Hontoon Island State Park

Approved Unit Management Plan

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks
October 2022

FLORIDA DEPARTMENT OF Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399

Ron DeSantis
Governor

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Lt. Governor

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Secretary

October 18, 2022

Mr. Brian Fugate
Division of Recreation and Parks
Department of Environmental Protection
3900 Commonwealth Boulevard, MS 525
Tallahassee, Florida 32399-3000

RE: Hontoon Island State Park – Lease No. 2468

Dear Mr. Fugate,

On **October 14, 2022**, the Acquisition and Restoration Council (ARC) recommended approval of the **Hontoon Island State Park** management plan. Therefore, Division of State Lands, Office of Environmental Services (OES), acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the **Hontoon Island State Park** management plan. The next management plan update is due October 14, 2032.

Pursuant to s. 253.034(5)(a), F.S., each management plan is required to "describe both short-term and long-term management goals and include measurable objectives to achieve those goals. Short-term goals shall be achievable within a 2-year planning period, and long-term goals shall be achievable within a 10-year planning period." Upon completion of short-term goals, please submit a signed letter identifying categories, goals, and results with attached methodology to the Division of State Lands, Office of Environmental Services.

Pursuant to s. 259.032(8)(g), F.S., by July 1 of each year, each governmental agency and each private entity designated to manage lands shall report to the Secretary of Environmental Protection, via the Division of State Lands, on the progress of funding, staffing, and resource management of every project for which the agency or entity is responsible.

Pursuant to s. 259.032, F.S., and Chapter 18-2.021, F.A.C., management plans for areas less than 160 acres may be handled in accordance with the negative response process. This process requires small management plans and management plan amendments be submitted to the Division of State Lands for review, and the Acquisition and Restoration Council (ARC) for public notification. The Division of State Lands will approve these plans or plan amendments submitted for review through delegated authority unless three

or more ARC members request the division place the item on a future council meeting agenda for review. To create better efficiency, improve customer service, and assist members of the ARC, the Division of State Lands will notice negative response items on Thursdays except for weeks that have State or Federal holidays that fall on Thursday or Friday. The Division of State Lands will contact you on the appropriate Friday to inform you if the item is approved via delegated authority or if it will be placed on a future ARC agenda by request of the ARC members.

Pursuant to s. 259.036(2), F.S., management areas that exceed 1,000 acres in size, shall be scheduled for a land management review at least every 5 years.

Conditional approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities. Pursuant to the conditions of your lease, please forward copies of all permits to this office upon issuance.

Sincerely,

Deborah Burr
Office of Environmental Services
Division of State Lands

HONTOON ISLAND STATE PARK
Unit Management Plan
Executive Summary
Park History
Park Significance

Park History

Currently, Hontoon Island comprises 1,648.16 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) holds fee simple title to the Park lands. On October 12, 1970, the Trustees leased the property to DRP under Lease Number 2468, for a period of 99-years. The current lease will expire on October 11, 2069 (see Appendix 1).

Park Significance

Nestled between the St. John's and Hontoon Dead River, Hontoon Island State Park's acres protects a wide variety of natural communities, including hydric hammocks and upland woodlands, while allowing visitors a wide variety of recreation opportunities including hiking, fishing, and paddling. Hontoon Island has a rich Native American history evident with shell mounds dispersed all over the island.

HONTOON ISLAND STATE PARK
Unit Management Plan
Executive Summary
Central Park Theme
Park Interpretive Themes

Central Park Theme

Nestled between two rivers, Hontoon Island State Park's secluded hammocks uncover the craftsmanship and shell middens of the Native American tribe that once lived there.

Primary Interpretive Themes

Habitats-Seasonal floods and fires maintain wide -ranging ecosystems that are home to diverse terrestrial and aquatic wildlife

Recreational Opportunities - Responsible recreation on the island and its surrounding waterways protects the park's archaeological resources from erosion and ensure wildlife safety.

HONTOON ISLAND STATE PARK
Unit Management Plan
Executive Summary
Park Quick Facts
Natural Community Composition

- **Agency**: Department of Environmental Protection - Division of Recreation and Parks
- **Acreage :** 1,648.16
- **Location:** Volusia and Lake County
- **Lease Management Agreement Number(s):** 2468
- **Use:** Single
- **Responsibility:** Public Outdoor Recreation and Conservation
- **Sublease:** None
- **Encumbrances:** See Appendix 1 for details
- **Public Involvement:** See Appendix 2 for details
- **Optimum Boundary:** 370 Acres

Natural Communities	Acreage	Percentage
Floodplain Swamp	853.08	51.8%
Floodplain Marsh	269.42	16.3%
Mesic Flatwoods	240.92	14.6.%
Hydric Hammock	160.14	9.7%
Altered Landcover Types	37.96	2.3%
River Floodplain Lake	18.47	1.1%
Blackwater Stream	14.42	0.87%
Basin Swamp	13.14	0.79%
Mesic Hammock	39.51	0.75%
Depression Marsh	8.85	0.52%
Scrubby Flatwoods	8.42	0.51%
Shell Mound	4.84	0.29%
Dome Swamp	1.59	0.15%
Total Acreage	**1,648.16**	**100%**

HONTOON ISLAND STATE PARK
Unit Management Plan
Executive Summary
Park Accomplishments: 2005 — 2022
Ten-Year Planning Period Objectives

Previous Accomplishments

Since the 2005 Unit Management Plan for Hontoon Island, the park has made significant accomplishments in terms of resource management and continued protection of the park. The park exceeded its target goal for exotic aquatic plant removal, met all of their prescribed fire goals from 2014 - 2018, and decreased the overall population of the invasive armadillo.

Future Objectives

Moving forward throughout the next 10 years of this Unit Management Plan, the park will continue the prescribed fire program, along with removal of exotic and invasive plant and animal species. To continually enhance the visitor experience , improvements will be made to all current use areas. A shade pavilion will be added at the parks landing area across the island, day use area proposals include the addition of a small fishing pier, and restroom replacement . Two new trail connections will be developed within the existing six mile trail system to provide visitors with a new loop. Maintenance at park marina, and the addition of two new primitive cabins within the campground.

