas are circular or oblong.
Typically, the surface layer of Floridana soils is black and very dark gray fine sand about 19 inches thick. The subsurface layer is gray fine sand about 17 inches thick. The subsoil is dark gray sandy clay loam 17 inches thick. The substratum is light gray fine sand that extends to a depth of 80 inches or more.

Typically, the surface layer of Immokalee soils is black fine sand about 5 inches thick. The subsurface layer is dark gray, gray, and light gray fine sand 29 inches thick. The subsoil is dark reddish brown and dark brown fine sand 9 inches thick. The substratum to a depth of 80 inches or more is grayish brown fine sand.

Typically, Okeelanta soils in the uppermost 20 inches are black muck. Below that, to a depth of 54 inches or more, there is black and light brownish gray sand.
The natural vegetation in the lowest places is Sawgrass, maidencane, willow, and, in places, a few cypress. In other areas, the vegetation is maidencane, St.-Johnswort, various bluestems, smooth cordgrass, and sedges.

(33) Myakka fine sand, tidal – This is a nearly level, very poorly drained soil in high-lying tidal marshes between the mangrove swamps and better drained upland soils. Slopes are smooth to concave and range from 0 to 2 percent.

Typically, the surface layer is mixed very dark gray and light gray fine sand about 3 inches thick. The subsurface layer is fine sand 12 inches thick. In the upper 4 inches it is gray, and below that, it is mixed gray and very dark gray. The subsoil is black fine sand 22 inches thick. The substratum is dark grayish brown, brown, and pale brown fine sand to a depth of 75 inches or more.

In most areas the native vegetation consists of sparse stands of pines, mangrove, needlerush, and Sawgrass. In some areas Brazilian pepper is common. In many areas there is no vegetation.

(34) Okeelanta muck, tidal – This is very poorly drained organic soil in the tidal marsh, mainly along the Manatee and Braden Rivers. Slopes are less than 2 percent. Typically, the surface layer is black and dark reddish brown muck to a depth of 39 inches. Below the muck there is light brownish gray sand to a depth of 60 inches or more.

The native vegetation consists dominantly of needlegrass rush, seashore saltgrass, marshhay cordgrass, big cordgrass and smooth cordgrass.

(48) Wabasso fine sand – This is a nearly level, poorly drained soil in areas of broad flatwoods. Slopes are less than 2 percent.

Typically, the surface layer is very dark gray fine sand about 7 inches thick. The subsurface layer is gray fine sand 14 inches thick. The subsoil is find sand coated with organic material to a depth of about 28 inches. In the upper 4 inches it is black, and in the lower 3 inches it is dark reddish brown. The next layer, to a depth of 37 inches is brown fine sand. Below that, to a depth of 65 inches, there is grayish brown to gray loamy material. The substratum to a depth of 80 inches or more is sand and many shell fragments.

The native vegetation consists of longleaf and slash pines, scattered cabbage palms, and an understory of sawpalmetto, inkberry, waxmyrtle, creeping bluestem, indiangrass, little bluestem, Florida paspalum, pineland threeawn, panicums, deertongue, grassleaf goldaster, huckleberry and running oak. Most areas are in native vegetation and are grazed. Areas with adequate water control are used for citrus, truck crops, and improved pasture.

(53) Wulfert-Kesson association – This map unit consists of nearly level, very poorly drained Wulfert and Kesson soils. It is about 45 percent Wulfert soils, 35 percent Kesson soils, and 20 percent other soils. These soils occur in a regular and repeating pattern in mangrove swamps along the Gulf Coast and on coastal islands. Generally, Kesson soils are in the outer parts of areas of this complex near the water's edge, and Wulfert soils are in the inner parts. Areas of the individual soils are large enough to map separately, but in considering the present and predicted use they are mapped as one unit. Slopes are less than 1 percent.

Typically, the surface layer of Wulfert soils is dark reddish brown and dark brown muck that extends to a depth of about 36 inches. Below that, there is gray fine sand to a

depth of 60 inches or more.

Typically, the surface layer of Kesson soils is black fine sand 6 inches thick. Below the surface layer there is pale brown, light gray and white fine sand to a depth of 80 inches or more. Shell fragments are few to common in these layers.
The natural vegetation consists mostly of mangrove, but in some places it also consists of seashore saltgrass, batis, and oxeye daisy. Some places are bare.

