Hillsborough River State Park Unit Management Plan June 2019 Draft

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Introduction

Hillsborough River State Park is located in Hillsborough County along the Hillsborough River (see Vicinity Map). Access to the park is from U.S. Highway 301 (see Reference Map). The Vicinity Map also reflects significant land and water resources existing near the park.

Land acquisition for Hillsborough River State Park began in 1934, and the park officially became part of the Florida state park system in 1935. Currently, the park comprises 3,319.06 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to the park and on January 23, 1968, the Trustees leased (Lease Number 3623) the property to DRP under a 99-year lease. The current lease will expire on January 22, 2067.

Hillsborough River State Park is designated single-use to provide public outdoor recreation and other park-related uses. There are no legislative or executive directives that constrain the use of this property (see Addendum 1).

Purpose and Significance of the Park

The purpose of Hillsborough River State Park is to provide outstanding public outdoor resource-based recreation opportunities to Florida residents and visitors while facilitating conservation efforts along the Hillsborough River.

- The park is one of the original New Deal era parks created in Florida by the Civilian Conservation Corps (CCC). The park is an excellent example of early 20th century recreation planning.

- During the Second Seminole War (1835–1842) Fort Alabama and Fort Foster were constructed within the park. Today, a replica of Fort Foster and an interpretive center provide educational programming describing events from this period of Florida's history from both the perspective of Seminoles and settlers.

- The park protects nine distinct natural communities, 47 designated animal and plant species, and 26 archaeological sites and historic structures listed on the Florida Master Site File.

- The park protects special natural features which include Class II rapids along the Hillsborough River (a designated Outstanding Florida Water (OFW)) and unique Suwannee limestone outcroppings created by the river.

Purpose and Scope of the Plan

Hillsborough River State Park is classified as a state park in the DRP's unit classification system. In the management of a balance is sought between the goals of maintaining and enhancing natural conditions and providing various recreational opportunities. Natural resource management activities are aimed at management of natural systems. Development in the park is directed toward providing public access to and within the park, and to providing recreational facilities, in a reasonable balance, that are both convenient and safe. Program emphasis is on interpretation on the park's natural, aesthetic and educational attributes.

This plan serves as the basic statement of policy and direction for the management of Hillsborough River 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. With approval, this management plan will replace the 2004 approved plan.

Resource Management 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 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 the 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, their proper 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.

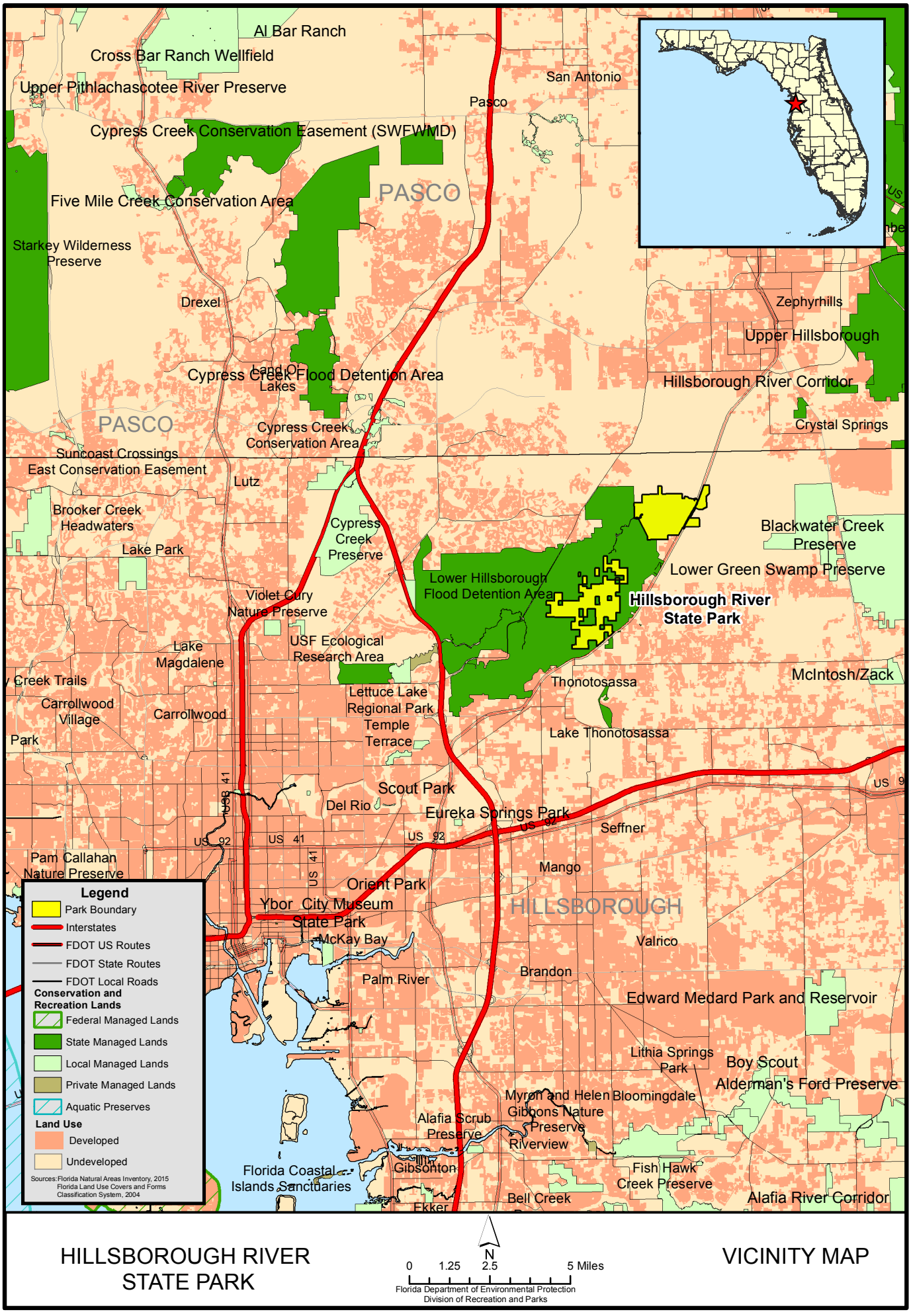
Land Use Component

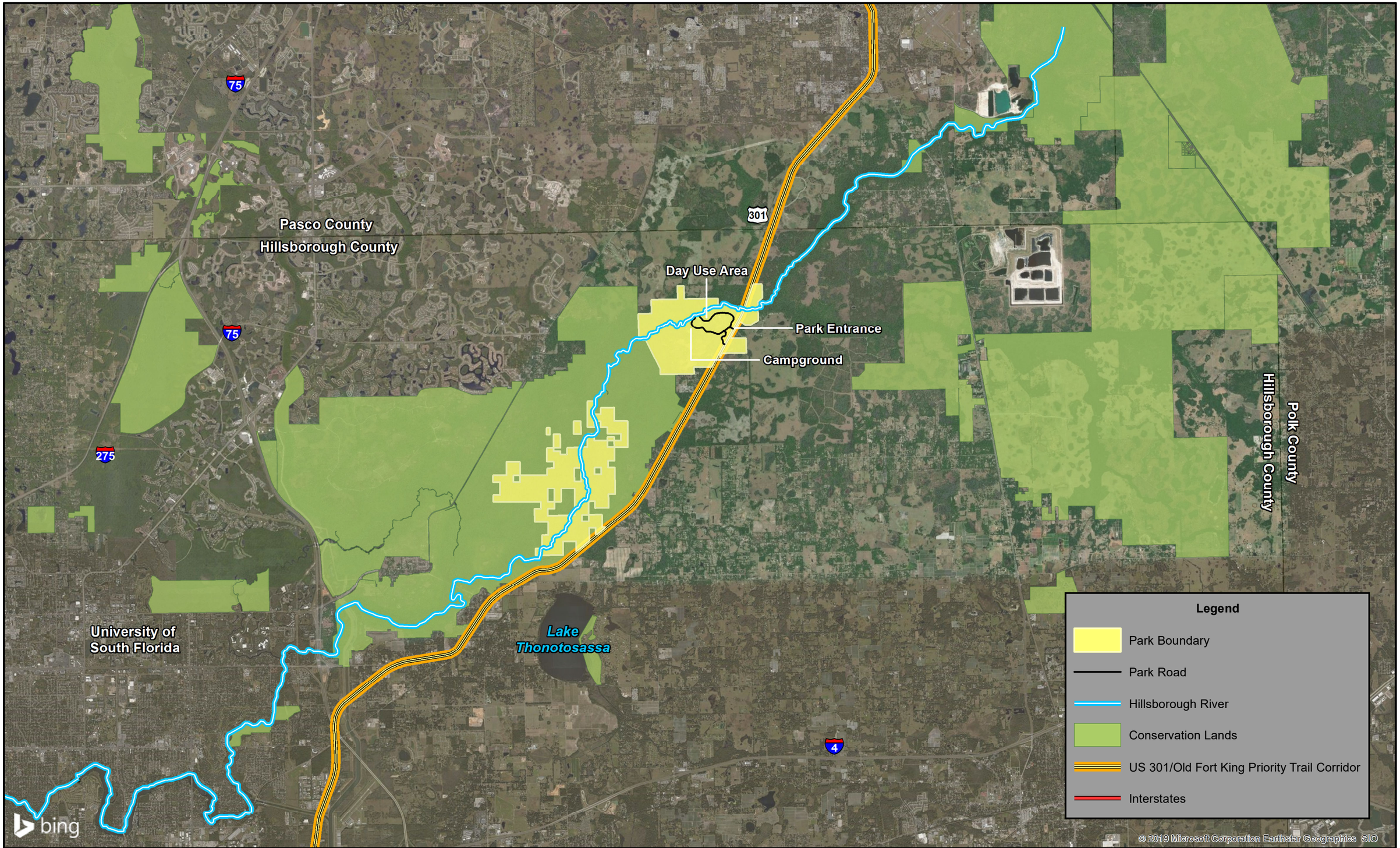
The Land Use Component is the recreational resource allocation plan for the park. Based on considerations such as access, population, adjacent land uses, the natural and cultural resources of the park, and current public uses and existing development, measurable objectives are set to achieve the desired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

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, Division of Recreation and Parks. 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. Additional input is received through public workshops, and through environmental and recreational-user 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.


Al Bar Ranch
Cross Bar Ranch Wellfield
Upper Pithlachascotee River Preserve
Cypress Creek Conservation Easement (SWFWMD)
Five Mile Creek Conservation Area
Starkey Wilderness Preserve
Drexel
PASCO
Pasco
San Antonio
Zephyrhills
Upper Hillsborough
Hillsborough River Corridor
Crystal Springs
Cypress Creek Flood Detention Area
Land O Lakes
Cypress Creek Conservation Area
Suncoast Crossings East Conservation Easement
Lutz
Brooker Creek Headwaters
Lake Park
Cypress Creek Preserve
Blackwater Creek Preserve
Lower Green Swamp Preserve
Lower Hillsborough Flood Detention Area
Hillsborough River State Park
Violet Cury Nature Preserve
USF Ecological Research Area
Lake Magdalene
Creek Trails
Carrollwood Village
Carrollwood
Lettuce Lake Regional Park
Temple Terrace
Thonotosassa
McIntosh/Zack
Lake Thonotosassa
Park
Scout Park
Del Rio
Eureka Springs Park
Seffner
Pam Callahan Nature Preserve
Mango
Orient Park
Ybor City Museum State Park
HILLSBOROUGH
McKay Bay
Valrico
Palm River
Brandon
Edward Medard Park and Reservoir
Lithia Springs Park
Boy Scout Alderman's Ford Preserve
Myron and Helen Gibbons Nature Preserve
Bloomingdale
Alafia Scrub Preserve
Riverview
Gibsonton
Fish Hawk Creek Preserve
Florida Coastal Islands Sanctuaries
Bell Creek
Alafia River Corridor
Ekker
US 41
US 92
Legend
Park Boundary
Interstates
FDOT US Routes
FDOT State Routes
FDOT Local Roads
Conservation and Recreation Lands
Federal Managed Lands
State Managed Lands
Local Managed Lands
Private Managed Lands
Aquatic Preserves
Land Use
Developed
Undeveloped
Sources: Florida Natural Areas Inventory, 2015
Florida Land Use Covers and Forms Classification System, 2004
HILLSBOROUGH RIVER STATE PARK
N
0 1.25 2.5 5 Miles
Florida Department of Environmental Protection
Division of Recreation and Parks
VICINITY MAP



HILLSBOROUGH RIVER STATE PARK

N

0 0.5 1 2 Miles

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

REFERENCE MAP

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 expressed in general terms.

All development and resource alteration proposed in this plan is subject to the granting of appropriate permits, easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state or federal agencies.

Secondary Uses Consideration

In accordance with 253.034(5) F.S., the potential of the park to accommodate secondary management purposes was analyzed. These secondary purposes were considered within the context of DRP's statutory responsibilities and the resource needs and values of the park. This analysis considered the park's natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that hardwood chipping and biomass, as part of the park's natural community management activities, could be accommodated in a manner that would be compatible and not interfere with the primary purpose of resource-based outdoor recreation and conservation.

DRP has determined that 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) would not be consistent with this plan or the management purposes of the park.

In accordance with 253.034(5) F.S., 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 hardwood chipping and biomass removal would be appropriate at this park as additional sources of revenue for land management since it they are compatible with the park's primary purpose of resource-based outdoor recreation and conservation.

Contract Services

DRP may provide the services and facilities outlined in this plan either with its own funds and staff or through an outsourcing contract. Private contractors may provide assistance with natural resource management and restoration activities or a concessionaire may provide services to park visitors in order to enhance the visitor experience. For example, a concessionaire could be authorized to sell merchandise and food and to rent recreational equipment for use in the park. A concessionaire may also be authorized to provide specialized services, such as interpretive tours, or overnight accommodations when the required capital investment exceeds that which DRP can elect to incur. Decisions regarding outsourcing, contracting with the private sector, the use of concessionaires, etc. are made on a case-by-case basis in accordance with the policies set forth in DRP's Operations Manual (OM).

Management Authority & Responsibility

In accordance with Chapter 258, Florida Statutes and Chapter 62D-2, Florida Administrative Code, the Division of Recreation and Parks (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.

The Board of Trustees of the Internal Improvement Trust Fund (Trustees) has 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 affect public recreational uses.

Many operating procedures are standardized system-wide and are set by internal direction. These procedures are outlined in the 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.

General Park Management Goals

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

- Provide administrative support for all park functions.
- Protect water quality and quantity in the park, restore hydrology to the extent feasible and maintain the restored condition.
- Restore and maintain the natural communities/habitats of the park.
- Maintain, improve or restore imperiled species populations and habitats in the park.
- Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.
- Protect, preserve and maintain the cultural resources of the park.
- Provide public access and recreational opportunities in the park.
- 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 Florida Department of Agriculture and Consumer Services (FDACS), 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 (FWC) assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within the park. In addition, the FWC aids DRP with wildlife management programs, including imperiled species management. The Florida Department of State (FDOS), Division of Historical Resources (DHR) assists staff to ensure protection of archaeological and historical sites.

Public Participation

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 [INSERT Dates], respectively. Meeting notices were published in the Florida Administrative Register,

[INSERT publication date, VOL/ISSUE], 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

Hillsborough River 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. The park is a component of the Florida Greenways and Trails System, administered by the Department's Office of Greenways and Trails.

All waters within the park have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302, Florida Administrative Code. Surface waters in this park are also classified as Class III waters by the Department. This park is not adjacent to an aquatic preserve as designated under the Florida Aquatic Preserve Act of 1975 (Section 258.35, Florida Statutes).

Past Accomplishments

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.

Since the approval of the last management plan for Hillsborough River State Park in 2004, 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.

Resource Management

Natural Resources

- Zone HR-3 was identified as a restoration site, and wiregrass was planted, with limited success.
- Old dumpsites have been surveyed by an engineering firm, and soil containing arsenic was removed by contractor. Public cleanup projects were later held to remove trash from the surface.
- Roller chopping was evaluated, but not conducted, due to cost and the density of pines in several zones. Most burn zones have been mechanically treated using Brown Tree Cutter. Roller chopping is no longer necessary, due to combination of mechanical treatment, and frequent spring burning.
- The majority of large hardwood trees have been removed from mesic flatwoods through a combination of cut stump treatment (cutting down and treating the stumps with herbicide), and frequent spring burning. These efforts are ongoing.
- Park plant list has been extensively researched by volunteers. Diversity of species in our mesic flatwoods has increased greatly, due mainly to frequent spring burning therefore reintroducing species to the mesic flatwoods seems unnecessary. For Model Dairy it has been decided to reintroduce wiregrass, saw palmetto and longleaf pine. Reference zones have been identified for comparison. Efforts at collecting and propagating seeds are ongoing. Potted plants have been purchased and replanted on a small scale.
- All burn zones have been burned on a two to four-year rotation, with most burns occurring during the spring growing season.
- Most depression marshes have been restored through wetland mitigation projects.
- Park has an active feral hog control program including trapping, using the latest techniques, and direct removal. Hogs cannot be completely eradicated from the park, since they come from surrounding properties, but the population has been kept to a low level.
- Exotic plant infestations have been greatly reduced and the vast majority are in maintenance, meaning they have been treated at least once. The park has been awarded grant money several times which has been used to hire contractors to spray or remove exotics. Hillsborough River State Park has been awarded Americorps members who treat exotics year round. We have also had many volunteer groups assist with hand pulling. We have acquired better equipment including ATV sprayer, UTV with sprayer, and truck sprayer. In addition, we use hand held brush cutter, and tractor with tree cutter, for

mechanical treatment and site prep before spraying with herbicide

Cultural Resources

- Preserve the park's New Deal Era cultural resources by restoring and maintaining the historic structures to their original condition and appearance to the extent possible
- Create and implement cyclical maintenance programs for all New Deal Era resources through collaboration between park management, Bureau of Design and Construction, Bureau of Natural and Cultural Resources and DHR Bureau of Historic Preservation.
- Manage the environs of the replica of Fort Foster to recreate as nearly as practicable the scene of 1837, while maintaining the view from the replica fort free of all signs of modernity.
- Recognize and publicize the unique nature of the New Deal Era parks.
- Develop a nomination for the park to the National Register of Historic Places as a historic district.
- Promote public visitation to New Deal Era parks as visits to a family oriented past.
- Develop interpretive programs that explain the origin of the New Deal Era parks, relating these earliest public conservation and stewardship efforts in Florida to current environmental concerns and land use or land management issues
- Develop technical curricula for historic preservation training in cooperation with state and federal agencies, nonprofit organizations, and state and local educational facilities.
- Hosted and participated in Historic Structures Condition Assessment Training for park and district staff conducted by the National Park Service, Historic Preservation Training Center and Bureau of Natural and Cultural Resources.
- Developed a historic preservation plan for CCC buildings in the park in consultation with Stevenson Architects, Inc. and began implementation of the plan.

Recreation and Visitor Services

- An accessible sidewalk has been installed from the road and picnic pavilion to the canoe launch which has provided more access for all.
- A bike lane was added to the main park drive to allow safe bike and walking around the 2.2-mile loop.

Park Facilities

- There have been a few new roofs put on bath houses and picnic pavilions and all the common building used by the public have been painted the new park colors.

Future Objectives

This section 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. The Ten-Year Implementation Schedule and Cost Estimates summarizes the management goals, objectives, and actions that are recommended for implementation over this period. Measures are identified for assessing progress toward completing each objective and action. The timeframes for completing each objective and action are Continuous (C), Short-Term (ST), Long-Term (LT), and Unfunded Need (UFN). 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 three standard land management categories: administration and support, resource management, and recreation and visitor services.

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 DRP'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 DRP 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 DRP's annual legislative budget requests. When preparing these annual requests, the DRP 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 DRP pursues supplemental sources of funds and staff resources wherever possible, including grants, volunteers and partnerships with other entities. The DRP'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 may need to be adjusted during the ten-year management planning cycle.

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**	**$821,373**
Objective B	**Expand administrative support as new lands are acquired, new facilities are developed, or as other needs arise.**	Administrative support expanded	**C**	**$838,805**

C – Continuous; ST – Short Term (within 2 years); LT – Long Term (within 10 years); UFN – Unfunded Need

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 needs.**	Assessment conducted	**ST or LT**	**$50,000**
Action 1	Staff will pursue additional hydrological studies of the park's current surface water features to determine historic sheet flow		UFN	$45,000
Action 2	Park/District staff should develop a prioritized hydrological restoration plan to aid park management in the restoration of the park's hydrology			$5,000
Objective B	**Restore natural hydrological conditions and function to approximately 3 acres of mesic flatwoods**	# Acres restored or with restoration underway	**UFN**	**$20,000**
Action 1	Install one low water crossing or culverts between zone HR – 1A and HR – 1B	Culvert installed	UFN	$20,000
Objective C	**Seek assistance to monitor and analyze water resources of the park**		**ST, LT**	**$32,000**
Action 1	Evaluate existing water quality and quantity monitoring programs to determine if they meet the monitoring needs of the park			$6,000
Action 2	Seek partnerships to assist with unmet water quality/quality monitoring needs specific to the park			$6,000
Action 3	With monitoring quality monitoring partner, develop a simple report to interpret results of data collections with parameters being measured reported as good or poor			$10,000
Action 4	Continue to review water consumptive use permits submitted to SWFWMD			$10,000

Goal III: Restore and maintain the natural communities/habitats.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	**Within 10 years have 536 acres maintained within optimal fire return interval.**	# Acres within FRI target	**LT**	**$148,500**
Action 1	Develop/update annual burn plan	Plan updated	C	$16,000
Action 2	Manage fire dependent communities by burning between 130 – 265 acres annually	Average # acres burned annually	C	$132,500
Objective B	**Conduct habitat/natural community restoration on 372 acres of abandoned pasture to bring to desired mesic flatwoods community**	# acres restored or with restoration underway	**ST or LT**	**$181,800**
Action 1	Develop/Update site specific restoration plan	Plan developed/ updated	LT	$8,000
Action 2	Begin implementing restoration fire interval (1-3 yr)	Fire frequency, # acres burned	UFN	$55,800
Action 3	Remove encroaching vegetation	Vegetation removed (fire & mechanical)	UFN	$4,000
Action 4	Begin restoration plantings- plants acquired, planting implemented	Plants acquired, planted	UFN	$111,600
Action 5	Begin maintenance and survey activity	Maintenance and survey activity initiated	LT	$3,000
Objective C	**Conduct habitat/natural community improvement activities on 337 acres of mesic flatwoods and wet flatwoods to bring into maintenance condition**	# acres improved or underway	**ST or LT**	**$22,500**
Action 1	Develop site specific improvement plan for 17 acres wet flatwoods		ST	$6,000
Action 2	Continue to conduct hardwood removal in the targeted mesic flatwoods			$8,000
Action 3	Continue to apply prescribed fire during growing season at a 2-4 fire return interval			$8,500

Goal IV: Maintain, improve or restore imperiled species populations and habitats.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	**Update baseline imperiled species occurrence inventory lists for plants and animals.**	List developed/ updated	**C**	**$15,000**
Objective B	**Monitor and document 1 selected imperiled animal species.**	# Species monitored	**C**	**$21,200**
Action 1	Use existing FWC protocols for gopher tortoise monitoring; adopt new FWC protocols when they are complete	# Protocols developed	ST	$6,000
Action 2	Implement gopher tortoise surveying using FWC protocols	# Species monitored	C	$15,200
Objective C	**Monitor and document 3 selected imperiled plant species.**	# Species monitored	**C**	**$15,000**
Action 1	Develop monitoring protocols and FNAI reporting structures, at the Tier level recommended in Table 2	# Protocols developed	ST	$6,000
Action 2	Implement monitoring protocols for 3 imperiled plant species including the Brooksville bellflower, Jameson's water lily, and the pine lily	# Species monitored	C	$9,000

Goal V: Remove exotic and invasive plants and animals and conduct needed maintenance-control.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	**Annually treat at least 430 acres of exotic plant species.**	# Acres treated	**C**	**$557,800**
Action 1	Annually develop/update exotic plant management work plan.	Plan developed/ updated	C	$16,000
Action 2	Implement annual work plan by treating 430 gross acres annually, including second treatments for grasses, ferns, and vines and continuing maintenance and follow-up treatments	Plan implemented	C	$541,800
Action 3	Practice preventable measures to avoid accidental introduction and spreading of exotics			
Objective B	**Implement control measures on 2 exotic animals species.**	# Species for which control measures implemented	**C**	**$115,950**
Action 1	Continue to authorize qualified staff to remove wild hogs			$83,950
Action 2	Develop SOW for contracted services			$1,000
Action 3	Implement contracted services			$25,000
Action 4	Develop a plan to address the armored catfish presence on the Hillsborough River			$6,000

Goal VI: Protect, preserve and maintain the cultural resources.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	**Assess and evaluate 26 of 26 recorded cultural resources in the park**	Documentation complete	**LT**	**$83,200**
Action 1	Complete 7 assessments/evaluations of archaeological sites	Assessments complete	LT or ST	$22,400
Action 2	Complete 19 Historic Structures Reports (HSR's) for historic buildings and cultural landscape. Prioritize stabilization, restoration, and rehabilitation projects	Reports and priority lists completed	LT	$60,800
Objective B	**Compile reliable documentation for all recorded historic and archaeological sites**	Documentation complete	**LT**	**$23,000**
Action 1	Ensure all known sites are recorded or updated in the Florida Master Site File.	# Sites recorded or updated	ST	$2,000
Action 2	Propose a level 1 archaeological survey for priority zones identified by the predictive model	Probability Map completed	ST	$20,000
Action 3	Incorporate historic blue prints into the collections			$1,000
Objective C	**Bring 3 of 26 recorded cultural sites into good condition**	# sites in good condition	**LT**	**$110,000**
Action 1	Implement findings, to bring the structures into good condition.	# sites monitored	C	$104,000
Action 2	Create and implement a cyclical maintenance program for each cultural resource	Programs implemented	C	$6,000
Objective D	**Develop and implement the seawall restoration plan**			**$31,000**
Action 1	Develop a seawall restoration plan	Plan developed		$6,000
Action 2	Seek funding and implement restoration plan	Plan implemented		$25,000

Goal VII: Provide public access and recreational opportunities.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	**Maintain the park's current recreational carrying capacity 4,712 users per day**	# Recreation/ visitor	**C**	**$1,642,747**
Objective B	**Expand the park's recreational carrying capacity by 100 users**	# Recreation/ visitor	**ST or LT**	**$1,677,610**
Objective C	**Continue to provide the current repertoire of 10 interpretive, educational, and recreational programs on a regular basis**	# Interpretive/ education programs	**C**	**$50,000**
Objective D	**Develop 3 new interpretive, educational, and recreational programs**	# Interpretive/ education programs	**ST or LT**	**$21,000**
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**	**$2,464,120**
Objective B	**Continue to implement the park's transitional plan to ensure facilities are accessible in accordance with the American with Disabilities Act of 1990**	Plan Implemented	**ST or LT**	**$1,000,000**
Objective C	**Improve/repair 9 existing facilities, 0.5 miles of trail, and 1.25 miles of road as identified in the Land Use Component**	# Facilities/Miles of Trail/Miles of Road	**LT**	**$2,839,265**
Objective D	**Construct 1 new facility as identified in the Land Use Component**	# Facilities/Miles of Trail/Miles of Road	**LT**	**$10,000**
Objective E	**Expand maintenance activities as existing facilities are improved and new facilities are developed**	Facilities maintained	**C**	**$2,516,415**

Summary of Ten-Year Cost Estimates		
Management Categories	**Total Estimated Manpower and Expense Cost (10 years)**	**Percentage**
Administration and Support	**$1,660,178**	**14%**
Resource Management	**$1,426,950**	**12%**
Hydrology	$102,000	0.9%
Natural Communities	$352,800	3%
Imperiled Species	$51,200	0.4%
Exotic Species	$673,750	5.7%
Cultural Resources	$247,200	2%
Recreation and Visitor Services	**$8,757,037**	**74%**
Public Access	$3,391,357	29%
Capital Improvements	$5,365,680	45%
Total Ten-Year Cost Estimate	**$11,844,165**	**100%**

Resource Management Component

Natural Resources

Topography

In terms of Florida geomorphology, the park is situated at the western edge of the Zephyrhills Gap, named for the town of that name which lies in the gap, and named a gap because it is at the lower end of a valley, elongated north to south (named the Western Valley), through which the Hillsborough River attains egress to the sea, flowing between the Brooksville Ridge to the north and another elevated landform to the south (named the Polk Upland). Gap, valley and uplands are of course too subtle to be noticed, and have been revealed only geology in the park, elevations range from almost 50 feet mean sea level (msl) at the northern boundary of the upper unit, to less than 35 feet msl at the river's edge. The lower unit is swampy terrain. Most of it is below the 30-foot isometric line. The river banks in the upper unit are commonly elevated in contrast to the low-lying land behind them. These natural levees formed as the river periodically overflowed, leaving water-born sediment to settle along the shore. The natural topography has been altered somewhat by drainage ditches, most of them are shallow.

Geology

The underlying geologic formations include the Tampa Member of the Arcadia Formation, Hawthorne Group (Lower Oligocene); and the Arcadia Formation, Hawthorne Group (Lower Miocene); and the Suwannee Limestone (Upper Oligocene). The Suwannee Limestone is a granular, thin-bedded, soft, highly fossiliferous limestone whereas the Tampa generally contains more sand, clay and fewer visible fossils. Unconsolidated surficial sediments of variable thickness overlie these carbonate units except where the limestone base has been exposed through natural erosion by the river.

Soils

The park contains 10 soil types. Addendum 3 contains the soil descriptions for this unit. The only incidents of soil erosion at Hillsborough River State Park have been at sites on steep slopes along the Hillsborough River which have frequently attracted visitors to the water's edge. Boardwalks and overlooks have been installed at these sites to protect the slopes. Management measures will continue to follow generally accepted best management practices to prevent soil erosion and conserve soil and water resources on site.

Minerals

There are no known minerals of commercial value located in the park.

Hydrology

The region averages 56 inches of rainfall per year, with an average evapotranspiration rate of 39 to 40 inches. Most rainfall is removed by surface runoff, but some aquifer recharge is experienced under normal or wetter than normal conditions.

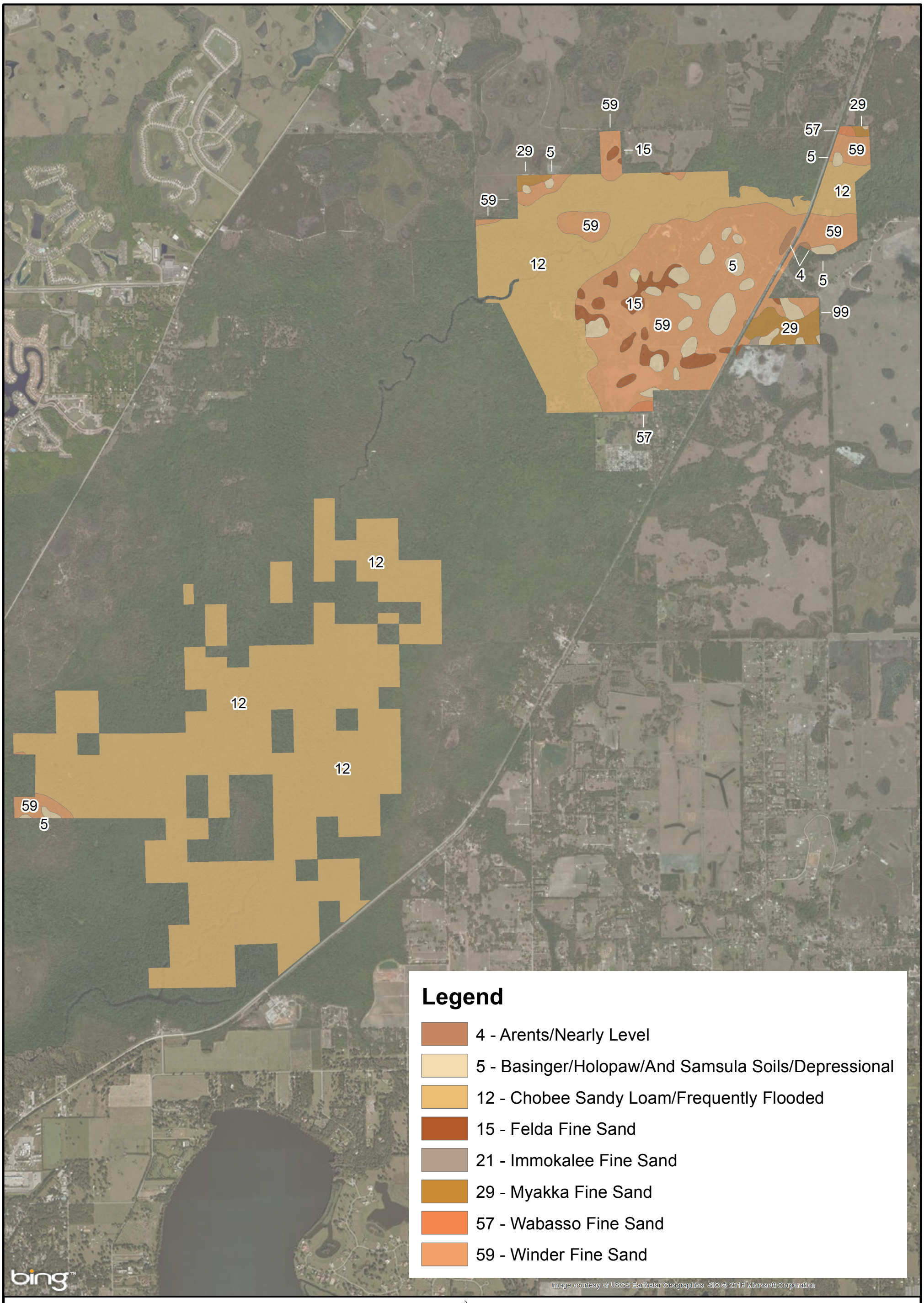
The Hillsborough River, which is the central natural feature of the park, flowing through both the upper and the lower unit, is fed from two primary sources. Crystal Springs, the artesian upwelling a few miles to the north, which during the dry season is the principal source of water in the river. A greater volume is produced in the Green Swamp during the rainy season. This surface discharge is stained brown by the tannin found in dead leaves. It darkens the water as it rises, obscuring the river bottom which can be clearly seen through the pellucid current during the dry season. Overflow from the main channel is accepted by the bordering river swamp and adjacent hydric hammock and released when the river surface declines in the dry months. The lower unit of the park lies entirely in the river floodplain and it is also encompassed by the 16,000-acre Lower Hillsborough Flood Detention Area, purchased by the Southwest Florida Water Management District to temporarily store flood waters and

thus prevent damage to urban land bordering the river in Tampa.There has been a noticeable decline in flows at Crystal Springs over the period of record. For development of minimum flows, 50% of the flow decline was considered to be anthropogenic.

For Crystal Springs the contribution of the spring flow to the Hillsborough River was examined. It was determined that during the low-flow time of the year Crystal Springs flow comprised a majority of the flow in the river. This reduction in flow could cause wetlands to experience extreme reductions in hydroperiod. Such an impact would be undesirable in the park, and it is a concern given the growing increase in population. The SWFWMD is currently monitoring water levels and vegetation in a depression marsh and a dome community within the park, a project that should give warning if present ground water levels decline. SWFWMD initiated the project out of concern for possible draw-downs in the Morris Bridge Wellfield, five miles southwest of the park, which provides water to Tampa. The monitoring sites were selected in the park because they were comparable to wetlands in the wellfield, but beyond the wellfield's expected zone of influence. The park sites will serve as controls to assess the effect of withdrawing water five miles downstream. Surface water in the depression marsh is measured at least monthly, while in the dome community daily measurements are made with an automated water level recorder. Vegetation in the two wetlands is surveyed twice a year. Companion wells are used to monitor water levels in the underlying aquifer. Monitoring began in 1977. The SWFWMD's assessment is that both wetlands display characteristics of water levels and vegetation consistent with other natural systems in the region. This is not to say the characteristics are consistent with primeval conditions, only that deviations from the norms of today have not been detected. Following the discovery by county authorities of unsafe levels of coliform bacteria in the Hillsborough River in the 1970s, swimming was prohibited, and a large wading pool was constructed in the park for use by visitors. It is always possible that continuing public acquisition of land in the watershed, perhaps in combination with changing patterns of land use and other factors could make it possible to eliminate pollution in the future. Management should be alert for opportunities to work in concert with other agencies to improve water quality.

The Civilian Conservation Corps (CCC), in keeping with the practices of the day, drained surface water from wetlands in the interior of the park. A number of the swamps have shallow drainage ditches connecting them and leading ultimately to an outfall at the Hillsborough River. Some additional ditches of this kind were excavated it is believed in the 1950s and 1960s. There are four outfalls altogether.