HONTOON ISLAND STATE PARK
Unit Management Plan
Executive Summary
Management Goals & Objectives
Natural Communities Management

Hydrological Management

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

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

The road between the use area and campground should be monitored to determine impeding water flow and to address any issues.

Natural Communities Management

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

Objective: Maintain 250.26 acres of the parks fire type communities with the optimum fire return interval

Hontoon Island State Park contains three fire dependent natural communities including: depression marsh, scrubby flatwoods, and mesic flatwoods. Between 106 - 211 acres of these communities are to be burned annually.

Objective: Conduct natural community restoration on 155 acres of Floodplain Marsh

Efforts will done to remove hardwoods encroaching into the freshwaters of the park. A restoration project done with herbicide and prescribed fire will be done to restore freshwater marshes.

Natural Community Improvement

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

Objective: Conduct natural community restoration on 75 acres of Mesic Flatwoods

Efforts will done to reduce the number of encroaching wetland trees not removed by prescribed fire along the wetlands using chainsaws.

HONTOON ISLAND STATE PARK
Unit Management Plan
Executive Summary
Management Goals & Objectives
Hydrological & Invasive Management

Invasive Species Management

Goal: Remove exotic and invasive species and conduct needed maintenance.

Objective: Annually treat 2 infested acres of invasive plant species

Annual maintance will be performed removing invasive plants on the island including: water lettuce, water hyacinth, and para grass.

Objective: Implement control measures on 2 invasive animals species

Control and removal measures will be focused on the nine - banded armadillo, known to cause significant ground disturbance on the island and the feral hog.

Imperiled Species Management

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

Objective: Monitor and document 1 selected imperiled animal species.

The gopher tortoise will be monitored, mapped, and actively monitored post prescribed fire. Baseline surveys should be updated every 5 years

Objective: Monitor and document 1 imperiled plant species.

Monitoring protocols will be developed and implemented for the plume polypody.

Objective: Research the history of hooded pitcher plants on park property

A literature search on the history of the hooded pitcher plants will be conducted on the hooded pitcher plants In the area. Later, if appropriate, a feasibility study will be conducted on the appropriateness to reintroduce the plant to the park.

Hontoon Island State Park provides habitat and protection for 12 imperiled plant and animal species including:

- Catesby / pine lily
- Rose pagonia
- American alligator
- Little blue heron
- Wood stork
- Florida manatee

HONTOON ISLAND STATE PARK
Unit Management Plan
Executive Summary
Management Goals & Objectives
Cultural Resource Management

Cultural Resource Management

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

Objective: Assess and evaluate 14 of 14 recorded cultural resources in the park

Within the park boundary, there are 14 recorded cultural sites that are listed within the Florida Master Site File. During this unit management plan, the cultural resource objectives include assessing and evaluating all recorded cultural resources. Sites that are located within areas of public use will be given priority, and implementation of continued monitoring for erosion at Hontoon Dead Creek Mound will be done.

Objective: Compile reliable documentation for all recorded and historic archeological resources

A level one archeological survey will be performed for high propriety areas, and all known sites will be updated within the Florida Master Site File as needed.

Objective: Bring 5 of 14 recorded cultural resources into good condition of possible

A monitoring program will be developed and implemented for all sites, and a special emphasis on the sites located near heavily visited areas of the park by visitors.

HONTOON ISLAND STATE PARK
Unit Management Plan
Executive Summary
Management Goals & Objectives
Recreational Use & Infrastructure

Recreation and Facilities Management

Goal: Develop and maintain use areas and support infrastructure

Objective: Improve 7 use areas

Parking Area
- Add shade pavilion
- Volunteer Site (1)

Campground
- Two new primitive cabins
- Renovate / replace bathhouse

Day Use Area
- New Fishing Dock
- Replace Restroom
- Playground Covering

Park Trails
- Develop two new trail connections

Park Marina
- Electrical Upgrades
- Re-deck Marina
- Staging Area
- Seawall Maintance

Ranger Station
- New roof
- Update plumbing

Support Area
- Shop Replacement
- New Residence (1)

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Introduction

Nestled between the St. John's and Hontoon Dead River, Hontoon Island State Park's 1,648.16 acres protects a wide variety of natural communities, including hydric hammocks and upland woodlands, while allowing visitors a wide variety of recreation opportunities. Hontoon Island has a rich Native American history, evident with shell mounds dispersed all over the island.

Park Interpretation

Interpretation is a mission-based communication process that forges emotional and intellectual connections between the interests of the audience and meanings inherent in the resource. A central park theme is a short, dynamic interpretive statement that reflects the significance of a park by highlighting distinctive features and essential visitor experiences. Each park has primary interpretive themes. These themes serve as a starting point for park staff to plan interpretive and educational content by outlining the main stories of the park's natural and cultural resources.

Central Park Theme

Nestled between two rivers, Hontoon Island State Park's secluded hammocks uncover the craftmanship and shell middens of the Native Americans that once lived there.

Primary Interpretive Themes

Habitats
Seasonal floods and fires maintain wide—ranging ecosystems that are home to diverse terrestrial and aquatic wildlife

Recreational Opportunities
Responsible recreation on the island and its surrounding waterways protects the park's archaeological resources from erosion and ensure wildlife safety.

Interpretive Application

Interpretation is a DRP priority for the inherent value of visitor engagement and as a tool for promoting stewardship and conservation. Interpretation also plays an important role in achieving many other park management objectives.

Non-Personal Interpretation
Interpretive elements which do not require a person to deliver a message (signs, exhibits, brochures, kiosks, etc.).

Personal Interpretation
One person or persons providing interpretation to another person or persons. It can be planned or impromptu.

Purpose and Scope of the Plan

This plan serves as the basic statement of direction for the management of Hontoon Island State Park as a unit of Florida's state park system. It identifies the goals, objectives, and actions that guide each aspect of park administration and sets forth the specific measures that will be implemented to meet management objectives. 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. The plan consists of three interrelated components: The Resource Management Component, the Land Use Component and the Implementation Component. Upon approval, this management plan will replace the 2005 approved plan.