Addendum 5—Plant And Animal List

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)

PTERIDOPHYTES

Leather fern.....*Acrostichum danaeifolium*
Swamp fern.....*Blechnum serrulatum*
Japanese climbing fern*.....*Lygodium japonicum*
Old world climbing fern*.....*Lygodium microphyllum*
Tuberous sword fern*.....*Nephrolepis cordifolia*
Asian sword fern* .....*Nephrolepis multiflorum*
Cinnamon fern.....*Osmunda cinnamomea* 31, 37
Golden polypody .....*Phlebodium aureum*
Resurrection fern.....*Pleopeltis polypodioides*
Tailed bracken .....*Pteridium aquilinum* var. *pseudocaudatum*
Widespread maiden fern .....*Thelypteris kunthii*

GYMNOSPERMS AND CYCADS

Norfolk Island pine* .....*Araucaria heterophylla*
Atlantic white cedar.....*Chamaecyparis thyoides*
Sago palm* .....*Cycas revoluta*
Red cedar.....*Juniperus virginiana*
Slash pine .....*Pinus elliottii*
Longleaf pine .....*Pinus palustris*
Yew plumpine*.....*Podocarpus macrophyllus*
Australian tree fern* .....*Sphaeropteris cooperi*
Bald-cypress.....*Taxodium distichum*
Coontie.....*Zamia pumila*.....5, 9, 17

Monocots

Everglades palm* .....*Acoelorraphe wrightii*
Shell ginger .....*Alpinia* sp.
Purple bluestem .....*Andropogon glomeratus* var. *glaucopsis*
Bushy bluestem .....*Andropogon glomeratus* var. *pumilus*
Broomsedge bluestem .....*Andropogon virginicus*
Jack-in-the-pulpit .....*Arisaema triphyllum*
Sprenger's asparagus fern*.....*Asparagus aethiopicus*
Cast iron plant*.....*Aspidistra eliator*
Common carpetgrass.....*Axonopus fissifolius*
Hedge bamboo*.....*Bambusa multiplex*
Common bamboo* .....*Bambusa vulgaris*
Pindo palm* .....*Butia capitata*

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Hop sedge	*Carex lupulina*	
Banana-of-the-Everglades	*Canna flaccida*	
Southern sandbur	*Cenchrus echinatus*	
Coastal sandspur	*Cenchrus spinifex*	
Bamboo palm*	*Chamaedorea seifrizi*	
Jamaica swamp sawgrass	*Cladium jamaicense*	
Wild taro	*Colocasia esculenta*	
Common dayflower*	*Commelina diffusa*	
Spiral ginger*	*Costus pulverulentus*	
String lily	*Crinium americanum*	
Baldwin's flatsedge	*Cyperus croceus*	
Yellow nutgrass *	*Cyperus esculentus*	
Haspan flatsedge	*Cyperus haspan*	
Swamp flatsedge	*Cyperus ligularis*	
Fragrant flatsedge	*Cyperus odoratus*	
Manyspike flatsedge	*Cyperus polystachyos*	
Pinebarren flatsedge	*Cyperus retrorsus*	
Tropical flatsedge	*Cyperus surinamensis*	
Variable witchgrass	*Dichanthelium commutatum*	
Cypress witchgrass	*Dichanthelium dichotomum*	
Southern crabgrass	*Digitaria ciliaris*	
Air potato*	*Dioscorea bulbifera*	
Coastal cockspur	*Echinochloa walteri*	
Common waterhyacinth*	*Eichhornia crassipes*	
Baldwin's spikerush	*Eleocharis baldwinii*	
Indian goosegrass*	*Eleusine indica*	
Florida butterfly orchid	*Encylia tampensis*	9, 37
Goldon pothos*	*Epipremnum pinnatum*	
Elliott's lovegrass	*Eragrostis elliottii*	
Purple lovegrass	*Eragrostis spectabilis*	
Centipedegrass *	*Eremochloa ophiuroides*	
Pinewoods fingergrass	*Eustachys petraea*	
Marsh fimbry	*Fimbristylis spadicea*	
Southern umbrellasedge	*Fuirena scirpoidea*	
Toothpetal false reinorchid	*Habeneria floribunda*	
Cogon grass*	*Imperata cylindrica*	
Soft rush	*Juncus effuses*	
Shorerush	*Juncus marginatus*	
Needle rush	*Juncus roemerianus*	
Duckweed	*Lemna* sp.	
Chinese fan palm*	*Livistonia chinensis*	