Much hydrological work has been done to restore the surface flow in the depression marshes and cypress domes. A culvert under the main road between zones HR-5 and HR7 was removed to improve the hydroperiod of the associated depression marsh. Two ditch blocks were added in zone HR-2 and HR-1A and this has improved the condition of the cypress domes now that the natural hydrologic function has returned. With the increased water volume now being experienced between zone HR-1A and HR-1B erosion is occurring on the fire line. A low water crossing needs to be implemented to address this problem. This needs to be professionally designed / engineered to ensure they support large pieces of equipment and function properly in the long term. This fireline is also the primary location of Jameson's water lily (*Nymphaea jamesoniana*) (FL-E) in the park and any improvements will need to protect the plants. The Florida DEP in conjunction with SWFWMD developed and implemented a stormwater management and water quality improvement project. The primary goal of the project was to improve the water quality within Hillsborough River State Park and the quality and associated pollutant loading of the stormwater runoff flowing into the Hillsborough River. A secondary goal was to alleviate flooding which occurred occasionally in the park. The project entailed removing the existing parking areas at parking lot three and four and replacing them with a more permeable substrate, called turf blocks.



HILLSBOROUGH RIVER STATE PARK

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Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

SOILS MAP

Turf blocks allow grass and other vegetation to grow through but still support the weight of a vehicle. This decreases the net amount of impervious area, essentially allowing the water to percolate through and thereby reducing the amount of stormwater runoff. Retention areas were also constructed within the parking lots to store and treat the stormwater runoff. Four culverts were put in place during the project to facilitate natural stormwater drainage patterns within the park. The continued impact of the ditches throughout the park needs to be determined and wherever feasible, the ditches should either be restored to natural topographic grade or have ditch-blocks installed to stop any flow.

Management will comply with best management practices to maintain or improve the existing water quality on site and will take measures to prevent soil erosion or other impacts to water resources.

Hydrological Management Program

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

The parks hydrological needs have been worked on and much has been done to restore natural water flow in many of the natural communities. As funds become available further hydrological studies of the park's current surface water features including ditches needs to be conducted. Historical sheet flow of the property needs to be determined. The feasibility of restoration needs to be determined and the impact of the restoration evaluated. Negative impacts, such as flooding developed areas should be assessed and mitigated for if possible. A sequential and prioritized hydrological restoration plan should then be developed and used as a tool to aid park management in the restoration of the park's hydrology.

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

Action 1	Staff will pursue additional hydrological studies of the park's current surface water features to determine historic sheet flow
Action 2	Park/District staff should develop a prioritized hydrological restoration plan to aid park management in the restoration of the park's hydrology.
Action 3	Install one low-water crossings or culverts between zone HR – 1A and HR – 1B

With the increased water volume now being experienced between zone HR – 1A and HR – 1B, erosion is occurring on the fire line. A low water crossing needs to be implemented to address this problem. This needs to be professionally designed / engineered to ensure they support large pieces of equipment and function properly in the long term. This fireline is also the primary location of Jameson's water lily (*Nymphaea jamesoniana*) (FL-E) in the park and any improvements will need to protect the plants.

Objective C: Seek assistance to monitor and analyze water resources of the park.

Action 1 Evaluate existing water quality and quantity monitoring programs to determine if they meet the monitoring needs of the park.

Action 2 Seek partnerships to assist with unmet water quality/quantity monitoring needs.

Action 3 With quality monitoring partner, develop a simple report to interpret results of data collection with parameters being measured reported as good or poor.

Action 4 Continue to review water consumptive use permits submitted to SWFWMD

Collaboration between USGS, SWFWMD and the FPS should continue to insure water flow; level measurement activities and water quality monitoring can be maintained and expanded if needed.

The FPS District staff review all water consumptive use permits submitted to the SWFWMD within the vicinity of Hillsborough River and provides comments to SWFWMD regarding issues that will negatively impact Hillsborough River State Park's hydrological resources. The SWFWMD monitors surface and groundwater levels on and around Hillsborough River. Water quality information is collected periodically and made available.

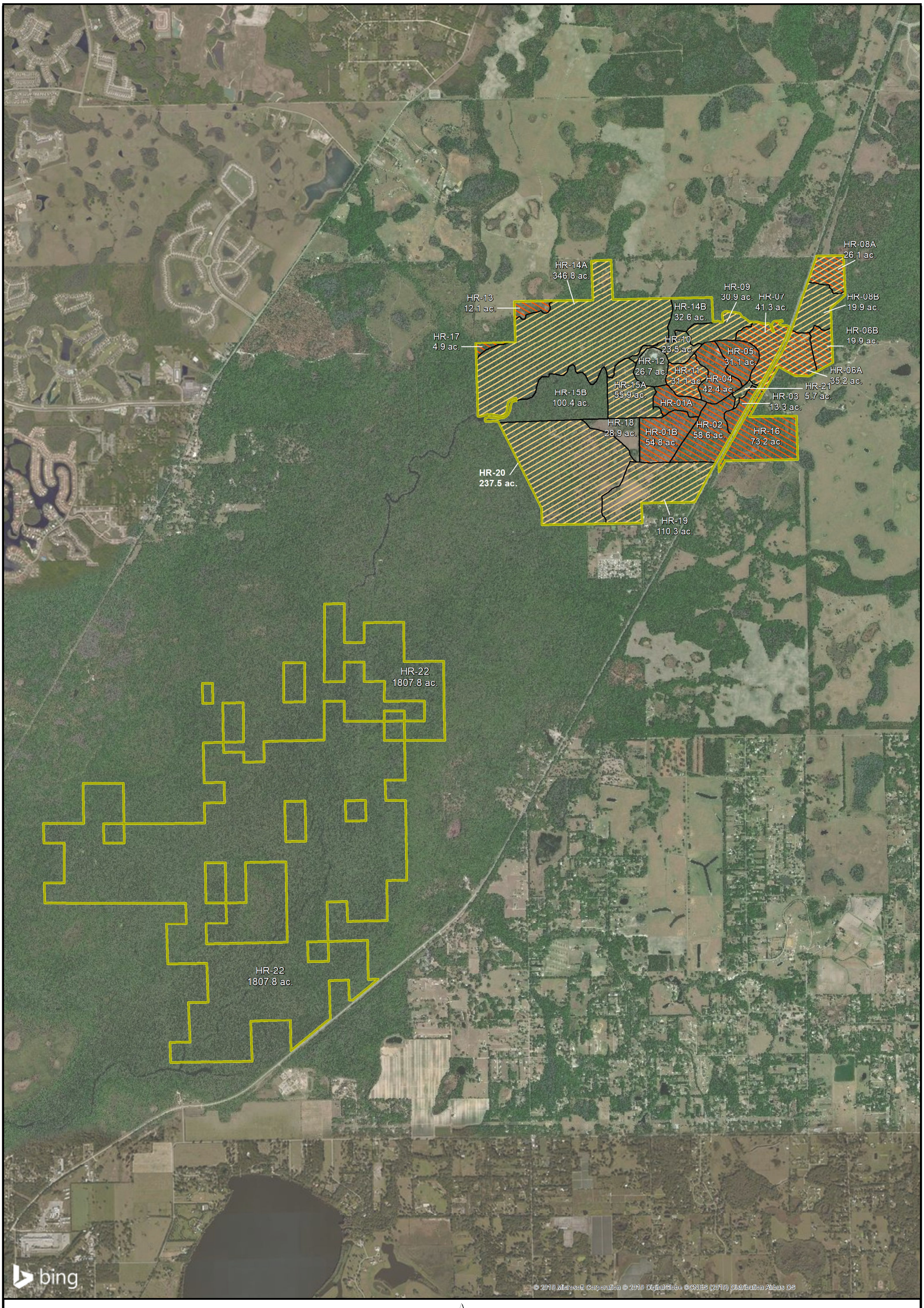
Natural Communities

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 (DFC) 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 entire park is divided into management zones 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.



HILLSBOROUGH RIVER STATE PARK

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Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

MANAGEMENT ZONE MAP

The park contains 13 distinct natural communities as well as altered land use and developed areas (see Natural Communities Map). A list of known plants and animals occurring in the park is contained in Addendum 5.

Table 1. Natural Communities and Altered Landcovers Existing Conditions		
Natural Communities	**Acreage***	**Percentage**
Mesic Flatwoods	321.42	9.7%
Mesic Hammock	200.29	6.0%
Sinkhole	0.01	0.000003%
Wet Flatwoods	17.08	0.5%
Depression Marsh	46.31	1.4%
Dome Swamp	116.35	3.5%
Floodplain Swamp	1,780.51	53.6%
Hydric Hammock	468.90	14.1%
Blackwater Stream	74.81	2.3%
Altered Landcovers	**Acreage***	**Percentage**
Abandoned Field	145.37	4.4%
Clearing/Regeneration	27.65	0.8%
Developed	84.59	2.6%
Impoundment/Artificial Pond	7.57	0.2%
Spoil Area	2.46	0.0007%
Successional Hardwood Forest	25.74	0.8%
Total Acreage	**3,319.06**	**100%**

MESIC FLATWOODS

Desired future condition: Mesic flatwoods is characterized by an open canopy of longleaf pine (*Pinus palustris*) and south Florida slash pine (*Pinus elliottii* var. *densa*), and a dense, low ground layer of low shrubs, grasses and forbes. Saw palmetto (*Serenoa repens*) will generally be present but not overly dominant. Other shrub species may include gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), dwarf live oak (*Quercus minima*), shiny blueberry (*Vaccinium myrsinites*), and dwarf huckleberry (*Gaylussacia dumosa*). The herbaceous layer is primarily grasses, including wiregrass (*Aristida stricta* var. *beyrichiana*), pineywoods dropseed (*Sporobolus junceus*) and broomsedge (*Andropogon* spp.). Hardwood species such as water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia)* and sweetgum (*Liquidambar styraciflua)* should be absent. This community has minimal topographic relief and the soils contain a hardpan layer within a few feet of the surface which impedes percolation. Due to these factors, water can saturate the sandy surface soils for extended periods during the wet season but lengthy droughts also commonly occur during the dry season. The Optimal Fire Return Interval for this community is 2-4 years. Invasive exotic vegetation should be less than 5% of the overall plant cover.

Description and assessment: From the park beginnings in the 1930s, until the early 1970s, an official policy of fire exclusion was in place. In the absence of fire, hardwoods invaded the mesic flatwoods, displacing most native vegetation. Today, the condition of the mesic flatwoods in the park varies dramatically. The conditions vary from good to poor with the good condition mesic flatwoods having a good representation of long leaf pine and south Florida slash pine, good density saw palmetto and a good herbaceous layer consisting of a diversity of grasses, sedges and forbs. The best examples of good condition mesic flatwoods are in management zones HR-6A, HR-6B, HR-8A and HR-8B. These zones receive regular prescribed fire on a one to three-year fire

return interval in the growing season and have not been heavily invaded by hardwoods. These management zones seem to be somewhat drier than the mesic flatwood zones west of US301, possibly due to slightly higher elevation or greater depth to hardpan.

Mesic flatwoods community type can have a broad range of hydrologic trends and those west of US301 tend to be on the wet side, primarily during the rainy season. This, together with flawed management practices like routine mowing of the flatwoods without burning and exclusively burning in the dormant season have likely contributed to the invasion of hardwoods in these zones. Management zones - HR 5, HR-4, HR-11, and HR-10, which are closer to the day use areas, are in fair to poor condition due to a high density of invading hardwood species such as water oak, sweet gum and laurel oak. In some areas the invading hardwoods have matured and now are unaffected by prescribed fire alone. Targeted hardwood removal together with growing season prescribed fires have led to dramatic improvements in these zones and will continue. Shade competition has led to a reduction in the percent cover and diversity of expected groundcover species. As targeted management actions continue, it is expected that groundcover species typical of the desired future conditions will become more abundant. Some animal species that can be observed in this community are raccoon (*Procyon lotor*), opossum) (*Didelphis virginiana*), cotton mouse (*Peromyscus gossypinus*), song bird species, and snake species (e.g. black racer (*Coluber constrictor priapus*), corn snake (*Pantherophis guttatas*), and eastern (yellow) rat snake (*Pantherophis alleghaniensis*).

General management measures: The continuation of prescribed fire program is essential to maintaining and improving the mesic flatwoods. Growing season burns have proven effective in controlling hardwood encroachment and this practice should continue.

Where applicable, the continued mechanical removal and chemical treatment of hardwoods will assist the success of the prescribed fire program and restoration of the invaded mesic flatwoods. Areas can be identified where trees can be removed on a case by case basis. At present the park has developed and implemented targeted restoration plans for a number of mesic flatwoods zones that consist of a precise schedule for the management actions including hardwood treatment, prescribed burning and invasive plant treatments to best meet the desired future conditions. As the competition from hardwoods is removed, the density and diversity of fine fuels should increase and improve the park's ability to meet the ecological goals of prescribed burning alone. Species monitoring should be done where possible to document shifts in vegetation as a result of better prescribed burning and the return to more natural hydrology as water sucking hardwoods are removed and ditches are blocked or filled. Monitoring and treatment of invasive exotic plants will continue for this area.

MESIC HAMMOCK

Desired future condition: Mesic hammock is a well-developed evergreen hardwood or palm forest which can occur, with variation, through much of peninsular Florida. Mesic hammocks will generally contain sandy soils with organic materials and may have a thick layer of leaf litter at the surface. The often dense canopy will typically be dominated by live oak with cabbage palm (*Sabal palmetto*) mixed into the understory. Southern magnolia (*Magnolia grandiflora*), water oak, laurel oak and South Florida slash pine may also be present in the canopy. The shrubby understory may be dense or open, tall or short, and will typically be composed of saw palmetto, beautyberry (*Callicarpa americana*), gallberry and coastalplain staggerbush (*Lyonia fruticosa*). The groundcover may be sparse and patchy but generally contains panic grasses (*Panicum* spp., including switchgrass (*Panicum virgatum*), sedges, as well as various ferns and forbs. Vines and epiphytes are often abundant. Mesic hammocks will rarely be inundated and are

not considered to be fire-adapted communities and will typically be shielded from fire. Invasive exotic plant cover should be less than 5%.

Description and assessment: The mesic hammock is a recently added natural community at the park. All but one of the areas now mapped as mesic hammock were historically classified as upland mixed forest. Portions of management zones HR-1A, HR-11, HR-12, HR-13A and HR15 now best fit the current FNAI description for mesic hammock. The nearly closed canopy of these areas are dominated by oak species, primarily live oak, but water oak and laurel oak are both present. South Florida slash pines and the occasional cabbage palm are scattered in the canopy as well. The understory is dominated by saw palmetto with scattered shrubs like beautyberry, gallberry, hog plum (*Ximenia americana*) and blue huckleberry (*Gaylussacia frondosa* var. *tomentosa*). Remnant grasses, sedges and forbs are occasional. The dominance of saw palmetto in the shrub layer and absence of a characteristic diversity of deciduous hardwoods warrants classification as mesic hammock.
The mesic hammock areas have developed as a result of fire suppression, much like the hardwood invaded mesic flatwoods at the park. It is not certain what conditions led to the development of a mature hammock in these areas while the mesic flatwoods maintained enough semblances to flatwoods to retain the designation. More mesic conditions, less manipulation such as mowing and later or no return of prescribed fire in the mesic hammocks may all be factors. Some areas like the southeastern portion of HR-13 are natural transition zones from mesic flatwoods to the lower hydric hammock and will likely remain as a narrow ecotone. The mesic hammock is also found in proximity to the river, growing on natural levees built of sediment, deposited along the banks by repeated floods. This community is surrounded by the hydric hammock.

The southwest portion of the Model Dairy property is now designated as mesic hammock where it was previously considered ruderal. This area is dominated by live oak and may have had some supplemental planting as part of the Tampa Bay Water mitigation on the Model Dairy site.

The mesic hammocks at the park are considered in good condition. Invasive species are occasional and hog damage is periodic. There are roads and trails in some mesic hammock areas where erosion potential is higher as well as potential for disturbances from vehicles and visitor traffic.

General management measures: Mesic hammock is not considered a fire adapted community but where possible fire should be allowed to carry into the hammock and extinguish naturally. This will help to maintain a more diverse ecotone as well as push back the hammock towards the historical footprint. Invasive species monitoring and control, including hog control will continue.

SINKHOLE

Desired future condition: Sinkholes are characterized by cylindrical or conical depressions with limestone or sand walls. Sinkholes do not contain standing water for long periods of time as do sinkhole lakes. Climax vegetation should resemble that of the surrounding hydric hammock with varying sizes of hydrophytic trees, shrubs and herbs. Sinkholes with vertical limestone walls may be covered by a variety of mosses, liverworts, ferns and small herbs. Sinkholes will generally have a very moist microclimate due to seepage and being buffered by the lower elevation and a tree canopy. Desired future conditions include limiting unnatural erosion and protecting the microclimate from disturbance. Invasive exotic plant species cover should be less than 5%.

Description and assessment: A small sinkhole occurs within the hydric community north of the Hillsborough River. It is located about 100 meters southwest of the site of a former pine plantation, and is connected by a drainage to a floodplain swamp nearer the river. The vegetation is similar to that of the surrounding hydric hammock.

General management measures: This community should be protected from visitor impacts and monitored for trash dumping or unauthorized foot traffic to minimize erosion. The Division of Historical Resources will be consulted prior to ground disturbing activities. Exotic plant species removal will continue.

WET FLATWOODS

Desired future condition: Based on the history of this site and the need for development of a targeted restoration plan, the desired future conditions are somewhat uncertain. The canopy will be open, dominated initially by cabbage palm but over time by a mix of cabbage palm and South Florida Slash pine. Hardwood species should be absent from the canopy. The shrub layer, if present will be a sparse mix of shrubs such as gallberry, fetterbush or wax myrtle. The herbaceous groundcover will be dense and consist of species like blue maidencane (*Amphicarpum muhlenbergianum*), beaksedges, wiregrass and a wide diversity of wildflowers. The Optimal Fire Return Interval for this community is 2-4 years. Invasive exotic plant cover should be less than 5%.

Description and assessment: This area, localized at the eastern end of the park just south of the river, is classified as mesic flatwoods though currently it more closely resembles a cabbage palm hammock. The historical vegetative composition in this community is not certain. At present the cabbage palm density is so high and has been for so long that little natural groundcover typical of the area is present. According to burn records, the site has been burned 12 times since 1978 with apparently little shift in the dominant vegetation. It is assumed that the installation of US301 likely altered the hydrology of this area and coupled with a policy of fire exclusion, allowed the invasion by cabbage palms and hardwood species such as water oak, sweetgum and red maple (*Acer rubrum)*. When fire was once again applied, the vegetation had shifted so dramatically from groundcover adapted to carry fire that the intensity required to meet ecological goals was and is no longer feasible. Restoration of the wet flatwoods will require thinning of cabbage palms and invading hardwoods. South Florida slash pines have begun to recruit and while cabbage palms are common in the canopy of calcareous sites, it is desirable to encourage the pines (FNAI 2010). Timing of prescribed burns will have to be such that fire will be allowed to carry through the zone and effectively meet ecological goals while balancing smoke dispersion issues due to proximity with US301. It is notable that some desirable herbaceous species are present such as wild coco (*Eulophia alta*) and should be protected during restoration activities. Animal species that can be seen in this community include bobcat,(*Lynx rufus)* marsh rabbit (*Sylvilagus palustris*), Sherman's fox squirrel (*Sciurus niger shermani*) , wild turkey (*Meleagris gallopavo)*, white- tailed deer (*Odocoileus virginianus)*, raccoon, woodpecker species, song birds, Great horned owl (*Bubo virginianus)*, eastern screech owl (*Megascops asio)*, and variety of snakes and lizards.

General management measures: A targeted restoration plan for the wet flatwoods is needed. The park has established restoration plans for a number of the mesic flatwoods zones and this area, management zone HR-7, should be included. The plan should include specifics on palm and hardwood thinning, prescribed burning, protection of desirable recruits like slash pine and exotic plant control. Consideration should be given to removal of thinned palms and hardwoods to avoid excess smoke in the future. Following implementation, prescribed burning and exotic plant control should continue in perpetuity.

DEPRESSION MARSH

Desired future condition: Depression marsh is characterized as containing low emergent herbaceous and sparse shrub species which will be dominant over most of the area and include open vistas. Trees will be few and if present, will occur primarily in the deeper portions of the community. There will be 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 should include maidencane

(*Panicum hemitomon*), sawgrass (*Cladium jamaicense*), pickerelweed (*Pontederia cordata*), arrowhead (*Sagittaria* sp.), rushes (*Juncus* sp.), sedges (*Cyperus* sp.), wildflowers like camphorweed (*Pluchea* sp.), primrosewillow (*Ludwigia* sp.), milkweed (*Asclepias* sp.) and narrowleaf sunflower (*Helianthus angustifolius*). Scattered small shrubs like buttonbush (*Cephalanthus occidentalis*) and St. John's wort (*Hypericum* sp.) may be present. The optimal fire return interval for this community is 2-4 years depending on fire frequency of adjacent communities. Invasive exotic plant cover should be less than 5%.

Description and assessment: The Park contains a number of shallow depression marshes, located throughout, which are in fair to good condition. These depression marshes are historically threatened by the expansion of woody plant species, facilitated by disrupted water flow and/or fire exclusion. The woody species of concern are primarily red maple, button bush and Carolina willow (*Salix caroliniana)*. A combination of hardwood removal, application of growing season prescribed burns and ditch blocking have helped to reverse this trend. A mitigation project in 2009 by the Seminole Tribe of Florida in management zone HR-1B removed hardwoods and treated invasive plants in three depression marshes. Supplemental wiregrass plantings were done upland of the marshes. Desirable native vegetation in depression marshes of the main park include maidencane, softrushes, beaksedges (*Rhynchospora* sp.) and numerous wildflowers like pinebarren goldenrod (*Solidago fistulosa*), yellow eyed grasses (*Xyris* sp.), primrosewillows and Carolina redroot (*Lachnanthes caroliniana*). Some of the more common animals that can be seen are marsh rabbit, , Southern leopard frog (*Lithobates sphenocephalus*), green treefrog (*Hyla cinerea*), Florida water snake (*Nerodia fasciata pictiventris*), and a variety of wading birds.

The depression marshes on the Model Dairy property have been heavily manipulated. Historical use of the site as a pasture resulted in some ditching, lack of prescribed burning and possibly trampling. Following acquisition by Hillsborough County, Tampa Bay Water used the site for mitigation in the mid-1990's. As part of the mitigation projects, a number of the depression marshes were graded, planted and several historical ditches were blocked. The vegetation planted in the marshes was a suite of emergent wetland species typically used in planting projects like soft rush (*Juncus effusus*) and sand cordgrass (*Spartina bakeri*). Since then, many desirable native species have recruited. Hydrology varies between the marshes and with the rainy season. As part of the mitigation planting, the landward edges of the marshes were planted with woody species like bald cypress (*Taxodium distichum*), wax myrtle *(Morella cerifera*), red maple and Walter's viburnum (*Viburnum obovatum*). The presence of these species is atypical for depression marsh and may complicate prescribed burning. As targeted management actions like prescribed burning are implemented on the Model Dairy property, the woody species may begin to give way to fire tolerant hydrophytic herbs. However, these areas are functional communities and several are locations for the Brooksville bellflower (*Campanula robinsiae*) (USFWS-E, FL-E). Care will need to be taken to preserve the moist, semi-shaded environment where these plants have established.

General management measures: Fire in the surrounding natural communities should be allowed to burn into the depression marshes and extinguish naturally or burn through them. Growing season burns are more desirable to control hardwood encroachment. Mechanical removal of woody species may be necessary and should continue on a case by case basis. Exotic plant species removal will continue in this community.

DOME SWAMP

Desired future condition: Dome swamp is an isolated, forested, depression wetland occurring within a fire maintained matrix such as mesic flatwoods. The characteristic dome appearance will be created by smaller trees that grow on the outer edge (shallower water and less peat) and larger trees that grow in

the interior. Pond cypress will typically dominate, but swamp tupelo (*Nyssa sylvatica biflora*) may also form a pure stand or occur as a co-dominant. Other subcanopy species may include red maple, dahoon holly (*Ilex cassine*), swamp bay (*Persea palustris*), sweetbay (*Magnolia viginiana*), and loblolly bay (*Gordonia lasianthus*). Shrubs may be absent to moderate (a function of fire frequency) and can include Virginia willow (*Itea virginica*), fetterbush, buttonbush and wax myrtle. An herbaceous component may range from absent to dense and include ferns, maidencane, saw grass, sedges (*Carex* spp.), lizards tail (*Saururus cernuus*), and sphagnum moss (*Sphagnum* spp.). Vines and epiphytes will be commonly found. Invasive exotic plant cover should be less than 5%.

Description and assessment: The dome swamps are in good condition and are dispersed throughout the uplands. When the park was developed during the 1930s, ditches were dug to connect several dome communities and to convey water from them to the Hillsborough River. The dome communities are reported to have a dense clay substratum which aids in the retention of surface water. The dominant species of the domes varies, with the majority being dominated by bald cypress. However, at least one sizable dome in management HR-11 is dominated by swamp tupelo. There are several domes on the Model Dairy property that, like the previously described depression marshes have a history of disturbance and manipulation. The species in these domes vary but do tend to be hardwood dominated. When water levels rise during the rainy season, bladderworts (*Utricularia* sp.) can be found proliferating in several of the domes.

General management measures: Dome swamps should be allowed to burn on the same frequency as the adjacent fire type community, allowing fires to naturally burn across ecotones. Fires should be appropriately planned to avoid high severity fuel consumption within the dome swamp. Exotic plant species removal will continue.

FLOODPLAIN SWAMP

Desired future condition: Floodplain swamp will be a frequently or permanently flooded community in low lying areas along streams and rivers. Soils will consist of a mixture of sand, organics, and alluvial materials. The closed canopy will typically be dominated by bald cypress but commonly includes red maple Sweetgum and water locust (*Gleditsia aquatica*). Trees bases are typically buttressed. Understory and groundcover will typically be sparse. Invasive exotic plant cover should be less than 5%.

Description and assessment: This community is found in scattered overflow depressions along the Hillsborough River. These elongated depressions are aligned more or less parallel to the river and are usually situated behind the natural levees which are interposed along the bank and in old oxbows. As the river rises, water enters the depressions through openings in the levee and remains for extended periods. Due to the prolonged flooding, vegetative ground cover is sparse or absent altogether. While bald cypress was cut decades ago, it is still common, and their great buttressed trunks are conspicuous. Other tall trees are swamp tupelo, red maple and American elm. The 17 Runs tract (the south parcel) has previously been described as hydric hammock, but field surveys have found this community to be more consistent with the floodplain swamp designation due to the abundance of bald cypress, tupelo, water hickory (*Carya aquatica*), Carolina ash (Fraxinus caroliniana), American elm (*Ulmus Americana*), red maple and fern dominated understory together with the low lying, mostly saturated and frequently inundated Chobee sandy loam soils.

General management measures: The floodplain swamp will require little targeted management. Monitoring for erosion should continue and be mitigated or the shore restored as appropriate. An invasive exotic plant survey needs to be done on all the floodplain swamp within the park, especially the 17 Runs tract, where little surveying of the interior has been done. Once surveyed,

monitoring and treatment for exotic plant infestations will continue.

HYDRIC HAMMOCK

Desired future condition: Hydric hammock is characterized with a closed canopy, evergreen hardwood and/or palm forest with a variable understory dominated by palms, with sparse to moderate ground cover of grasses and ferns. Typical canopy species will include laurel oak, cabbage palm, live oak (*Quercus virginiana*), sweetbay, American elm, red maple and other hydrophytic tree species. The sparse understory should consist of young canopy hardwoods such as American hornbeam (*Carpinus caroliniana*), Walter's viburnum, Virginia willow and other hydrophytic shrubs. Groundcover should consist of small shrubs such as wild coffee (*Psychotria nervosa*) and bluestem palmetto (*Sabal minor*), ferns and shade tolerant grasses and sedges. Soils will be poorly drained but only occasionally flooded. Hydric hammock is not considered a pyric community, but fire should be permitted to creep into the edges to maintain the ecotonal diversity. Every effort to control hogs (*Sus scrofa*) should be made to reduce damaging impacts on groundcover species. Invasive exotic vegetation should be less than 5% of the overall plant cover.

Description and assessment: The hydric hammock occupies a broad zone behind the narrow hammocks and floodplain swamps that border the river. The hydric hammock is in excellent condition with most of it exhibiting little trace of human influence and most appearing to be in good to excellent condition. The tree species are similar in composition to those of the upland hardwood forests but having more American elm and red maple, and with American hornbeam being conspicuously abundant in the understory. Bluestem palmetto is a frequent shrub.

The hydric hammock on the western side of the Model Dairy property is the least disturbed or manipulated natural community on that parcel. The hydric hammock is in good condition though some exotic species such as citrus are present. There have been some impacts to the eastern and southern portions of the hammock, presumably from pasture and dairy operations. The elevated Dead River Rd. bisects the hydric hammock between management zones HR-15B and HR-20. The impacts to the hammock edges and of the road on hydrology are not well understood and should be investigated as any restoration of Model Dairy proceeds.

General management measures: Hydric hammock should occasionally burn by allowing fires to naturally burn across ecotones from fires originating in adjacent upland natural communities. Survey work should continue as citrus trees are abundant in the hydric hammock. Invasive exotic plant surveying and removal should continue. Routine removal of hogs should continue. Maintaining the hydrological integrity of the community must continue to ensure the health of the hydric hammock. A number of trails run through this community and should be monitored for signs of erosion or visitor impacts.

BLACKWATER STREAM

Desired future condition: Blackwater stream can be characterized as a perennial or intermittent watercourse originating in lowlands where extensive wetlands with organic soils collect rainfall and runoff, discharging it slowly to the stream. The stained waters will be laden with tannins, particulates, and dissolved organic matter derived from drainage through adjacent swamps resulting in sandy bottoms overlain by organic matter. In the case of the section of the Hillsborough River that passes through the park, a significant contribution of flow comes from nearby Crystal Spring, often resulting in clearer, deeper water during seasonal dry down periods. Emergent and floating vegetation such as spatterdock (*Nuphar advena*), water hemlock (*Cicuta maculata*), spring-run spider lily (*Hymenocallis rotata*) and Illinois pondweed (*Potamogeton illinoensis*) may occur but are often limited by steep banks and dramatic seasonal fluctuations in water levels. The banks are often dominated by hydrophytic

trees such as bald cypress (*Taxodium ascendens*), Carolina ash, swamp dogwood (*Cornus foemina*) and sweetgum. Desired conditions include minimizing disturbance and alterations and preserving adjacent natural communities. Invasive exotic vegetation should be less than 5% of the overall plant cover.

Description and assessment: The Hillsborough River has approximately three miles of river within the park boundaries and does emanate from the Green Swamp, which would agree with the blackwater stream designation but a significant amount of water is fed by Crystal Springs. This results in a clear run during the drier parts of the year while during the rainy season displaying more of the blackwater stream characteristics. A distinctive characteristic of the Hillsborough River is an abundance of mostly submerged and often large limestone outcroppings that render the river difficult for boating.

General management measures: Monitoring for human caused bank erosion should continue and the damage restored as appropriate. Because this community is primarily maintained by hydrology, hydrologic disturbances affecting the Green Swamp and Crystal Springs such as flow and level will affect this community within the park. Input from the division, district and park staff regarding hydrologic disturbances will continue. Park staff will continue to control invasive species along the riverbank as well to partner with other agencies to control aquatic invasive species.

Altered Landcover Types

ABANDONED FIELD

Desired future condition: The desired future condition for the abandoned field is to restore it to its historical community type. The exact species composition will vary, but it is believed that the majority will be mesic flatwoods with the possibility of some restoration of the eastern edge of the intact hydric hammock. See descriptions of desired future conditions for both community types above.

Description and assessment: Most of the upland portions of Model Dairy were converted to improved pasture long ago and grazed as part of the dairy operations. The dairy is gone and the site has not been grazed since 1988 once grazing stopped, weedy species colonized. The wetland portions of the site have been improved by mitigation projects with woody species planted on the landward slopes. Over time, spread of these species together with young volunteer hardwoods and woody shrubs like groundsel tree (*Baccharis halimifolia*) have created pockets of second growth weedy vegetation. Areas not colonized by woody species still have expanses of overgrown bahia grass (*Paspalum notatum*) and have been invaded by dogfennel (*Eupatorium capillifolium*), , ragweed (*Ambrosia artemisiifolia*), Mexican tea (Dysphania ambrosioides) and invasive species like cogon grass (*Imperata cylindrica*), lantana (*Lantana camara*) and Caesar's weed (*Urena lobata*). The weedy masses have made management efforts to control hogs, invasive plants and trespassing extremely problematic.

General management measures: A targeted restoration plan is needed for the abandoned pasture portions of the Model Dairy parcel. Implementation will require the pursuit of outside funding in the form of grants or mitigation projects.

The 2004 management plan intended that the upland portions of the Model Dairy parcel be allowed to succeed to second growth forest throughout and be managed as such. It is now felt that the upland portions should be restored to their pre-disturbance natural community type, primarily mesic flatwoods with some improvements to and expansion of the intact hydric hammock. Park and district staff in cooperation with Hillsborough County Natural Resource staff (Hillsborough County owns the parcel) is currently working to develop a targeted restoration plan for the abandoned pasture areas. The park has also initiated plans to begin applying prescribed burning to Model Dairy to improve access for resource management. Some controlled burns have been applied in the Model Diary with mixed results. With the lack of pyric species,

the fire does not carry easily through the fine dead fuels. Staff should continue prescribed burning where appropriate, invasive plant monitoring and treatment, as well as hog control.

ARTIFICIAL POND

Desired future condition: A full hydrology assessment provides the park with an overview of what the natural flow of water should be at the park. It provides the data and strategy necessary to plan where artificial ponds need to be altered, and how.

Description and assessment: The artificial ponds in Hillsborough River State Park are remnants from cattle and agricultural practices. Two of the structure are used for water control in two of the developed areas, the campground and the day use/picnic area

General management measures: Continue to work towards a full hydrology assessment of the park. Continue to work with SWFWMD and other relevant agencies to implement water quality testing. Continue control of exotic invasive plant species.

CLEARING

Desired future condition: Each of the clearing areas at the park has its own hydric, soil and vegetal components, and thus different desired future community applications.

Description and assessment: There are essentially two areas designated as "altered – clearing" in the park. Both are north of the river and were developed for their relatively drier conditions and higher elevations relative to their surroundings. The one area is the old Mobley property and was cleared for an old home site, the other an old pine plantation in the hydric hammock north of the river. This pocket of Winder fine sand soil type likely provided a drier and more favorable site for a pine plantation than did the surrounding hydric hammock. The site no longer resembles a pine plantation. South Florida slash pines are present but the site has been recolonized by species typical of mesic hammock such as live and laurel oak, saw palmetto, sweetgum, red maple, and mesic shrubs and scattered groundcover.

General management measures: Both areas should be allowed to succeed to a mesic hammock as a natural fire return interval can be difficult to acquire due to being landlocked by non-fire type communities. Continue control of exotic invasive plant species and feral hogs.

SUCCESSIONAL HARDWOOD FOREST

Desired future condition: The desired future condition of the successional hardwood forest is yet to be determined. Restoration plans for the upland portions of the Model Dairy property will include the successional hardwood forest area. While the oldest parts of the forest will likely be preserved as a remnant live oak hammock, the edges will be pushed back as adjacent uplands are restored to historic mesic flatwoods. There is currently no restoration plans for successional hardwood forest on the Mobley property, north tip of HR-14A. The remnant hammocks will have a closed canopy of mature live oak trees with occasional mixed hardwoods like laurel oak, sweetgum, Carolina cherry and sugarberry (*Celtis laevigata)*. A sparse shrub layer and open ground resulting from the dense leaf litter. Any areas of disturbed ground will have been restored to natural grade. Invasive exotic plant cover will be less than 5%.

Description and assessment: The largest area of successional hardwood forest is located in the southeast portion of the Model Dairy parcel. It was previously designated as upland mixed forest. Historical aerials of the Model Dairy parcel reveal a very open landscape, the result of naturally burning flatwoods, active grazing and pasture improvement. Even in the 1930's this hammock was present though considerably smaller than it is today. However, as impacts such as US301 and grazing were already going on, it is presumed development of the hammock is the result of unnatural influences and was likely the site of a homestead or other long dismantled small development.

The forest is dominated by mature live oak trees along with scattered laurel oak, Carolina cherry and cabbage palm. Shrubs such as wax myrtle or beautyberry are occasional and the ground is mostly open with scattered weedy species with no semblance to native groundcover. There appears to be some degree of ground disturbance as evidenced by random dirt mounds. The site is bordered on two sides by the park boundary and is subject to trespassing and dumping. Some invasive species are present. Overall the hammock is in fair condition.