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.

The Land Use Component is the recreational resource allocation plan for the park. Based on considerations such as 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 recommended.

The Implementation Component consolidates the measurable objectives and actions for each of the park's management goals. The implementation schedule and cost estimates include measures that will be used to evaluate the DRP's implementation progress, timeframes for completion, and estimated costs to complete each action and objective.

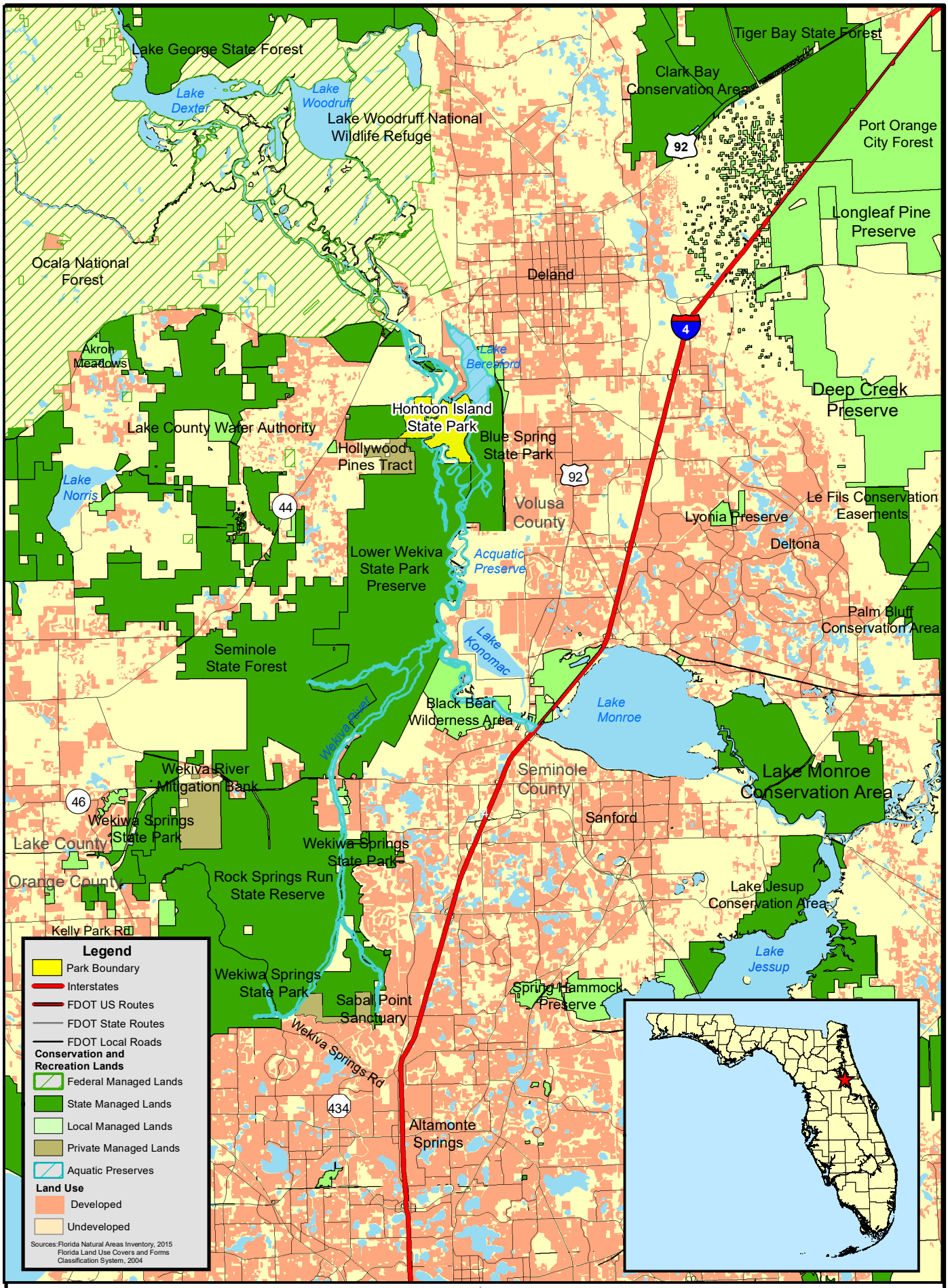
All development and resource alteration proposed in this plan is subject to the granting of appropriate permits, easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state or federal agencies.

Acquisition History

Currently, the Park comprises 1,648.16 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) holds fee simple title to the Park lands. On October 12, 1970, the Trustees leased the property to DRP under Lease Number 2468, for a period of 99-years. The current lease will expire on October 11, 2069 (see Appendix 1).

The Park includes lands from Dedication Number 22570 from the Trustees to the Florida Board of Parks & Historic Memorials, dated September 12, 1960, that were deeded back to the Trustees on September 28, 1967. The Park also contains a parcel purchased from Lake Realty Company, using (LATF) funds, as well as lands received as a donation from the City of Deland. On October 31, 1988, lands released from Trustees Lease Number 2324 were amended into the Park boundary.

Hontoon Island State Park is designated single-use to provide public outdoor recreation and conservation. There are no legislative or executive directives that constrain the use of this property. A legal description of the park property can be made available upon request to the Department of Environmental Protection.



HONTOON ISLAND STATE PARK

VICINITY MAP

N

0 1.25 2.5 5 Miles

Florida Department of Environmental Protection
Division of Recreation and Parks

Unit Classification

Hontoon Island State Park is classified as a State Park in the DRP's unit classification system. In the management of a State Park, 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. Emphasis is on interpretation on the park's natural, aesthetic, and educational attributes.