* Non-native Species

Common Name	***Scientific Name***	**Primary Habitat Codes (for designated species)**
Hairawn muhly	*Muhlenbergia capillaris*	
Banana*	*Musa* sp.	
Woodsgrass	*Oplismenus hirtellus*	
Beaked panicum	*Panicum anceps*	
Maidencane	*Panicum hemitomon*	
Guineagrass*	*Panicum maximum*	
Torpedograss*	*Panicum repens*	
Redtop panicum	*Panicum rigidulum*	
Switchgrass	*Panicum virgatum*	
Knotgrass	*Paspalum distichum*	
Bahiagrass*	*Paspalum notatum* var. *saurae*	
Thin paspalum	*Paspalum setaceum*	
Vaseygrass*	*Paspalum urvillei*	
Seashore paspalum	*Paspalum vaginatum*	
Napiergrass*	*Pennisetum purpureum*	
Splitleaf philodendron*	*Philodendron bipinnatifidum*	
Senegal date palm*	*Phoenix reclinata*	
Water lettuce*	*Pistia stratiotes*	
Pickerelweed	*Pontederia cordata*	
Traveller's tree*	*Ravenala madagascariensis*	
Slender lady palm*	*Rhapis humilis*	
Starrush whitetop	*Rhynchospora colorata*	
Fascicled beaksedge	*Rhynchospora fascicularis*	
Southern beaksedge	*Rhynchospora microcarpa*	
Red natalgrass*	*Rhynchelytrum repens*	
Florida royal palm	*Roystonea regia*	
Cabbage palm	*Sabal palmetto*	
Sugarcane plumegrass	*Saccharum giganteum*	
Bulltongue arrowhead	*Sagittaria lancifolia*	
Bowstring hemp*	*Sansevieria hyacinthoides*	
Perennial glasswort	*Sarcocornia perennis*	
Little bluestem	*Schizachyrium scoparium*	
Saw palmetto	*Serenoa repens*	
Yellow bristlegrass	*Setaria parviflora*	
Annual blue-eyed grass*	*Sisyrinchium rosulatum*	
Earleaf greenbrier	*Smilax auriculata*	
Saw greenbrier	*Smilax bona-nox*	
Laurel greenbrier	*Smilax laurifolia*	
Johnsongrass*	*Sorghum halepense*	
Saltmarsh cordgrass	*Spartina alterniflora*	
Sand cordgrass	*Spartina bakeri*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Saltmeadow cordgrass	*Spartina patens*	
Gulf cordgrass	*Spartina spartinae*	
Pineywoods dropseed	*Sporobolus junceus*	
Smutgrass*	*Sprobolus indicus*	
Seashore dropseed	*Sporobolus virginicus*	
St. Augustinegrass*	*Stenotaphrum secundum*	
Queen palm*	*Syagrus romanzoffiana*	
Fivefingers*	*Syngonium angustatum*	
American evergreen*	*Syngonium podophyllum*	
Alligatorflag	*Thalia geniculata*	
Ballmoss	*Tillandsia recurvata*	
Southern needleaf	*Tillandsia setacea*	
Spanish moss	*Tillandsia usneoides*	
Spreading air plant	*Tillandsia utriculata*	9, 37, 79
Purplequeen*	*Tradescantia pallida*	
Wandering-Jew*	*Tradescantia zebrina*	
Purpletop	*Tridens flavus*	
Eastern gamagrass	*Tripsacum dactyloides*	
Southern cattail	*Typha domingensis*	
Paragrass*	*Urochloa mutica*	
Hairy signalgrass*	*Urochloa piligera*	
Washington fan palm*	*Washingtonia robusta*	
Arrowleaf elephantear*	*Xanthosoma sagittifolium*	
Carolina yelloweyed grass	*Xyris caroliniana*	
Spanish bayonet	*Yucca aloifolia*	