The successional hardwood forest on the Mobley property, north tip of HR-14A is the result of invasion of abandoned pasture by hardwoods. The canopy is a mix of oak species, primarily laurel oak. The canopy is dense enough to exclude much shrub or ground cover. It is currently in fair condition.

General management measures: At present there is no plan to actively restore the entire successional hardwood forest on Model Dairy to pre-disturbance condition. However, as plans for active restoration of the uplands of the Model Dairy proceed, at least portions of the hammock will be included, reducing the footprint. A number of the trees are quite large and warrant preservation. This area may eventually be considered for incorporation into a use area. As prescribed fire is introduced to Model Dairy, fire will be allowed to carry into the hammock and extinguish naturally.

Exotic plant and animal species like hogs, citrus trees and Caesar's weed are present and control efforts will continue.

DEVELOPED AREAS

Desired future conditions: 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 (FLEPPC Category I and II species) will be removed from all developed areas. All landscaping additions will consist of native species already documented as occurring within the park unless otherwise approved by the District Bureau Chief. Other management measures include proper stormwater management and development guidelines that are compatible with prescribed fire management in adjacent natural areas.

Description and assessment: Developed areas include the ranger station, family campground, concession area, picnic areas, swimming pool, shop area, parking lots, and the resident sites.

General management measures: Staff will continue to control invasive exotic plant species in developed areas of the park. Defensible space will be maintained around all structures in areas managed with prescribed fire or at risk of wildfires

Natural Community Management

Goal: Restore and maintain the natural communities/habitats of the park.
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 smaller 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, Florida Forest Service (FFS). Wildfire suppression activities in the park are coordinated with the FFS.

All prescribed burns in the Florida state park system are conducted with authorization from the FDACS Florida Forest Service (FFS). Wildfire suppression activities in the park are coordinated with the FFS. DRP staff are required to follow the guidelines established by Chapter 590 Forestry Protection, FFS, and Chapter 51-2 Open Burning, FAC.
A *maintenance* Fire Return Interval (FRI) may differ from the *restoration* FRI for the same natural community, so the condition of the community should drive the planning for best burn intervals. This is a critical consideration at ARSP, as so many acres are in poor condition and require restoration FRI as the optimum interval to eventually reach their desired future condition. This also means that many communities not officially considered pyric as they currently exist, such as abandoned pasture and spoil area, have many acres that must be burned, and burned at the restoration interval and season. Also, ecological success of a burn can be dependent on burn season and local conditions; suggestions for the best season and conditions for many of the zones are included in the discussions of the natural communities.

Table 2 contains a list of all fire-dependent natural communities found within the park, their associated DFC acreage, optimal fire return intervals, and then the annual average targets of acres to be burned if FRI are maintained throughout the 10-year period.

Table 2. Prescribed Fire Management

Natural Communities	Acres	Optimal FRI (years)
Mesic Flatwoods	321.42	2 – 4
Depression Marsh	46.29	2 – 4
Wet Flatwoods	17.09	2 – 4
Total Pyric Acres	**384.8**	
Annual Target Acres	**101 – 200**	

Objective A: Within 10 years, have 536 acres of the park maintained within the optimum fire return interval.

Action 1 Develop/update annual burn plan

Action 2 Manage fire dependent communities by burning between 130 - 265 acres annually.

Prescribed fire is planned for each burn zone on the appropriate interval. The park's burn plan is updated annually because fire management is a dynamic process. 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.

The park is partitioned into management zones including those designated as burn zones (see Management Zones Table and Map). In 2010, the burn zones were reconfigured and incorporated into larger management zones encompassing all the acreage of the park, including non-pyric natural communities. Currently no management zone consists entirely of fire-adapted natural community types due to the mosaic of natural communities at the park.

Preparation and planning for wildfires or escaped prescribed burns within the park should also be a component of the park's prescribed burn plan. Preferred fire suppression techniques and guidelines should be identified and discussed with the local FFS staff prior to the need for fire suppression within the park. Sensitive resources such as wetlands, imperiled species and cultural sites should be identified and mapped and that information conveyed to FFS prior to any suppression activities

In developing prescribed burn plans for the fire-adapted communities in the park, every effort should be made to mimic natural fire regimes in both timing and technique.

In most natural fires, flank fires and head fires probably burned the majority of acres. Care should be taken during prescribed burns to avoid creating the hot spots that occur when two fire lines rapidly converge. To minimize the intensity of the fire

convergence, narrow strip-head fires, point source ignition fires or flanking fires are preferred over a single backing fire that converges with a head fire.

Fire season and fire-return interval are both critical components of a fire regime. In most cases after initial fuel reduction burns have been completed during the non-growing season, all burns should then be conducted during the natural lightning season, given staffing and weather constraints. However, non-growing season burns are favorable as a last resort to prevent the zone from going into backlog.

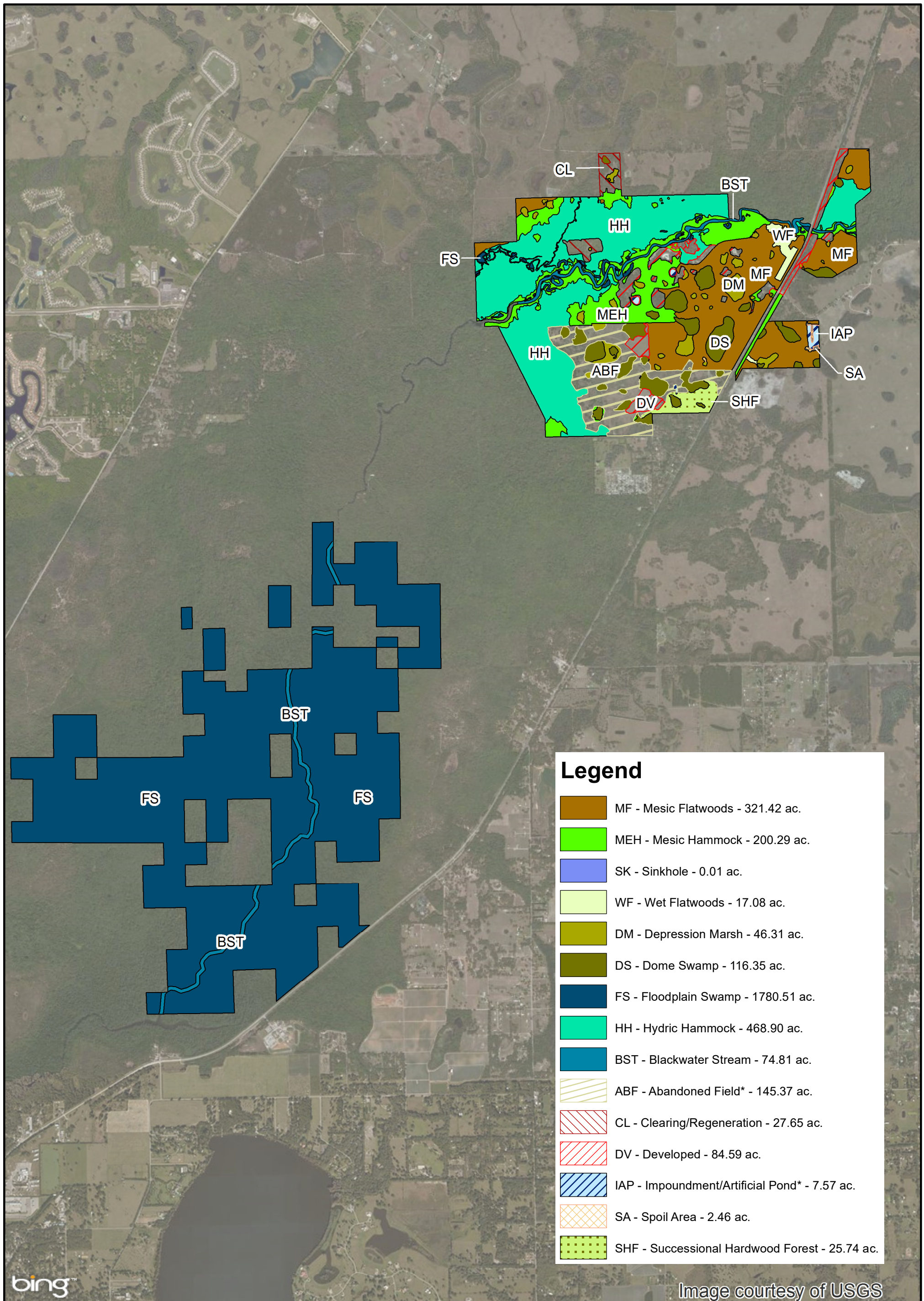
The target fire return interval for the mesic flatwoods is 2-4 years. A number of species depend on the mesic flatwoods community. Gopher tortoises, especially hatchlings and juveniles depend on the diverse herbaceous component maintained by frequent fire. The growth response of grasses and forbs following prescribed fire provide an ideal food source of succulent, low growing vegetation. Imperiled plants such as pine lily depend on fire to reduce the competition of larger perennial species as well as the nutrient cycling that result from regular burning.

The depression marshes at the park are interspersed in the mesic flatwoods community and will be burned as often as the mesic flatwoods community that surrounds them. Fire is critical to depression marshes to reduce the build-up of thatch and prevent colonization by woody and undesirable species like red maple, button bush and black tupelo. A number of wading and songbirds, as well as amphibians and insects, depend on depression marshes for seasonal feeding, resting and breeding. Burn planning for the depression marshes on Model Dairy will require additional consideration with the presence of woody species on the edges and the presence of imperiled species. Care must be taken to ensure that management actions by the park do not result in the mitigation projects falling out of compliance.

The wet flatwoods, 17 acres, will require further fire every two to four years. A more detailed restoration plan will be referenced in the natural community improvement section.

Perimeter and internal firebreaks should be maintained and established according to agency policy. They should provide for adequate park protection and safe prescribed fire application. The complexity of the burn unit including the structure and height of the fuel within the zone and the receptiveness of fuels adjacent to the zone should be taken into account when preparing the firebreaks. Fire lines twice as wide as the fuel heights adjacent to the fireline is a general guideline for fire line preparation (ten foot fuel heights adjacent to line = 20 foot wide firebreak). Mechanical treatment of fuels adjacent to the firebreak may be needed to burn the zone safely. Perimeter lines need to be wide enough for defense and to allow a type 6 fire engine to move safely down the line. When widening the firebreaks, the vegetation along the boundary/fence line should be removed first to allow the perimeter break to function as such (the presence of wetlands, large native trees or protected plant species that pose no line defense threat may be an exception). Any additional widening can then be made on the zone side of the firebreak. It is important that the results of management practices be monitored. Post burn evaluations, that include review of established photo points, should be conducted to determine progress towards restoration goals and if adaptations to management practices are needed.

In order to track fire management activities, DRP maintains a statewide burn database. The database allows staff to track various aspects of each park's fire management program including individual burn zone histories and fire return intervals, staff training/ experience, backlog, if burn objectives have been met, etc. The database is also used for annual burn planning which allows DRP to document fire management goals and objectives on an annual basis.



HILLSBOROUGH RIVER STATE PARK

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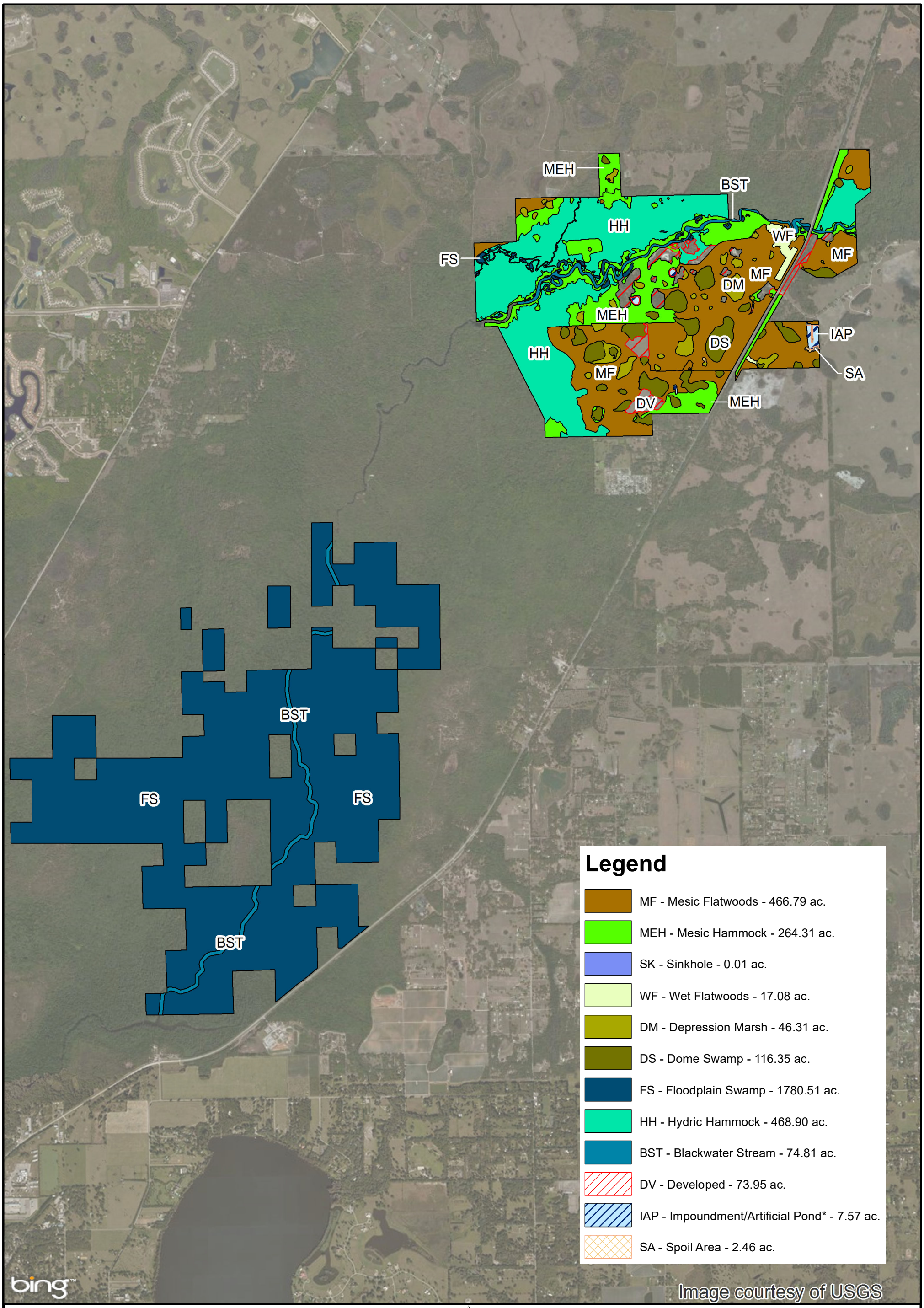
Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

NATURAL COMMUNITIES MAP
EXISTING CONDITIONS



HILLSBOROUGH RIVER STATE PARK

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NATURAL COMMUNITIES MAP
DESIRED FUTURE CONDITIONS

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 abandon pasture communities

Objective B: Conduct habitat/natural community restoration activities on 372 acres of abandoned pasture community to bring to desired mesic flatwoods community

Action 1	Develop/update site specific restoration plan
Action 2	Begin implementing restoration fire interval (2-3 yrs.)
Action 3	Remove encroaching vegetation
Action 4	Begin restoration plantings - plants acquired, planting implemented
Action 5	Begin maintenance and survey activity

The 2004 management plan intended that the upland portions of the Model Dairy parcel be allowed to succeed to second growth forest throughout and be managed as such. It is now felt that the upland portions should be restored to their pre-disturbance natural community type, primarily mesic flatwoods with some improvements to and expansion of the intact hydric hammock. Park and district staff in cooperation with Hillsborough County Natural Resource staff (Hillsborough County owns the parcel) is currently working to develop a targeted restoration plan for the abandoned pasture areas. The park has also begun prescribed burning the Model Dairy to improve access for resource management. Implementation of this restoration effort will require the pursuit of outside funding in the form of grants or mitigation projects one of which has already been secured through the National Fish and Wildlife Foundation (NFWF) Longleaf Stewardship Fund.

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 C: Conduct habitat/natural community improvement activities on 330 acres of mesic and wet flatwoods community

Action 1	Develop site specific improvement plan for the 17 acres wet flatwoods
Action 2	Continue to conduct hardwood removal in the targeted mesic flatwoods
Action 3	Continue to apply prescribed fire during the growing season at a 2-4 year fire return interval

A targeted improvement plan for the wet flatwoods is needed. The park has established improvement plans for a number of the mesic flatwoods zones and this area, management zone HR-7, should be included. The plan should include specifics on palm and hardwood thinning, prescribed burning, protection of desirable recruits like slash pine and exotic plant control. Consideration should be given to removal of thinned palms and hardwoods to avoid excess smoke in the future. Following implementation, prescribed burning and exotic plant control should continue in perpetuity. Photo points should be established in the project area to monitor project success over time.

The continuation of prescribed fire program is essential to maintaining and improving the mesic flatwoods. Growing season burns have proven effective in controlling hardwood encroachment and this practice should continue.

Where applicable, the continued mechanical removal and chemical treatment of hardwoods will assist the success of the prescribed fire program and restoration of the invaded mesic flatwoods. Areas can be identified where trees can be removed on a case by case basis. At present the park has developed and implemented targeted restoration plans for a number of mesic flatwoods zones that consist of a precise schedule for the management actions including hardwood treatment, prescribed burning and invasive plant treatments to best meet the desired future conditions. As the competition from hardwoods is removed, the density and diversity of fine fuels should increase and improve the park's ability to meet the ecological goals of prescribed burning alone.

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.

While a number of imperiled plant species have been documented to occur at the park, arguably one of the most significant is the Brooksville bellflower. Prior to the discovery of the species at HRSP in 2006, the known historical range was restricted to the Brooksville area of Hernando County (USFWS 2012). The finding of the plant at HRSP represented a major expansion of the plant's range. Brooksville bellflower is the only federally imperiled plant known to occur at the park and its presence and continued monitoring help to satisfy several criteria of the 1993 recovery plan such as the need for at least 10 viable and self-sustaining populations present for at least 10 consecutive years and the need for continued monitoring of known sites (USFWS, 1993). The continuation of annual, targeted monitoring is critical as the plants are ephemeral and seed germination in the pond margin habitat seems particularly sensitive to water levels over the previous season. Currently there are four sites where the plants have been reliably recorded. These sites have been annually monitored in partnership with rare plant staff at Bok Tower Sanctuary. Targeted annual monitoring of known sites should continue in perpetuity and effort should be made to check pond margins throughout the park for new locations during the early spring growing season. Park and district staff should continue to share data and monitoring activities through partnerships like Bok Tower Sanctuary, USFWS staff and FDACS rare plant staff.

Another recently discovered imperiled plant species, Jameson's waterlily will benefit from continued annual monitoring by park and district staff. This plant, discovered in 2009, has been found at several locations in the park. The life history of this waterlily, requiring total dry down and essentially disappearing outside of the late summer/early fall growing season makes it easy to escape notice. All known locations occur in park roads and on or near walking trails and are highly susceptible to disturbance. Close communication among monitoring and park

staff will be needed to make sure all known locations are protected, even when the plants are not visible.

Other imperiled plants known to occur in the park such as angularfruit milkvine (*Gonolobus suberosus*), threadroot orchid (*Dendrophylax porrectus)* and ferns like eared spleenwort (*Asplenium errosum*) and plume polypody (*Pecluma plumula*) require no targeted monitoring or management now. Application of the proper management measures to the habitat in which they occur should provide adequate protection. Any newly discovered locations of imperiled species should be recorded and targeted monitoring initiated if site conditions warrant. Species such as the leafless beaked ladies'-tresses orchid (*Sacoila lanceolata*) and the pine lily (*Lilium catesbaei*) will benefit greatly from continued application of prescribed fire and the targeted removal of hardwoods invading the mesic flatwood communities. Park staffs have made tremendous strides in recent years in the restoration of a number of management zones invaded by hardwoods. Their treatment and removal will vastly improve the ability to meet ecological goals in prescribed burning, improve hydrology and ease the pressure of competition from such aggressive shrubs.

Several imperiled plants have been documented on the Model Dairy portion of the park. Giant orchid (*Orthochilus ecristatus*) has been found near the Old Fort King Trail Rd in an area of semi-improved pasture, shade betony (*Stachys crenata*) was found near the use area and several of the original locations of Brooksville bellflower are on wetland margins within Model Dairy. As park staff introduces prescribed burning, continue invasive plant control and hog control it is important that they be aware of the locations of these plants to avoid unnecessary impacts from fireline installations, use area improvements and the like. Any efforts at restoration on the Model Dairy property need to avoid disturbance of these plants.

Two notable species vouchered historically in the park, hand fern (*Ophioglossum palmatum*) and pantropical wide-lip orchid (*Liparis nervosa*) have not been observed in many years. As time allows, staff should make an attempt to relocate these species to confirm their continued presence and ensure protective measures as needed.

A number of imperiled animals have been documented in the park, primarily birds. None require targeted management measures at this time. No bald eagle (*Haliaeetus leucocephalus*) nests occur in the park but several are recorded nearby, one northeast of the park along the Hillsborough River and one south of the south parcel on the Lower Hillsborough Flood Detention Area. If an eagle nest is established in the park, all guidelines of the Bald Eagle Management Plan will be followed (FWC, 2008).

The park has not historically been considered a significant site for gopher tortoises (*Gopherus polyphemus*) due to the limited contiguous acreage of appropriate upland habitat, though park staff have made observations of gopher tortoises. Gopher tortoise burrow surveys have been conducted in the park since the mid-1990. Monitoring efforts to date have found a number of abandoned and inactive burrows, but few active. As park staff continues a systematic approach to restoration of management zones invaded with hardwoods, monitoring for gopher tortoises should be incorporated into the timeline of management actions in the corresponding restoration plans for each zone. The results of hardwood removal may prove beneficial to gopher tortoises in some areas as groundcover diversity returns but may prove too wet in others. Restoration efforts on the upland portions of the Model Dairy property may also provide additional appropriate gopher tortoise habitat in time. All monitoring and management actions will be in keeping with the Gopher Tortoise Management Plan (FWC, 2012).
Historically the Florida scrub-jay has been documented in the park but the lack of recent sighting and lack of suitable habitat for the animal requires no management action for this imperiled species. Florida black bears have anecdotally been sighted in the area. Park staff and management will be vigilant in their observations and report any sighting of the Florida black bear to the FWC.

Other imperiled animals such as American alligator (*Alligator mississippiensis*), Eastern indigo snake (*Drymarchon couperi*) and Sherman's fox squirrel do not require specific management actions at this time. When these species are seen, wildlife observations should be made. Proper management of their respective habitats should provide adequate protections.

Table 3 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 3. Imperiled Species Inventory

Common and Scientific Name	Imperiled Species Status				Management Actions	Monitoring Level
	FFWCC	USFWS	FDACS	FNAI		
PLANTS						
Eared spleenwort Asplenium errosum			LE	G5/S2	2, 4, 10, 13	Tier 1
Robin's bellflower Campanula robinsiae		LE	LE	G1/S1	2, 4, 9, 10, 13	Tier 3
Angularfruit milkvine Gonolobus suberosus			LT		2, 10, 13	Tier 1
Threadroot Orchid Harrisella porrecta			LT		2, 4, 9, 10, 13	Tier 1
Pine Lily Lilium catesbaei			LT		1, 2, 4, 6, 13	Tier 1
Pantropical Wide-lip Orchid Liparis nervosa			LE		2, 4, 8, 9, 10, 13	Tier 1
Jameson's waterlily Nymphaea jamesoniana			LE	G5/S2S3	2, 4, 9, 13	Tier 2
Hand Fern Ophioglossum palmatum			LE	G4/S2	2, 4, 10, 13	Tier 1
Widespread Polypody Pecluma dispersa			LE	G5/S2	2, 4, 10, 13	Tier 1
Widespread Polypody Pecluma plumula			LE	G5/S2	2, 4, 10, 13	Tier 1
Comb Polypody Pecluma ptilodon var. caespitosa			LE	G5/S2	2, 4, 10, 13	Tier 1
Gypsy-spikes Platanthera flava			LT		2, 4, 8, 9, 10, 13	Tier 1
Giant orchid Orthochilus ecristatus			LT		1, 2, 8, 13	Tier 1
Leafless Beaked Ladies'-tresses Sacoila lanceolata			LT		1, 2, 4, 6, 8, 13	Tier 1

Table 3. Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FFWCC	**USFWS**	**FDACS**	**FNAI**		
Shade betony Stachys crenata			LE	G5/S1	2, 8, 13	Tier 1
Spreading airplant Tillandsia utriculata			LE		2, 4, 10, 13	Tier 1
Toothed lattice-vein fern Thelypteris serrata			LE	G5/S1	2, 4, 9, 10, 13	Tier 1
Atamasco Lily Zephyranthes atamasca			LT		1, 2, 4, 6, 8, 10, 13	Tier 1
AMPHIBIANS						
Gopher frog Lithobates capito	SSC	N		G3/S3	1,6,7,8,10, 13	Tier 1
REPTILES						
Gopher tortoise Gopherus polyphemus	LT	N		S3	1,6,7,8,10, 13	Tier 3
American Alligator Alligator mississippiensis	SAT	FT(S/A)		G5/S4	4,13	Tier 1
Eastern Indigo Snake Drymarchon corais cooperi	FT	LT		G3/S3	1,2,4,13	Tier 1
Florida Pine Snake Pituophis melanoleucus mugitus	SSC	N		G4T3S/3	1,2,4,13	Tier 1
Eastern hognose snake *Heterodon platyrhinos*				G2/S2	1,2,4,13,	Tier 1
BIRDS						Tier 1
Little blue heron Egretta caerulea	LS	N		G5/S4	1,2,3,8,13,	Tier 1
Limpkin Aramus guarauna	SSC	N		G5/S3	2,3,4,8,13	Tier 1
Kirtland's Warbler Setophaga kirtlandii	FE	LE		G1/S1	1,2,4	Tier 1
Little blue heron *Egretta caerulea*	SSC	N		G5/S4	1,2,3,4,8,13	Tier 1
Snowy Egret Egretta thula	SSC	N		G5/S3	1,2,3,4,8,13	Tier 1
Tricolored Heron Egretta tricolor	SSC	N		G5/S4	1,2,3,4,8,13	Tier 1
Swallow-tailed kite *Elanus forficatus*				G5/S2	1,2,4	Tier 1
White-Tailed Kite Elanus leucurus				G5/S1	1,2,4	Tier 1
White Ibis Eudocimus albus	SSC	N		G5/S4	1,2,3,4,8,13	Tier 1

Table 3. Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FFWCC	**USFWS**	**FDACS**	**FNAI**		
Merlin Falco columbarius				G5/S2	1,2,4	Tier 1
Peregrine Falcon Falco peregrinus				G4/S2	1,2,4	Tier 1
Magnificent Frigatebird Fregata magnificens				G5/S1	4	Tier 1
Florida Sandhill Crane Grus canadensis pratensis	ST	N		G5T2T3/ S2S3	1,2,4,6,8,13	Tier 1
Worm-Eating Warbler Helmitheros vermivorus				G5/S1	1,2,8	Tier 1
Wood Stork Mycteria americana	FE	LE		G4/S2	1,2,3,4,8,13	Tier 1
Eastern Brown Pelican Pelecanus occidentalis carolinensis	SSC	N		G4/S3	4	Tier 1
Roseate spoonbill *Platalea ajaja*	SSC	N		G5/S2	2,3,4,8,13	Tier 1
Crested Caracara Caracara cheriway	FT	LT		G5/S2	1,2,8,13	Tier 1
American Redstart Setophaga ruticilla ruticilla				G5/S2	1,2,8	Tier 1
Least Tern Sterna antillarum	ST	N		G4/S3	4	Tier 1
Bachman's Warbler Vermivora bachman	FE	LE		GH/SH	1,2,8	Tier 1
MAMMALS						Tier 1
Sherman's Fox Squirrel Sciurus niger shermani	SSC	N		G5T3/S3	1,2,8,10,13	Tier 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

Monitor 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.

Imperiled Species Management

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

The DRP strives to maintain and restore viable 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 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 A: Update baseline imperiled species occurrence inventory lists for plants and animals.

Objective B: Monitor and document one selected imperiled animal species in the park.

Action 1	Develop a monitoring plan for gopher tortoises using FWC protocols.
Action 2	Implement gopher tortoise surveying

The gopher tortoise population has been monitored in the past for select management zones. The burrow monitoring of the park has begun to estimate baseline populations. This needs to continue to gauge effectiveness of the prescribed fire program. Using the established FFWCC protocol for estimating gopher tortoise populations, three representative management zones will be monitored post-burn to see if management actions to improve gopher tortoise habitat and result in population change.

Objective C: Monitor and document 3 selected imperiled plant species in the park.

Action 1	Use existing monitoring protocols and FNAI reporting structures, at the Tier level recommended in Table 2
Action 2	Implement monitoring protocols for 3 imperiled plant species including the Brooksville bellflower, Jameson's water lily and the pine lily

The Brooksville bellflower has an active, targeted monitoring protocol already

developed for Hillsborough River State Park. The continuation of annual, targeted monitoring is critical as the plants are ephemeral and seed germination in the pond margin habitat seems particularly sensitive to water levels over the previous season. Currently there are four sites where the plants have been reliably recorded. These sites have been annually monitored in partnership with rare plant staff at Bok Tower Sanctuary. Targeted annual monitoring of known sites should continue in perpetuity and effort should be made to check pond margins throughout the park for new locations during the early spring growing season. Park and district staff should continue to share data and monitoring activities through partnerships like Bok Tower Sanctuary, USFWS staff and FDACS rare plant staff.
A monitoring protocol needs to be developed for the Jameson's water lily. Most of the population exists near and around heavily used trails, walkways and areas targeted for hydrological restoration. A baseline occurrence inventory needs to be developed and then a protection plan must be implemented

A monitoring protocol should be developed for the pine lily. This species responds well to fire and is a good indicator of well-maintained pyric communities.

Exotic and Nuisance 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.

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 venomous snakes or raccoons 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.

All the exotic plant species are a threat to the integrity of the unit's natural communities and are in conflict with the Division's goal of preserving and maintaining examples of the natural Florida. There are several upland and aquatic exotic plant species that pose a grave threat to the biological integrity of the unit.

A number of invasive exotic plant species are known to occur at the park. Species like cogon grass, air potato (*Dioscorea bulbifera*), skunk vine (*Paederia foetida*) and Japanese climbing fern (*Lygodium japonicum*) are ubiquitous and infestations have been found in almost every natural community type in the park. Wild taro (*Colocasia esculenta*) occurs on the banks of the river while water hyacinth (*Eichhornia crassipes*) invades from upstream seasonally. The moist hammocks of the park provide ideal habitat for the establishment and spread of vining species. Years of routine mechanical treatment of the mesic flatwoods have undoubtedly aided the spread of cogon grass in these habitats. Hog activity has been a major vector for the spread of invasive plants at the park.

The Model Dairy property has proven to be an invasive plant treatment challenge. The upland areas are highly disturbed abandoned pasture with many parts rooted over by hogs. Cogon grass infestations are common as well as Ceasar's weed, tropical soda apple (*Solanum viarum*), lantana and skunk vine. Other species like latexplant, (*Morrenia odorata)* and Bermuda grass (*Cynodon dactylon*) are also present. Bermuda grass has spread from where it was planted in the

main use area on the Model Dairy property and is threatening the wetland edges where the federally endangered Brooksville bellflower has been found. Care should be taken that treatment in this area should be done outside the bellflower's spring growing season.

Treatment efforts at the park are primarily handled by park staff and volunteers. Several contractors funded by the FWC Upland Invasive Plant Program have worked over most of the main park parcel in various stages. SWFMD has historically treated water hyacinth in the Hillsborough River. Park management is encouraged to pursue this partnership, as well as with other agencies like FWC Aquatic Plant Management to maintain the river free of aquatic invasives. The spread of invasive plants by vehicles and equipment has been well documented. A plan for phytosanitation of all equipment coming onto, leaving and moving throughout the park should be instituted.

Table 4 contains a list of the Florida Exotic Pest Plant Council (FLEPPC) Category I and II invasive, exotic plant species found within the park (FLEPPC, 2011). 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 4. Inventory of FLEPPC Category I and II Exotic Plant Species

Common and Scientific Name	FLEPPC Category	Distribution	Management Zone (s)
PLANTS			
Rosary pea Abrus precatorius	I	1	4
Coral ardisia Ardisia crenata	I	2	3, 7
		3	7
Camphor – tree Cinnamomum camphora	I	1	4
		2	7, 16
Wild Taro Colocasia esculenta	I	1	11
		3	3
Air potato Dioscorea bulbifera	I	1	19, 10, 3, 9
		2	10, 2, 19, 15A, 14A, 12, 9, 3, 1B, 1A, 4
		3	11, 2, 20, 19, 18, 15B, 15A, 12, 9, 7, 5, 3, 1B, 1A, 10, 4
		4	5, 15B, 12, 11, 10, 6A, 3, 2, 4
		5	20, 2, 9, 10, 11, 14A
		6	10

Table 4. Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
Cogon grass Imperata cylindrica	I	1	4, 5, 7, 15A,
		2	12, 20, 19, 18 17, 15, 11, 1A, 7, 6A, 5, 4, 3, 10, 16
		3	9, 20, 11, 12, 15, 19, 8A, 16, 6A, 5, 4, 3, 2, 1B, 10, 7
		4	18, 19, 7, 4, 3, 2, 6A, 20
		5	2, 20, 11, 8A, 7, 6A, 5, 3, 1B, 1A, 19, 4, 15A
		6	3, 6A, 7
Lantana Lantana camara	I	1	8A, 15A, 5, 3, 2
		2	7, 10, 11, 16, 5,
		3	8A, 16, 7
Peruvian primrosewillow Ludwigia peruviana	I	2	1B
Japanese climbing fern Lygodium japonicum	I	1	12, 20, 15A, 11, 7, 6A, 5, 2, 16
		2	1A, 19, 17, 11, 16, 12, 6A, 5, 3, 1B, 2, 7
		3	15A, 20, 15B, 12, 11, 10, 8A, 7, 4, 19, 3, 2, 1A, 9
		5	12
		6	2, 3, 5, 12
Skunk vine Paederia foetida	I	1	3, 7, 9, 20
		2	12, 20, 19, 15B
		3	15A, 15B, 20, 12, 11, 10, 8A, 7, 4, 19, 3, 2, 1A, 9
		4	11. 12, 20
		6	3
Torpedo grass Panicum repens	I	2	1A
		3	1B

Table 4. Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
		4	3
		5	1A, 1B
Chinese tallow tree Sapium sebiferum	I	2	1B
Brazilian pepper Schinus terebinthifolius	I	1	15A
Tropical soda apple Solanum viarum	I	1	19
Arrowhead vine Syngonium podophyllum	I	1	11
Caesar weed Urena lobata	I	1	3
		2	10, 19, 15A, 12, 10, 20, 9, 6A, 5, 3, 1B, 4
		3	2, 6B, 15A, 12, 10, 20, 9, 6A, 5, 3, 1B, 4
		4	15A, 3, 10
Guinea grass Urochloa maxima	II	2	2

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.

Feral hogs are commonly found in the park. Hog rooting can devoid large areas of vegetation, create extensive ground disturbance, disrupt surface water flow, inhibit fire from moving across the landscape, decimate the arthropod community and compete with native wildlife species for food resources. Hammocks and wetland areas are

subject to rooting and wallowing while upland areas, particularly disturbed areas have sustained damage. Evidence of hog disturbance can easily be found in the hydric hammock and flatwoods communities both north and south of the Hillsborough River. Hog control is presently handled by park staff. Every effort should be made to control hogs to prevent further damage to native habitats, extirpation of tuberous terrestrial plants and the spread of invasive plants.

Nine-banded armadillos (*Dasypus novemcinctus*) are commonly found in the park. Armadillos create the same disturbances than that of feral hogs on a smaller scale. Armadillo disturbances can be found throughout the park. Park staff monitors for the animals and their ground disturbance and remove them when appropriate.

Coyotes (*Canis latrans*) have been occasionally seen on the property. Direct impacts to the park resources from these animals have not been documented.

A species of armored catfish has invaded the Hillsborough River and is displacing native fish. Armored catfish originate from freshwater habitats of Costa Rica, Panama, and tropical and subtropical South America. These fish are noted for the bony plates covering their bodies and their suckermouths. Several genera, notably the suckermouth catfish, *Hypostomus plecostamus*, and the vermiculated sailfin catfish (*Pterygoplichthys disjunctivus)* are popular as aquarium fish however the species observed are, as of yet, unidentified. Negative effects of this species on the park's water resources are not yet known, though their burrowing activities have led to shore erosion problems in other waterways. Further research needs to be done to determine the

Exotic pests and pathogens also pose a threat to natural communities. Laurel wilt is a fatal disease of trees in the Laurel family, which includes redbay, swamp bay and avocado. This disease is an example of an exotic pathogen (a *Raffaelea* species of fungus) introduced into trees by an exotic pest, the redbay ambrosia beetle (*Xyleborus glabratus*). At this time, management steps are limited to reducing spread by preventing movement of wood, leaving the infected wood in place and not selling it for firewood where it might be transported to another area. To date, there are no known successful management techniques for stopping the disease in Florida.