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
- Restore hydrology to the extent feasible and maintain the restored condition.
- Restore and maintain the natural communities/habitats
- Maintain, improve, or restore imperiled species populations and habitats
- Remove exotic and invasive species and conduct needed maintenance-control
- Protect, preserve and maintain the cultural resources
- Provide public access and recreational opportunities
- Develop and maintain necessary capital facilities and infrastructure

Secondary and Incompatible Uses

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 no secondary purposes could be accommodated in a manner that would 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 and should be discouraged.

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 multiple-use management activities would not be appropriate as a means of generating revenues for land management. Instead, techniques such as entrance fees, concessions and similar measures will be employed on a case-by-case basis as a means of supplementing park management funding.

Contract Services

The 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. A concessionaire may also be authorized to provide specialized services 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).

Public Participation

DRP provided an opportunity for public input by conducting an Advisory Group Public meeting to present the draft management plan to the public. This meeting was held on June 21, 2022. Meeting notices were published in the Florida Administrative Register, [6/10/2022, 48/113], 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).

Management Authority and 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.

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.

Other Designations

Hontoon Island 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 adjacent to the Wekiva River Aquatic Preserve, as designated under the Florida Aquatic Preserve Act of 1975 (Section 258.35, Florida Statutes).

Resiliency Planning

Climate-related shocks and stressors present new challenges to the Florida Park Service mission of providing resource-based recreation while preserving, interpreting, and restoring natural and cultural resources.

Parks will adapt to climate threats with prescriptive strategies to minimize and manage the impacts of more severe storms and droughts, sea-level rise, invasive organisms, and other emerging environmental disturbances. Resilience strategies will be incorporated in all park plans and resource management decisions.

RESOURCE MANAGEMENT COMPONENT

The DRP has implemented resource management programs for the perpetual preservation of representative examples of the state's significant natural and cultural resources. This component of the plan describes the natural and cultural resources of the park and identifies the methods that will be used to manage them. Management measures expressed in this plan are consistent with the DRP's overall mission in natural systems management.

The DRP's resource management philosophy is guided by the principles of natural systems management. Primary emphasis is placed on restoring and maintaining 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 imperiled species management can be accommodated on a case-by-case basis.

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 contributing to the history of Florida. This goal often entails active measures to stabilize, reconstruct, restore, or rehabilitate cultural resources. Appropriate public use of cultural resources will be considered according to the park's unit classification and the sensitivity of the resources.

Park units are often components of larger ecosystems, and their proper management can be affected by conditions that occur beyond park boundaries. Ecosystem management is implemented through an evaluation program that assesses resource conditions, refines management activities, and reviews development permit applications.

The entire park is divided into management zones that delineate areas on the ground that are used to coordinate 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 fire breaks.

Topography

Hontoon Island State Park is located within the Atlantic Coastal Lowlands physiographic zone (west of the Crescent City-DeLand Ridge), consisting of mainly level marine terraces. The topography is either leveled terraces or karst with the karst occurring only on the highest terraces.

Hontoon Island is also a part of a distinctive physiographic subzone, the St. Johns River Valley (Brooks 1982). The entire area of Hontoon Island is contained within the St. Johns River Valley physiographic subzone, with elevations ranging from 15 feet above mean sea level to less than 5 feet above mean sea level.

The topographic condition of Hontoon Island is generally unaltered, unlike the waterways surrounding the island. Hontoon Dead River and Snake Creek are relic channels of the St. Johns River, both of which had flows altered when the St. Johns River was dredged. As a result of the dredging projects, there are seven spoil piles located on the eastern side of the island. These seven spoil piles are not as pronounced as in the past. Vegetation has overtaken six of them making them very difficult to locate. One pile is easy to locate southeast of Zone 3C and has been historically used for filling for park projects.

Table 1. Hontoon Island State Park Management Zones			
Management Zone	**Acreage**	**Managed with Prescribed Fire**	**Contains Known Cultural Resources**
HT-1A	50.8	Yes	Yes
HT-1B	25.4	Yes	Yes
HT-1C	38.8	Yes	Yes
HT-2A	41.3	Yes	No
HT-2B	106.3	Yes	No
HT-2C	37.9	Yes	No
HT-3A	55	Yes	Yes
HT-3B	46.5	Yes	Yes
HT-3C	35	Yes	No
HT-4A	250.9	Yes	Yes
HT-4B	156.7	Yes	Yes
HT-5A	1.1	No	Yes
HT-5B	82.1	No	Yes
HT-5C	18.8	No	Yes
HT-5D	71.9	No	Yes
HT-5E	604.3	No	No
HT-6	30.9	No	Yes

Geology

The ground surface at Hontoon Island is covered with sandy siliclastic marine sediments of Pleistocene to recent age. The broad, nearly level marine terraces and relic beaches characterize the landscape of the Pleistocene age. All the areas adjacent to the St. Johns River are of a more recent geological origin.