DICOTS

Rosary pea*	*Abrus precatorius*	
Red maple	*Acer rubrum*	
Hammock snakeroot	*Ageratina jucunda*	
Mimosa *	*Albizia julibrissin*	
Alligatorweed *	*Alternanthera philoxeroides*	
Common ragweed	*Ambrosia artemisiifolia*	
Pepper vine	*Ampelopsis arborea*	
Coral vine*	*Antigonon leptopous*	
Pond apple	*Annona glabra*	
Marlberry	*Ardisia escalloniodes*	
Scarlet milkweed*	*Asclepias curassavica*	
Black mangrove	*Avicennia germinans*	
Groundsel bush	*Baccharis halimifolia*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Saltwort	*Batis maritime*	
Wax begonia*	*Begonia cucullata*	
Common beggarticks	*Bidens alba* var. *radiate*	
Browne's blechum*	*Blechum pyramidatum*	
Samphire	*Blutaparon vermiculare*	
False nettle	*Bohmeria cylindrica*	
Sea oxeye daisy	*Borrichia frutescens*	
Gumbo limbo	*Bursera simarouba*	
Gray nickerbean	*Caesalpinia bonduc*	
American beautyberry	*Callicarpa americana*	
Bottlebrush*	*Callistemon viminale*	
Trumpet vine	*Campsis radicans*	
Baybean	*Canavalia rosea*	
Jamaican caper	*Capparis cyanophallophora*	
Pignut hickory	*Carya glabra*	
Australian pine*	*Casuarina equisetifolia*	
Madagascar periwinkle*	*Catharanthus roseus*	
Sugarberry	*Celtis laevigata*	
Spadeleaf	*Centella asiatica*	
Buttonbush	*Cephalanthus occidentalis*	
Spiny hornwort	*Ceratophyllum echinatum*	
Partridge pea	*Chamaecrista fasciculata*	
Sensitive pea	*Chamaecrista nictitans* var. *nictitans*	
Mexican tea *	*Chenopodium ambrosioides*	
Snowberry	*Chiococca alba*	
Water hemlock	*Cicuta maculata*	
Camphortree*	*Cinnamomum camphora*	
Yellow thistle	*Cirsium horridulum*	
Nuttall's thistle	*Cirsium nuttallii*	
Marinevine	*Cissus trifoliata*	
Grapefruit, orange*	*Citrus xaurantium*	
Tread-softly	*Cnidoscolus stimulosus*	
Seagrape	*Cocccoloba uvifera*	
Buttonwood	*Conocarpus erecta*	
Blue mistflower	*Conoclinium coelestinum*	
Dwarf Canadian horseweed	*Conyza canadensis* var. *pusilla*	
Smooth rattlebox*	*Crotalaria pallida* var. *obovata*	
Rabbitbells	*Crotalaria rotundifolia*	
Showy rattlebox*	*Crotalaria spectabilis*	
Carrotwood*	*Cupaniopsis anacardioides*	
Coinvine	*Dalbergia ecastophyllum*	

* Non-native Species

Common Name	***Scientific Name***	**Primary Habitat Codes (for designated species)**
Western tansymustard	*Descurainia pinnata*	
Zarzabacoa comun*	*Desmodium incanum*	
Carolina ponysfoot	*Dichondra caroliniensis*	
Poor joe	*Diodia teres*	
Virginia buttonweed	*Diodia virginiana*	
Common persimmon	*Diospyros virginiana*	
False daisy	*Eclipta prostrata*	
Tall elephantsfoot	*Elephantopus elatus*	
Carolina scalystem	*Elytraria caroliniensis* var. *caroliniensis*	
Florida tasselflower*	*Emilia fosbergii*	
Earpod tree*	*Enterolobium contortisiliquum*	
American burnweed	*Erechtites hieracifolia*	
Coralbean	*Erythrina herbacea*	
Gum*	*Eucalyptus* sp.	
White stopper	*Eugenia axillaris*	
Spanish stopper	*Eugenia foetida*	
Red stopper	*Eugenia rhombea*	85
Surinam cherry*	*Eugenia uniflora*	
Dogfennel	*Eupatorium capillifolium*	
Mohr's thoroughwort	*Eupatorium mohrii*	
Slender goldenrod	*Euthamia caroliniana*	
Strangler fig	*Ficus aurea*	
Yellowtops	*Flaveria linearis*	
Florida privet	*Forestiera segregata*	
Elliott's milkpea	*Galactia elliottii*	
Coastal bedstraw	*Galium hispidulum*	
Southern beeblossom	*Gaura angustifolia*	
Yellow jessamine	*Gelsemium sempervirens*	
Carolina cranesbill	*Geranium carolinianum*	
Wild cotton	*Gossypium hirsutum*	3, 5
Rough hedgehyssop	*Gratiola hispida*	
Roundfruit hedgehyssop	*Gratiola virginiana*	
Silkoak*	*Grevillea robusta*	
Firebush	*Hamelia patens*	
Scorpionstail	*Heliotropium angiospermum*	
Seaside heliotrope	*Heliotropium curassavicum*	
Camphorweed	*Heterotheca subaxillaris*	
Garden rosemallow*	*Hibiscus rosa-sinensis*	
Manyflower marsh pennywort	*Hydrocotyle umbellata*	
Whorled marsh pennywort	*Hydrocotyle verticillata*	
Nightblooming cactus*	*Hylocereus undatus*	