Exotic Species Management

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

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 biocontrol agents.

Objective A: Annually treat at least 430 acres of exotic plant species in the park.

Action 1	Annually develop/update exotic plant management work plan.
Action 2	Implement annual work plan by treating 430 gross acres annually, including second treatments for grasses, ferns and vines.
Action 3	Practice preventative measures to avoid accidental introduction and spreading of exotics within the park.

Invasive exotic plants continue to be a large resource management need at the park. Persistent species such as cogon grass, air potato, skunk vine and Japanese climbing fern are widespread and often occur in remote areas of the park. The warm, wet conditions of the growing season make for ideal conditions for establishment and re-growth of these and other invasive plants. Species such as wild taro and water hyacinth invade the stream and riparian communities and seem to flourish.

The park establishes annual invasive plant removal goals and updates an annual work plan to prioritize areas requiring treatment,

both initial and follow-up. All known infestations have been documented and included in the Natural Resource Tracking System database for purposes of quantifiable long-term tracking. These infestations are updated at least every two years depending on treatment status. Park staff currently retreat existing invasive exotic plants as resources allow and monitor for new occurrences. Monitoring and treatment efforts for invasive exotic plant species are ongoing. Efforts are underway to GPS and map all known locations of exotic plants in the park. At this time, with limited funding and staff resources, the invasive exotic plant removal needs of the park are difficult to meet with in-house staff and volunteer efforts. Outside funding must be secured in the form of grants for contractors, OPS positions, individually placed Florida Conservation Corpspositions and other supplemental resources in order to meet the goals of the park's annual work plan. Additional funding should be sought annually to ensure that every completed project receives adequate follow-up to ensure long-term invasive plant control success. Guidelines for mowing, as well as cleaning and inspecting equipment that enters the park are recommended. New infestations of exotics can be prevented by ensuring that contractors such as mowers and loggers clean their equipment before entering the park and do not spread exotics by moving from a contaminated area within the park without cleaning their equipment. Park staff should practice the same measure when moving equipment from known infested areas to others.

Objective B: Implement control measures on two exotic animal species in the park.

Action 1	Continue to authorize qualified staff to remove wild hogs.
Action 2	Develop SOW for contracted removal of wild hogs.
Action 3	Implement contracted services.
Action 4	Develop a plan with partners to address the armored catfish presence on the Hillsborough River

Two exotic animal species requires special control efforts in the park. The feral hog does extensive damage to natural communities through its propensity to root (i.e. turn the soil and vegetative understory upside down) in search of food. The disturbed soil that is left can be eroded, or provide conditions for invasive exotic plants to become established.

There are a range of techniques for removing feral hogs, and the most success has been accomplished when a mix of approaches were used, since feral hogs are quick to learn what to avoid. A plan specific to the park needs to be researched and defined to establish a baseline number of hogs at the park and set target removal goals. Annual progress should be monitored and evaluated annually.

The invasive armored catfish found in the Hillsborough River needs to be identified and their negative effects quantified. Their vegetative impacts, impacts on other fish populations and their possible impacts on the shoreline erosion need to be evaluated. Cooperation with FWC should be sought out to stay abreast of the latest studies and control measures.

Special Natural Features

The rapids in Hillsborough River, formed where water flows over outcroppings of Suwannee limestone, are a special feature. Rapids are unexpected at such southerly latitudes. These geologic peculiarities are scenic and a popular attraction at the park.

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 Florida Department of State (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, Division of Historical Resources (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 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 and 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: There are 7 archeological sites recorded on the FMSF within Hillsborough River State Park. 5 sites 8HI11293, 8HI11294, 8HI5397, 8HI5398, 8HI5399 are prehistoric in nature, contain lithic scatter and some contain pottery. 8HI4028 is a midden or mound that's culture is affiliated with the Safety Harbor period. The safety Harbor culture developed from the Weeded Island culture on Florida's central Gulf Coast after A.D. 900 and survived until A.D. 1725. Spanish explorers encountered Safety Harbor populations in the sixteenth century. Several regional Safety Harbor variants have been

identified and this site is associated with the Circum – Tampa Bay variant, which is considered to be the cultures heartland. Populations relied on hunting and fishing, with fish and other food resources coming from both saltwater and freshwater environments. No evidence for extensive use of agriculture during the Safety Harbor period has been found. Safety Harbor political organizations were not as complex as their contemporary Mississippian chiefdoms found elsewhere in the southeastern United States.

The site of Forts Alabama and Fort Foster is designated 8HI112. Those fortifications were erected in the location during the Second Seminole War (1835-1842) to defend a bridge that carried the Fort King Military Road across the Hillsborough River. Fort Alabama was established in March 1836 and was abandoned a few months later. It was destroyed when the Seminoles apparently tripped a booby trap left by departing troops. Fort Foster was established in the winter of 1836, again to safeguard the bridge, rebuilt after it's burning by the Seminoles. Fort Foster was a square fortification with the corners roughly orientated to the four cardinal directions. The east and west corners possessed opposing bastions and the main gate was in the southeastern wall. The Fort also contained a magazine and storehouse, probably constructed of either pine or cypress. The fort palisades were probably constructed of the same material. The fort was abandoned in 1838. The location was unhealthy and the sickness occasionally threatened to render the fort indefensible. The site was listed on the National Register of Historic Places in 1972. A replica of Fort Foster has been built and is located at the approximate site. It serves as an interpretive resource for the park. The original bridge across the Hillsborough River was located approximately 200 yards upriver from the Fort Foster Bridge. This bridge was constructed at the same time the Fort King Road was opened, but was subsequently destroyed by the Seminoles. The Fort King road passes through the park.

Condition Assessment: The archeological sites at Hillsborough River State Park are in fair to poor condition. 8HI4028 is in poor condition as access to the site is difficult to access and position is not commonly known. The NRHP listed resource 8HI00112, the Fort Foster historic fort site, was placed on the NRHP on June 13 1972. It is 30 acres and lies to the east of US301 and is in fair condition.

General management measures: There is a need to monitor existing sites and record new sites with the FMSF when discovered. All archaeological sites should receive preservation treatments, which are essentially monitoring and maintenance. Today, river erosion, vegetation growth, vandalism and animal burrowing threaten some of the recorded sites. Many of the sites are further threatened by their remote location from frequent staff work locations, easy access by unauthorized visitors, and the resulting difficulties maintaining a park staff presence. Park staff should backfill open pot-hunting pits, animal burrows and erosion channels with sterile sand and close and re-vegetate unauthorized access trails.

The Fort Foster site needs to be actively monitored whenever reenactment activities are taking place in and around the reconstructed fort to make sure that the participants are not digging or conducting other ground disturbance as part of their reenactment activities.

Predictive modeling projects was completed for Hillsborough river State Park in 2014 and will be used to guide any future ground disturbing activities as well as future monitoring.

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: There are 8 shelters, 9 buildings, one historic bridge and one fire tower that are recorded on the FMSF for historic structures in Hillsborough River State Park.

The state park was developed by the CCC in 1934 and opened to the public in 1938. The CCC was a program established under President Franklin D. Roosevelt's New Deal, and was an agency established to stimulate the falling economy following the Great Depression. The men in the CCC camps were selected by the Department of Labor, fed, clothed, housed and supervised by the Department of the Army. The Department of the Interior selected the projects on which the men were to work. They constructed many of the buildings that are present in the park today, which are considered New Deal resources.

The pavilions and buildings are constructed from wood, with wood framing systems, either braced timber or balloon framed, with wood weather board or vertical board and batten siding on all enclosed buildings. Surviving original windows are wood casements. Most if not all resources had wood shingle or shake roofs when erected, only the interpretive center and the administrative office building have such roofs now. Foundations are generally stone masonry or stone veneer over poured concrete. Pavilion bases were poured in phases, initially to provide footing for vertical timbers, then as reinforcement, then as infill flooring where thought necessary.
The administration building, interpretive center, staff residence and several pavilions all contain chimneys and fireplacesand are examples of limestone masonry or a limestone veneer finish. HI 3893 was constructed as park residence but is now used as the park administration offices. HI 3894 is the park interpretive center but was the original park entrance.

HI 3908, Cedar Landing, is a campground recreation structure and is unique in having one end enclosed in artificial stone concrete block. The enclosed end was previously used for offices but due to flooding issues they were vacated.

HI 3897 is the Cypress Picnic Shelter and is a unique and usual structure, with the support timbers made out of cypress logs with the buttressed base of the cypress still evident.

The fire tower, HI 3890 is constructed with a steel skeletal frame, hip roof and concrete piers. It is the property of the Florida Forest Service.

The suspension bridge, HI 3899, includes cypress hewn masts, square hewn timbers for the span, stone cable anchors and steel suspension cables. Most of the materials have been replaces but the bridge retains its original integrity.

One structure which is not listed on the FMSF is located next to the assistant manager's house. It is described as an old CCC cabin and is thought to be the last remaining (of an original five) overnight cabins. Local tradition has it that the cabin was moved and adaptively modified for reuse at some time after World War II.

Condition Assessment: The buildings are mostly in good condition and are well maintained by park staff. There are some exceptions to this, firstly HI 3900 the Gator Picnic Pavilion is in poor condition. It has major structural deficiencies: the concrete base has a major crack and this crack follows up the stone chimney. HI 3902 is a storage shed in good condition, but attached to the FMSF number is the historic seawall and amphitheater which are in poor condition. Approximately 48 feet of the wall to the west of the stairs has settled and rotated outwards toward the river. The wall has rotated 20 degrees out of plumb with a drop of about 2 feet from the top of the wall at the east end toward the west end. There is a large crack in the stone wall where the failed portion sheared away from the stone stairs. There is a deep depression behind the wall near the center of the failed portions of the wall. The area is currently out of bounds to park visitors. The fire tower, HI 3890, is in poor condition and is a safety hazard to park staff and its visitors. Management has cordoned off the area while plans are being made to make the area safe again. The unrecorded CCC

structure is in poor condition. The suspension bridge, HI 3899 is in poor condition and is currently in the early process of being repaired and restored to function again.

General management measures: In general, that majority of structures at HRSP require continued rehabilitation as a primary treatment. Minor concerns such as periodic shingle repair, painting, and small maintenance concerns are the only issues affecting the majority of structures. A cyclical maintenance program needs to be developed for the historical structures. Issues such as vegetation encroachment and roof maintenance need to be included in these cyclical maintenance programs.
More serious concerns warranting restoration include the seawall and the amphitheater, HI 3901. Approximately 48 feet of the wall to the west of the stairs has settled and rotated outwards toward the river. The wall has rotated 20 degrees out of plumb with a drop of about 2 feet from the top of the wall at the east end toward the west end. There is a large crack in the stone wall where the failed portion sheared away from the stone stairs. There is a deep depression behind the wall near the center of the failed portions of the wall. A comprehensive and formal study needs to be done to evaluate the feasibility restoring the seawall to the original condition or to restore the shoreline to a natural state. If a decision is made to remove portions of the CCC retaining wall near the amphitheater, DHR will need to be consulted prior to any repair and or demolition of the wall is done.

The CCC metal fire tower located in the park is currently the property of the Florida Forest Service and is on their surplus list to be sold, dismantled and removed from the park.

A restoration plan needs to be developed for the suspension bridge, HI 3899. While the original CCC elements of the bridge have been replaced, a study and plan would assist the park in maintaining the bridge as a whole and preserving the individual elements that remain. The bridge should be inspected regularly by professionals with the appropriate expertise or certification.

The old unrecorded CCC cabin needs to be added to the FMSF. The building needs a restoration plan and if it gets restored, management has expressed interest in relocating the structure to the old entrance opposite the interpretive center. The building has been moved at least once before to its current position and is believed to be one of the five original cabins located at the park. After the building is moved it could be used for CCC interpretation, as display space in the museum is very limited and focused on Fort Foster. As part of the interpretive improvement of this area, the historic Fort Foster Bridge timbers could be moved under the tram shelter. This would protect these resources from the environment as they are currently in the elements. This will result in a historic building being used for interpretation, where historically that building did not occur; therefore, DHR will need to be consulted.

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 collections that are housed in the interpretive center are all from Fort Foster period. There are 75 pieces housed in three cabinets. The cabinets are used for interpretation. A detailed inventory is in place with picture catalogue to with them.
Condition Assessment: The collection is in good condition. The collection is housed in a climate controlled interpretive center and is used to interpret Fort Foster.

General management measures: The collection at Hillsborough River State Park needs to be put on a cyclical monitoring program, which needs to be developed by park management. The historical blueprints from the CCC era that are now currently housed in the administration building need to be added to the scope of collections and then managed accordingly. If appropriate they can be managed offsite at BNCR.

Table 5 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 5. Cultural Sites Listed in the Florida Master Site File					
Site Name ***FMSF Number***	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
Hillsborough River State Park 8HI04028	Safety Harbor AD 1000 – 1500, Weeden Island 2	Archeological Site	NR	P	P
Model Dairy No 1 8HI05397	Prehistoric lacking pottery.	Archeological Site	NS	NE	P
Model Dairy No 2 8HI05398	Prehistoric	Archeological Site	NS	NE	P
Model Dairy No 3 8HI05399	Prehistoric lacking pottery	Archeological Site	NS	NE	P
Fort King Trail Site 8HI11293	Prehistoric	Archeological Site	NS	NE	P
Model Diary Pasture Site 8HI11294	Prehistoric lacking pottery	Archeological Site	NS	NE	P
Fort Alabama / Fort Foster 8HI00112	American acquisition / Territorial development 1821 – 45, American 1821 - present	Historic Fort	NRL	F	P
FFS Fire tower 8HI 3890	1934	Historic Structure	NR	P	R
Maintenance shed #1 8HI 3891	1936	Historic Structure	NR	G	P
Maintenance shed #2 8HI 3892	1936	Historic Structure	NR	G	P
Park administration building 8HI 3893	1936	Historic Structure	NR	G	P
Interpretive center 8HI 3894	1937	Historic Structure	NR	G	P
Trailside shelter 8HI3895	1941	Historic Structure	NR	G	P
Picnic shelter #1 8HI 3896	1935	Historic Structure	NR	G	P

Table 5. Cultural Sites Listed in the Florida Master Site File					
Site Name ***FMSF Number***	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
Cypress picnic pavilion 8HI 3897	1935	Historic Structure	NR	G	P
Family picnic shelter 8HI 3898	1937	Historic Structure	NR	G	P
Suspension bridge 8HI 3899	1936	Historic Bridge	NR	F	RH
Picnic shelter #2 8HI 3900	1936	Historic Structure	NR	P	RS
Rental shed and retaining wall 8HI 3901	1940	Historic Structure	NR	F/P	P/ST/R
Storage shed 8HI 3902	1940	Historic Structure	NR	G	P
Picnic shelter #3 8HI 3903	1940	Historic Structure	NR	G	P
Picnic shelter #4 8HI 3904	1936	Historic Structure	NR	G	P
Staff residence 8HI 3905	1935	Historic Structure	NR	G	P
Picnic shelter #5 8HI 3906	1940	Historic Structure	NR	G	P
Restroom 8HI 3907	1936	Historic Structure	NR	G	P
Cedar landing 8HI 3908	1940	Historic Structure	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

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. DRP is implementing the following goals, objectives and actions, as funding becomes available, to preserve the cultural resources found in Hillsborough River 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 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 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 A: Assess and evaluate 26 of 26 recorded cultural resources in the park.

Action 1	Complete 7 assessments/evaluations of archaeological sites.
Action 2	Complete 19 Historic Structures Reports (HSR's) for historic buildings and cultural landscape. Prioritize stabilization, restoration and rehabilitation projects.

The park intends to have recorded cultural sites evaluated and condition assessments updated during the plan period. A cyclical plan is being developed by park management. Park staff will attempt to implement this plan and locate sites and provide information to include but not limited to any threats to the site's condition such as natural erosion; vehicular damage; horse, bicycle or pedestrian damage; looting; construction including damage from firebreak construction; animal damage; plant or root damage or other factors that might cause deterioration of the site. Site assessments should be documented on appropriate forms and a copy sent to the Division of Historical Resources to be filed in the Florida Master Site Files for the park. A copy of this information should also be maintained at the park and district offices. The park will prioritize preservation projects identified by the assessments/evaluations.

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

Action 1	Ensure all known sites are recorded or updated in the Florida Master Site File.
Action 2	Propose a level 1 archaeological survey for priority zones identified by the predictive model.
Action 3	Incorporate historic blue prints into the collections

The park has completed a comprehensive archaeological predictive model. This model will provide for high, medium and low areas

or probability for the occurrence of pre-historic sites. The model will provide guidance for future development as well as Phase 1 surveys.

The park needs to develop and implement a monitoring plan to prepare yearly condition assessments of the parks cultural resources. Consequently, the FMSF should be updated as needed. The CCC cabin needs to be evaluated, described and then added to FMSF. The plan for developing this cabin as a CCC interpretive museum needs to be developed in conjunction with DHR.

As the composition of park staff changes over time, efforts should be made to insure that there is always at least one staff member who is a certified archaeological monitor. Management should ensure that park personnel are adequately trained in cultural resource management and establish a park library to support the training. Unit staff will ensure that any ground disturbing activities shall be conducted in accordance with DHR guidelines and monitored by appropriately trained personnel. Management should develop professional relationships with area university archaeologists, National Forest cultural resource specialists, Water Management District land managers and area law enforcement officials to discuss cultural resource management issues and opportunities.

The historic blue prints now housed in the administration building should be formerly added to the collections list of Hillsborough River State Park

Objective C: Bring 3 of 26 recorded cultural resources into good condition.

Action 1: Implement findings, to bring the structures into good condition.
Action 2: Create and implement a cyclical maintenance program for each cultural resource.

A cyclical maintenance plan should be developed and implemented to help guide the park with needed preservation of its sites. Park staff should develop and implement a preservation and maintenance plan for all cultural resources. Management measures for cultural resources should include development of a phased plan for managing the currently identified recorded sites in the context of their surroundings. This should include developing a workable written plan for the physical management of the identified cultural resources. The plan should outline approved methodologies for executing the plan and training staff and volunteers in managing the cultural resources of the park.

The Fort Foster site needs regular monitoring to ensure no deleterious effects are occurring during normal day to day operations and during special events. Measures need to in place to interpret the sensitivity of the site to reenactors who use the site for reenactments. The sea wall project needs to be adequately funded and implemented to allow for repair and safe park operations to continue. A restoration plan needs to be developed for the suspension bridge, HI 3899. While the original CCC elements of the bridge have been replaced, a study and plan would assist the park in maintaining the bridge as a whole and preserving the individual elements that remain. The bridge should be inspected regularly by professionals with the appropriate expertise or certification.

Objective D: Develop and implement the seawall restoration plan.

Action 1 Develop a seawall restoration plan.
Action 2 Seek funding and implement restoration plan.

The wall was constructed in the 1930's and consists of laid up stone with mortar placed between the joints. This wall has three, two-foot wide stepped levels and it appears to retain approximately six feet of fill. The wall is historic in nature as it was one of the original CCC structures in the park. A preliminary feasibility study has been done on the wall and it is determined that the wall is collapsing due to large voids under and in front of the wall that appear to have been caused by karst solution activity. It was deemed unlikely that that erosion was due to scour since the wall is

located on the inside of the bend in the river at this location and has a minimal river velocity.

Special Management Considerations

Timber Management Analysis

Chapters 253 and 259, Florida Statutes, require an assessment of the feasibility of managing timber in land management plans for parcels greater than 1,000 acres if the lead agency determines that timber management is not in conflict with the primary management objectives of the land. The feasibility of harvesting timber at this park during the period covered by this plan was considered in context of DRP's statutory responsibilities and an analysis of the park's resource needs and values. The long-term management goal for forest communities in the state park system is to maintain or re-establish old-growth characteristics to the degree practicable, with the exception of those communities specifically managed as early successional.

A timber assessment is to be done within this management planning cycle.

Arthropod Control Plan

In 1987 Hillsborough River State Park was designated environmentally sensitive and biologically highly productive. There is an original objection letter in place for all parks within Hillsborough County which included at the time Hillsborough River State Park, Ybor City and Little Manatee River State Recreation Area.

DRP lands are designated as "environmentally sensitive and biologically highly productive" in accordance with Ch. 388 and Ch. 388.4111 Florida Statutes. If a local mosquito control district proposes a treatment plan, DRP works with the local mosquito control district to achieve consensus. By policy of DEP since 1987, aerial adulticiding is not allowed, but larviciding and ground adulticiding (truck spraying in public use areas) is typically allowed. DRP 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.

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. DRP considered recommendations of the land management review team and updated this plan accordingly.

Hillsborough River State Park was subject to a land management 8-11-2015. 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

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.

Demographics

Hillsborough River State Park is located within Hillsborough County about 23 miles northeast of Tampa, 20 miles north of Brandon, and 17 miles northwest of Plant City in the central west part of the state. Approximately 2.6 million people live within 30 miles of the park (U.S. Census 2010).

The population of Hillsborough County is diverse in terms of demographic characteristics. According to the U.S. Census Data, approximately 50% of residents in the county identify as black, Hispanic or Latino, or another minority group. Nearly half (46%) of residents can be described as youth or seniors (U.S. Census 2010). 69% of the population is of working age (16 to 65) (U.S. Census Bureau 2010). Hillsborough County ranked 16th statewide in per capita personal income at $40,680 just below the statewide average of $41,497 (U.S. Bureau of Economic Analysis 2013).

Pasco County, less than 3 miles north of Hillsborough River State Park, has just about one quarter of the population county that identify as black, Hispanic or Latino, or another minority group. Half of residents can be described as youth or seniors (U.S. Census 2010). 62% of the population is of working age (16 to 65) (U.S. Census Bureau 2010). Pasco County's per capita personal income was $32,975 in 2013 below the statewide average of $41,497 (U.S. Bureau of Economic Analysis 2013).

Table 6. Current Populations*

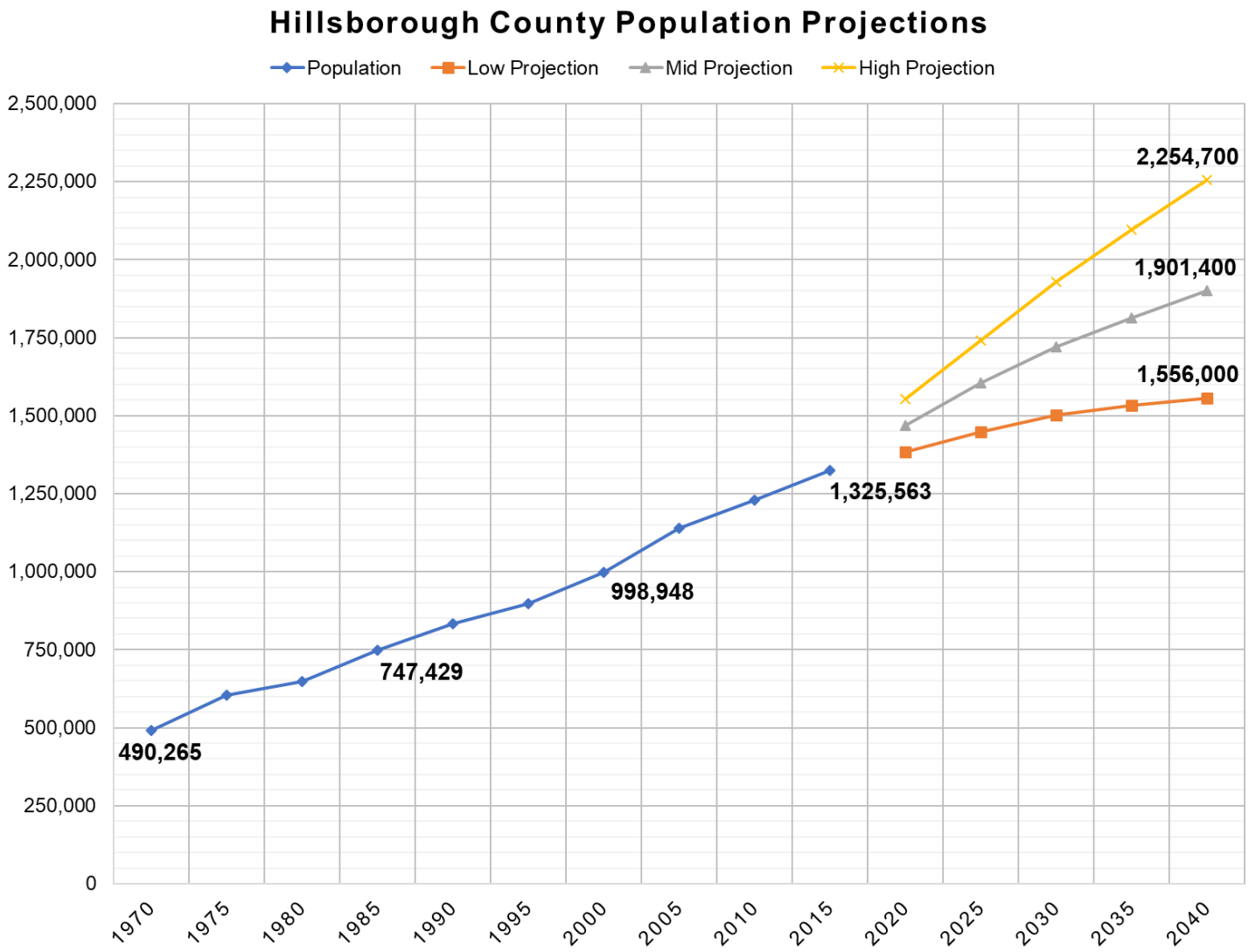
Hillsborough County		
Incorporated	**Unincorporated**	**Total**
443,981	964,883	1,408,864
Urban Centers		
Plant City	**Temple Terrace**	**Tampa**
38,938	26,512	378,531
Surrounding Counties		
Hernando	**Pasco**	**Pinellas**
185,604	515,077	970,532

Regional Population Growth

Hillsborough County is one of four counties that comprises the Tampa-St. Petersburg-Clearwater metropolitan statistical area (Tampa MSA or metro area). The other three counties are Hernando, Pasco, and Pinellas. These four counties and their residents are highly connected to the three urban cores of the metro area through commuting and

economic ties. The total population of this MSA is 3,080,077, with Hillsborough County accounting for nearly 46% of the total (*EDR 2018). The Tampa MSA is the second largest metro area behind the Miami-Ft. Lauderdale-Pompano Beach MSA, which has 6.1 million residents.

Over the past 20 years, the Tampa MSA has grown by almost 30% increasing from 2.4 million residents to nearly 3.1 million. Median population projections suggest the total population could potentially grow by 28% to 3.8 million residents by 2040 (BEBR 2018). High growth projections for the metro area estimates the total population closer to 4.6 million. In either scenario, population growth in the Tampa MSA could take place in expanding suburban areas such as Brandon and Riverview. Growth in these communities could have implications for attendance at Hillsborough River State Park.



agricultural zones to the south. To the southeast along U.S. 301, there is a center of single-family agricultural development. Adjacent lands to Hillsborough River State Park are designated predominantly for Natural Preservation (N). The northern park property also has natural preservation lands to the south and west. Planned communities lie to the north. Agricultural activities are designated to the east of the park. Low-

Land Use and Zoning

Existing Use of Adjacent Lands

Hillsborough River State Park is divided into a northern and southern property. The southern property is surrounding entirely by rural agricultural uses. The northern portion has agricultural to the east and west with rural

density residential development is identified along U.S. 301. The park is immediately to the north of the Thonotosassa Main Street Overlay District. The community is intended to provide a main street character and rural form which will keep development low around the park.

Planned Use of Adjacent Lands

Hillsborough County is within the Tampa Bay Planning District alongside Manatee, Pasco, and Pinellas County. In 2010, the district had a population of roughly 3 million people (Census 2010). Average projections anticipate a regional population exceeding 4 million people by 2040 (BEBR 2014). Hillsborough County's 2014 estimated population was over 1.3 million people, making the county the fourth most populous in the state (Census 2014). The Tampa Campus of the University of South Florida (USF) is 15 miles southwest of Hillsborough River State Park.

Studies and surveys are underway for the expansion of US 301. DRP staff should be involved in all transportation planning decisions that may affect the state park. Existing roadways adjacent to or running through the state park may be proposed for expansion in the future, as population growth places more demands on the local roadway systems. The impacts to vegetative communities, listed plants and animals, and the visual resources within the state park should be minimized through the planning and design processes for any future road improvements. Implementation of best management practices for the treatment of stormwater runoff will be critically important. If road improvements are determined to be necessary and appropriate, and impacts to the state park cannot be avoided, then mitigation for those impacts will be included in the road design and construction projects.

Future Land Use and Zoning

The DRP works with local governments to establish designations that provide both consistency between comprehensive plans and zoning codes and permit typical state park uses and facilities necessary for the provision of resource-based recreation.

The current future land use designation is Natural Preservation (N), lands of significant environmental importance identified for conservation purposes. The current zoning designation for the entire park is rural agricultural (AR), which protects agricultural lands from potential suburban and urban development. There are no expected conflicts between the future land use or zoning designations and typical state park land uses.

Regional Conservation, Recreation, and Trails

Florida Greenways and Trails System (FGTS)

The Florida Greenways and Trails System (FGTS) is made up of existing, planned and conceptual non-motorized trails and ecological greenways that form a connected, integrated statewide network. The FGTS serves as a green infrastructure plan for Florida, tying together the greenways and trails plans and planning activities of communities, agencies and non-profit organizations throughout Florida. Trails include paddling, hiking, biking, multi-use and equestrian trails. The Office of Greenways and Trails maintains a priority trails map and gap analysis for the FGTS to focus attention and resources on closing key gaps in the system.

In some cases, existing or planned priority trails run through or are adjacent to state parks, or they may be in close proximity and can be connected by a spur trail. State parks can often serve as trailheads, points-of-interest, and offer amenities such as camping, showers and laundry, providing valuable services for trail users while increasing state park visitation.

Hillsborough River State Park has a variety of trail options that total over 7 miles within the park boundary as well as other trails that surround the park. The Lower Hillsborough Flood Detention Area offers a variety of trails including 22 miles of equestrian trails, 35 miles of biking trails, 13 miles of paddling trails, and the ability for hiking on all designated trails. Blackwater Creek Nature Preserve to the east of the park offers a 3.3-mile loop trail that is used for hiking, walking, and nature viewing trips. The Upper Hillsborough River Trail is a 4.6-mile hiking trail that meanders through a variety of natural community types offering visitors with numerous opportunities to view wildlife.

Statewide Comprehensive Outdoor Recreation Plan

The Statewide Comprehensive Outdoor Recreation Plan (SCORP) analyzes both resource-based and user-based recreation opportunities throughout the state, with the state divided up into eight planning regions. Hillsborough River State Park falls within the Central West region, which includes Citrus, Hernando, Hillsborough, Pasco, and Pinellas County.

An economic analysis conducted as a part of the SCORP process (2019 draft) found that residents of the Central West region spent approximately $1.7 billion on outdoor recreation in 2017, compared to $6.2 billion spent by visitors to the region. The top five recreational activities for residents and visitors are as follows:

Residents	Visitors
1. Walking/jogging	1. Beach activities
2. Beach activities	2. Walking/jogging
3. Hiking	3. Hiking
4. Bicycling	4. Picnicking
5. Golfing	5. Wildlife viewing

According to the SCORP update, the Central West region is below the statewide median in beach activities, boat ramp amenities, unpaved bike trails, hiking trails, equestrian trails, picnicking facilities, tent camping, and hunting areas.

The table below identifies significant resource based recreation opportunities within 15 miles of Hillsborough River State Park.

Table 7. Regional Resource-Based Recreational Opportunities												
Name	**Biking**	**Hiking**	**Equestrian**	**Swimming**	**Beach Access**	**Boating**	**Paddling**	**Picnicking**	**Interpretation**	**Fishing**	**Camping**	**Hunting**
Hillsborough County												
Alderman's Ford Park							✓			✓	✓	
Blackwater Creek Preserve		✓										
Cypress Creek Preserve		✓						✓				
Edward Medard Park						✓	✓				✓	
Lettuce Lake Regional Park		✓					✓	✓	✓			
Lithia Springs Park		✓		✓							✓	
Lower Green Swamp Preserve	✓	✓	✓									
Florida Park Service												
Ybor City Museum State Park								✓	✓			
Southwest Florida Water Management District												
Hillsborough River Corridor	✓	✓	✓							✓	✓	✓
Lower Hillsborough Flood Detention Area	✓	✓	✓			✓	✓	✓		✓	✓	

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.

Recreational Resource Elements

This section assesses the park's recreational resource elements, those physical qualities that, either singly or in certain combinations, can support various resource-based recreation activities. Breaking down the property into such elements provides a means for measuring the property's capability to support potential recreational activities. This process also analyzes the existing spatial factors that either favor or limit the provision of each activity.

Land Area

Hillsborough River State Park consists of 3,319 acres. Upland communities within the park provide a range of opportunities for recreational use. Activities can include bicycling, camping, hiking, and picnicking. In addition, park staff can offer tours or host wildlife-viewing programs.

Water Area

The Hillsborough River runs through the park. The developed recreation area of the park allows canoe and kayak access, picnic areas, and nature trails. Canoeing is a popular activity at the park and visitors may bring their own canoe or rent one at the park. A suspension bridge was constructed by the CCC across the river to provide trail access on the north side of the river.

Shoreline

The unit contains approximately four miles of shoreline on the Hillsborough River that is amenable to fishing and scenic views of the river. Trails, both existing and those developed in the future, can run along the shoreline for overhead views of the waterway. There are areas located along the riverbank that provide optimal points for nature observation.

Natural Scenery

The Hillsborough River is the primary visual resource of this unit. Bridges and overlooks provide visitors with access to view this scenic area. The original CCC structures in the riverside picnic area are also visually attractive and provide opportunities for interpretation. Of the natural communities represented in the park, the upland mixed forest and the floodplain forest offer the most diverse scenic experience.

Significant Habitat

The blackwater stream, hydric hammocks, floodplain swamps and other wetland communities are sensitive and less widely represented in the state than the other communities of the park. These areas can be interpreted through hiking or nature trails, interpretive signage, and observation stations for birdwatching and wildlife viewing.

Natural Features

The most notable natural feature of the unit is the Hillsborough River, especially where the water rushing over the exposed limestone creates rapids at normal river stages. Trails along the river provide visitors with a chance for wildlife observation and enjoying the natural landscape.

Archaeological and Historical Features

The recorded cultural resources at Hillsborough River State Park offer opportunities for interpretive and educational programming. This can be accomplished through tours, cultural events, or interpretive signage displayed throughout the park property. Topics for interpretation can include Forts Alabama and Foster, the Second Seminole War, and the CCC era.

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

As discussed in the resource management component, the U.S. military used this site during the 1830s. There is evidence that the property was used for turpentine extraction during the early 1900s. The unit has been operated as a state park since the 1930s.

Current Recreational Use and Visitor Programs

Hillsborough River State Park is a dynamic property hosting a variety of land-based and water-based recreational activities.

Swimming, fishing, canoeing, camping, historic site visitation, hiking, nature study, picnicking, and scenery appreciation are the popular activities provided at this unit. The park is frequently a destination for field trips, family reunions, and small weddings. These groups utilize the park's many picnic pavilions and the Recreation Hall. Concession operations include a poolside café, bike rentals, golf cart rentals, and canoe rentals.

Hillsborough River State Park recorded 206,836 visitors in FY 2017/2018. By DRP estimates, the FY 2017/2018 visitors contributed $17,929,357 in direct economic impact, the equivalent of adding 251 jobs to the local economy (FDEP 2018).

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 Hillsborough River State Park, all wetland communities, the portion of the park lying north of the Hillsborough River and the historic sites of Fort Foster and the Fort King military road have been designated as protected zones.

Existing Facilities

Activities at Hillsborough River State Park are centered in main use areas. In the main park property, Parking Lot #1 has an interpretive center featuring displays on the area's CCC history. The swimming pool is a popular destination for locals. The campground, with 112 sites, is used year-round along with the picnic areas alongside the Hillsborough River. The Model Diary property, south of the main park entrance, is accessed via the Old Fort King Trailhead (see Base Map). The Fort Foster Historic Area is across U.S. 301 and is accessed for guided tours and special events.