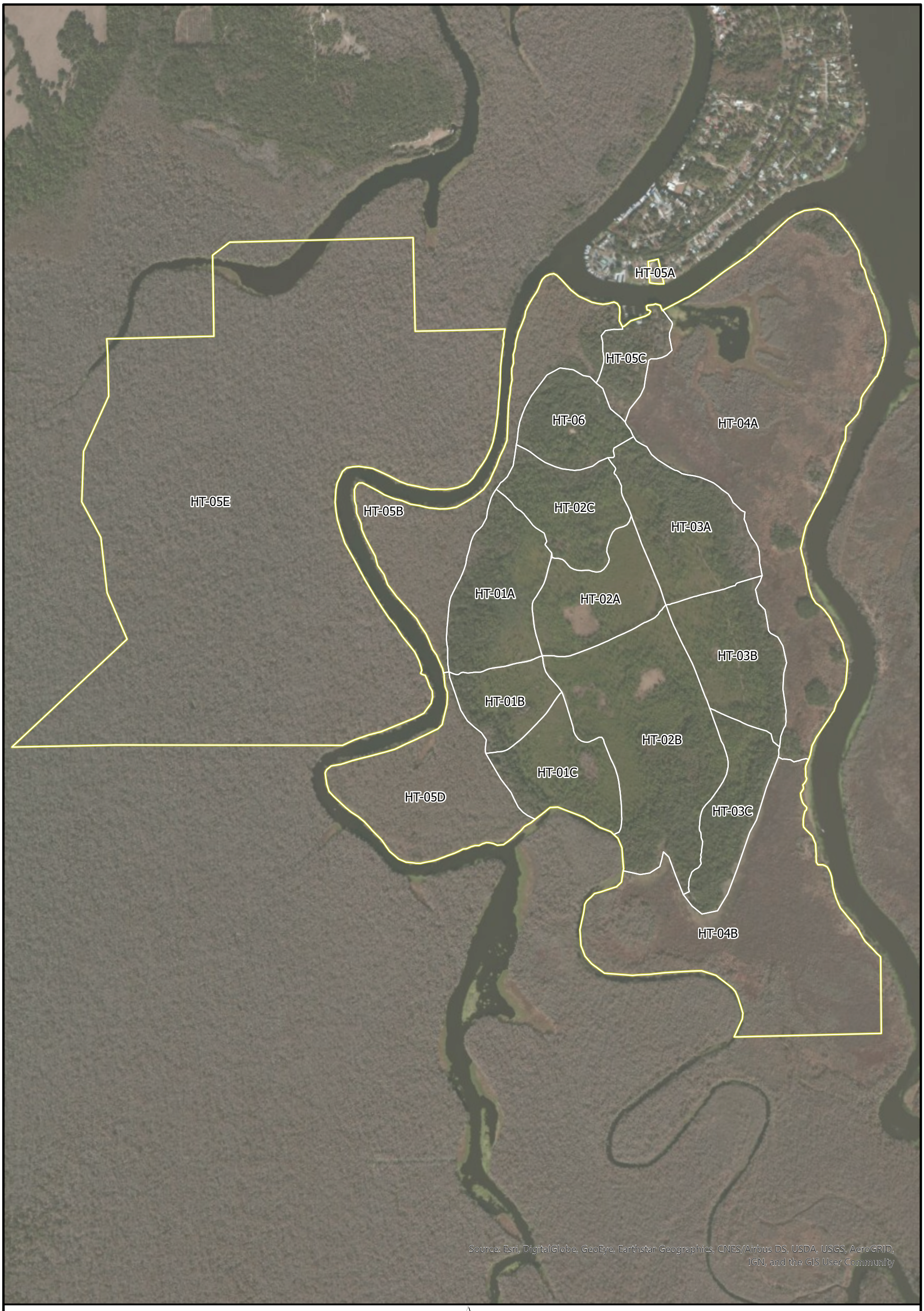
Soils

There are 8 soil types occurring in Hontoon Island State Park (see Soil Map). These soil surveys (Volusia County occurred in April 2011 and Lake County occurred in May 2012) were compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS). Management activities will follow generally accepted best management practices to prevent soil erosion and conserve soil and water resources on site. Addendum 4 contains complete descriptions of the soil types found at the unit.

Soil erosion is not a major concern at Hontoon Island State Park. Erosion due to boat traffic along the St. Johns River and the Hontoon Dead River is minimal. The slow and idle speed zones in effect along those waterways are the main reasons for this minimal effect. Erosion was a concern on the western end of River to River Road where a boat beach had been created through illegal access. Since the last plan, a fence with proper signage was installed along the water edge at the road termination. Boat beaching has ceased and the bank is returning to a more natural state. With the fencing in place, erosion should continue to be minimal to non-existent.

Minerals

There are no known minerals of commercial value located at Hontoon Island State Park.