* Non-native Species

Common Name	***Scientific Name***	**Primary Habitat Codes (for designated species)**
Sandweed	*Hypericum fasiculatum*	
Myrtleaf St. John's-wort	*Hypericum myrtifolium*	
Clustered bushmint	*Hyptis alata*	
Tropical bushmint*	*Hyptis mutabilis*	
Gallberry	*Ilex glabra*	
Hairy indigo*	*Indigofera hirsuta*	
Trailing indigo*	*Indigofera spicata*	
Mile-a-minute vine	*Ipomoea cairica*	
Tievine	*Ipomoea cordatotriloba*	
Railroad vine	*Ipomoea pes-caprae*	
Cypressvine*	*Ipomoea quamoclit*	
Juba's bush	*Iresine diffusa*	
Virginia willow	*Itea virginica*	
Bigleaf sumpweed	*Iva frutescens*	
Scarlet jungleflame*	*Ixora coccinea*	
Life plant*	*Kalanchoe pinnata*	
Golden raintree*	*Koelreuteria elegans* subsp. *formosana*	
Crapemyrtle*	*Lagerstroemia indica*	
Queen crapemyrtle*	*Lagerstoemia speciosa*	
White mangrove	*Laguncularia racemosa*	
Lantana*	*Lantana camara*	
Thymeleaf pinweed	*Lechea minor*	
Virginia pepperweed	*Lepidium virginicum*	
White leadtree*	*Leucaena leucocephala*	
Chapman's gayfeather	*Liatris chapmanii*	
Gopher apple	*Licania michauxii*	
Japanese privet*	*Ligustrum japonicum*	
Sea lavender	*Limonium carolinianum*	
Canada toadflax	*Linaria canadensis*	
Sweetgum	*Liquidambar styraciflua*	
Japanese honeysuckle*	*Lonicera japonica*	
Coral honeysuckle	*Lonicera sempervirens*	
Peruvian primrosewillow*	*Ludwigia peruviana*	
Christmasberry	*Lycium carolinianum*	
Rose-rush	*Lygodesmia aphylla*	
Coastalplain staggerbush	*Lyonia fruticosa*	
Fetterbush	*Lyonia lucida*	
Wild bushbean*	*Macroptilium lathyroides*	
Magnolia	*Magnolia grandiflora*	
Sweetbay	*Magnolia virginiana*	
Turkcap mallow*	*Malvaviscus penduliflora*s	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Mango*	*Mangifera indica*	
Florida mayten	*Maytenus phyllanthoides*	5
Punktree*	*Melaleuca quinquenervia*	
Chinaberrytree*	*Melia azedarach*	
Creeping cucumber	*Melothria pendula*	
Noyau vine*	*Merremia dissecta*	
Climbing hempvine	*Mikania scandens*	
Sensitive brier	*Mimosa quadrivalvis*	
Watermilfoil*	*Myiophyllum aquaticum*	
Partridgeberry	*Mitchella repens*	
Balsam apple*	*Momordica charantia*	
Spotted beebalm	*Monarda punctata*	
Red mullberry	*Morus rubra*	
Wax myrtle	*Myrica cerifera*	
Oleander*	*Nerium oleander*	
Pricklypear	*Opuntia humifusa*	
Erect pricklypear	*Opuntia stricta*	3, 5, 17, 84
Common yellow woodsorrel	*Oxalis corniculata*	
Pink woodsorrel*	*Oxalis debilis* var. *corymbosa*	
Virigina creeper	*Parthenocissus quinquefolia*	
Corkystem passionflower	*Passiflora suberosa*	
Red bay	*Persea borbonia*	
Swamp bay	*Persea palustris*	
Oak mistletoe	*Phoradendron leucarpum*	
Turkey tanglefoot fogfruit	*Phyla nodiflora*	
Walter's groundcherry	*Physalis walteri*	
American pokeweed	*Phytolacca americana*	
Japanese cheesewood*	*Pittosporum tobira*	
Virgina plantain	*Plantago virginica*	
Sycamore	*Platanus occidentalis*	
Sweetscent	*Pluchea odorata*	
Rosy camphorweed	*Pluchea rosea*	
Paintedleaf	*Poinsettia cyathophora*	
Fiddler's spurge	*Poinsettia heterophylla*	
Rustweed	*Polypremum procumbens*	
Pink purslane	*Portulaca pilosa*	
Carolina laurelcherry	*Prunus caroliniana*	
Strawberry guava*	*Psidium cattlrianum*	
Guava*	*Psidium guajava*	
Wild coffee	*Psychotria nervosa*	
Psychotria sulzneri	*Psychotria sulzneri*	