Recreation Facilities

Boating/River Picnic Area
Playgrounds (2)
Canoe Rental Concession
Shelter (River Rapids)
Canoe/Kayak Launch
Restrooms (2)
Pavilions/Cooking Shelters (5)
BBQ Pit/Shelter
Concession Building/Gift Shop
CCC Era Suspension Bridge
Picnic Tables
Recreation Hall

West Camping Area
Campsites (79)
Shelter (Cedar Landing)
Bathhouses (2)
Laundry Area
Hand-Portage Boat Launch
Campfire Circle

Swimming Area
Swimming Pool
Bathhouse
Picnic Tables
Playground
Concession Building

Fort Foster
Fort Structure
Waiting Shelter
Interpretive Center
Bridge

Trails
Baynard Nature Trail (1.1 mi.)
River Rapids Nature Trail (1.2 mi.)
Florida Trail (3.4 mi)
Wetlands Restoration Nature Trail (1.6 mi)

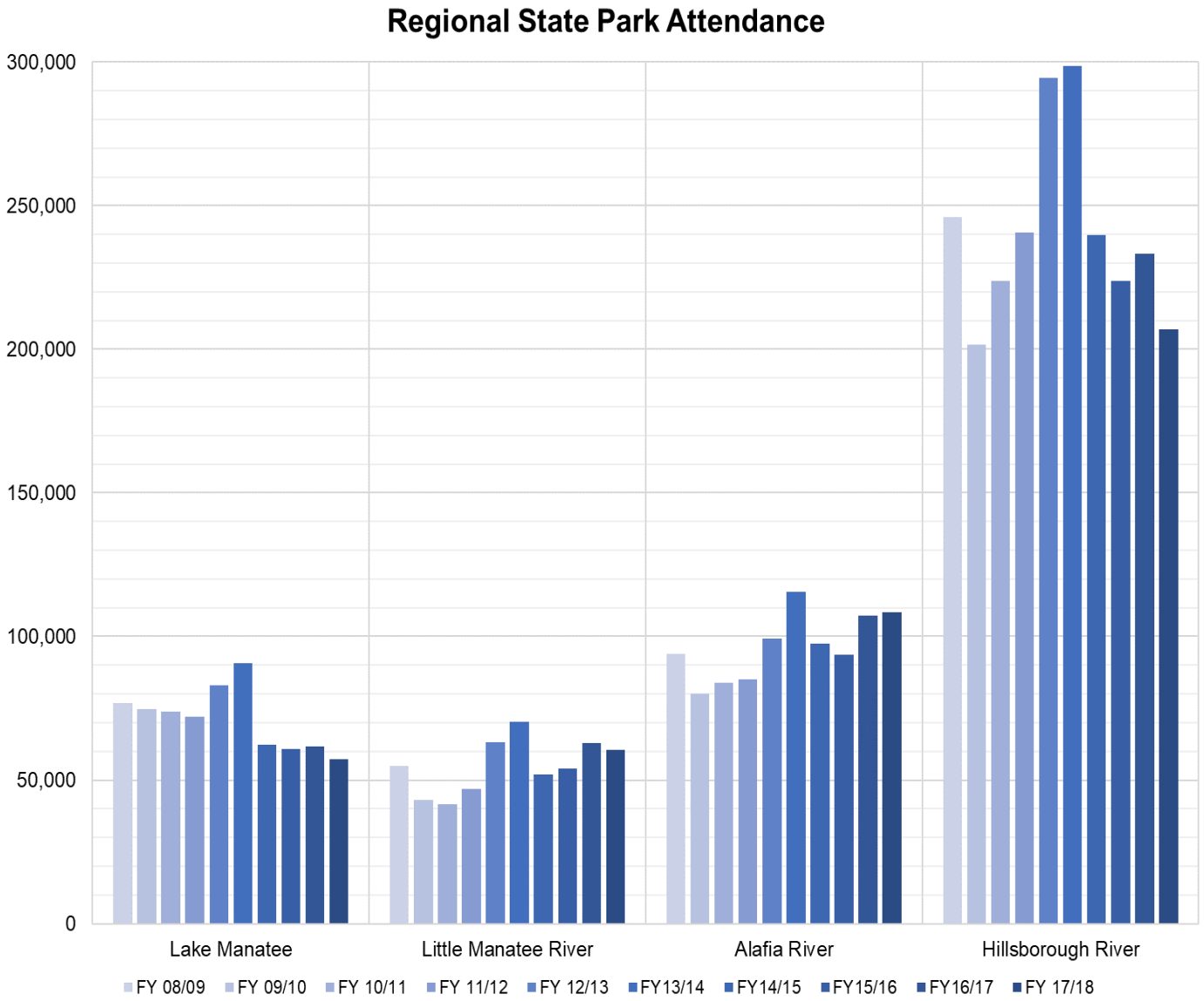
Interpretive Gardens
Wildlife Garden
Butterfly Garden

Support Facilities

Ranger Station
Shop
Park Office/ Administration Building
Equipment Shed
Fire Tower
Trailer Residence
Permanent Residence (4)
Chlorinator Building
Storage Buildings (4)
Sewage Treatment Plants (2)
Tram Shelter
Greenhouse
Dump Station
Parking (4 areas)

Attendance Analysis

The chart below shows annual attendance at Hillsborough River State Park over the past 10 years, as compared to other state parks in the region. Hillsborough River State Park Recorded 206,836 visitors in FY 2017/2018. By DRP estimates, the FY 2017/2018 visitors contributed $17.9 million in direct economic impact, the equivalent of adding 251 jobs to the local economy (FDEP 2018).



Legend

- Park Boundary
- US Highway
- County Road
- Park Road Paved
- Park Road Stabilized
- Park Road Unstabilized
- Hiking Trail
- Hiking/Biking Trail
- Hiking/Biking/Equestrian Trail
- Nature Trail
- Paddling Trail
- Walkways
- Structures
- Parking Lots
- Camping Areas
- Water Bodies

Inset

Hillsborough River

41

301

Inset

Overlook
Pavilion
Hillsborough River
Bridge
FLORIDA TRAIL
Picnic Pavilion
Pavilion
Storage
Boat House
Picnic Pavilion
Concession
Swimming Pool
Recreation Hall
Picnic Pavilion
Rapids Trail
Playground
BBQ Pit
Residence
Shop Area
Restroom
Residence
Residence
Fort Foster
Pavilion
Amphitheater
Bathhouse
Restrooms
Residence
Storage
Garage
Shed
Residence
Administration
Visitor Center
Interpretive Center
Camp Shelter
Building
Restroom
Restroom
Storage
Residence
Garage
Residence
Service Shed
Fire Tower
Residence
Garage
Entrance Station
Wood Storage
MOUNTZ ROAD
41
301
WETLANDS TRAIL
bing™
Image courtesy of USGS © 2013 Microsoft Corporation

bing™

Image courtesy of USGS

HILLSBOROUGH RIVER STATE PARK

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BASE MAP

Conceptual Land Use Plan

The following narrative represents the current conceptual land use proposal for this park. The conceptual land use plan is the long-term, optimal development plan for the park, based on current conditions and knowledge of the park's resources, landscape and social setting (see Conceptual Land Use Plan). The conceptual land use plan is modified or amended, as new information becomes available regarding the park's natural and cultural resources or trends in recreational uses, in order to adapt to changing conditions. Additionally, the acquisition of new parkland may provide opportunities for alternative or expanded land uses. The DRP develops a detailed development plan for the park and a site plan for specific facilities based on this conceptual land use plan, as funding becomes available.

During the development of the conceptual land use plan, the DRP assessed the potential impact of proposed uses or development on the park resources and applied that analysis to determine the future physical plan of the park as well as the scale and character of proposed development. Potential resource impacts are also 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 investigated in greater detail. Municipal sewer connections, advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Creation of impervious surfaces is minimized to the greatest extent feasible in order to limit the need for stormwater management systems, and all facilities are designed and constructed using best management practices to limit and avoid resource impacts. Federal, state and local permit and regulatory requirements are addressed during facility development. 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, 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 this state park are appropriate to the natural and cultural resources contained in the park and should be continued. New and/or improved activities and programs are also recommended and discussed below.

***Objective A: Maintain the park's current recreational carrying capacity of 4,971 users per day*.**

Hillsborough River State Park is heavily visited throughout the year due to the draw of the Hillsborough River. Water-based activities include fishing, canoeing, and kayaking. The park offers bike, canoe, and golf cart rentals to enhance the visitor experience. Trails accommodate bicyclists, hikers, and equestrian use. A swimming pool is also available for a refreshing swim.

Objective B: Expand the park's recreational carrying capacity by 100 users per day.

The park's carrying capacity will be expanded due to increase interpretive programming, both through park events and educational displays located throughout the park use areas and along the trail network. A stage will allow increased capacity for special events hosted at the park.

Objective C: Continue to provide the current repertoire of 10 interpretive, educational and recreational programs on a regular basis.

Current programs offered at the park include night sounds, campfire cooking, fire and fishing demonstrations, Fort Foster tours, and guided nature walks. Tram tours offered by park staff are a popular program. Events orchestrated by the park include fort dinners and organized races.

Objective D: Develop 3 new interpretive, educational and recreational programs.

Once the CCC cabin is relocated to Parking Lot #1, a proposal discussed below, the structure will house interpretive and educational material to supplement ongoing programming. Exhibits in the existing interpretive center at Parking Lot #1 should be updated. Kiosks should be located throughout the park and trails featuring displays on the park's plant and animal species, natural communities, and CCC history. Along the trails, the kiosks should be placed in sequence to tell a story as visitors walk along the path.

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 contained 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, to improve the protection of park resources, and to streamline the efficiency of park operations. The following is a summary of improved, renovated, and/or new facilities needed to implement the conceptual land use plan for Hillsborough River State Park:

Objective A: 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 B: Improve/repair 9 existing facilities, 0.5 miles of trail and 1.25 miles of road.

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 DRP). The following discussion of other recommended improvements and repairs are organized by use area within the park.

Campground

There are several restroom deficits in the campground. Plumbing needs to be replaced in all three bathhouses. Buildings 23, 25, and 35 should be demolished with buildings 25 and 35 being replaced. Building 35 is the priority for replacement as it serves the most people in the campground loop; it should include accessible restroom facilities and a few sites closest to the updated bathhouse should be converted for accessibility. Sites need to be better delineated and There are several restroom deficits in the campground. Plumbing needs to be replaced in all three bathhouses. Buildings 23, 25, and 35 should be demolished with buildings 25 and 35 being replaced. Building 35 is the priority for replacement as it serves the most people in the campground loop; it should include accessible restroom facilities and a few sites closest to the updated bathhouse should be converted for accessibility. Sites need to be better delineated and landscaped buffers between sites should be restored. This will allow some privacy between sites and also contain camper use within the site boundaries. The campground loop road, which is just about one and a half miles, should be

resurfaced. Campsites should be raised and stabilized to prevent vehicle damage and further damage of sites due to damp or flooded sites.

Fort Foster Property

A safe crossing via tunnel or bridge should be installed from the Administration Offices to the Fort Foster property crossing US 301 to avoid vehicle and visitor conflicts crossing the high-speed arterial. US 301 will soon be widened to 4 lanes, a sidewalk, and a multiuse trail. A clivus restroom should be installed on the Fort Foster property at the site of the existing portable restroom unit. According to the deed, facilities on this property must be visually buffered from the fort. Therefore, prescribed burning should be stopped around the proposed restroom area to allow growth. Replanting may also be used to create a visual buffer. Additionally, a lockable pole barn should be constructed near the cattle gate at the property entrance for the storage of lawn maintenance equipment and special event supplies.

Recreation Hall and Picnic Area

The two existing restrooms at the Recreation Hall should be upgraded and converted to two accessible family restrooms. A new accessible unisex restroom will be added to the building. The CCC pavilion located near the bridge over the Hillsborough River must be restored due to structural issues, such as cracked concrete, that are affecting the fireplace stability. The seawall at this location needs to be replaced with additional shoreline stabilization needed to ensure stability of the pavilion and kayak launch. An accessible canoe and kayak launch should be constructed near the site of the existing canoe rentals to connect to the ADA sidewalk that already exist here. The launch should be a floating dock or natural surface.

Old Fort King Trailhead

Restoration activities are currently underway at the Model Diary property and should be continued. The Model Diary property needs an accessible unisex restroom and interpretive kiosk constructed at the property entrance near the parking area. This area should remain as an equestrian day use area because equestrian overnight accommodations are located in close proximity to the park. There is potential at this site for a horse rental concession to offer equestrian use to all park visitors.

Support Areas

The road within the existing shop area as well as the access road leading from the main park road to the shop should be paved to allow better mobility of vehicles and equipment as well as to reduce repair costs on vehicles. A 3-bay pole barn should be constructed within the existing footprint of the shop area to provide storage for park equipment. Also, the residence in the volunteer village should be tied into the septic system.

Parking Lot #1

The CCC Cabin located behind the Assistant Park Managers house will be moved to parking lot 1, restored, and turned into an exhibit to educate and interpret visitors on the CCC Era.

Shop and Old Spray Field

The installation of solar panels should be considered as an alternative power option for the park to offset energy costs. Solar panels can be installed on the roof of the current shop as well as in the old spray field in management zone HR-18. These locations have been identified by park staff as viable locations with very little impact. The solar panel system should be wired to charge batteries in order to store the energy for future use. This energy could be stored and used for a variety of uses in the park including the campground.

Stationary Bridge

The current stationary bridge that provides motorized access to the North side of Hillsborough River needs to be repaired or replaced. During a hurricane trees fell and knocked the supporting pilings loose under the bridge. The bridge has been closed by DEP Safety due to this and there is no access in case of emergency to the North side of the river which hosts the majority of the park's recreational trails.

Parkwide
Erosion control is necessary along the Hillsborough River at Cedar Landing, at the ADA kayak and canoe launch, and along the Seminole Trail. Flooding is a constant issue wiping out trail networks, seawalls, and riverbanks. Segments of the Seminole Trail are washed out and should be stabilized. Surveying and fencing should be conducted at the park's southern boundary, property east of US 301, and the protruding parcel at the northern boundary. This corresponds with management zones HR-20, HR-19, north of HR-14A, and HR-16.

Objective: Construct 1 new facility.

A stage should be built on the ballfield/open area across from the Poolside Café. The stage should face the café with the lawn serving as seating for events.

Facilities Development

Preliminary cost estimates for these recommended facilities and improvements are provided in the Ten-Year Implementation Schedule and Cost Estimates located in the Future Objectives section 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 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

Campground
Renovate Campsites
Replace Bathhouses (2)
Pave Campground Roads
Stabilize Campsites

Old Fort King Trailhead
Accessible Clivus Restroom
Interpretive Kiosk
Restore Model Diary Property

Fort Foster Property
Safe Crossing for US 301
Clivus Restroom
Lockable Pole Barn

Parking Lot #1
Move CCC Cabin to Parking Lot #1
Restore CCC Cabin
Add Interpretive Exhibits to restored CCC Cabin

Seminole Trail
Interpretive Kiosks/Signs
Erosion Control

Hillsborough River
Seawall & Stabilization to protect infrastructure

Recreation Hall/Picnic Area
Upgrade Restrooms
Add Accessible Restroom
Restore CCC Pavilion
Add Accessible Kayak/Canoe Launch

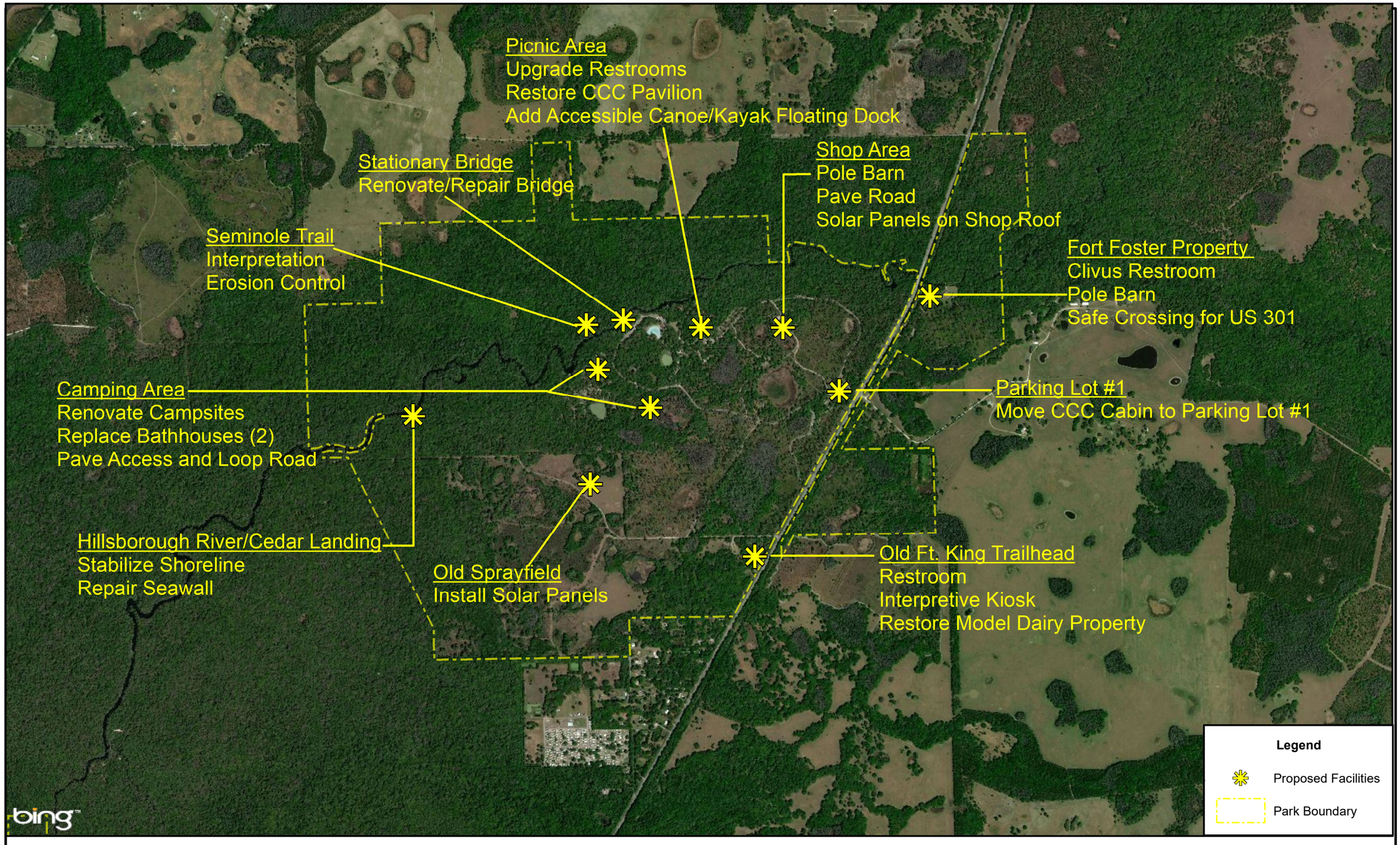
Support Facilities

Shop Area
Pave Loop Road and Access Road
3-Bay Pole Barn
Install Solar Panels on Shop Roof & in Old Sprayfield
Volunteer Sites on Septic

Stationary Bridge
Repair/Replace Bridge

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



HILLSBOROUGH RIVER STATE PARK

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Division of Recreation and Parks
Date of aerial; 2011

CONCEPTUAL LAND USE PLAN

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 a preliminary 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. Recreational Carrying Capacity Estimates		
Existing Use Areas	**Visitors at One Time**	**Daily Visitors**
Hiking Trails	65	258
Shared Use Trails	48	96
Picnicking	696	1392
Swimming	216	432
Standard Camping	896	896
Primitive Camping	32	32
Primitive Group Camping	60	60
Campfire Circle	448	448
Fishing	422	845
Paddling	180	361
Interpretive Center	38	151
Proposed Use Areas	**Visitors at One Time**	**Daily Visitors**
Event Stage	100	100

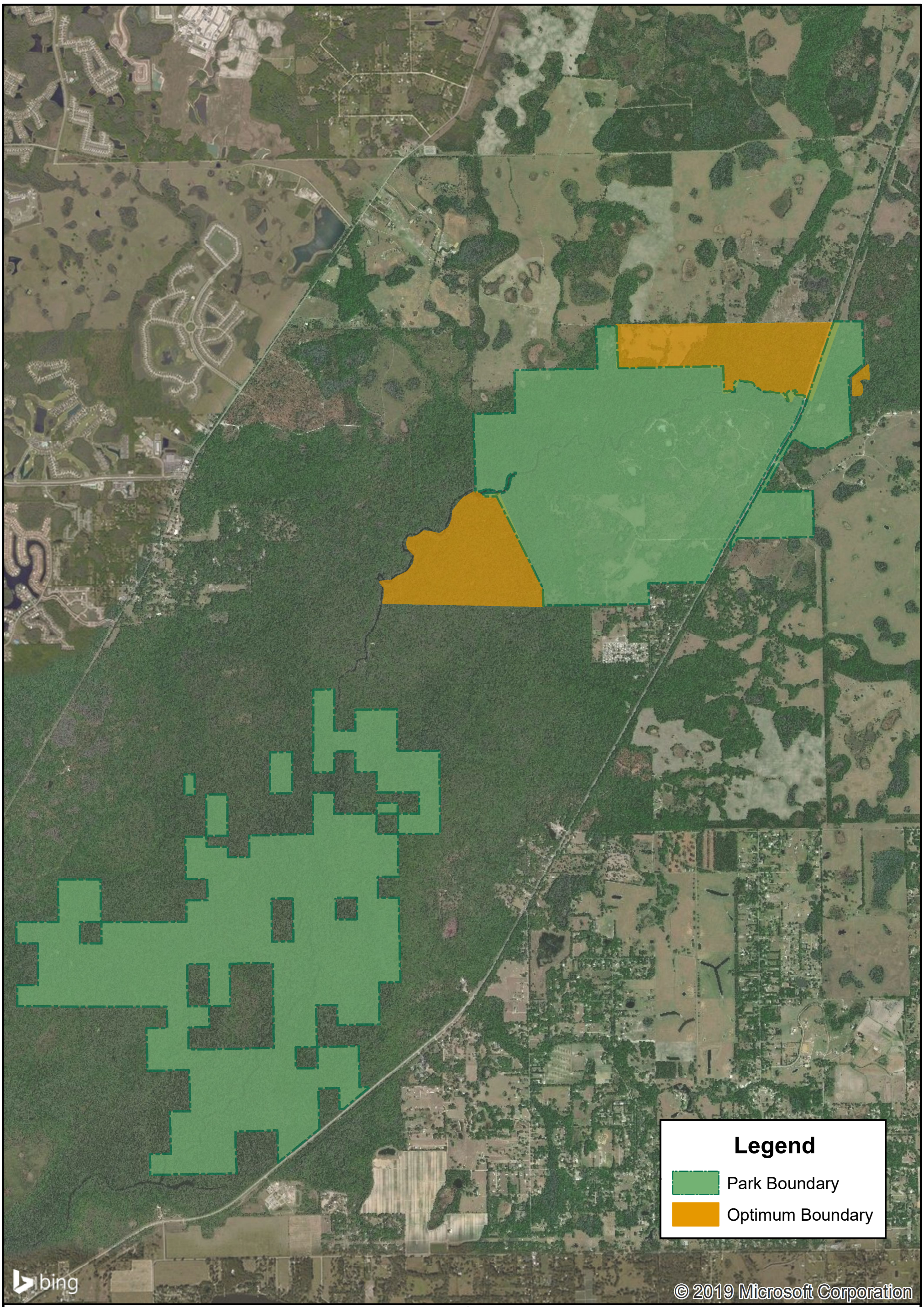
Optimum Boundary

The optimum boundary map reflects lands considered desirable for direct management by the DRP as part of the state park. These parcels may include public or privately-owned land that would 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. Parklands that are potentially surplus to the management needs of DRP are also identified. As additional needs are identified through park use, development, and research, and as land use changes on adjacent property, modification of the park's optimum boundary may be necessary.

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.

Three parcels of land that total approximately 528 acres have been identified to complete the optimum boundary of the park (see Optimum Boundary Map). The purpose of these 2 northern acquisitions is to consolidate the Division's management of the river shoreline and water-based recreation and protect the natural communities adjacent to the river north of the park from potential land use changes. The parcel to the south of the

park, which is currently Dead River Park, would allow the park to fence off the southern border all the way to the river. This fence would significantly decrease the amount of feral hogs that could have access to the park. Additionally there is possibility that the current land managers of this property would be willing to turn over the management of the park.



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Date of aerial; 2016

OPTIMUM BOUNDARY MAP

Addendum 1—Acquisition History

LAND ACQUISITION HISTORY REPORT

Park Name	Hillsborough River State Park
Date Updated	5/31/2016
County	Hillsborough County, Florida
Trustees Lease Number	Lease No. 3623 (Original Lease No. 2324)
Legal Description	A legal description is available upon request from the Department of Environmental Protection
Current Park Size	3,319.04 acres
Purpose of Acquisition	The State of Florida acquired Hillsborough River State Park primarily to manage and operate the area for a state park purposes.

Acquisition History (incudes only acquisitions with areas of 10 acres or more)

Parcel Name or Parcel DM-ID	Date Acquired	Initial Seller	Initial Purchaser	Size in acres	Instrument Type
MDID 367070	9/12/1946	Trustees of the Internal Improvement Fund of the State of Florida	The Florida Board of Forestry and Parks	1,345.06	Deed
MDID 367073	5/21/1942	R.T Bishop, as Trustees under the last will and testament of Louanna Frieson	The Florida Board of Forestry and Parks	565.05	Indenture
MDID 367071	7/29/1935	Dorothy Thomas and her husband Wayne Thomas	Trustees of the Internal Improvement Fund of the Stae of Florida	375.89	Indenture
MDID 367065	6/10/1936	The Coronet Phosphate Company	The Florida Board of Forestry	205.60	Indenture
MDID 367072	3/16/1935	Bertha P. Blaul	The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Trustees)	178.96	Warranty Deed
MDID 367066	6/16/1951	Carrie Mobley	The State of Florida for use and benefit of the Florida Board of Parks and Historic Memorials	143.61	Indenture
MDID 4405	12/28/1973	Robert Thomas	State of Florida Department of Natural Resources, Division of Recreation and Parks	107.06	Deed
MDID 367064	12/12/1940	Lula Horton	Florida Board of Forestry	41.03	Indenture
MDID 367063	5/21/1942	R.T Bishop, as Trustees under the last will and testament of Louanna Frieson	Florida Board of Forestry and Parks	40.831	Indenture

Management Lease

Parcel Name or Lease Number	Date Leased	Initial Lessor	Initial Lessee	Current Term	Expiration Date
Lease No. 3623 (Originally Lease No. 2324)	1/23/1968	Trustees of the Internal Improvement Trust Fund of the State of Florida	The Florida Board of Parks and Historic Memorials	99 Years	1/22/2067

Related outstanding issue that r	Type of Instrument	Brief Description of the Outstanding Issue	Terms of the Outstanding Issue
There is no known deed related issue that restricts the use of Hillsborough River State Park			

Addendum 2—Advisory Group Members and Report

{List}

{Report}

Addendum 3—References Cited

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Addendum 4—Soil Descriptions

4 - Arents, nearly level - Arents consist of nearly level, heterogeneous soil material. This material has been excavated, reworked, and reshaped by earthmoving equipment. Arents are near urban centers, phosphate-mining operations, major highways and sanitary landfills.

Arents do not have an orderly sequence of soil layers. This map unit is not associated with or confined to a particular kind of soil. Arents are variable and contain discontinuous lenses, pockets, or streaks of black, gray, grayish brown, brown, or yellowish brown sandy or loamy fill material. The thickness of the fill material ranges from 30 to 80 inches or more.

Included in this map unit are areas used as sanitary landfills. Refuse consists of concrete, glass, metal, plastic, wood, and other materials and ranges in thickness from 2 to 10 feet. It is generally stratified with layers of soil material that were used as daily cover. These areas are identified on soil maps by the words “sanitary landfill.” Also included are small areas of soil that has slope that ranges from 0 to 5 percent.

Most soil properties are variable. The depth to the seasonal high water table varies with the amount of fill material and artificial drainage. Permeability and the available water capacity vary widely from one area to another.

5 - Basinger, Holopaw and Samsula soils, depressional - The soils in this map unit are nearly level and very poorly drained. They are in swamps and depressions on the flatwoods. Generally, Basinger soil is along the exterior of swamps or in shallow depressions. Holopaw and Samsula soils are in the interior areas of the swamps or in deeper depressions. Undrained areas are frequently ponded for very long periods. The slope is 0 to percent.

In 90 percent of the areas of this map unit, Basinger, Holopaw and Samsula soils, depressional, and similar soils make up 78 to 96 percent of the mapped areas, and dissimilar soils make up about 4 to 22 percent of the mapped areas. Generally, the mapped areas consist of about 35 percent Basinger soil and similar soils, 31 percent Holopaw soil and similar soils, and 18 percent Samsula soil and similar soils. The individual soils are generally in large enough areas to be mapped may be suited to the production of cypress and hardwoods through natural regeneration.

If these soils are used for building site development or for onsite waste disposal, ponding is the main limitation. Drainage is needed to lower the water table, and fill material is needed in most areas. While surface drainage helps to control ponding, the seasonal high water table is continuing limitation.

The soils in this map unit are in capability subclass VIIw. Basinger and Holopaw soils are in woodland group 2W. Samsula soil has not been assigned to a woodland group. This soils in this map unit are in the Freshwater Marshes and Ponds range.

7 - Candler fine sand, 0 to 5 percent slopes - This soil is nearly level to gently sloping and excessively drained. It is on the uplands.

In 95 percent of the areas mapped as Candler fine sand, 0 to 5 percent slopes, the Candler soil and similar soils make up 82 to 96 percent of the mapped areas. Dissimilar soils make up 4 to 18 percent of the mapped areas.

Typically, this soil has a surface layer of dark gray fine sand about 6 inches thick. The upper part of the subsurface layer, to a depth of about 35 inches, is light yellowish brown fine sand. The middle part, to a depth of about 72 inches, is very pale brown fine sand. The lower part to a depth of about 80 inches is a mixture of very pale brown fine sand and strong brown loamy sand lamellae that are about one-sixteenth to one-quarter of an inch thick and 2 to 6 inches long. In some places, similar soils included in the mapped areas do not have lamellae in the lower part of the subsurface layer. Other similar soils, in some areas, have a subsurface layer that consists of 5 to 10 percent silt and clay; and some similar soils also included in mapping, in some of the lower parts of the landscape, are well drained.

Dissimilar soils included in mapping are Kendrick and Millhopper soils in small areas. Kendrick soils are well drained, and Millhopper soils are moderately well drained. Also included are areas of unnamed soils on upper side slopes that are well drained and have a sandy clay loam subsoil within 40 to 80 inches of the surface.

A seasonal high water table is at a depth of more than 80 inches. Permeability is rapid. The available water capacity is very low.

The natural vegetation consists of bluejack oak, Chapman oak, scrub live oak, and turkey oak. The understory includes indiangrass, hairy panicum, panicum, and running oak. In most areas, this Candler soil is used for citrus crops. In a few areas, it is used for pasture or for homesite or urban development.

12 - Chobee sandy loam, frequently flooded - The soil is nearly level and very poorly drained. It is on bottom lands mainly along the Hillsborough River and Blackwater Creek. This soil is flooded for very long periods following prolonged intense rain. The slope is dominantly less than 1 percent.

In 90 percent of the areas mapped as Chobee sandy loam, frequently flooded, the Chobee soil and similar soils make up 78 to 99 percent of the mapped areas. Dissimilar soils make up 1 to 22 percent of the mapped areas.

Typically, this soil has a surface layer of clack sandy loam about 15 inches thick. The subsoil extends to a depth of about 60 inches. The upper part is very dark gray, mottled sandy clay loam. The lower part is gray mottled sandy clay loam. The substratum to a depth of about 80 inches is light gray, mottled loamy sand. In some areas, similar soils included in mapping have a surface layer of mucky fine sand, fine sand, or loamy fine sand. Other similar soils

have a thinner surface layer than Chobee soil, and in places, some similar soils have thin, discontinuous strata of limestone in the underlying material.

Dissimilar soils included in mapping are Felda and Wabasso soils in small areas. These soils are poorly drained.

A seasonal high water table fluctuates from the soil surface to a depth of about 1 inches. Permeability is moderately rapid in the surface layer, slow or very slow in the subsoil, and very slow to moderately rapid in the substratum. The available water capacity is high.

In most areas, this Chobee soil has been left in the natural vegetation. In a few areas, it is used for pasture. The natural vegetation consists of baldcypress, Coastal Plain willow, red maple, cabbage palm, and sweetgum. The understory includes buttonbush, maidencane, sawgrass, smartweed, and sedges.

In its natural state, this soil is generally not suited to cultivated crops. If a water control system, such as dikes, ditches, and pumps, is established and maintained, this soil is suited to cultivated crops, citrus crops, and pasture.

This soil is generally not suited to the production of pine trees because of flooding or extended wetness. It may be suited to the production of cypress and hardwoods through natural regeneration.

If this soil is used for building site development or for onsite waste disposal, flooding is the main hazard. Major flood control structures and extensive local drainage systems are needed to control flooding.

This Chobee soil is in capability subclass Vw, in woodland group 6W, and in the Freshwater marshes and Ponds range site.

15 - Felda fine sand - This soil is nearly level and poorly drained. It is on broad sloughs on the flatwoods. The slope is 0 t 2 percent.

In 95 percent of the areas mapped as Felda fine sand, the Felda soil and similar soils make up 90 to 99 percent of the mapped areas. Dissimilar soils make up 1 to 10 percent of the mapped areas.

Typically, this soil has a surface layer of very dark gray fine sand about 5 inches thick. The upper part of the subsurface layer, to a depth of about 18 inches, is dark gray, mottled fine sand. The lower part, to a depth of about 22 inches, is dark grayish brown, mottled fine sand. The subsoil to a depth of about 45 inches, is light brownish gray, mottled sandy clay loam. The substratum to a depth of about 80 inches is light fray loamy sand that contains many shell fragments. Similar soils included in mapping have a subsoil at a depth of more than 40 inches of the surface.

Dissimilar soils included in mapping are Pinellas and Wabasso soils in small areas. Pinellas soils are calcareous in the upper part of the subsoil. Wabasso soils have a sandy subsoil above a loamy subsoil.

A seasonal high water table fluctuates from the soil surface to a depth of about 10 inches for 2 to 6 months I most years. Permeability is rapid in the surface and subsurface layers and is moderate in the subsoil. The available water capacity is moderate.

In most areas, this Felda soil is used for pasture. In a few areas, it is used for cultivated crops or for homesite or urban development or it has been left idle in natural vegetation. The natural vegetation consists of cabbage palm and slash pine. The understory includes saw palmetto, pineland threeawn, and waxmyrtle.

If a water control system is established and maintained and soil-improving measures applied, this soil is well suited to most cultivated crops. If suitable outlets are available, lateral ditches and tile drains can be used to lower the water table. Returning all crop residue to the soils and using a cropping system that includes grasses, legumes, or a grass-legume mixture help to maintain fertility.

This soil is suited to pasture. Wetness limits the choice of plants that can be grown and restricts grazing during rotation, and timely deferment of grazing help keep the pasture in good condition.

The potential of this soil for the production of slash pines is moderately high. The main management concern for producing and harvesting timber is seedling mortality. Water-tolerant trees should be planted. Planting and harvesting operations should be scheduled during dry periods. Bedding of rows helps to minimize the excessive wetness limitation.

If this soil is used for building site development, the main management concern is excessive wetness. Population growth has resulted in increased construction of houses on this soil. Drainage is needed to lower the high water table, and fill material is needed in most areas. Septic tank absorption fields need to be moved in most areas.

This Felda soil is in capability subclass, IIIw, in woodland group 10W, and in the Slough range site.

21 - Immokalee fine sand - This soil is nearly level and poorly drained. It is on broad plains on the flatwoods. The slope is 0 to 2 percent.

In 80 percent of the areas mapped as Immokalee fine sand, the Immokalee soil and similar soils make up 77 to 99 percent of the mapped areas. Dissimilar soils make up 1 to 23 percent of the mapped areas.

Typically, this soil has a surface layer of very dark gray fine sand about 8 inches thick. The subsurface layer, to a depth of 36 inches, is light gray fine sand. The upper part of the subsoil, to a depth of about 46 inches, is black fine sand. The middle part, to a depth of about 52 inches, is dark reddish brown fine sand. The lower part to a depth of about 80 inches is dark brown fine sand. Similar soils included in mapping have a subsoil that is at a depth of more than 50 inches. Other similar soils, in some areas, have a subsoil within 30 inches of the surface. Also, some included similar soils, in places, have a subsoil that is brown or dark brown.

Dissimilar soils included in mapping are Ona and Wabasso soils in small areas. Ona soils do not have a subsurface layer. Wabasso soils have a sandy subsoil above a loamy subsoil.

In most years, a seasonal high water table fluctuates from the soil surface to a depth of 10 inches for more than 2 months and recedes to a depth of 10 to 40 inches for 8 months or more. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. The available water capacity is low.