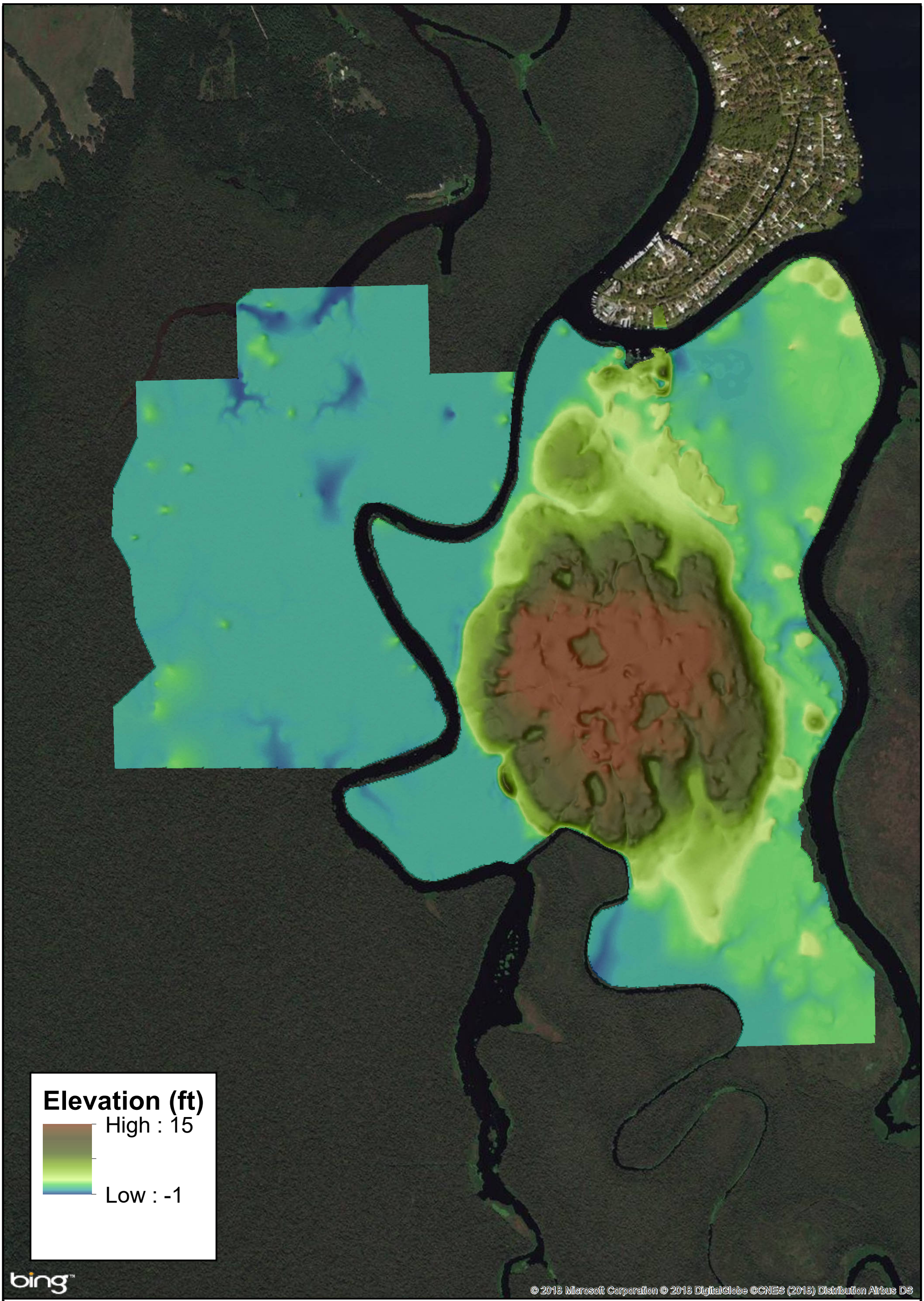
HONTOON ISLAND STATE PARK

N

0 250 500 1,000 Feet

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

MANAGEMENT ZONES MAP



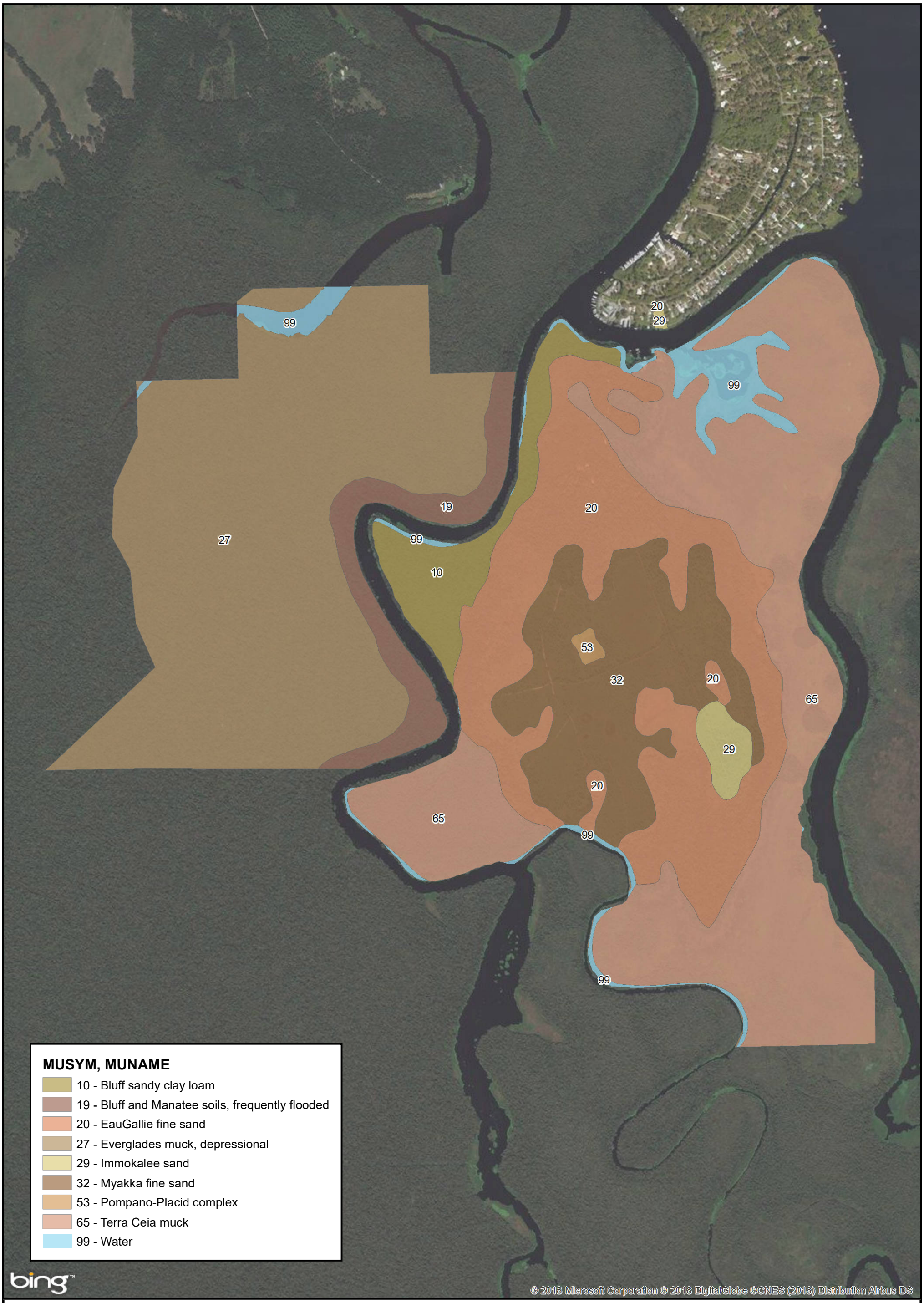
HONTOON ISLAND STATE PARK

N

0 500 1,000 2,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2016

TOPOGRAPHIC MAP



HONTOON ISLAND STATE PARK

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SOIL MAP

Hydrology

Hontoon Island State Park is located in and adjacent to the St. Johns River basin. The St. Johns River runs along the east and north boundaries. Snake Creek borders the island to the south. Hontoon Dead River runs to the west of the island. Snake Creek is a blackwater stream that historically was a more significant part of the St. Johns River system. Numerous dredging projects meant to widening, straighten, deepen, and thus provide steamboat access along this portion of the St. Johns River diverted significant water flow away from Snake Creek. As a result of the decease flow, Snake Creek has been filling in with fallen debris that decomposes and then cannot be flushed out. The Florida Fish and Wildlife Conservation Commission (FWC) had a mulching project in 2006 and 2007 to assist the creek in decomposition (the project also included the Hontoon lagoon). The chopping widened the opening onto the St. Johns allowing more water to enter the creek, removed some flow obstructions, and increased the amount of water flow through the creek.