* Non-native Species

Common Name	***Scientific Name***	**Primary Habitat Codes (for designated species)**
Blackroot	*Pterocaulon pycnostachyum*	
Mock bishopsweed	*Ptilimnium capillaceum*	
Chapman's oak	*Quercus chapmanii*	
Sand live oak	*Quercus geminata*	
Laurel oak	*Quercus laurifolia*	
Myrtle oak	*Quercus myrtifolia*	
Water oak	*Quercus nigra*	
Virginia live oak	*Quercus virginiana*	
Myrsine	*Rapanea punctata*	
Winged sumac	*Rhus copallinum*	
Red mangrove	*Rhizophora mangle*	
Tropical Mexican clover *	*Richardia brasiliensis*	
Castorbean*	*Ricinus communis*	
Rougeplant	*Rivina humilis*	
Mexican petunia*	*Ruellia tweediana*	
Southern marsh yellowcress	*Rorippa teres*	
Sand blackberry	*Rubus cuneifolius*	
Heartwing dock	*Rumex hastatulus*	
Swamp dock	*Rumex verticillatus*	
Coastalplain willow	*Salix caroliniana*	
Elderberry	*Sambucus nigra* subsp. *canadensis*	
Chinese tallowtree*	*Sapium sebiferum*	
Lizard's tail	*Saururus cernuus*	
Australian umbrella tree*	*Schefflera actinophylla*	
Brazilian pepper*	*Schinus terebinthifolius*	
Sweetbroom	*Scoparia dulcis*	
Danglepod	*Sesbania herbacea*	
Bladderpod	*Sesbania vesicaria*	
Coffeeweed *	*Senna obtusifolia*	
Septicweed*	*Senna occidentalis*	
Shoreline seapurslane	*Sesuvium portulacastrum*	
Common wireweed	*Sida acuta*	
Llima*	*Sida cordifolia*	
Indian hemp	*Sida rhombifolia*	
Saffron plum	*Sideroxylon celastrinum*	
American black nightshade	*Solanum americanum*	
Black nightshade	*Solanum chenopodioides*	
Chapman's goldenrod	*Solidago odora* var. *chapmanii*	
Seaside goldenrod	*Solidago sempervirens*	
Necklace pod	*Sophora tomentosa* var. *truncata*	
Florida false buttonweed	*Spermcoce floridana*	

* Non-native Species

Common Name	***Scientific Name***	**Primary Habitat Codes (for designated species)**
Creeping oxeye*	*Sphagneticola trilobata*	
Climbing aster	*Symphotrichum carolinianum*	
Java plum*	*Syzygium cumini*	
Ricepaper plant*	*Tetrapanax papyriferus*	
Eastern poison ivy	*Toxicodendron radicans*	
Forked bluecurls	*Trichostema dichotomum*	
Yellow alder*	*Turnera ulmifolia*	
American elm	*Ulmus americana*	
Caesar's weed*	*Urena lobata*	
Shiny blueberry	*Vaccinium myrsinites*	
White crownbeard	*Verbesina virginica*	
Giant ironweed	*Vernonia gigantea*	
Walter's viburnum	*Viburnum obovatum*	
Hairy cowpea	*Vigna luteola*	
Muscadine	*Vitis rotundifolia*	
Hog plum	*Ximenia americana*	
Hercules'-club	*Zanthoxylum clava-herculis*	
Wild lime	*Zanthoxylum fagara*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
REPTILES		
American alligator	*Alligator mississippiensis*	55
Eastern diamondback rattlesnake	*Crotalus adamanteus*	84
Eastern indigo snake	*Drymarchon corais couperi*	84
Gopher tortoise	*Gopherus polyphemus*	84
Suwanee cooter	*Pseudemys concinna suwanniensis*	55
BIRDS		
Cooper's hawk	*Accipiter cooperii*	84
Bachman's sparrow	*Aimophila aestivalts*	84
Roseate spoonbill	*Ajaia ajaja*	68
Limpkin	*Aramus guarauna*	55
Great egret	*Ardea alba*	31
Great white heron	*Ardea herodias occidentalis*	31
Short-tailed hawk	*Buteo brachyurus*	84
Black-shouldered kite	*Elanus caeruleus*	84
Little blue heron	*Egretta cerulea*	67
Reddish egret	*Egretta rufescens*	68
Snowy egret	*Egretta thula*	31
Tricolored heron	*Egretta tricolor*	31
White ibis	*Eudocimus albus*	67
Merlin	*Falco columbarius*	84
Peregrine falcon	*Falco peregrinus*	84
Southeastern American kestrel	*Falco sparverius paulus*	84
Bald eagle	*Haliaeetus leucocephalus*	OF
Black-necked stilt	*Himantopus mexicanus*	68
Least bittern	*Ixobrychus exilis*	84
Black rail	*Laterallus jamaicense*	84
Wood stork	*Mycteria americana*	31, OF
Yellow-crowned night-heron	*Nycticorax violacea*	67
Black- crowned night heron	*Nycticorax nycticorax*	67
Osprey	*Pandion haliaetus*	84
Glossy ibis	*Plegadis falcinellus*	31
Florida clapper rail	*Rallus longirostris scottii*	84
American avocet	*Recurvirostra americana*	68
Black-whiskered vireo	*Vireo altiloquus*	67