The natural vegetation consists of longleaf pine and slash pine. The understory includes creeping bluestem, chalky bluestem, lopsided indiangrass, saw palmetto, pineland threeawn, and wax myrtle. In most areas, this Immokalee soil is used for native pasture. In a few areas, it is used for cultivated crops, improved pasture, or citrus crops or for homesite or urban development.

29 - Myakka fine sand - This soil is nearly level and poorly drained. It is on broad plains on the flatwoods. The slope is 0 to 2 percent.

In 95 percent of the areas mapped as Myakka fine sand, the Myakka soil and similar soils make up 84 to 93 percent of the mapped areas. Dissimilar soils make up 7 to 16 percent of the mapped areas.

Typically, this soil has a surface layer of very dark gray fine sand about 5 inches thick. The
subsurface layer, to a depth of about 20 inches, is gray fine sand. The upper part of the subsoil, to a depth of about 25 inches, is black fine sand. The middle part, to a depth of 30 inches, is dark reddish brown fine sand. The lower park to a depth of about 38 inches, is brownish yellow fine sand. The upper part of the substratum, to a depth of about 55 inches, is very pale brown sand. The lower part to depth of about 80 inches is dark grayish brown fine sand. Similar soils included in mapping, in some areas, have a surface layer that is more than 8 inches thick. Other similar soils, in some planes, have a subsoil within 20 inches of the surface, and some included similar soils have a subsoil at a depth of more than 30 inches or have a brown or dark brown subsoil, or both.

Dissimilar soils included in mapping are Basinger and Wabasso soils in small areas. Basinger soils are very poorly drained. Wabasso soils have a loamy subsoil below a sandy subsoil.
In most years a seasonal high water table fluctuates from the soil surface to a depth of 10 inches for 1 to 4 months and recedes to a depth of 40 inches during prolonged dry periods. Permeability is rapid in the surface and subsurface layers, moderate or moderately rapid in the subsoil, and rapid in the substratum. The available water capacity is low.

In most areas, this Myakka soil is used for native pasture or cultivated crops. In a few areas, it is used for improved pasture or citrus crops, or it is used for homesite or urban development. The natural vegetation consists of longleaf pine and slash pine. The understory includes gallberry, running oak, saw palmetto, pineland threeawn, and wax myrtle.

If a water control system is established and maintained and soil-improving measures applied, this soil is suited to most cultivated crops, citrus crops, and pasture. Proper arrangement and bedding of tree rows, lateral ditches or tile drains, and well constructed outlets will help lower the water table. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or a grass-legume mixture help to maintain fertility. Frequent applications of fertilizer and lime are generally needed to improve soil quality.

If a water control system is established and maintained, this soil is well suited to pasture. Wetness limits the choice of plants that can be frown and restricts grazing during periods of excessive wetness. Proper stocking, pasture rotation, and restricted grazing during wet periods help keep the pasture and the soil in good condition. Fertilizer and lime are needed for optimum growth of grasses and legumes.

The potential of this soil for the production of slash pines is moderate. The main management concerns for producing and harvesting timber are the equipment use limitations and seedling mortality. Equipment use limitations are a concern if the soil is not properly drained. Water-tolerant trees should be planted. Planting and harvesting operations should be scheduled during dry periods. Bedding of rows helps to minimize the excessive wetness limitation.

If this soil is used for building site development, the main management concerns are excessive wetness, possible contamination of the ground water, and instability of cutbanks. Population growth has resulted in increased construction of houses on this soil. Drainage is needed to lower the high water table, and fill material is needed in most areas. Septic tank absorption fields need to be mounded in most areas. If the density of housing is moderate to high, a community sewage system can help to prevent contamination of water supplies by seepage. Cutbanks are not stable and are subject to slumping.

This Myakka soil is in capability subclass IVw, in woodland group 8W, and in the South Florida Flatwoods range site.

53 - Tavares-Millhopper fine sands, 0 to 5 percent slopes - The soils in this map unit are nearly level to gently sloping and moderately well drained. They are in low-lying areas on the uplands and on low ridges on the flatwoods.

In 95 percent of the areas of this map unit, Tavares-Millhopper fine sands, 0 to 5 percent slopes, and similar soils make up 87 to 99 percent of the mapped area, and dissimilar soils make up 1 to 13 percent of the mapped areas. Generally, the mapped areas consist of about 63 percent Tavares soil and similar soils and 26 percent Millhopper soil and similar soils.

Typically, the surface layer of the Tavares soil is dark grayish brown fine sand about 6 inches thick. The upper part of the underlying material, to a depth of about 32 inches, is pale brown fine sand. The middle part, to a depth of about 40 inches, is very pale brown fine sand. The lower part to a depth of about 80 inches is light gray fine sand. Similar soils included in mapping, in some areas, have a brown or dark brown layer in the lower part of the underlying material. Other similar soils, in some of the lower parts of the landscape, are somewhat poorly drained.

Typically, the surface layer of the Millhopper soil is dark gray fine sand about 4 inches thick. The upper part of the subsurface layer, to a depth of about 9 inches, is brown fine sand. The next layer, to a depth of about 25 inches, is light yellowish brown fine sand. The next layer, to a depth of about 48 inches, is light gray, mottled fine sand. The lower part, to a depth of about 57 inches, is light gray fine sand. The upper part of the subsoil, to a depth of about 62 inches, is very pale brown, mottled sandy clay loam. The lower part to a depth of about 80 inches is gray, mottled sandy clay loam. Similar soils included in mapping, in some areas, have a dark surface layer more than 10 inches thick.

Dissimilar soils which are included in this map unit are Candler, Myakka, and Smyrna soils in small areas. Candler soils are excessively drained. Myakka and Smyrba soils are poorly drained.

Tavares soil has a seasonal high water table at a depth of 40 to 80 inches for more than 6 months, and it recedes to a depth of more than 80 inches during prolonged dry periods. Millhopper soil has a seasonal high water table at a depth of 40 to 60 inches for 1 to 4 months, and it recedes to a depth of 60 to 72 inches for 2 to 4 months. Permeability of Tavares soil is rapid. Permeability of Millhopper soil is rapid in the surface and subsurface layers and moderate in the subsoil. The available water capacity is very low in Tavares soil and low in Millhopper soil.

The natural vegetation consists of bluejack oak, turkey oak, live oak, and longleaf pine. The understory includes creeping bluestem, lopsided indiangrass, panicum, and pineland threeawn. In most areas, the soils in this map unit are used for pastures associated with homesites and urban development. In a few areas, they are used for cultivated crops or citrus crops or are left in natural vegetation.

57 - Wabasso fine sand - This soil is nearly level and poorly rained. It is on plains on the flatwoods. The slope is 0 to 2 percent.

In 95 percent of the areas mapped as Wabasso fine sand, the Wabasso soil and similar soils make up 85 to 99 percent of the mapped areas. Dissimilar soils make up 1 to 15 percent of the mapped areas.

Typically, the soil has a surface layer of very dark gray find sand about 7 inches thick. The subsurface layer, to a depth of about 29 inches, is gray fine sand. The upper part of the subsoil, to a depth of about 32 inches, is black fine sand. The next layer, to a depth of about 38 inches, is dark brown fine sand. The next layer, to a depth of about 46 inches, is light gray sandy clay loam. The lower part, to a depth of about 60 inches, is light greenish gray, mottled sandy clay loam. The substratum to a depth of about 80 inches is gray loamy sand. Similar soils included in mapping, in some areas, have a subsoil at a depth of more than 30 inches. Other similar soils, in some places, have a subsoil at a depth of more than 40 inches, or have a very strong acid subsoil, or have both. Other similar soils, in some areas, have subsoil that is brown or dark yellowish brown; and in some places, the similar soils have thin discontinuous strata of limestone fragments in the underlying material.

Dissimilar soils included in mapping are Myakka and Pinellas soils in small areas. Myakka soils do not have a loamy subsoil below the sandy subsoil. Pinellas soils have a calcareous layer above the subsoil.

In most years, a seasonal high water table fluctuates from the soil surface to a depth of 10 inches for 2 months and recedes to a depth of 40 inches during prolonged dry periods. Permeability is rapid in the surface and subsurface layers. It Is moderate in the upper part of the subsoil and slow in the lower parts, and it is rapid in the substratum. The available water capacity is low or moderate.

In most areas, this Wabasso soil is used as native pasture. In a few areas, it is used for cultivated crops, improved pasture, citrus corps, or homesite or urban development. The natural vegetation consists of longleaf pine and slash pine. The understory includes lopsided indiangrass, gallberry, saw palmetto, pineland threeawn, and waxmyrtle.

If a water control system is established and maintained and soil-improving measures applied, this soil is well suited to most cultivated crops and pasture. If drained, this soil is moderately suited to citrus crops in areas, that are relatively free of freezing temperatures. Proper arrangement and bedding of tree rows, lateral ditches or tile drains, and well constructed outlets will remove excess surface water and will help lower the water table. Droughtiness, a result of the low to moderate available water capacity, is a management concern, especially during extended dry periods. This soil is suited to most irrigation systems. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or a grass-legume

mixture help to maintain fertility. Frequent applications of fertilizer and lime are generally needed to improve crop production.

If a water control system is established and maintained, this soil is well suited to pasture. Wetness limits the choice of plants that can be grown and restricts grazing during periods of excessive wetness. Proper stocking, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Fertilizer and lime are needed for optimum growth of grasses and legumes.

The potential of this soil for the production of slash pines is moderately high. Equipment use limitations and seedling mortality are the main limitations. Equipment use limitation is a concern if the soil is not properly drained. Water-tolerant trees should be planted. Planting and harvesting operations should be scheduled during dry periods. Bedding or rows helps to minimize the excessive wetness limitations.

If this soil is used for building site development, the main management concerns are excessive wetness and slow permeability of the lower subsoil. Population growth has resulted in increased construction of houses on this soil. Drainage is needed to lower the high water table, and fill material is needed in most areas. The slow permeability of lower subsoil and the high water table increase the possibility that the septic tank absorption fields will not function properly. The slow permeability limitation can be minimized by increasing the size of the absorption field.

This Wabasso soil is in capability subclass IIIw, in woodland group 10W, and in South Florida Flatwoods range site.

59 - Winder fine sand - This soil is nearly level and poorly drained. It is on broad, low-lying sloughs on the flatwoods. The slope is 0 to 2 percent.

In 95 percent of the areas, mapped as Winder fine sand, the Winder soil and similar soils make up 88 to 99 percent of the mapped areas. Dissimilar soils make up 1 to 12 percent of the mapped areas.

Typically, this soil has a surface layer of very dark gray fine sand about 4 inches thick. The subsurface layer, to a depth of about 10 inches, is grayish brown fine sand. The upper part of the subsoil, to a depth of about 14 inches, is dark grayish brown, mottled sandy loam and gray fine sand. The lower part of the subsoil, to a depth of about 30 inches, is gray sandy clay loam. The upper part of the substratum, to a depth of about 58 inches, is light gray, mottled sandy clay loam. The lower part to a depth of about 80 inches is gray sandy loam. Similar soils included in mapping, in some areas, have subsoil at a depth of more than 20 inches. Other similar soils, in some areas, have a thin discontinuous strata of fragmented limestone in the upper part of the subsoil.

Dissimilar soils included in mapping are Basinger, Myakka, and Wabasso soils in small areas. Basinger soils are very poorly drained. Myakka soils have a

dark color sandy subsoil Wabasso soils have a dark color sandy subsoil above a loamy subsoil.

In most years, a seasonal high water table fluctuates from the soil surface to a depth of about 10 inches for 2 to 6 moths. Permeability is rapid in the surface and subsurface layers. It is slow or very slow in the subsoil and in the substratum. The available water capacity is moderate.

In most areas, this Winder soil is used as pasture. In a few areas, it is used for cultivated crops or for homesite or urban development. The natural vegetation consists of live oak, cabbage palm, and slash pine. The understory includes saw palmetto, pineland threeawn, and waxmyrtle.

If a water control system is established and maintained and soil-improving measures applied, this soil is well suited to most cultivated crops. If suitable outlets are available, lateral ditches and tile drains can be used to lower the water table. Returning all crop residues to the soil and using a cropping system that includes grasses, legumes, or a grass-legume mixture help to maintain fertility. Frequent applications of fertilizer and lime are generally needed to improve crop production.

This soil is suited to pasture. Wetness limits the choice of plants that can be grown and restricts grazing during periods of excessive wetness. Proper stocking, pasture rotation, and timely deferment of grazing help keep the pasture in good condition.

The potential of this soil for the production of slash pines is high. This soil has few limitations for woodland use and management. Equipment use limitation is a concern if the soil is not properly drained. Water-tolerant trees should be planted. Planting and harvesting operations should be scheduled during dry periods.

If this soil is used for building site development, the main management concerns are excessive wetness and slow to very slow permeability of the subsoil and substratum. Population growth has resulted in increased construction of homes on this soil. The slow or very slow permeability of the subsoil and substratum and the high water table increase the possibility that the septic tank absorption fields will not function properly. The slow or very slow permeability limitation can be minimized by increasing the size of the absorption field. Drainage is needed to lower the high water table, and fill material is needed in most areas.

This Winder soil is in capability subclass IIIw, in woodland group 11W, and in the Cabbage Palm Hammocks range site.

Addendum 5—Plant and Animal List

Hillsborough River State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
PTERIDOPHYTES		
Giant leather fern	*Acrostichum danaeifolium*	
Eared slpeenwort	*Asplenium erosum*	FS, HH
American waterfern	*Azolla fliculoides*	
Southern grape-fern	*Botrychium biternatum*	
Rattlesnake fern	*Botrychium virginianum*	
Long strap fern	*Campyloneurum phyllitidis*	
Watersprite*	*Ceratopteris thalictroides*	
Scouring-rush	*Equisetum hyemale* var. *affine*	
Florida quillwort	*Isoetes flaccida*	
Japanese climbing fern*	*Lygodium japonicum*	
Marianna maiden fern*	*Macrothelypteris torresiana*	
Tuberous sword fern*	*Nephrolepis cordifolia*	
Wild Boston fern	*Nephrolepis exaltata*	
Asian sword fern*	*Nephrolepis multiflora*	
Hand fern	*Ophioglossum palmatum*	HH
Stalked adder's-tongue	*Ophioglossum petiolatum*	
Royal fern	*Osmunda regalis var. spectabilis*	
Cinnamon fern	*Osmundastrum cinnamomeum*	
Widespread polypody	*Pecluma dispersa*	FS, HH
Plume polypody	*Pecluma plumula*	FS, HH
Comb polypody	Pecluma ptilota var. bourgeauana	FS, HH
Golden polypody	*Phlebodium aureum*	
Resurrection fern	*Pleopeltis michauxiana*	
Whisk-fern	*Psilotum nudum*	
Lacy bracken	*Pteridium aquilinum* var. *pseudocaudatum*	
Chinese ladder brake*	*Pteris vittata*	
Water spangles*	*Salvinia minima*	
Toothed midsorus fern	*Telmatoblechnum serrulatum*	
Downy maiden fern*	*Thelypteris dentata*	
Widespread maiden fern	*Thelypteris kunthii*	
Ovate marsh fern	*Thelypteris ovata*	
Marsh fern	*Thelypteris palustris var. pubescens*	
Toothed lattice-vein fern	*Thelypteris serrata*	FS
Shoestring fern	*Vittaria lineata*	
Netted chain fern	*Woodwardia areolata*	
Virginia chain fern	*Woodwardia virginica*	
GYMNOSPERMS		
Sago palm*	*Cycas revoluta*	
Eastern redcedar	*Juniperus virginiana*	
Slash pine	*Pinus elliottii*	
Longleaf pine	*Pinus palustris*	
Loblolly pine	*Pinus taeda*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Pond-cypress	*Taxodium ascendens*	
Bald-cypress	*Taxodium distichum*	
Coontie	*Zamia integrifolia*	

ANGIOSPERMS

MONOCOTS

Yellow colicroot	*Aletris lutea*	
Shellflower; Shell ginger*	*Alpinia zerumbet*	
Blue maidencane	*Amphicarpum muhlenbergianum*	
Purple bluestem	*Andropogon glomeratus* var. *glaucopsis*	
Bushy bluestem	*Andropogon glomeratus* var. *pumilus*	
Elliott's bluestem	*Andropogon gyrans*	
Splitbeard bluestem	*Andropogon ternarius*	
Broomsedge bluestem	*Andropogon virginicus* var. *decipiens*	
Chalky bluestem	*Andropogon virginicus* var. *glaucus*	
Jack-in-the-pulpit	*Arisaema triphyllum*	
Arrowfeather threeawn	*Aristida purpurascens*	
Bottlebrush threeawn	*Aristida spiciformis*	
Wiregrass	*Aristida stricta*	
Sprenger's asparagus-fern*	*Asparagus aethiopicus*	
Common asparagus-fern*	*Asparagus setaceus*	
Common carpetgrass	*Axonopus fissifolius*	
Big carpetgrass	*Axonopus furcatus*	
Hedge bamboo*	*Bambusa multiplex*	
Rescuegrass*	*Bromus catharticus*	
Watergrass	*Bulbostylis barbata*	
Sandyfield hairsedge	*Bulbostylis stenophylla*	
Grassleaf roseling	*Callisia graminea*	
Florida scrub roseling	*Callisia ornata*	
Tuberous grasspink	*Calopogon tuberosus*	
Garden canna*	*Canna x generalis*	
Bromelike sedge	*Carex bromoides*	
Giant sedge	*Carex gigantea*	
Godfrey's sedge	*Carex godfreyi*	
Long's sedge	*Carex longii*	
False hop sedge	*Carex lupuliformis*	
Hop sedge	*Carex lupulina*	
Shallow sedge	*Carex lurida*	
Blackedge sedge	*Carex nigromarginata* var. *floridana*	
Warty sedge	*Carex verrucosa*	
Florida hammock sedge	*Carex vexans*	
Southern sandpur	*Cenchrus echinatus*	
Coastal sandspur	*Cenchrus spinifex*	
Shiny wood oats	*Chasmanthium nitidum*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Spider plant*	*Chlorophytum comosum*	
Florida false beardgrass	*Chrysopogon pauciflorus*	
Sawgrass	*Cladium jamaicense*	
Redtop panicum	*Coleataenia rigidula*	
Beaked panicum	*Coleataenia anceps*	
Wrinkled jointtailgrass	*Coelorachis rugosa*	
Wild taro*	*Colocasia esculenta*	
Common dayflower*	*Commelina diffusa*	
Erect dayflower	*Commelina erecta*	
Spring coralroot	*Corallorhiza wisteriana*	
String-lily	*Crinum americanum*	
Bermudagrass*	*Cynodon dactylon*	
Shortleaf spikesedge*	*Cyperus brevifolius*	
Poorland flatsedge	*Cyperus compressus*	
Baldwin's flatsedge	*Cyperus croceus*	
Haspan flatsedge	*Cyperus haspan*	
Low spikesedge	*Cyperus hortensis*	
Asian spikesedge*	*Cyperus metzii*	
Fragrant flatsedge	*Cyperus odoratus*	
Pinebarren flatsedge	*Cyperus ovatus*	
Manyspike flatsedge	*Cyperus polystachyos*	
Low flatsedge*	*Cyperus pumilus*	
Nutgrass*	*Cyperus rotundus*	
Roadside flatsedge*	*Cyperus sphacelatus*	
Strawcolored flatsedge	*Cyperus strigosus*	
Smallflower halfchaff sedge	*Cyperus subsquarrosus*	
Tropical flatsedge	*Cyperus surinamensis*	
Fourangle flatsedge	*Cyperus tetragonus*	
Green flatsedge	*Cyperus virens*	
Crowfootgrass*	*Dactyloctenium aegyptium*	
Threadroot orchid	*Dendrophylax porrectus*	FS
Needle-leaf witchgrass	*Dichanthelium aciculare*	
Tapered witchgrass	*Dichanthelium acuminatum*	
Variable witchgrass	*Dichanthelium commutatum*	
Dwarf cypress witchgrass	*Dichanthelium ensifolium* var. *breve*	
Cypress witchgrass	*Dichanthelium ensifolium* var. *unciphyllum*	
Erect-leaf witchgrass	*Dichanthelium erectifolium*	
Openflower witchgrass	*Dichanthelium laxifolium*	
Rough witchgrass	*Dichanthelium leucothrix*	
Egg-leaf witchgrass	*Dichanthelium ovale*	
Hemlock witchgrass	*Dichanthelium portoricense*	
Rough-hair witchgrass	*Dichanthelium strigosum*	
Queensland bluestem*	*Dichanthium sericeum*	
Southern crabgrass	*Digitaria ciliaris*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Air potato*	*Dioscorea bulbifera*	
Jungle rice*	*Echinochloa colona*	
Barnyard grass	*Echinochloa muricata*	
Coast cockspur	*Echinochloa walteri*	
Common water hyacinth*	*Eichhornia crassipes*	
Roadgrass	*Eleocharis baldwinii*	
Jointed spikerush	*Eleocharis equisetoides*	
Smallfruit spikerush	*Eleocharis microcarpa*	
Indian goosegrass*	*Eleusine indica*	
Florida butterfly orchid	*Encyclia tampensis*	
Green-fly orchid	*Epidendrum conopseum*	
Feather lovegrass*	*Eragrostis amabilis*	
Thalia lovegrass*	*Eragrostis atrovirens*	
Gophertail lovegrass*	*Eragrostis ciliaris*	
Elliott lovegrass	*Eragrostis elliottii*	
Coastal lovegrass	*Eragrostis refracta*	
Purple lovegrass	*Eragrostis spectabilis*	
Centipedegrass	*Eremochloa ophiuroides*	
Flattened pipewort	*Eriocaulon compressum*	
Ten-angled pipewort	*Eriocaulon decangulare*	
Wild coco	*Eulophia alta*	
Saltmarsh fingergrass	*Eustachys glauca*	
Pinewoods fingergrass	*Eustachys petraea*	
Slender fimbry	*Fimbristylis autumnalis*	
Hurricanegrass	*Fimbristylis cymosa*	
Forked fimbry	*Fimbristylis dichotoma*	
Hairy fimbry	*Fimbristylis puberula*	
False freesia*	*Freesia laxa*	
Saltmarsh umbrellasedge	*Fuirena breviseta*	
Southern umbrellasedge	*Fuirena scirpoidea*	
Toothpetal false reinorchid	*Habenaria floribunda*	
Longhorn false reinorchid	*Habenaria quinqueseta*	
Waterspider false reinorchid	*Habenaria repens*	
Orange lily*	*Hemerocallis fulva*	
Sweet tanglehead	*Heteropogon melanocarpus*	
Hydrilla*	*Hydrilla verticillata*	
Alligator-lily	*Hymenocallis palmeri*	
Spring-run spider-lily	*Hymenocallis rotata*	
Cogongrass*	*Imperata cylindrica*	
Savanna iris	*Iris savannarum*	
Forked rush	*Juncus dichotomus*	
Soft rush	*Juncus effusus subsp. solutus*	
Bog rush	*Juncus elliottii*	
Grassleaf rush	*Juncus marginatus*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Bighead rush	*Juncus megacephalus*	
Lesser creeping rush	*Juncus repens*	
Needlepod rush	*Juncus scirpoides*	
Warty panicgrass	*Kellochloa verrucosa*	
Carolina redroot	*Lachnanthes caroliana*	
Whitehead bogbutton	*Lachnocaulon anceps*	
Dotted duckweed*	*Landoltia punctata*	
Southern cutgrass	*Leersia hexandra*	
Whitegrass	*Leersia virginica*	
Lesser duckweed	*Lemna aequinoctialis*	
Little duckweed	*Lemna obscura*	
Valdivia duckweed	*Lemna valdiviana*	
Pine lily	*Lilium catesbaei*	MF
Frog's-bit	*Limnobium spongia*	
Pantropical widelip orchid	*Liparis nervosa*	FS, HH
Monkey-grass*	*Liriope spicata*	
Tall fescue*	*Lolium arundinaceum*	
Ryegrass*	*Lolium perenne*	
Florida addersmouth orchid	*Malaxis spicata*	
Natalgrass*	*Melinis repens*	
Nimblewill muhly	*Muhlenbergia schreberi*	
Nakedstem dewflower*	*Murdannia nudiflora*	
Monk orchid*	*Oeceoclades maculata*	
Woodsgrass	*Oplismenus setarius*	
Goldenclub	*Orontium aquaticum*	
Giant orchid	*Orthochilus ecristatus*	SIP
Fall panicum	*Panicum dichotomiflorum*	
Maidencane	*Panicum hemitomon*	
Torpedo grass*	*Panicum repens*	
Switchgrass	*Panicum virgatum*	
Brook crowngrass*	*Paspalum acuminatum*	
Bull crown grass	*Paspalum boscianum*	
Sour paspalum	*Paspalum conjugatum*	
Florida paspalum	*Paspalum floridanum*	
Field paspalum	*Paspalum laeve*	
Bahiagrass*	*Paspalum notatum* var. *saurae*	
Early paspalum	*Paspalum praecox*	
Water paspalum	*Paspalum repens*	
Thin paspalum	*Paspalum setaceum*	
Vaseygrass*	*Paspalum urvillei*	
Green arrow arum	*Peltandra virginica*	
Timothy canarygrass*	*Phalaris angusta*	
Savannah panicum	*Phanopyrum gymnocarpon*	
Blackseed needlegrass	*Piptochaetium avenaceum*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Water-lettuce	*Pistia stratiotes*	
Southern tubercled orchid	*Platanthera flava*	FS
Annual bluegrass*	*Poa annua*	
Pickerelweed	*Pontederia cordata*	
Hairy shadow witch	*Ponthieva racemosa*	
Illinois pondweed	*Potamogeton illinoensis*	
Needle palm	*Rhapidophyllum hystrix*	
Anglestem beaksedge	*Rhynchospora caduca*	
Bunched beaksedge	*Rhynchospora cephalantha*	
Starrush whitetop	*Rhynchospora colorata*	
Shortbristle horned beaksedge	*Rhynchospora corniculata*	
Swampforest beaksedge	*Rhynchospora decurrens*	
Spreading beaksedge	*Rhynchospora divergens*	
Fascicled beaksedge	*Rhynchospora fascicularis*	
Fernald's beaksedge	*Rhynchospora fernaldii*	
Threadleaf beaksedge	*Rhynchospora filifolia*	
Globe beaksedge	*Rhynchospora globularis*	
Narrowfruit horned beaksedge	*Rhynchospora inundata*	
Sandswamp whitetop	*Rhynchospora latifolia*	
Sandyfield beaksedge	*Rhynchospora megalocarpa*	
Southern beaksedge	*Rhynchospora microcarpa*	
Bunched beaksedge	*Rhynchospora microcephala*	
Mingled beaksedge	*Rhynchospora mixta*	
Fairy beaksedge	*Rhynchospora pusilla*	
Tracy's beaksedge	*Rhynchospora tracyi*	
Itchgrass*	*Rottboellia cochinchinensis*	
Dwarf palmetto	*Sabal minor*	
Cabbage palm	*Sabal palmetto*	
Narrow plumegrass	*Saccharum baldwinii*	
Sugarcane plumegrass	*Saccharum giganteum*	
Indian cupscale*	*Sacciolepis indica*	
Leafless beaked ladies'-tresses	*Sacoila lanceolata*	MF
Grassy-leaf arrowhead	*Sagittaria graminea*	
Bull-tongue arrowhead	*Sagittaria lancifolia*	
Duck-potato	*Sagittaria latifolia*	
Creeping little bluestem	*Schizachyrium stoloniferum*	
Giant bulrush	*Schoenoplectus californicus*	
Softstem bulrush	*Schoenoplectus tabernaemontani*	
Woolgrass	*Scirpus cyperinus*	
Drooping bulrush	*Scirpus lineatus*	
Fringed nutrush	*Scleria ciliata*	
Slenderfruit nutrush	*Scleria georgiana*	
Littlehead nutrush	*Scleria oligantha*	
Netted nutrush	*Scleria reticularis*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Tall nutgrass	*Scleria triglomerata*	
Low nutrush	*Scleria verticillata*	
Saw palmetto	*Serenoa repens*	
Giant bristlegrass	*Setaria magna*	
Yellow bristlegrass	*Setaria parviflora*	
Narrowleaf blue-eyed grass	*Sisyrinchium angustifolium*	
Annual blue-eyed grass*	*Sisyrinchium rosulatum*	
Ear-leaf greenbrier	*Smilax auriculata*	
Saw greenbrier	*Smilax bona-nox*	
Cat greenbrier	*Smilax glauca*	
Laurel greenbrier	*Smilax laurifolia*	
Sarsaparilla vine	*Smilax pumila*	
Lanceleaf greenbrier	*Smilax smallii*	
Yellow indiangrass	*Sorghastrum nutans*	
Lopsided indiangrass	*Sorghastrum secundum*	
Grain sorghum*	*Sorghum bicolor*	
Johnsongrass*	*Sorghum halepense*	
Sand cordgrass	*Spartina bakeri*	
Prairie wedgescale	*Sphenopholis obtusata*	
Greenvein ladies'-tresses	*Spiranthes praecox*	
Spring ladies'-tresses	*Spiranthes vernalis*	
Coral dropseed	*Sporobolus domingensis*	
Smutgrass*	*Sporobolus indicus*	
West Indian dropseed*	*Sporobolus jacquemontii*	
Pineywoods dropseed	*Sporobolus junceus*	
Gaping panicum	*Steinchisma hians*	
St. Augustinegrass	*Stenotaphrum secundatum*	
Yellow hatpins	*Syngonanthus flavidulus*	
American evergreen*	*Syngonium podophyllum*	
Alligatorflag	*Thalia geniculata*	
Bartram's airplant	*Tillandsia bartramii*	
Ballmoss	*Tillandsia recurvata*	
Southern needleleaf	*Tillandsia setacea*	
Spanish moss	*Tillandsia usneoides*	
Spreading airplant	*Tillandsia utriculata*	HH
Bluejacket	*Tradescantia ohiensis*	
Tall redtop	*Tridens flavus*	
Eastern gamagrass	*Tripsacum dactyloides*	
Broadleaf cattail	*Typha latifolia*	
Guineagrass*	*Urochloa maxima*	
Paragrass*	*Urochloa mutica*	
Creeping signalgrass*	*Urochloa plantaginea*	
Broadleaf signal grass	*Urochloa platyphylla*	
Browntop millet*	*Urochloa ramosa*	

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Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Columbian watermeal	*Wolffia columbiana*	
Saber mudmidget	*Wolffiella oblonga*	
Arrowleaf elephant ear*	*Xanthosoma sagittifolium*	
Coastal plain yellow-eyed grass	*Xyris ambigua*	
Short-leaf yellow-eyed grass	*Xyris brevifolia*	
Carolina yellow-eyed grass	*Xyris caroliniana*	
Elliott's yellow-eyed grass	*Xyris elliottii*	
Fringed yellow-eyed grass	*Xyris fimbriata*	
Florida bog yellow-eyed grass	*Xyris floridana*	
Richard's yellow-eyed grass	*Xyris jupicai*	
Small's yellow-eyed grass	*Xyris smalliana*	
Treat's zephyrlily	*Zephyranthes atamasca* var. *treatiae*	HH, MF
Soldier's orchid*	*Zeuxine strateumatica*	
Bitter ginger*	*Zingiber zerumbet*	
DICOTS		
Rosary pea*	*Abrus precatorius*	
Field copperleaf*	*Acalypha arvensis*	
Slender copperleaf	*Acalypha gracilens*	
Hispid starburr*	*Acanthospermum hispidum*	
Red maple	*Acer rubrum*	
Creeping spotflower	*Acmella oppositifolia var. repens*	
Shyleaf	*Aeschynomene americana*	
Sticky jointvetch	*Aeschynomene viscidula*	
Beach false-foxglove	*Agalinis fasciculata*	
Flax-leaf false-foxglove	*Agalinis linifolia*	
Hammock snakeroot	*Ageratina jucunda*	
Bluemink*	*Ageratum houstonianum*	
Mimosa*	*Albizia julibrissin*	
Golden trumpet*	*Allamanda cathartica*	
Alligatorweed*	*Alternanthera philoxeroides*	
Slender amaranth*	*Amaranthus viridis*	
Common ragweed	*Ambrosia artemisiifolia*	
Groundnut	*Apios americana*	
Nodding nixie	*Apteria aphylla*	
Latex plant*	*Araujia odorata*	
Coralberry*	*Ardisia crenata*	
Mexican prickly poppy	*Argemone mexicana*	
Red chokeberry	*Aronia arbutifolia*	
Few-flower milkweed	*Asclepias lanceolata*	
Long-leaf milkweed	*Asclepias longifolia*	
Savannah milkweed	*Asclepias pedicellata*	
Swamp milkweed	*Asclepias perennis*	
Butterflyweed	*Asclepias tuberosa*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Whorled milkweed	*Asclepias verticillata*	
Showy milkwort	*Asemeia violacea*	
Smallflower pawpaw	*Asimina parviflora*	
Netted pawpaw	*Asimina reticulata*	
Silverling	*Baccharis glomeruliflora*	
Groundsel tree	*Baccharis halimifolia*	
Lemon bacopa	*Bacopa caroliniana*	
Herb-of-Grace	*Bacopa monnieri*	
Gopherweed	*Baptisia lanceolata*	
Tarflower	*Bejaria racemosa*	
Rattan-vine; supplejack	*Berchemia scandens*	
Florida greeneyes	*Berlandiera subacaulis*	
Beggarticks	*Bidens alba*	
Spanish needles	*Bidens bipinnata*	
Pineland rayless goldenrod	*Bigelowia nudata* subsp. *australis*	
False-nettle	*Boehmeria cylindrica*	
Red spiderling	*Boerhavia diffusa*	
Smallhead doll's-daisy	*Boltonia diffusa*	
Paper mulberry*	*Broussonetia papyrifera*	
American bluehearts	*Buchnera americana*	
Southern bluethread	*Burmannia capitata*	
American beautyberry	*Callicarpa americana*	
Matted waterstarwort	*Callitriche peploides*	
Straggler daisy*	*Calyptocarpus vialis*	
Florida bellflower	*Campanula floridana*	
Robin's bellflower	*Campanula robinsiae*	DM, DS
Trumpet creeper	*Campsis radicans*	
Bittermint*	*Cantinoa mutabilis*	
Pennsylvania bittercress	*Cardamine pensylvanica*	
Florida paintbrush	*Carphephorus corymbosus*	
False vanillaleaf	*Carphephorus odoratissimus* var. *subtropicanus*	
Hairy chaffhead	*Carphephorus paniculatus*	
American hornbeam	*Carpinus caroliniana*	
Wild olive	*Cartrema americana*	
Water hickory	*Carya aquatica*	
Pignut hickory	*Carya glabra*	
Southern catalpa	*Catalpa bignonioides*	
Sugarberry	*Celtis laevigata*	
Spadeleaf coinwort	*Centella asiatica*	
Spurred butterfly pea	*Centrosema virginianum*	
Buttonbush	*Cephalanthus occidentalis*	
Spiny hornwort	*Ceratophyllum echinatum*	
Eastern redbud	*Cercis canadensis*	
Partridge pea	*Chamaecrista fasciculata*	

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Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Sensitive pea	*Chamaecrista nictitans*	
Sensitive pea	*Chamaecrista nictitans* var. *aspera*	
Woolly sunbonnets	*Chaptalia tomentosa*	
White fringetree	*Chionanthus virginicus*	
Jack-in-the-bush	*Chromolaena odorata*	
Maryland goldenaster	*Chrysopsis mariana*	
Coastalplain goldenaster	*Chrysopsis scabrella*	
Water hemlock	*Cicuta maculata*	
Camphortree*	*Cinnamomum camphora*	
Purple thistle	*Cirsium horridulum*	
Nuttall's thistle	*Cirsium nuttallii*	
Sorrel vine	*Cissus trifoliata*	
Tangerine*	*Citrus reticulata*	
Sour orange*	*Citrus x aurantium*	
Calamondin*	*Citrus x microcarpa*	
Pine-hyacinth	*Clematis baldwinii*	
Swamp leatherflower	*Clematis crispa*	
Virgin's-bower	*Clematis virginiana*	
Turk's turban*	*Clerodendrum indicum*	
Java glory bean*	*Clerodendrum x speciosum*	
Browne's savory	*Clinopodium brownei*	
Tread-softly	*Cnidoscolus stimulosus*	
John Charles bittermint*	*Condea verticillata*	
Blue mistflower	*Conoclinium coelestinum*	
Canadian horseweed	*Conyza canadensis*	
Coastalplain tickseed	*Coreopsis gladiata*	
Leavenworth's tickseed	*Coreopsis leavenworthii*	
Swamp dogwood	*Cornus foemina*	
Redflower ragleaf*	*Crassocephalum crepidioides*	
Parsley hawthorn	*Crataegus marshallii*	
Michaux's hawthorn	*Crataegus michauxii*	
Pinebarren frostweed	*Crocanthemum corymbosum*	
Lanceleaf rattlebox*	*Crotalaria lanceolata*	
(Pale) smooth rattlebox*	*Crotalaria pallida* var. *obovata*	
Rabbitbells	*Crotalaria rotundifolia*	
Showy rattlebox*	*Crotalaria spectabilis*	
Vente conmigo	*Croton glandulosus* var. *septentrionalis*	
Michaux's croton	*Croton michauxii*	
Columbian waxweed	*Cuphea carthagenensis*	
Fiveangled dodder	*Cuscuta pentagona*	
Marsh parsley	*Cyclospermum leptophyllum*	
Whitetassels	*Dalea carnea*	
Summer farewell	*Dalea pinnata*	