The Hontoon lagoon is a river floodplain lake fed by the St. Johns River. Water level in the lagoon is dependent on the river, which is affected by rainfall. Access is primarily limited by floating vegetation, controlled by Army Corp of Engineers (ACOE), and water level. This is especially true during droughts.

Hontoon Island contains depression marshes and an artificial pond. The depression marshes are rainfall dependent. The depression marshes are ringed in the mesic flatwoods by a variety of trees. It would benefit the depression marshes to have those trees on the marsh edge either thinned or completely removed.

The artificial pond is located in Zone 2C north of Rabbit Run Road. The pond contains a more consistent amount of water, though will dry up after long periods without rain. This pond does not appear in the 1940s aerials of the island. It is unknown when the pond was created or why. There is speculation that it may have been created when there was a cattle operation on the island. It is known that the area immediately adjacent to the pond was a dump site for many years. The park has made efforts to clean the area up without disrupting the history of the island.

It is common for the island to flood during heavy rain events. Because of this, buildings are typically either elevated or built in areas of higher elevation. One potential impediment to water flow on the island is the main road connecting the campgrounds, residence, and shop to the main use area. Recent road improvements have lessened the impediment while providing access during high water events. The improved culverts must be maintained in order to assist water flow entering and exiting the island. The culverts must be monitored during the next heavy rain event to ensuring the number of culverts is adequate for the quantity of water. The goal is for water to flow through the road via the culverts. If the water backs up, then additional culverts will be needed.

Hydrological Management

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

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

Action 1 Monitor road between use area and campground to determine if its impeding water flow, address any issue

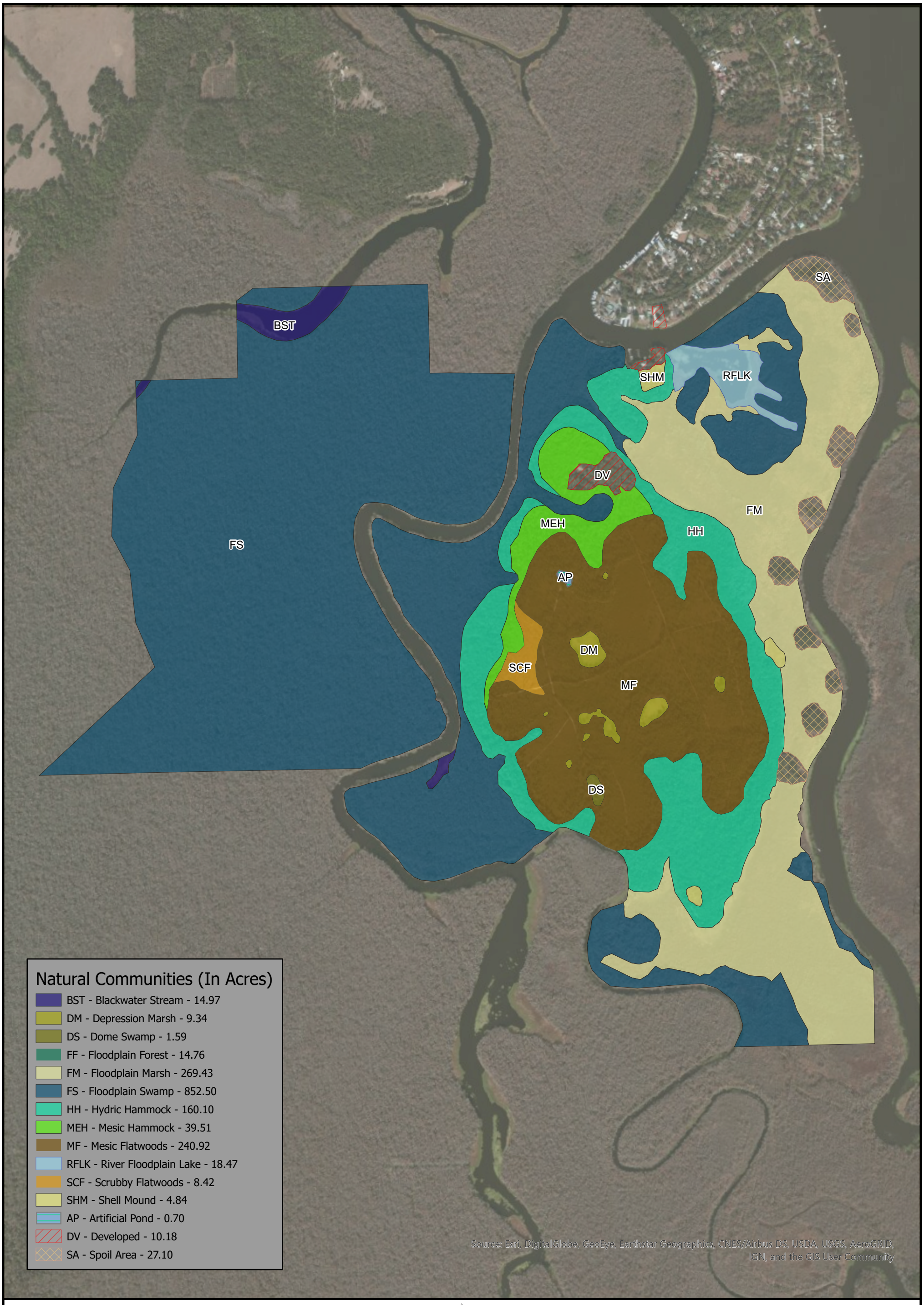
Before the road was upgraded there were issues with the altered water flow. The upgraded road needs to be monitored to determine if the water flow issues have been resolved. If not, the solution may be the addition of culverts to keep water flowing through the road, rather than flowing over the road or the cleaning out of the existing culverts. Maintaining sheet flow across the island (under the road) will help maintain the hydrology of the floodplain swamp and hydric hammock communities.