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)

MAMMALS

Southeastern big-eared bat	*Plecotus rafinesquii*	84
Florida long-tailed weasel	*Mustela frenata olivacea*	MTC
Round-tailed muskrat	*Neofiber alleni*	84
Bobcat	*Felis rufus*	MTC

* Non-native Species

Addendum 6—Imperiled Species Ranking Definitions

The Nature Conservancy and the Natural Heritage Program Network (of which FNAI is a part) define an element as any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave or other ecological feature. An element occurrence (EO) is a single extant habitat that sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element.

Using a ranking system developed by The Nature Conservancy and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks to each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element occurrences, estimated abundance (number of individuals for species; area for natural communities), range, estimated adequately protected EOs, relative threat of destruction, and ecological fragility.

Federal and State status information is from the U.S. Fish and Wildlife Service; and the Florida Game and Freshwater Fish Commission (animals), and the Florida Department of Agriculture and Consumer Services (plants), respectively.

FNAI GLOBAL RANK DEFINITIONS

G1 .....Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or fabricated factor.

G2 .....Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.

G3 .....Either very rare or local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.

G4 .....apparently secure globally (may be rare in parts of range)

G5 .....demonstrably secure globally

GH.....of historical occurrence throughout its range may be rediscovered (e.g., ivory-billed woodpecker)

GX.....believed to be extinct throughout range

GXC.....extirpated from the wild but still known from captivity or cultivation

G#? .....Tentative rank (e.g.,G2?)

G#G#.....range of rank; insufficient data to assign specific global rank (e.g., G2G3)

G#T# .....rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)

G#Q.....rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
G#T#Q.....same as above, but validity as subspecies or variety is questioned.
GU .....due to lack of information, no rank or range can be assigned (e.g., GUT2).
G?.....Not yet ranked (temporary)
S1 .....Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2 .....Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3 .....Either very rare or local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
S4 .....apparently secure in Florida (may be rare in parts of range)
S5 .....demonstrably secure in Florida
SH.....of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
SX.....believed to be extinct throughout range
SA .....accidental in Florida, i.e., not part of the established biota
SE.....an exotic species established in Florida may be native elsewhere in North America
SN.....regularly occurring but widely and unreliably distributed; sites for conservation hard to determine
SU .....due to lack of information, no rank or range can be assigned (e.g., SUT2).
S?.....Not yet ranked (temporary)
N .....Not currently listed, nor currently being considered for listing, by state or federal agencies.

LEGAL STATUS

FEDERAL

(Listed by the U. S. Fish and Wildlife Service - USFWS)

LE.....Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.
PE.....Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.LTListed as Threatened Species.

Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.

PT.....Proposed for listing as Threatened Species.

C .....Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.

E(S/A).....Endangered due to similarity of appearance.

T(S/A).....Threatened due to similarity of appearance.

STATE

ANIMALS ..(Listed by the Florida Fish and Wildlife Conservation Commission - FFWCC)

LE.....Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.

LT.....Listed as Threatened Species by the FFWCC. Defined as a species, subspecies, or isolated population, which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat, is decreasing in area at a rapid rate and therefore is destined or very likely to become an endangered species within the near future.

LS.....Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance or substantial human exploitation that, in the near future, may result in its becoming a threatened species?

PLANTS .....(Listed by the Florida Department of Agriculture and Consumer Services - FDACS)

LE.....Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973,as amended.

LT.....Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered.

Addendum 7—Cultural Information

These procedures apply to state agencies, local governments and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, "Historic property" or "historic resource" means any prehistoric district, site, building, object, or other real or personal property of historical, architectural or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state."

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources that are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered.

State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in depth information can be found in the following:

Chapter 253, F.S. – State Lands

Chapter 267, F.S. – Historical Resources

Chapter 872, F.S. – Offenses Concerning Dead Bodies and Graves

Other helpful citations and references:

Chapter 1A-32, F.A.C. – Archaeological Research

Other helpful citations and references:

Chapter 1A-44, F.A.C. – Procedures for Reporting and Determining Jurisdiction Over Unmarked Human Burials

Chapter 1A-46, F.A C. – Archaeological and Historical Report Standards and Guidelines

The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings

D. Management Implementation

Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information regarding individual projects must be submitted to the Division for review and recommendations.