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Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Western tansymustard	*Descurainia pinnata*	
Florida ticktrefoil	*Desmodium floridanum*	
Zarzabacoa comun*	*Desmodium incanum*	
Panicled ticktrefoil	*Desmodium paniculatum*	
Slimleaf ticktrefoil	*Desmodium tenuifolium*	
Dixie ticktrefoil*	*Desmodium tortuosum*	
Threeflower ticktrefoil*	*Desmodium triflorum*	
Carolina ponysfoot	*Dichondra carolinensis*	
Virginia buttonweed	*Diodia virginiana*	
Persimmon	*Diospyros virginiana*	
Dwarf sundew	*Drosera brevifolia*	
Pink sundew	*Drosera capillaris*	
West Indian chickweed	*Drymaria cordata*	
Swamp snakeherb	*Dyschoriste humistrata*	
Twinflower	*Dyschoriste oblongifolia*	
Mexican tea*	*Dysphania ambrosioides*	
False daisy	*Eclipta prostrata*	
Clustered mille graines	*Edrastima uniflora*	
Carolina elephantsfoot	*Elephantopus carolinianus*	
Tall elephantsfoot	*Elephantopus elatus*	
Florida tasselflower*	*Emilia fosbergii*	
Lilac tassel flower*	*Emilia sonchifolia*	
Earpod tree*	*Enterolobium contortisiliquum*	
Fireweed	*Erechtites hieraciifolius*	
Oakleaf fleabane	*Erigeron quercifolius*	
Prairie fleabane	*Erigeron strigosus*	
Early whitetop fleabane	*Erigeron vernus*	
Dog's-tongue wild-buckwheat	*Eriogonum tomentosum*	
Rattlesnake master	*Eryngium aquaticum*	
Baldwin's eryngo	*Eryngium baldwinii*	
Rattlesnake master	*Eryngium yuccifolium*	
Southeastern coralbean	*Erythrina herbacea*	
American strawberrybush	*Euonymus americanus*	
Dogfennel	*Eupatorium capillifolium*	
Yankeeweed	*Eupatorium compositifolium*	
Falsefennel	*Eupatorium leptophyllum*	
Mohr's thoroughwort	*Eupatorium mohrii*	
Falsehorehound; Boneset	*Eupatorium rotundifolium*	
Lateflowering thoroughwort	*Eupatorium serotinum*	
Limestone sandmat	*Euphorbia blodgettii*	
Paintedleaf	*Euphorbia cyathophora*	
Grassleaf spurge*	*Euphorbia graminea*	
Mexican fireplant	*Euphorbia heterophylla*	
Pillpod sandmat	*Euphorbia hirta*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Graceful sandmat	*Euphorbia hypericifolia*	
Hyssopleaf sandmat	*Euphorbia hyssopifolia*	
Spotted sandmat	*Euphorbia maculata*	
Florida hammock sandmat	*Euphorbia ophthalmica*	
Slender flattopped goldenrod	*Euthamia caroliniana*	
Silver dwarf morning glory	*Evolvulus sericeus*	
Upland swampprivet	*Forestiera ligustrina*	
Pop ash; Carolina ash	*Fraxinus caroliniana*	
Green ash	*Fraxinus pennsylvanica*	
Cottonweed	*Froelichia floridana*	
Drug fumitory*	*Fumaria officinalis*	
Indian blanket flower	*Gaillardia pulchella*	
Elliott's milkpea	*Galactia elliottii*	
Florida milkpea	*Galactia floridana*	
Downy milkpea	*Galactia volubilis*	
Coastal bedstraw	*Galium hispidulum*	
Hairy bedstraw	*Galium pilosum*	
Stiff marsh bedstraw	*Galium tinctorium*	
Caribbean purple everlasting	*Gamochaeta antillana*	
Pennsylvania everlasting	*Gamochaeta pensylvanica*	
Spoonleaf purple everlasting	*Gamochaeta purpurea*	
Dwarf huckleberry	*Gaylussacia dumosa*	
Blue huckleberry	*Gaylussacia frondosa*	
Yellow jessamine	*Gelsemium sempervirens*	
Gopher apple	*Geobalanus oblongifolius*	
Wild geranium:Cranesbill	*Geranium carolinianum*	
Water locust	*Gleditsia aquatica*	
Globe amaranth*	*Gomphrena serrata*	
Angularfruit milkvine	*Gonolobus suberosus*	HH
Loblolly-bay	*Gordonia lasianthus*	
Branched hedge-hyssop	*Gratiola ramosa*	
Round-fruit hedge-hyssop	*Gratiola virginiana*	
Fire bush	*Hamelia patens*	
Spanish daisy	*Helenium amarum*	
Narrowleaf sunflower	*Helianthus angustifolius*	
Stiff sunflower	*Helianthus radula*	
Camphorweed	*Heterotheca subaxillaris*	
Poor Joe	*Hexasepalum teres*	
Hawkweed	*Hieracium gronovii*	
Coastal plain hawkweed	*Hieracium megacephalon*	
Round-leaf bluet	*Houstonia procumbens*	
Climbing hydrangea	*Hydrangea barbara*	
Oakleaf hydrangea	*Hydrangea quercifolia*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Water pennywort	*Hydrocotyle bonariensis*	
Floating marsh pennywort	*Hydrocotyle ranunculoides*	
Whorled pennywort	*Hydrocotyle verticillata*	
Skyflower	*Hydrolea corymbosa*	
Coastalplain St. John's-wort	*Hypericum brachyphyllum*	
Roundpod St. John's-wort	*Hypericum cistifolium*	
Peelbark St. John's-wort	*Hypericum fasciculatum*	
Bedstraw St. John's-wort	*Hypericum galioides*	
Pineweed	*Hypericum gentianoides*	
St. Andrew's-cross	*Hypericum hypericoides*	
Dwarf St. John's-wort	*Hypericum mutilum*	
Myrtleleaf St. John's-wort	*Hypericum myrtifolium*	
Atlantic St. John's-wort	*Hypericum reductum*	
Fourpetal St. John's-wort	*Hypericum tetrapetalum*	
Virginia marsh St. John's-wort	*Hypericum virginicum*	
Yellow stargrass	*Hypoxis curtissii*	
Fringed yellow stargrass	*Hypoxis juncea*	
Glossyseed yellow stargrass	*Hypoxis sessilis*	
Musky mint	*Hyptis alata*	
European holly*	*Ilex aquifolium*	
Dahoon holly	*Ilex cassine*	
Possumhaw	*Ilex decidua*	
Gallberry	*Ilex glabra*	
American holly	*Ilex opaca*	
Yaupon	*Ilex vomitoria*	
Garden impatiens*	*Impatiens wallerana*	
Hairy indigo*	*Indigofera hirsuta*	
Trailing indigo*	*Indigofera spicata*	
Moonflower	*Ipomoea alba*	
Tievine	*Ipomoea cordatotriloba*	
Scarlet creeper	*Ipomoea hederifolia*	
Morning glory	*Ipomoea leucantha*	
Man-of-the-earth	*Ipomoea pandurata*	
Cypress vine*	*Ipomoea quamoclit*	
Salt marsh morning glory	*Ipomoea sagittata*	
Virginia-willow	*Itea virginica*	
Piedmont marshelder	*Iva microcephala*	
Pineland waterwillow	*Justicia angusta*	
Looseflower waterwillow	*Justicia ovata*	
Big caltrop	*Kallstroemia maxima*	
Virginia dwarf dandelion	*Krigia virginica*	
Woodland lettuce	*Lactuca floridana*	
Grass-leaf lettuce	*Lactuca graminifolia*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Shrub verbena*	*Lantana strigocamara*	
Piedmont pinweed	*Lechea torreyi*	
Virginia pepperweed	*Lepidium virginicum*	
White leadtree*	*Leucaena leucocephala*	
Slender blazing-star	*Liatris gracilis*	
Savannah gayfeather	*Liatris savannensis*	
Dense Gayfeather	*Liatris spicata*	
Shortleaf blazing-star	*Liatris tenuifolia*	
Shortleaf blazing-star	*Liatris tenuifolia* var. *quadriflora*	
Asian marshweed*	*Limnophila sessiliflora*	
Canadian toadflax	*Linaria canadensis*	
Savannah false-pimpernel	*Lindernia grandiflora*	
Florida yellowflax	*Linum floridanum*	
Stiff yellowflax	*Linum medium* var. *texanum*	
Common flax*	*Linum usitatissimum*	
Sweetgum	*Liquidambar styraciflua*	
Bay lobelia	*Lobelia feayana*	
Glade lobelia	*Lobelia glandulosa*	
Pineland lobelia	*Lobelia homophylla*	
White lobelia	*Lobelia paludosa*	
Coral honeysuckle	*Lonicera sempervirens*	
Winged primrosewillow	*Ludwigia alata*	
Yerba de jicotea	*Ludwigia erecta*	
Lanceleaf primrosewillow	*Ludwigia lanceolata*	
Anglestem primrosewillow	*Ludwigia leptocarpa*	
Narrowleaf primrosewillow	*Ludwigia linearis*	
Southeastern primrosewillow	*Ludwigia linifolia*	
Seaside primrosewillow	*Ludwigia maritima*	
Smallfruit primrosewillow	*Ludwigia microcarpa*	
Mexican primrosewillow	*Ludwigia octovalvis*	
Marsh seedbox	*Ludwigia palustris*	
Peruvian primrosewillow*	*Ludwigia peruviana*	
Hairy primrosewillow	*Ludwigia pilosa*	
Shrubby primrosewillow	*Ludwigia suffruticosa*	
Savannah primrosewillow	*Ludwigia virgata*	
Skyblue lupine	*Lupinus diffusus*	
Taperleaf waterhoarhound	*Lycopus rubellus*	
Rose-rush	*Lygodesmia aphylla*	
Rusty staggerbush	*Lyonia ferruginea*	
Coastalplain staggerbush	*Lyonia fruticosa*	
Fetterbush	*Lyonia lucida*	
Chaffweed	*Lysimachia minima*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Winged angle loosestrife	*Lythrum alatum* var. *lanceolatum*	
Wild bushbean	*Macroptilium lathyroides*	
Southern magnolia	*Magnolia grandiflora*	
Sweetbay	*Magnolia virginiana*	
Turk's cap mallow*	*Malvaviscus penduliflorus*	
Axilflower	*Mecardonia acuminata* subsp. *peninsularis*	
Baby Jumpup	*Mecardonia procumbens*	
Black medic*	*Medicago lupulina*	
White sweetclover*	*Melilotus albus*	
Creeping cucumber	*Melothria pendula*	
Manatee mudflower	*Micranthemum glomeratum*	
Shade mudflower	*Micranthemum umbros*	
Florida Key hempvine	*Mikania cordifolia*	
Climbing hempvine	*Mikania scandens*	
Sensitive brier	*Mimosa quadrivalvis* var. *angustata*	
Powderpuff	*Mimosa strigillosa*	
American partridgeberry	*Mitchella repens*	
Lax hornpod	*Mitreola petiolata*	
Indian chickweed*	*Mollugo verticillata*	
Balsam pear*	*Momordica charantia*	
Spotted beebalm	*Monarda punctata*	
Wax myrtle	*Morella cerifera*	
Red mulberry	*Morus rubra*	
Parrot feather*	*Myriophyllum aquaticum*	
Pepper-vine	*Nekemias arborea*	
Spatterdock	*Nuphar advena*	
Jameson's waterlily	*Nymphaea jamesoniana*	CD, HH, RD
American white waterlily	*Nymphaea odorata*	
Big floating heart	*Nymphoides aquatica*	
Swamp tupelo	*Nyssa biflora*	
Whitetop aster	*Oclemena reticulata*	
Cutleaf eveningprimrose	*Oenothera laciniata*	
Southern beeblossum	*Oenothera simulans*	
Flat-top mille graines*	*Oldenlandia corymbosa*	
Prickly pear	*Opuntia humifusa*	
Leafless swallowwort	*Orthosia scoparia*	
Yellow wood-sorrel	*Oxalis corniculata*	
Pink wood-sorrel*	*Oxalis debilis*	
Butterweed	*Packera glabella*	
Skunk-vine*	*Paederia foetida*	
Feay's palafox	*Palafoxia feayi*	
Florida pellitory	*Parietaria floridana*	
Clustered pellitory-of-the-wall	*Parietaria praetermissa*	
Santa Maria Feverfew*	*Parthenium hysterophorus*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Virginia creeper	*Parthenocissus quinquefolia*	
Purple passionflower	*Passiflora incarnata*	
Corky-stemmed passionflower	*Passiflora suberosa*	
Spreading cinchweed	*Pectis prostrata*	
Many-flower beardtongue	*Penstemon multiflorus*	
Red bay	*Persea borbonia*	
Swamp bay	*Persea palustris*	
Swamp smartweed	*Persicaria hydropiperoides*	
Dotted smartweed	*Persicaria punctata*	
Florida false sunflower	*Phoebanthus grandiflorus*	
Oak mistletoe	*Phoradendron leucarpum*	
Fog fruit	*Phyla nodiflora*	
Carolina leafflower	*Phyllanthus caroliniensis*	
Mascarene Island leafflower*	*Phyllanthus tenellus*	
Chamberbitter*	*Phyllanthus urinaria*	
Cut-leaf ground-cherry	*Physalis angulata*	
Cypress-head ground-cherry	*Physalis arenicola*	
Husk tomato	*Physalis pubescens*	
Walter's ground-cherry	*Physalis walteri*	
Slenderleaf false dragonhead	*Physostegia leptophylla*	
Obedient plant*	*Physostegia virginiana*	
Pokeweed	*Phytolacca americana*	
Artillery plant	*Pilea microphylla*	
Wild pennyroyal	*Piloblephis rigida*	
Yellow butterwort	*Pinguicula lutea*	
Small butterwort	*Pinguicula pumila*	
Pitted stripeseed	*Piriqueta cistoides* subsp. *caroliniana*	
Narrowleaf goldenaster	*Pityopsis graminifolia*	
Virginia plantain	*Plantago virginica*	
Rosy camphorweed	*Pluchea bacharis*	
Stinking camphorweed	*Pluchea foetida*	
Sweetscent	*Pluchea odorata*	
Tall pine barren milkwort	*Polygala cymosa*	
Orange milkwort	*Polygala lutea*	
Candyroot	*Polygala nana*	
Coastal plain milkwort	*Polygala setacea*	
October flower	*Polygonella polygama*	
Rustweed	*Polypremum procumbens*	
Paraguayan purslane*	*Portulaca amilis*	
Purslane*	*Portulaca oleracea*	
Pink purslane	*Portulaca pilosa*	
Marsh mermaidweed	*Proserpinaca palustris*	
Combleaf mermaidweed	*Proserpinaca pectinata*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Chickasaw plum	*Prunus angustifolia*	
Carolina laurel-cherry	*Prunus caroliniana*	
Black cherry	*Prunus serotina*	
Dogstongue*	*Pseudelephantopus spicatus*	
Sweet everlasting	*Pseudognaphalium obtusifolium*	
Wild coffee	*Psychotria nervosa*	
Shortleaf wild coffee	*Psychotria tenuifolia*	
Blackroot	*Pterocaulon pycnostachyum*	
Mock bishopsweed	*Ptilimnium capillaceum*	
Carolina desert chicory	*Pyrrhopappus carolinianus*	
Chapman's oak	*Quercus chapmanii*	
Sand live oak	*Quercus geminata*	
Turkey oak	*Quercus laevis*	
Laurel oak; diamond oak	*Quercus laurifolia*	
Dwarf live oak	*Quercus minima*	
Myrtle oak	*Quercus myrtifolia*	
Water oak	*Quercus nigra*	
Running oak	*Quercus pumila*	
Live oak	*Quercus virginiana*	
Low spearwort	*Ranunculus pusillus*	
Wild radish*	*Raphanus raphanistrum*	
Carolina buckthorn	*Rhamnus caroliniana*	
West Indian meadowbeauty	*Rhexia cubensis*	
Pale meadowbeauty	*Rhexia mariana*	
Nuttall's meadowbeauty	*Rhexia nuttallii*	
Swamp azalea	*Rhododendron viscosum*	
Winged sumac	*Rhus copallinum*	
Dollarleaf	*Rhynchosia reniformis*	
Tropical Mexican-clover*	*Richardia brasiliensis*	
Largeflower Mexican-clover*	*Richardia grandiflora*	
Rough Mexican-clover*	*Richardia scabra*	
Rouge plant	*Rivina humilis*	
Southern marsh yellowcress	*Rorippa teres*	
Swamp rose	*Rosa palustris*	
Sand blackberry	*Rubus cuneifolius*	
Sawtooth blackberry	*Rubus pensilvanicus*	
Southern dewberry	*Rubus trivialis*	
Blackeyed Susan	*Rudbeckia hirta*	
Browne's blechum*	*Ruellia blechum*	
Carolina wild petunia	*Ruellia caroliniensis*	
Britton's wild petunia*	*Ruellia simplex*	
Curly dock*	*Rumex crispus*	
Heartwing dock	*Rumex hastatulus*	
Bitter dock	*Rumex obusifolius*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Parguayan dock*	*Rumex paraguayensis*	
Fiddle dock*	*Rumex pulcher*	
Swamp dock	*Rumex verticillatus*	
Shortleaf rosegentian	*Sabatia brevifolia*	
Coastal rosegentian	*Sabatia calycina*	
Small-flower mock-buckthorn	*Sageretia minutiflora*	
Carolina willow	*Salix caroliniana*	
Azure blue sage	*Salvia azurea*	
Tropical sage	*Salvia coccinea*	
Lyreleaf sage	*Salvia lyrata*	
Southern river sage	*Salvia misella*	
West Indian Sage	*Salvia occidentalis*	
Elderberry	*Sambucus nigra* subsp. *canadensis*	
Pineland pimpernel	*Samolus valerandi* subsp. *parviflorus*	
Canadian blacksnakeroot	*Sanicula canadensis*	
Bowstring hemp*	*Sansevieria hyacinthoides*	
Chinese tallow tree*	*Sapium sebiferum*	
Lizard's-tail	*Saururus cernuus*	
Brazilian pepper*	*Schinus terebinthifolius*	
Sweetbroom; licorice-weed	*Scoparia dulcis*	
Helmet skullcap	*Scutellaria integrifolia*	
Coffeeweed*	*Senna obtusifolia*	
Septicweed*	*Senna occidentalis*	
Whitetop aster	*Sericocarpus tortifolius*	
Danglepod	*Sesbania herbacea*	
Bladderpod	*Sesbania vesicaria*	
Black senna	*Seymeria cassioides*	
Llima*	*Sida cordifolia*	
Indian hemp	*Sida rhombifolia*	
Common wireweed	*Sida ulmifolia*	
Milk-buckthorn; Florida bully	*Sideroxylon reclinatum*	
Starry rosinweed	*Silphium asteriscus*	
Common nightshade	*Solanum americanum*	
Soda-apple	*Solanum capsicoides*	
Carolina horse-nettle	*Solanum carolinense*	
Black nightshade	*Solanum chenopodioides*	
Two-leaf nightshade*	*Solanum diphyllum*	
Tropical soda-apple*	*Solanum viarum*	
Pinebarren goldenrod	*Solidago fistulosa*	
Leavenworth's goldenrod	*Solidago leavenworthii*	
Chapman's goldenrod	*Solidago odora* var. *chapmanii*	
Seaside goldenrod	*Solidago sempervirens*	
Wand goldenrod	*Solidago stricta*	
Spiny sowthistle*	*Sonchus asper*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Common sowthistle*	*Sonchus oleraceus*	
Rough hedge-hyssop	*Sophronanthe hispida*	
Shaggy hedge-hyssop	*Sophronanthe pilosa*	
Prostrate false buttonweed	*Spermacoce prostrata*	
Woodland false-buttonweed	*Spermacoce remota*	
Shrubby false-buttonweed*	*Spermacoce verticillata*	
Roughfruit scaleseed	*Spermolepis divaricata*	
Mouses-ear; Shade betony	*Stachys crenata*	SIP
Florida hedgenettle	*Stachys floridana*	
Common chickweed*	*Stellaria media*	
Sweet shaggytuft	*Stenandrium dulce*	
Queensdelight	*Stillingia sylvatica*	
American snowbell	*Styrax americanus*	
Scaleleaf aster	*Symphyotrichum adnatum*	
Bahaman aster	*Symphyotrichum bahamense*	
Climbing aster	*Symphyotrichum carolinianum*	
Rice button aster	*Symphyotrichum dumosum*	
Simmond's aster	*Symphyotrichum simmondsii*	
Common dandelion*	*Taraxacum officinale*	
Pinkqueen spiderflower*	*Tarenaya hassleriana*	
Scurf hoarypea	*Tephrosia chrysophylla*	
Spreading hoarypea	*Tephrosia hispidula*	
Spiked hoarypea	*Tephrosia spicata*	
Woodsage	*Teucrium canadense*	
Blackeyed susan vine*	*Thunbergia alata*	
Water cowbane	*Tiedemannia filiformis*	
Malaysian false-pimpernel*	*Torenia crustacea*	
Eastern poison ivy	*Toxicodendron radicans*	
Forked bluecurls	*Trichostema dichotomum*	
White clover*	*Trifolium repens*	
Clasping Venus' Looking-glass	*Triodanis biflora*	
Venus's looking-glass	*Triodanis perfoliata*	
American elm; Florida elm	*Ulmus americana*	
Caesarweed*	*Urena lobata*	
Heartleaf nettle	*Urtica chamaedryoides*	
Horned bladderwort	*Utricularia cornuta*	
Leafy bladderwort	*Utricularia foliosa*	
Floating bladderwort	*Utricularia inflata*	
Little floating bladderwort	*Utricularia radiata*	
Lavender bladderwort	*Utricularia resupinata*	
Zigzag bladderwort	*Utricularia subulata*	
Sparkleberry	*Vaccinium arboreum*	
Highbush blueberry	*Vaccinium corymbosum*	
Darrow's blueberry	*Vaccinium darrowii*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Shiny blueberry	*Vaccinium myrsinites*	
Deerberry	*Vaccinium stamineum*	
Florida valerian	*Valeriana scandens*	
Brazilian vervain*	*Verbena brasiliensis*	
Sandaper vervain	*Verbena scabra*	
White crownbeard	*Verbesina virginica*	
Giant ironweed	*Vernonia gigantea*	
Walter's viburnum	*Viburnum obovatum*	
Fourleaf vetch	*Vicia acutifolia*	
Florida vetch	*Vicia floridana*	
Hairypod cowpea	*Vigna luteola*	
Blackeyed pea; Cowpea*	*Vigna unguiculata*	
Long-leaf violet	*Viola lanceolata*	
Common blue violet	*Viola sororia*	
Florida grape	*Vitis cinerea*	
Muscadine; fox grape	*Vitis rotundifolia*	
Caloose grape	*Vitis shuttleworthii*	
Tallowwood; hog-plum	*Ximenia americana*	
Oriental false hawk's-beard*	*Youngia japonica*	

Hillsborough River State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
FISH		
White catfish	*Ameiurus catus*	
Yellow bullhead	*Ameiurus natalis*	
Brown bullhead	*Ameiurus nebulosus*	
Bowfin	*Amia calva*	
American eel	*Anguilla rostrata*	
Common snook	*Centropomus undecimalis*	
Everglades pygmy sunfish	*Elassoma evergladei*	
Bluespotted sunfish	*Enneacanthus gloriosus*	
Lake chubsucker	*Erimyzon sucetta*	
American pickerel	*Esox americanus*	
Chain pickerel	*Esox niger*	
Swamp darter	*Etheostoma fusiforme barratti*	
Golden topminnow	*Fundulus chrysotus*	
Eastern mosquitofish	*Gambusia holbrooki*	
Least killifish	*Heterandria formosa*	
Flagfish	*Jordanella floridae*	
Golden silverside	*Labidesthes vanhyningi*	
Longnose gar	*Lepisosteus osseus*	
Florida Gar	*Lepisosteus platyrhincus*	
Redbreast sunfish	*Lepomis auritus*	
Warmouth	*Lepomis gulosus*	
Bluegill	*Lepomis macrochirus*	
Dollar sunfish	*Lepomis marginatus*	
Redear sunfish	*Lepomis microlophus*	
Spotted sunfish	*Lepomis punctatus*	
Bluefin killifish	*Lucania goodei*	
Largemouth bass	*Micropterus salmoides*	
Golden shiner	*Notemigonus crysoleucas*	
Ironcolor Shiner	*Notropis chalybaeus*	
Taillight Shiner	*Notropis maculatus*	
Coastal shiner	*Notropis petersoni*	
Tadpole madtom	*Noturus gyrinus*	
Sailfin molly	*Poecilia latipinna*	
Black crappie	*Pomoxis nigromaculatus*	
Metallic shiner	*Pteronotropis metallicus*	
Suckermouth sailfin catfish*	*Pterygoplichthys spp.*	
AMPHIBIANS		
Florida Cricket Frog	*Acris gryllus dorsalis*	
Two-toed amphiuma	*Amphiuma means*	
Oak toad	*Anaxyrus quercicus*	
Southern toad	*Anaxyrus terrestris*	
Greenhouse Frog	*Eleutherodactylus planirostris*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Eastern narrowmouth toad	*Gastrophryne carolinensis*	
Green treefrog	*Hyla cinerea*	
Pinewoods treefrog	*Hyla femoralis*	
Barking treefrog	*Hyla gratiosa*	
Squirrel treefrog	*Hyla squirella*	
Gopher frog	*Lithobates capito*	
Bullfrog	*Lithobates catesbeianus*	
Pig frog	*Lithobates grylio*	
Southern leopard frog	*Lithobates sphenocephalus*	
Peninsular newt	*Notophthalmus viridescens piaropicola*	
Cuban treefrog*	*Osteopilus septentrionalis*	
Southernchorus frog	*Pseudacris nigrita*	
Little grass frog	*Pseudacris ocularis*	
Eastern spadefoot	*Scaphiopus holbrookii*	
Greater siren	*Siren lacertina*	
	REPTILES	
Florida cottonmouth	*Agkistrodon piscivorus conanti*	
American alligator	*Alligator mississippiensis*	
Green anole	*Anolis carolinensis*	
Brown anole*	*Anolis sagrei*	
Florida softshell	*Apalone ferox*	
Six-lined racerunner	*Aspidoscelis sexlineata*	
Florida scarlet snake	*Cemophora coccinea*	
Common snapping turtle	*Chelydra serpentina*	
Southern black racer	*Coluber constrictor priapus*	
Eastern diamondback rattlesnake	*Crotalus adamanteus*	
Florida chicken turtle	*Deirochelys reticularia chrysea*	
Southern ringneck snake	*Diadophis punctatus*	
Eastern indigo snake	*Drymarchon couperi*	
Eastern mud snake	*Farancia abacura*	
Gopher tortoise	*Gopherus polyphemus*	
Mediterranean gecko*	*Hemidactylus turcicus*	
Eastern hognose snake	*Heterodon platyrhinos*	
Green iguana	*Iguana iguana*	
Striped mud turtle	*Kinosternon bauri*	
Florida mud turtle	*Kinosternon subrubrum steindachneri*	
Florida kingsnake	*Lampropeltis getula floridana*	
Scarlet kingsnake	*Lampropeltis elapsoides*	
Eastern coachwhip	*Masticophis flagellum*	
Eastern coral snake	*Micrurus fulvius*	
Florida water snake	*Nerodia fasciata pictiventris*	
Florida green water snake	*Nerodia floridana*	
Brown water snake	*Nerodia taxispilota*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Island glass lizard	*Ophisarurs compressus*	
Eastern glass lizard	*Ophisaurus ventralis*	
Eastern corn snake	*Pantherophis guttatas*	
Eastern (Yellow) ratsnake	*Pantherophis alleghaniensis*	
Florida pine snake	*Pituophis melanoleucus mugitus*	
Common five-lined skink	*Plestiodon fasciatus*	
Peninsula cooter	*Pseudemys floridana peninsularis*	
Florida red-bellied turtle	*Pseudemys nelsoni*	
Pine woods snake	*Rhadinaea flavilata*	
Ground skink	*Scincella lateralis*	
South Florida swamp snake	*Seminatrix pygaea cyclas*	
Dusky pigmy rattlesnake	*Sistrurus miliarius barbouri*	
Common musk turtle	*Sternotherus odoratus*	
Florida box turtle	*Terrapene bauri*	
Peninsula ribbon snake	*Thamnophis sauritus sackeni*	
Eastern garter snake	*Thamnophis sirtalis*	
BIRDS		
Loons and Grebes		
Pied-billed grebe	*Podilymbus podiceps*	
Pelicans		
Eastern brown pelican	*Pelecanus occidentalis carolinensis*	
Cormorants		
Double-crested cormorant	*Phalacrocorax auritus*	
Darters		
Anhinga	*Anhinga anhinga*	
Frigatebirds		
Magnificent frigatebird	*Fregata magnificens*	
Bitterns and Herons		
Great egret	*Ardea alba*	
Great blue heron	*Ardea herodias*	
American bittern	*Botaurus lentiginosus*	
Cattle egret	*Bubulcus ibis*	
Green heron	*Butorides virescens*	
Little blue heron	*Egretta caerulea*	
Snowy egret	*Egretta thula*	
Tricolored heron	*Egretta tricolor*	
Least bittern	*Ixobrychus exilis*	
Black-crowned night heron	*Nycticorax nycticorax*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Yellow-crowned night heron	*Nycticorax violaceus*	
Storks		
Wood stork	*Mycteria americana*	
Ibises and Spoonbills		
White ibis	*Eudocimus albus*	
Roseate spoonbill	*Platalea ajaja*	
Glossy ibis	*Plegadis falcinellus*	
Ducks, Geese and Mergansers		
Wood duck	*Aix sponsa*	
Northern pintail	*Anas acuta*	
American wigeon	*Anas americana*	
Northern shoveler	*Anas clypeata*	
Green-winged teal	*Anas crecca*	
Blue-winged teal	*Anas discors*	
Mottled duck	*Anas fulvigula*	
Mallard	*Anas platyrhynchos*	
Lesser scaup	*Aythya affinis*	
Ring-necked duck	*Aythya collaris*	
Canvasback	*Aythya valisineria*	
Canada goose	*Branta canadensis*	
Black-bellied whistling-duck	Dendrocygna autmnalis	
Hooded merganser	*Lophodytes cucullatus*	
Vultures		
Turkey vulture	*Cathartes aura*	
Black vulture	*Coragyps atratus*	
Hawks, Eagles, Falcons and Kites		
Cooper's hawk	*Accipiter cooperii*	
Sharp-shinned hawk	*Accipiter striatus*	
Red-tailed hawk	*Buteo jamaicensis*	
Red-shouldered hawk	*Buteo lineatus*	
Broad-winged hawk	*Buteo platypterus*	
Crested caracara	*Caracara cheriway*	
Northern harrier	*Circus cyaneus*	
White-tailed kite	*Elanus leucurus*	
Swallow-tailed kite	*Elanoides forficatus*	
Merlin	*Falco columbarius*	
Peregrine falcon	*Falco peregrinus tundrius*	
American kestrel	*Falco sparverius*	
Southern bald eagle	*Haliaeetus leucocephalus*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Osprey	*Pandion haliaetus*	
Quails and Turkeys		
Northern bobwhite	*Colinus virginianus*	
Wild turkey	*Meleagris gallopavo*	
Cranes		
Sandhill crane	*Grus canadensis*	
Florida sandhill crane	*Grus canadensis pratensis*	
Limpkin		
Limpkin	*Aramus guarauna*	
Rails and Coots		
American coot	*Fulica americana*	
Common (moorhen) gallinule	*Gallinula galeata*	
Purple gallinule	*Porphyrio martinicus*	
Sora	*Porzana carolina*	
King rail	*Rallus elegans*	
Virginia rail	*Rallus limicola*	
Plovers		
Killdeer	*Charadrius vociferus*	
American woodcock	*Scolopax minor*	
Snipes, Stilts, and Sandpipers		
Spotted sandpiper	*Actitis macularia*	
Upland sandpiper	*Bartramia longicauda*	
Least sandpiper	*Calidris minutilla*	
Wilson's snipe	*Gallinago delicate*	
Black-necked stilt	*Himantopus mexicanus*	
Lesser yellowlegs	*Tringa flavipes*	
Greater yellowlegs	*Tringa melanoleuca*	
Solitary sandpiper	*Tringa solitaria*	
Gulls and Terns		
Black tern	*Chlidonias niger*	
Herring gull	*Larus argentatus*	
Ring-billed gull	*Larus delawarensis*	
Laughing gull	*Leucophaeus atricilla*	
Least tern	*Sterna antillarum*	
Doves		