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to: approval of the project as submitted, pre-testing of the project site by a certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination**.** In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case-by-case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should prepare for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, the following information, at a minimum, must be submitted for comments and recommendations.

Project Description – A detailed description of the proposed project including all related activities. For land clearing or ground disturbing activities, the depth and extent of the disturbance, use of heavy equipment, location of lay down yard, etc. For historic structures, specific details regarding rehabilitation, demolition, etc.

Project Location – The exact location of the project indicated on a USGS Quadrangle map, is preferable. A management base map may be acceptable. Aerial photos indicating the exact project area as supplemental information are helpful.

Photographs – Photographs of the project area are always useful. Photographs of structures are required.

Description of Project Area – Note the acreage of the project; describe the present condition of project area, and any past land uses or disturbances.

Description of Structures – Describe the condition and setting of each building within project area if approximately fifty years of age or older.

Recorded Archaeological Sites or Historic Structures – Provide Florida Master Site File numbers for all recorded historic resources within or adjacent to the project area. This information should be in the current management plan; however, it can be obtained by contacting the Florida Master Site File at (850) 245-6440 or Suncom 205-6440.

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Susan M. Harp
Historic Preservation Planner
Division of Historical Resources
Bureau of Historic Preservation
Compliance and Review Section
R. A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

Phone: (850) 245-6333
Fax: (850) 245-6438

The criteria to be used for evaluating eligibility for listing in the National Register of Historic Places are as follows:

1) Districts, sites, buildings, structures, and objects may be considered to have significance in American history, architecture, archaeology, engineering, and/or culture if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- **a)** are associated with events that have made a significant contribution to the broad patterns of our history; and/or
- **b)** are associated with the lives of persons significant in our past; and/or
- **c)** embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and/or
- **d)** have yielded, or may be likely to yield, information important in prehistory or history.

2) Ordinarily cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years shall not be considered eligible for the *National Register*. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- **a)** a religious property deriving its primary significance from architectural or artistic distinction or historical importance; or
- **b)** a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- **c)** a birthplace or grave of an historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; or
- **d)** a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, distinctive design features, or association with historic events; or

e) a reconstructed building, when it is accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and no other building or structure with the same association has survived; or a property primarily commemorative in intent, if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

f) a property achieving significance within the past 50 years, if it is of exceptional importance.

Preservation Treatments as Defined by Secretary of Interior's Standards and Guidelines

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations and additions while preserving those portions or features that convey its historical, cultural or architectural values.

Stabilization is defined as the act or process of applying measures designed to reestablish a weather resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present.

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

Addendum 8—Land Management Review

Florida Department of
Environmental Protection

Memorandum

TO: Paula Allen, Program Administrator
Division of State Lands

FROM: Parks Small, Chief, Bureau of Natural and Cultural Resources
Division of Recreation and Parks

Albert Gregory, Chief, Office of Park Planning
Division of Recreation and Parks

SUBJECT: Response to Draft 2008 Land Management Review (LMR)
Terra Ceia Preserve State Park

DATE: June 20, 2008

The 2008 Land Management Review draft report provided to Division of Recreation & Parks (DRP) determined that management of Terra Ceia Preserve State Park by the DRP met the two tests prescribed by law. Namely, the review team concluded that the land is being managed for the purposes for which it was acquired and in accordance with the land management plan.

Below are additional Recommendations of the draft LMR report, with our response to each. The responses were prepared via a coordinated effort of the park, district office, and our offices.

Recommendations

1. The team recommends that DRP maintain its preserve designation and promote low impact recreational uses. (VOTE: 6+, 0-) *Managing Agency Response: The Division is pleased that the review team supports our current approach.*

Checklist Findings

1. Management issues related to the mesic hammock and coastal berm (PR) *Managing Agency Response: Agree.*

2. Management issues relating to the resource protection including gates and fencing. (FR) *Managing Agency Response: This is addressed in the unit management plan, and will be addressed in the field as funding is allocated.*

3. Management resources including sanitary facilities, buildings, equipment, staff and funding. (FR) *Managing Agency Response: This has been addressed in the unit management plan, but implementation of the plan is dependent on the annual allocation of funds and appropriation of new staff by the Florida Legislature.*

Cc: Valinda Subic, Bureau Chief, District 4
Ezell Givens, Assistant Bureau Chief, District 4
Don Bergeron, Terra Ceia Park Manager
Terry Hingtgen, ES III, District 4