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Common ground-dove	*Columbina passerina*	
Mourning dove	*Zenaida macroura*	
Parrots and Parakeets		
Budgerigar*	*Melopsittacus undulatus*	
Cuckoos		
Yellow-billed cuckoo	*Coccyzus americanus*	
Black-billed cuckoo	*Coccyzus erythropthalmus*	
Owls		
Short-eared owl	*Asio flammeus*	
Great horned owl	*Bubo virginianus*	
Eastern screech-owl	*Megascops asio*	
Barred owl	*Strix varia*	
Barn owl	*Tyto alba*	
Goatsuckers		
Chuck-will's-widow	*Caprimulgus carolinensis*	
Whip-poor-will	*Caprimulgus vociferus*	
Common nighthawk	*Chordeiles minor*	
Swifts		
Chimney swift	*Chaetura pelagica*	
Hummingbirds		
Ruby-throated hummingbird	*Archilochus colubris*	
Kingfishers		
Belted kingfisher	*Megaceryle alcyon*	
Woodpeckers		
Northern flicker	*Colaptes auratus*	
Pileated woodpecker	*Dryocopus pileatus*	
Red-bellied woodpecker	*Melanerpes carolinus*	
Red-headed woodpecker	*Melanerpes erythrocephalus*	
Downy woodpecker	*Picoides pubescens*	
Southern hairy woodpecker	*Picoides villosus audubonii*	
Yellow-bellied sapsucker	*Sphyrapicus varius*	
Flycatchers and Kingbirds		
Yellow-bellied flycatcher	*Empidonax flaviventris*	
Acadian flycatcher	*Empidonax virescens*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Great crested flycatcher	*Myiarchus crinitus*	
Eastern phoebe	*Sayornis phoebe*	
Scissor-tailed flycatcher	*Tyrannus forficatus*	
Eastern kingbird	*Tyrannus tyrannus*	
Eastern wood-pewee	*Contopus virens*	
Swallows and Martins		
Barn swallow	*Hirundo rustica*	
American cliff swallow	*Petrochelidon pyrrhonota*	
Purple martin	*Progne subis*	
Bank swallow	*Riparia riparia*	
Northern rough-winged swallow	*Stelgidopteryx serripennis*	
Tree swallow	*Tachycineta bicolor*	
Crows and Jays		
American crow	*Corvus brachyrhynchos*	
Fish crow	*Corvus ossifragus*	
Blue jay	*Cyanocitta cristata*	
Chickadees, Titmice, and Nuthatches		
Tufted titmouse	*Baeolophus bicolor*	
Carolina chickadee	*Poecile carolinensis*	
Brown-headed nuthatch	*Sitta pusilla*	
Creepers		
Brown creeper	*Certhia americana*	
Wrens		
Marsh wren	*Cistothorus palustris*	
Sedge wren	*Cistothorus platensis*	
Bewick's wren	*Thryomanes bewickii*	
Carolina wren	*Thryothorus ludovicianus*	
House wren	*Troglodytes aedon*	
Winter wren	*Troglodytes hiemalis*	
Thrashers		
Gray catbird	*Dumetella carolinensis*	
Northern mockingbird	*Mimus polyglottos*	
Brown thrasher	*Toxostoma rufum*	
Thrushes and Veery's		
Veery	*Catharus fuscescens*	
Hermit thrush	*Catharus guttatus*	
Swainson's thrush	*Catharus ustulatus*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Wood thrush	*Hylocichla mustelina*	
Eastern bluebird	*Sialia sialis*	
American robin	*Turdus migratorius*	
Kinglets and Gnatcatchers		
Blue-gray gnatcatcher	*Polioptila caerulea*	
Ruby-crowned kinglet	*Regulus calendula*	
Golden-crowned kinglet	*Regulus satrapa*	
Pipits		
American pipit	*Anthus rubescens*	
Waxwings		
Cedar waxwing	*Bombycilla cedrorum*	
Shrikes		
Loggerhead shrike	*Lanius ludovicianus*	
Vireos		
Yellow-throated vireo	*Vireo flavifrons*	
White-eyed vireo	*Vireo griseus*	
Red-eyed vireo	*Vireo olivaceus*	
Blue-headed vireo	*Vireo solitarius*	
Starlings		
Common starling	*Sturnus vulgaris*	
Warblers		
Canada warbler	*Cardellina canadensis*	
Cape May warbler	*Dendroica tigrina*	
Common yellowthroat	*Geothlypis trichas*	
Worm-eating warbler	*Helmitheros vermivorus*	
Yellow-breasted chat	*Icteria virens*	
Swainson's warbler	*Limnothlypis swainsonii*	
Black and white warbler	*Mniotilta varia*	
Connecticut warbler	*Oporornis agilis*	
Kentucky warbler	*Oporornis formosus*	
Orange-crowned warbler	*Oreothlypis celata*	
Tennessee warbler	*Oreothlypis peregrina*	
Louisiana waterthrush	*Parkesia motacilla*	
Northern waterthrush	*Parkesia noveboracensis*	
Prothonotary warbler	*Protonotaria citrea*	
Ovenbird	*Seiurus aurocapillus*	
Northern parula	*Setophaga americana*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Black-throated blue warbler	*Setophaga caerulescens*	
Bay-breasted warbler	*Setophaga castanea*	
Cerulean warbler	*Setophaga cerulea*	
Hooded warbler	*Setophaga citrina*	
Yellow-rumped warbler	*Setophaga coronata*	
Prairie warbler	*Setophaga discolor*	
Yellow-throated warbler	*Setophaga dominica*	
Blackburnian warbler	*Setophaga fusca*	
Kirtland's warbler	*Setophaga kirtlandii*	
Magnolia warbler	*Setophaga magnolia*	
Palm warbler	*Setophaga palmarum*	
American yellow warbler	*Setophaga petechia*	
Pine warbler	*Setophaga pinus*	
American redstart	*Setophaga ruticilla ruticilla*	
Blackpoll warbler	*Setophaga striata*	
Black-throated green warbler	*Setophaga virens*	
Bachman's warbler	*Vermivora bachmanii*	
Meadowlarks, Blackbirds and Orioles		
Red-winged blackbird	*Agelaius phoeniceus*	
Bobolink	*Dolichonyx oryzivorus*	
Rusty blackbird	*Euphagus carolinus*	
Orchard oriole	*Icterus spurius*	
Baltimore oriole	*Icterus galbula*	
Brown-headed cowbird	*Molothrus ater*	
Boat-tailed grackle	*Quiscalus major*	
Common grackle	*Quiscalus quiscula*	
Eastern meadowlark	*Sturnella magna*	
Cardinals, Tanagers, Grosbeaks and Buntings		
Northern cardinal	*Cardinalis cardinalis*	
Blue grosbeak	*Guiraca caerulea*	
Painted bunting	*Passerina ciris*	
Indigo bunting	*Passerina cyanea*	
Rose-breasted grosbeak	*Pheucticus ludovicianus*	
Scarlet tanager	*Piranga olivacea*	
Summer tanager	*Piranga rubra*	
Sparrows		
Henslow's sparrow	*Ammodramus henslowii*	
LeConte's sparrow	*Ammodramus leconteii*	
Grasshopper sparrow	*Ammodramus savannarum*	
Dark-eyed junco	*Junco hyemalis*	
Swamp sparrow	*Melospiza georgiana*	

* Non-native Species ** Historic

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Song sparrow	*Melospiza melodia*	
Savannah sparrow	*Passerculus sandwichensis*	
Fox sparrow	*Passerella iliaca*	
Bachman's sparrow	*Peucaea aestivalis*	
Eastern towhee	*Pipilo erythrophthalmus*	
Chipping sparrow	*Spizella passerina*	
Field sparrow	*Spizella pusilla*	
White-throated sparrow	*Zonotrichia albicollis*	
Finches		
Pine siskin	*Carduelis pinus*	
American goldfinch	*Carduelis tristis*	
MAMMALS		
Didelphids		
Virginia opossum	*Didelphis virginiana*	
Bats		
Semonole bat	*Lasiurus seminolus*	
Evening bat	*Nycticeius humeralis*	
Eastern Pipistrelle	*Perimyotis subflavus*	
Edentates		
Nine-banded armadillo*	*Dasypus novemcinctus*	
Insectivore		
Short-tailed shrew	*Blarina carolinensis*	
North American least shrew	*Cryptotis parva*	
Lagomorphs		
Eastern cottontail	*Sylvilagus floridanus*	
Marsh rabbit	*Sylvilagus palustris*	
Rodents		
Southern flying squirrel	*Glaucomys volans*	
Round-tailed muskrat	*Neofiber alleni*	
Eastern woodrat	*Neotoma floridana*	
Golden mouse	*Ochrotomys nuttalli*	
Marsh rice rat	*Oryzomys palustris*	
Cotton mouse	*Peromyscus gossypinus gossypinus*	
Norway rat*	*Rattus norvegicus*	
Black rat*	*Rattus rattus*	
Gray squirrel	*Sciurus carolinensis*	
Sherman's fox squirrel	*Sciurus niger shermani*	

* Non-native Species ** Historic

Hillsborough River State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Hispid cotton rat	*Sigmodon hispidus*	
Carnivores		
Coyote	*Canis latrans*	
Florida panther**	*Felis concolor coryi*	
North American river otter	*Lontra canadensis*	
Bobcat	*Lynx rufus*	
Striped skunk	*Mephitis mephitis*	
Raccoon	*Procyon lotor*	
Eastern spotted skunk	*Spilogale putorius*	
Gray fox	*Urocyon cinereoargenteus*	
Florida black bear**	*Ursus americanus floridanus*	
Red fox*	*Vulpes vulpes*	
Hogs		
Wild pig*	*Sus scrofa*	
Ruminants		
White-tailed deer	*Odocoileus virginianus*	

* Non-native Species ** Historic

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

TERRESTRIAL

Beach Dune ..... BD
Coastal Berm ..... CB
Coastal Grassland ..... CG
Coastal Strand ..... CS
Dry Prairie ..... DP
Keys Cactus Barren ..... KCB
Limestone Outcrop ..... LO
Maritime Hammock ..... MAH
Mesic Flatwoods ..... MF
Mesic Hammock ..... MEH
Pine Rockland ..... PR
Rockland Hammock ..... RH
Sandhill ..... SH
Scrub ..... SC
Scrubby Flatwoods ..... SCF
Shell Mound ..... SHM
Sinkhole ..... SK
Slope Forest ..... SPF
Upland Glade ..... UG
Upland Hardwood Forest ..... UHF
Upland Mixed Woodland ..... UMW
Upland Pine ..... UP
Wet Flatwoods ..... WF
Xeric Hammock ..... XH

PALUSTRINE

Alluvial Forest ..... AF
Basin Marsh ..... BM
Basin Swamp ..... BS
Baygall ..... BG
Bottomland Forest ..... BF
Coastal Interdunal Swale ..... CIS
Depression Marsh ..... DM
Dome Swamp ..... DS
Floodplain Marsh ..... FM
Floodplain Swamp ..... FS
Glades Marsh ..... GM
Hydric Hammock ..... HH
Keys Tidal Rock Barren ..... KTRB
Mangrove Swamp ..... MS
Marl Prairie ..... MP
Salt Marsh ..... SAM
Seepage Slope ..... SSL

* Non-native Species ** Historic

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

Shrub Bog ..... SHB
Slough ..... SLO
Slough Marsh ..... SLM
Strand Swamp ..... STS
Wet Prairie ..... WP

LACUSTRINE
Clastic Upland Lake ..... CULK
Coastal Dune Lake ..... CDLK
Coastal Rockland Lake ..... CRLK
Flatwoods/Prairie ..... FPLK
Marsh Lake ..... MLK
River Floodplain Lake ..... RFLK
Sandhill Upland Lake ..... SULK
Sinkhole Lake ..... SKLK
Swamp Lake ..... SWLK

RIVERINE
Alluvial Stream ..... AST
Blackwater Stream ..... BST
Seepage Stream ..... SST
Spring-run Stream ..... SRST

SUBTERRANEAN
Aquatic Cave ..... ACV
Terrestrial Cave ..... TCV

ESTUARINE
Algal Bed ..... EAB
Composite Substrate ..... ECPS
Consolidated Substrate ..... ECNS
Coral Reef ..... ECR
Mollusk Reef ..... EMR
Octocoral Bed ..... EOB
Seagrass Bed ..... ESGB
Sponge Bed ..... ESPB
Unconsolidated Substrate ..... EUS
Worm Reef ..... EW

MARINE
Algal Bed ..... MAB
Composite Substrate ..... MCPS
Consolidated Substrate ..... MCNS
Coral Reef ..... MCR

* Non-native Species ** Historic

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

Mollusk Reef ..... MMR
Octocoral Bed ..... MOB
Seagrass Bed ..... MSGB
Sponge Bed ..... MSPB
Unconsolidated Substrate ..... MUS
Worm Reef ..... MWR

ALTERED LANDCOVER TYPES

Abandoned field ..... ABF
Abandoned pasture ..... ABP
Agriculture ..... AG
Canal/ditch ..... CD
Clearcut pine plantation ..... CPP
Clearing CL
Developed ..... DV
Impoundment/artificial pond ..... IAP
Invasive exotic monoculture ..... IEM
Pasture - improved ..... PI
Pasture - semi-improved ..... PSI
Pine plantation ..... PP
Road ..... RD
Spoil area ..... SA
Successional hardwood forest ..... SHF
Utility corridor ..... UC

MISCELLANEOUS

Many Types of Communities ..... MTC
Overflying ..... OF

* Non-native Species ** Historic

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 Fish and Wildlife Conservation 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.
LT .....Listed 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.

EXPE, XE..... Experimental essential population. A species listed as experimental and essential.

EXPN, XN .... Experimental non-essential population. A species listed as experimental and non-essential. Experimental, nonessential populations of endangered species are treated as threatened species on public land, for consultation purposes.

STATE

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

FE ..... Federally-designated Endangered

FT ..... Federally-designated Threatened

FXN..... Federally-designated Threatened Nonessential Experimental Population

FT(S/A) ..... Federally-designated Threatened species due to similarity of appearance

ST..... Listed as Threatened Species by the FWC. 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.

SSC..... Listed as Species of Special Concern by the FWC. 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 which 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 at:
http://www.flheritage.com/preservation/compliance/guidelines.cfm

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, 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 make preparations 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, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at: http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

* * *

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

Deena S. Woodward
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) 245-6425

Toll Free: (800) 847-7278
Fax: (850) 245-6435

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.

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—Timber Management Analysis

Insert Timber Management Analysis if applicable

Addendum 9 —Land Management Review

Florida Department of Environmental Protection

Memorandum

TO: Aric Larson, Governmental Operations Consultant III
Division of State Lands

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

Parks Small Digitally signed by Parks Small
Date: 2016.02.03 14:57:29 -05'00'

Sine Murray, Chief, Office of Park Planning
Division of Recreation and Parks

Digitally signed by Murray_SM
Date: 2016.02.08 12:41:07 -05'00'

SUBJECT: Response to Draft Land Management Review (LMR)
Hillsborough River State Park

The Land Management Review draft report provided to Division of Recreation and Parks (DRP) determined that management of Hillsborough River 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.

Attached is DRP's Managing Agency Response to the draft LMR report. The responses were prepared via a coordinated effort of the park, district office, and our offices.

Thank you for your attention.

/ca

2015 Land Management Review Team Report for Hillsborough River State Park

Table of Contents

1. Introduction

Section 259.036, F.S. requires a periodic on-site review of conservation and recreation lands titled in the name of the Board of Trustees to determine (1) whether the lands are being managed for the purposes for which they were acquired and (2) whether they are being managed in accordance with their land management plan adopted pursuant to s. 259.032, F.S. In case where the managed areas exceed 1,000 acres in size, such a review must be scheduled at least every five years. In conducting this review, a statutorily constructed review team "shall evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions or archaeological features. The review shall also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan."

The land management review teams are coordinated by the Division of State Lands and consist of representatives from the Division of Recreation and Parks (DEP), the Florida Forest Service (DACS), the Fish and Wildlife Conservation Commission, the local government in which the property is located, the DEP District in which the parcel is located, the local soil and water conservation district, a conservation organization member, and a local private land manager.

Each Land Management Review Report is divided into three sections. Section 1 provides the details of the property being reviewed as well as the overall results of the report. Section 2 provides details of the Field Review, in which the Review Team inspects the results of management actions on the site. Section 3 provides details of the Land Management Plan Review, in which the team determines the extent to which the Management Plan provides for and documents adequate natural and recreational resource protection.

Finally, each report may also contain an Appendix that lists individual team member comments. This is a compilation of feedback, concerns or other thoughts raised by individual team members, but not necessarily indicative of the final consensus reached by the Land Management Review Team.

1.1. Property Reviewed in this Report

Name of Site: Hillsborough River State Park

Managed by: DRP

Acres: 3,319.04 **County:** Hillsborough County

Purpose(s) for Acquisition: To manage the property in such a way as to protect and restore the natural and cultural values of the property and provide the greatest benefit to the citizens of the state.

Acquisition Program(s): "Old Money", LATF, P2000/CARL **Original Acquisition Date:** 06/10/36

Area Reviewed: Entire Property **Last Management Plan Approval Date:** 12/07/04

Review Date: 8/11/15

Agency Manager and Key Staff Present:

- Rick Argo, Park Manager
- Brett Gormon, Park Ranger

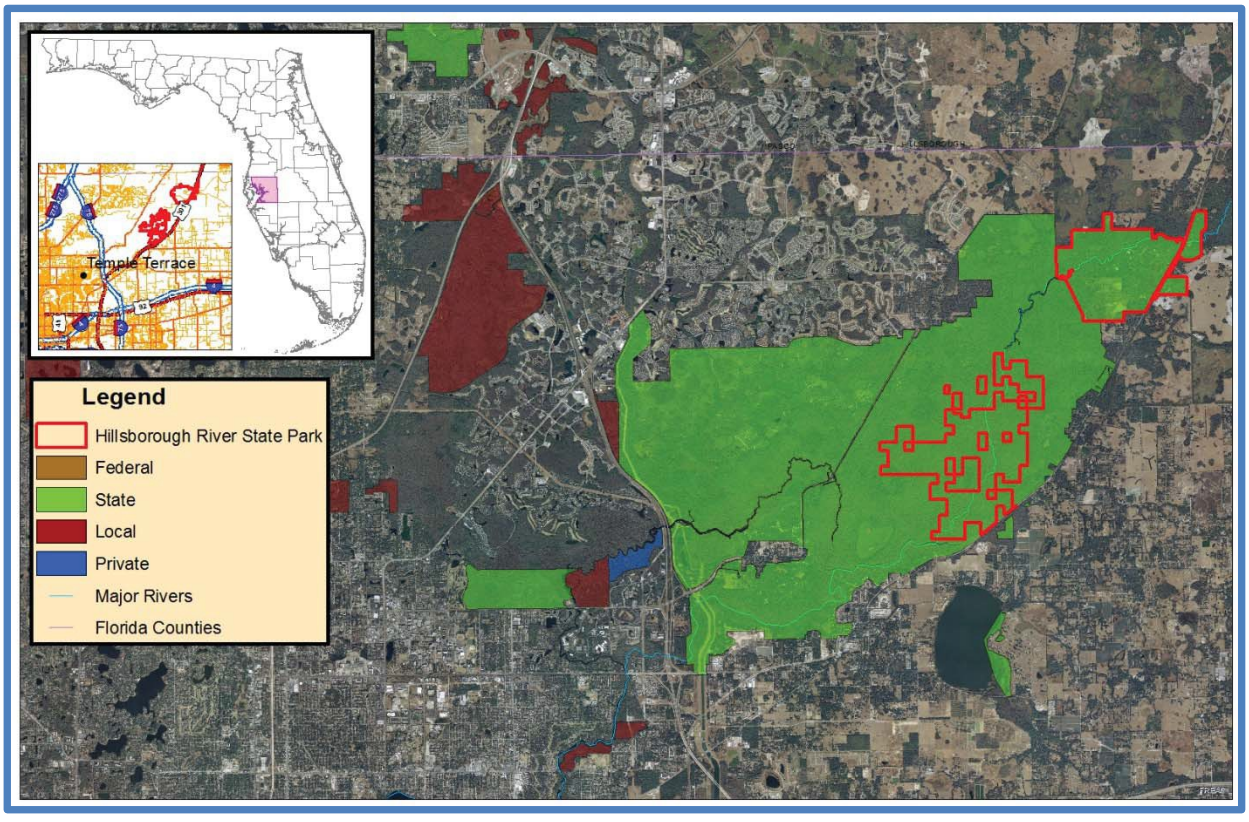
Review Team Members Present (voting)

- DRP: Matthew Hodge
- FWC: Victor Echaves
- FFS: Walter Mallet
- DEP: Mark Langford
- SWCD:
- Local gov't: Bernard Kaiser
- Conservation organization: Stephen Dickman
- Private land manager:

Other Non-Team Members Present (attending)

- Aric Larson, DEP/DSL
- Michael Sowinski, FWC IPMS

1.2 Property Map



1.3. Overview of Land Management Review Results

Is the property managed in accordance with the purposes for which it was acquired?

Yes = 5, No = 0

Are the management practices, including public access, in compliance with the management plan?

Yes = 5, No = 0

Table 1 shows the average scores received for each applicable category of review. *Field Review* scores refer to the adequacy of management actions in the field, while *Management Plan Review* scores refer to adequacy of discussion of these topics in the management plan. Scores range from 1 to 5 with 5 signifying excellence. For a more detailed key to the scores, please see *Appendix A*.

Table 1: Results at a glance.

Major Land Management Categories	Field Review	Management Plan Review
Natural Communities / Forest Management	3.66	3.20
Prescribed Fire / Habitat Restoration	4.22	3.80
Hydrology	4.09	3.84
Imperiled Species	4.22	4.15
Exotic / Invasive Species	4.07	3.43
Cultural Resources	4.00	4.10
Public Access / Education / Law Enforcement	3.67	3.45
Infrastructure / Equipment / Staffing	3.43	N/A

Color Code (See Appendix A for detail)

Excellent	Above Average	Below Average	Poor

1.3.1 Consensus Commendations for the Managing Agency

The following commendations resulted from discussion and vote of the review team members:

1. The team commends DRP for an excellent fire management and fire monitoring program. Additionally, exotic pest plant control efforts have shown excellent results. Park staff are doing an excellent job with the funds provided. (5+, 0-)

2. The team commends DRP for implementation of a stormwater management system and pervious pavement in the parking areas. This is not commonly used in parks with any sort of age. (5+, 0-)

3. The team commends DRP for excellent plant and wildlife species inventories. (5+, 0-)

1.3.2. Consensus Recommendations to the Managing Agency

The following recommendations resulted from a discussion and vote of review team members. The next management plan update should include information about how these recommendations have been

addressed:

1. The team recommends that DRP consider re-instating the staff positions that have been cut since 2010. (5+, 0-)

Managing Agency Response: *Agree. However, no new staff can be assigned to this or any other park unit unless they are appropriated by the Legislature or reassigned from other units. Funding is determined annually by the Florida Legislature.*

2. Field Review Details

2.1 Field Review Checklist Findings

The following items received high scores on the review team checklist, which indicates that management actions exceeded expectations.

1. Natural Communities; specifically mesic flatwoods, sinkhole, mesic hammock, depression marsh, dome swamp, floodplain swamp, hydric hammock, wet flatwoods and blackwater stream:
2. **Listed Species Protection and Preservation for animal and plant species in general, and specifically for Brooksville bellflower**:
3. **Natural Resources Survey/Monitoring Resources; specifically listed species or their habitat monitoring, fire effects monitoring, other habitat management effects monitoring, and invasive species survey and monitoring**:
4. **Cultural Resources, specifically cultural resource survey**:
5. **Prescribed Fire; specifically area being burned, frequency and quality**:
6. **Non-Native, Invasive & Problem Species; specifically prevention and control of plants and animals, and prevention of pests/pathogens:**
7. **Hydro-alteration, specifically roads and culverts**:
8. **Ground Water Monitoring, specifically quality and quantity**:
9. **Surface Water Monitoring, specifically quality and quantity**:
10. **Public Access, specifically parking**:
11. **Environmental Education & Outreach; specifically pertaining to wildlife, invasive species, and habitat management activities:**
12. **Interpretive facilities and signs, recreational opportunities and management of visitor impacts**:
13. **Management Resources, specifically waste disposal and sanitary facilities**:

2.2. Items Requiring Improvement Actions in the Field

The following items received low scores on the review team checklist, which indicates that management actions noted during the Field Review were not considered sufficient (less than 3.0 score on average). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. **The management plan update should include information on how these items have been addressed**:

1. Forest Management, specifically timber inventory and reforestation/afforestation received below average scores. The review team is asked to evaluate, based on information provided by the managing agency, whether forest management is sufficient.

   Managing Agency Response: *Agree. The Park Service is in the process of improving its forest management through the implementation of a multi-phased statewide project which includes a vegetation inventory of upland forest communities and creating a comprehensive GIS dataset of forest/vegetation on all parks. This data will be utilized to create the timber management component of the unit management plan, and to guide forest management decisions to produce the desired future condition for each natural community.*

2. Management Resources, specifically staff and funding, received below average scores. The review team is asked to evaluate, based on information provided by the managing agency, whether management resources are sufficient.

   Managing Agency Response: *Agree. However, Division funding is determined annually by the Florida Legislature and funds are allocated to the 174 state parks and trails according to priority needs.*

2.3. Field Review Checklist and Scores

Field Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Mesic Flatwoods	I.A.1	5	5	5	5	5				5.00
Sinkhole	I.A.2	5	5	5	5	5				5.00
Mesic Hammock	I.A.3	5	3	4	4	4				4.00
Depression Marsh	I.A.4	5	5	5	5	4				4.80
Dome Swamp	I.A.5	5	5	5	5	4				4.80
Floodplain Swamp	I.A.6	5	5	5	5	5				5.00
Hydric Hammock	I.A.7	5	5	5	5	4				4.80
Wet Flatwoods	I.A.8	5	4	4	4	4				4.20
Blackwater Stream	I.A.9	5	4	5	4	3				4.20
									Natural Communities Average Score	4.64
Listed Species: Protection & Preservation (I.B)										
Animals	I.B.1	4	4	4	4	4				4.00
Plants	I.B.2		4	5	4	4				4.25
Brooksville Bellflower	I.B.2.a	5	4	5	4	4				4.40
									Listed Species Average Score	4.22
Natural Resources Survey/Management Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	5	3	5	4	4				4.20
Other non-game species or their habitat monitoring	I.C.3	4	3	4	4	3				3.60

Fire effects monitoring	I.C.4	5	4	5	5	5				4.80
Other habitat management effects monitoring	I.C.5	4	3	5	5	4				4.20

Invasive species survey / monitoring	I.C.6	5	4	5	5	5				4.80
Cultural Resources (Archeological & Historic sites) (II.A, II.B)										
Cultural Res. Survey	II.A	5	4	4	4	4				4.20
Protection and preservation	II.B	5	3	4	3	4				3.80
									Cultural Resources Average Score	4.00
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A1	5	5	5	5	4				4.80
Frequency	III.A.2	5	5	5	5	4				4.80
Quality	III.A.3	5	4	5	5	4				4.60
									Resource Management, Prescribed Fire Average Score	4.73
Restoration (III.B)										
Model Dairy	III.B.1	4	3	4	1	3				3.00
Wetland Restoration	III.B.2	5	4	5	5	3				4.40
									Restoration Average Score	3.70
Forest Management (III.C)										
Timber Inventory	III.C.1	4	3	X	1	1				2.25
Reforestation/Afforestation	III.C.3		3	4	2	2				2.75
Site Preparation	III.C.4	4	3	4	2	2				3.00
									Forest Management Average Score	2.67
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.D.1.a	5	4	5	4	4				4.40
prevention - animals	III.D.1.b	5	3	5	4	3				4.00
prevention - pests/pathogens	III.D.1.c	4	4	5	4	3				4.00
Control										
control - plants	III.D.2.a	5	4	5	4	3				4.20
control - animals	III.D.2.b	5	3	5	4	3				4.00
control - pest/pathogens	III.D.2.c	4	3	5	4	3				3.80
									Non-Native, Invasive & Problem Species Average Score	4.07
Hydrologic/Geologic function Hydro-Alteration (III.E.1)										
Roads/culverts	III.E.1.a	4	4	4	4	4				4.00
Ditches	III.E.1.b	4	3	4	4	4				3.80
Hydro-period Alteration	III.E.1.c	4	4	4	4	3				3.80
									Hydrologic/Geologic function, Hydro-Alteration Average Score	3.87
Ground Water Monitoring (III.E.2)										
Ground water quality	III.E.2.a	4	4	5	4	3				4.00
Ground water quantity	III.E.2.b	4	4	5	4	3				4.00
									Ground Water Monitoring Average Score	4.00
Surface Water Monitoring (III.E.3)										
Surface water quality	III.E.3.a	5	4	5	4	4				4.40
Surface water quantity	III.F.3.b	5	4	5	4	4				4.40
									Surface Water Monitoring Average Score	4.40
Resource Protection (III.F)										
Boundary survey	III.F.1	4	3	4	2	2				3.00
Gates & fencing	III.F.2	4	4	4	3	3				3.60
Signage	III.F.3	4	3	4	3	3				3.40
Law enforcement presence	III.F.4	5	3	4	3	3				3.60

						Resource Protection Average Score				3.40
Adjacent Property Concerns (III.G)										
Land Use										
Expanding development	III.G.1.a	4	3	4	4	3				3.60
Encroachment	III.G.1.b	4	3	4	2	2				3.00
Inholdings/additions	III.G.2	4	3		3	3				3.25
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	5	3	4	3	3				3.60
Parking	IV.1.b	4	4	5	4	4				4.20
Boat Access	IV.1.c	4	4	5	3	3				3.80
Environmental Education & Outreach										
Wildlife	IV.2.a	5	4	5	4	3				4.20
Invasive Species	IV.2.b	5	4	5	4	3				4.20
Habitat Management Activities	IV.2.c	4	4	5	4	3				4.00
Interpretive facilities and signs	IV.3	5	3	5	4	3				4.00
Recreational Opportunities	IV.4	5	4	5	4	3				4.20
Management of Visitor Impacts	IV.5	4	3	4	3	2				3.20
						Public Access & Education Average Score				3.93
Management Resources (V.1, V.2, V.3. V.4)										
Maintenance										
Waste disposal	V.1.a	5	3	5	4	3				4.00
Sanitary facilities	V.1.b	5	4	5	4	3				4.20
Infrastructure										
Buildings	V.2.a	4	4	4	3	3				3.60
Equipment	V.2.b	5	4	3	3	3				3.60
Staff	V.3	3	3	2	2	2				2.40
Funding	V.4	3	3	3	3	2				2.80
						Management Resources Average Score				3.43

Color Code:	Excellent	Above Average	Below Average	Poor	See Appendix A for detail
		Missing Vote	Insufficient Information		

3. Land Management Plan Review Details

3.1 Items Requiring Improvements in the Management Plan

The following items received low scores on the review team checklist, which indicates that the text noted in the Management Plan Review does not sufficiently address this issue (less than 3.0 score on average.). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. The next management plan update should address the checklist items identified below:

1. Forest Management; specifically timber inventory, reforestation/afforestation, and site preparation, received a below average score. This is an indication that the management plan does not sufficiently address forest management.

Managing Agency Response: *Agree. Timber management will be addressed in the next management plan update. The current management plan was reviewed by the relevant agencies and was in full compliance with Chapters 253 and 259, F.S., and Chapter 18-2, F.A.C. when it was approved by ARC. The next update of this plan will be in full compliance with changes made to the statutes noted above by the Florida Legislature in 2008.*

Adjacent Property Concerns, specifically discussion of potential surplus land determination, received a below average score. This is an indication that the management plan does not sufficiently address surplus lands.

Managing Agency Response: *Agree. Adjacent property concerns including discussion of potential surplus land determination will be more thoroughly addressed in the next management plan update. The current management plan was reviewed by the relevant agencies and was in full compliance with Chapters 253 and 259, F.S., and Chapter 18-2, F.A.C., when it was approved by ARC. The next update of this plan will be in full compliance with changes made to the statutes noted above by the Florida Legislature in 2008.*

3.2 Management Plan Review Checklist and Scores

Plan Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Mesic Flatwoods	I.A.1	5	4	4	4	4				4.20
Sinkhole	I.A.2	2	4	4	4	4				3.60
Mesic Hammock	I.A.3	3	4	4	4	4				3.80
Depression Marsh	I.A.4	4	4	4	4	4				4.00
Dome Swamp	I.A.5	4	4	4	4	4				4.00
Floodplain Swamp	I.A.6	3	4	4	4	4				3.80
Hydric Hammock	I.A.7	3	4	4	4	4				3.80
Wet Flatwoods	I.A.8	3	4	4	4	4				3.80
Blackwater Stream	I.A.9	3	4	4	4	4				3.80
									Natural Communities Average Score	3.87
Listed species: Protection & Preservation (I.B)										
Animals	I.B.1	3	4	4	4	4				3.80
Plants	I.B.2		4	5	4	4				4.25
Brooksville Bellflower	I.B.2.a	5	4	5	4	4				4.40
									Listed Species Average Score	4.15
Natural Resources Survey/Management Resources (I.C)										

Listed species or their habitat monitoring	I.C.2	5	3	5	4	4				4.20
Other non-game species or their habitat monitoring	I.C.3	3	3	4	4	4				3.60

Fire effects monitoring	I.C.4	4	4	5	4	4				4.20
Other habitat management effects monitoring	I.C.5	3	3	4	4	4				3.60
Invasive species survey / monitoring	I.C.6	4	4	4	4	4				4.00
Cultural Resources (Archeological & Historic sites) (II.A,II.B)										
Cultural Res. Survey	II.A	4	4	5	4	4				4.20
Protection and preservation	II.B	4	3	5	4	4				4.00
						Cultural Resources Average Score				4.10
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A.1	4	4	5	4	4				4.20
Frequency	III.A.2	4	4	5		4				4.25
Quality	III.A.3	4	4	4		4				4.00
						Resource Management, Prescribed Fire Average Score				4.15
Restoration (III.B)										
Model Dairy	III.B.1	4	3	4	3	3				3.40
Wetland Restoration	III.B.2	4	3	4		3				3.50
						Restoration Average Score				3.45
Forest Management (III.C)										
Timber Inventory	III.C.1	3	3		1	1				2.00
Reforestation/Afforestation	III.C.3	3	3	4	2	2				2.80
Site Preparation	III.C.4	3	3	4	2	2				2.80
						Forest Management Average Score				2.50
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.E.1.a	4	4	4	4	3				3.80
prevention - animals	III.E.1.b	4	3	4	4	3				3.60
prevention - pests/pathogens	III.E.1.c	1	3	4	4	3				3.00
Control										
control - plants	III.E.2.a	4	4	4	4	3				3.80
control - animals	III.E.2.b	3	3	4	4	3				3.40
control - pest/pathogens	III.E.2.c	1	3	4	4	3				3.00
						Non-Native, Invasive & Problem Species Average Score				3.43
Hydrologic/Geologic function, Hydro-Alteration (III.E.1)										
Roads/culverts	III.F.1.a	3	3	4	4	4				3.60
Ditches	III.F.1.b	3	3	4	4	4				3.60
Hydro-period Alteration	III.F.1.c		4	4	4	4				4.00
						Hydrologic/Geologic function, Hydro-Alteration Average Score				3.73
Ground Water Monitoring (III.E.2)										
Ground water quality	III.F.2.a	2	4	5	4	4				3.80
Ground water quantity	III.F.2.b	2	4	5	4	4				3.80
						Ground Water Monitoring Average Score				3.80
Surface Water Monitoring (III.E.3)										
Surface water quality	III.F.3.a	4	3	5	4	4				4.00
Surface water quantity	III.F.3.b	4	3	5	4	4				4.00
						Surface Water Monitoring Average Score				4.00
Resource Protection (III.F)										
Boundary survey	III.G.1	3	3	4	4	3				3.40
Gates & fencing	III.G.2	3	3	4	4	3				3.40

Signage	III.G.3	2	3	4	4	3				3.20
Law enforcement presence	III.G.4	2	3	4	4	3				3.20
									Resource Protection Average Score	3.30
Adjacent Property Concerns (III.G)										
Land Use										
Expanding development	III.H.1.a	3	3	4	4	4				3.60
Encroachment	III.H.1.b		3	4	4	3				3.50
Inholdings/additions	III.H.2	2	3	4	4	3				3.20
Discussion of Potential Surplus Land Determination	III.H.3	2	1	4	1	1				1.80
Surplus Lands Identified?	III.H.4	2	3	4	2	2				2.60
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	3	4	4	4	4				3.80
Parking	IV.1.b	3	4	4	4	4				3.80
Boat Access	IV.1.c	3	4	4	4	4				3.80
Environmental Education & Outreach										
Wildlife	IV.2.a	3	3	4	3	4				3.40
Invasive Species	IV.2.b	4	3	4	3	4				3.60
Habitat Management Activities	IV.2.c	4	3	4	4	4				3.80
Interpretive facilities and signs	IV.3	2	3	4	4	4				3.40
Recreational Opportunities	IV.4	3	4	4	4	4				3.80
Management of Visitor Impacts	IV.5	3	3	4	3	2				3.00
									Public Access & Education Average Score	3.60
Managed Area Uses (VI.A, VI.B)										
Existing Uses										
Camping	VI.A.1	4	5	5	5	5				4.80
Fishing	VI.A.2	4	5	5	5	4				4.60
Wildlife Viewing	VI.A.3	4	5	5	5	4				4.60
Environmental Education	VI.A.4	4	5	5	5	3				4.40
Picnicking	VI.A.5	4	5	5	5	4				4.60
Paddling	VI.A.6	4	5	5	5	4				4.60
Swimming	VI.A.7	4	5	5	5	4				4.60
Hiking	VI.A.8	5	5	5	5	4				4.80
Bicycling	VI.A.9	3	5	5	5	4				4.40
Horseback Riding	VI.A.10	3	5	4	5	3				4.00
Proposed Uses										

Color Code:	Excellent	Above Average	Below Average	Poor	See Appendix A for detail
		Missing Vote	Insufficient Information		

Appendix A: Scoring System Detail

Explanation of Consensus Commendations:

Often, the exceptional condition of some of the property's attributes impress review team members. In those instances, team members are encouraged to offer positive feedback to the managing agency in the form of a commendation. The teams develop commendations generally by standard consensus processes or by majority vote if they cannot obtain a true consensus.

Explanation of Consensus Recommendations:

Subsection 259.036(2), F.S., specifically states that the managing entity shall consider the findings and recommendations of the land management review. We ask team members to provide general recommendations for improving the management or public access and use of the property. The teams discuss these recommendations and develop consensus recommendations as described above. We provide these recommendations to the managing agency to consider when finalizing the required ten-year management plan update. We encourage the manager to respond directly to these recommendations and include their responses in the final report when received in a timely manner.

Explanation of Field Review Checklist and Scores, and Management Plan Review Checklist and Scores:

We provide team members with a checklist to fill out during the evaluation workshop phase of the Land Management Review. The checklist is the uniform tool used to evaluate both the management actions and condition of the managed area, and the sufficiency of the management plan elements. During the evaluation workshop, team members individually provide scores on each issue on the checklist, from their individual perspective. Team members also base their evaluations on information provided by the managing agency staff as well as other team member discussions. Staff averages these scores to evaluate the overall conditions on the ground, and how the management plan addresses the issues. Team members must score each management issue 1 to 5: 1 being the management practices are clearly insufficient, and 5 being that the management practices are excellent. Members may choose to abstain if they have inadequate expertise or information to make a cardinal numeric choice, as indicated by an "X" on the checklist scores, or they may not provide a vote for other unknown reasons, as indicated by a blank. If a majority of members failed to vote on any issue, that issue is determined to be irrelevant to management of that property or it was inadequately reviewed by the team to make an intelligent choice. In either case staff eliminated the issue from the report to the manager.

Average scores are interpreted as follows:

Scores 4.0 to 5.0 are *Excellent*

Scores 3.0 to 3.99 are *Above Average*

Scores 2.0 to 2.99 are *Below Average*

Scores 1.0 to 1.99 are considered *Poor*

Addendum 10—Local Government Comprehensive Plan Compliance

Insert Local Government Comprehensive Plan Compliance