Natural Communities and Altered Landcovers

This section of the management plan describes and assesses each of the natural communities found at the park. It also describes 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. 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. Some physical influences, such as fire frequency, may vary from FNAI's descriptions for certain natural communities in this plan.

Mesic Flatwoods – 240.92 acres

Desired Future Condition: Mesic flatwoods will be characterized by an open canopy of primarily tall slash pines (Pinus elliottii). Pond pine (Pinus serotina) will be scattered at a low density along the wetter ecotones. There will be a dense, low ground layer of low shrubs, grasses and forbes. Saw palmetto (Serenoa repens) will be present but not overly dominant, rather present in scattered clumps of varying size. Other shrub species will include gallberry (Ilex glabra), fetterbush (Lyonia lucida), runner oak (Quercus elliottii), dwarf live oak (Quercus minima), shiny blueberry (Vaccinium myrsinites), dwarf huckleberry (Gaylussacia dumosa), and tarflower (Bejaria racemosa). The herbaceous layer will dominate the groundcover, and be primarily grasses, including wiregrass (Aristida beyrichiana), panicgrasses (Dicanthelium spp.), and broomsedge (Andropogon spp.). Due to a high-water table and shallow hardpan, 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.



HONTOON ISLAND STATE PARK

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Date of aerial; 2016

NATURAL COMMUNITIES MAP

Description and assessment: Mesic Flatwoods occurs as a contiguous tract on the higher elevations near the center of the island and includes Management Zones 1A, 1B, 1C, 2A, 2B, 2C, 3A, 3B, and 3C. The community is considered to be in good condition in all zones. A regular fire rotation, with an emphasis on growing season burns, must be maintained in all zones. Invasive plants are infrequent in the mesic flatwoods. Nine-banded armadillos are present in the flatwoods where their rooting is quite evident along the roads.

General Management Measures: Mesic Flatwoods requires a regular 2-4 year fire rotation. Routine fire (every 2-4 years) will cause the mesic flatwoods dominated zones to achieve the plant assemblage listed above in the Desire Future Conditions. Growing season burning will continue to encourage wiregrass production and to reduce saw palmetto density and vertical height. Prescribed burns, with the appropriate wind speed and direction, are needed to push back hardwood encroachment from the hydric areas. If fire is not sufficient, then the use of chainsaws will be needed in the encroachment areas.

Invasive plant surveying for new infestations must continue by annually surveying zones when needed. Invasive animal control will continue to focus on nine-banded armadillos.

Scrubby Flatwoods –8.42 acres

Desired Future Condition: The dominant tree species of the interior of scrubby flatwoods will be a low density of slash pine. There will be a diverse shrubby understory with patches of bare white sand. A scrub oak sub-canopy will contain a variety of oak age classes and heights across the landscape. Dominant shrubs will include sand live oak, myrtle oak (*Quercus myrtifolia*), Chapman's oak, saw palmetto, rusty staggerbush, shiny lyonia (*Lyonia fruiticosa*), and tarflower (*Bejaria racemosa*). Cover by herbaceous species will vary between low to moderately dense. The Optimal Fire Return Interval for this community will 5-15 years following initial mechanical treatment.

Description and assessment: The Scrubby Flatwoods community exist within the park in small islands within the mesic flatwoods in zones 1A and 1C. These areas are the highest and driest areas of the park and is considered is good condition with no invasive plant species present. A regular growing season fire rotation has been in place for several years which has maintained this community in a DFC. Some hardwood thinning through fire is needed in the zone 1A section to reduce the aerial coverage of mature sand live oak if the fire would allow.

General Management Measures: Scrubby flatwoods requires a regular fire rotation of 5-15 years on average. Because the scrubby flatwoods exists within islands of mesic flatwoods, the zones containing these islands will be burned on a 2-4 year cycle. If the scrubby flatwoods does not burn during a prescribed fire, then crew will not intentionally try to ignite it. As in other parks that have this type of situation, the scrubby flatwoods will usually burn every other or every third prescribed fire on its own when fuel levels are suitable to carry the fire through the community.

Mesic Hammock – 39.51 acres

Desired Future Condition: The often-dense canopy will be dominated by live oak (Quercus virginiana) with cabbage palm (Sabal palmetto) mixed into the understory. Southern magnolia (Magnolia grandiflora) and pignut hickory (Carya glabra) will be common components in the subcanopy as well. The shrubby understory will have both dense and open patches of varying vegetation heights, and will be composed of saw palmetto (Serenoa repens), beautyberry (Callicarpa americana), American holly (Ilex opaca), gallberry (Ilex glabra) and sparkleberry (Vaccinium arboreum). The groundcover will be sparse and patchy and contain panicgrasses (Panicum spp.), switchgrass (Panicum virgatum), sedges, as well as various ferns and forbs. Abundant vines and epiphytes will occur on live oaks and cabbage palms and other subcanopy trees. The mesic hammocks contain sandy soils with organic materials and have a thick layer of leaf litter at the surface. Mesic hammocks are rarely inundated and not considered to be fire-adapted communities and will typically be shielded from fire.

Description and Assessment: Mesic Hammock occurs in one patch in Management Zones 1A, 1B, 2C, 3A, and 6. The community is considered to be in good condition. A non-fire type community, this area is shielded from regular fire by the surrounding hydric hammock and developed areas. Invasive plants are infrequent in the mesic hammock.

General Management Measures: Mesic Hammock requires little direct management. This area should be protected from development due to its limited presence on the island. Surveys, treatment of invasive plant species and monitoring for new infestations are required to maintain the mesic hammock in good condition.

Shell Mound (Shell Midden) - 4.84 acres

Desired Future Condition: This community type is the result of human activities instead of natural and physical processes. Shell mounds are hills of varying size made up of snail shells (apple and banded mystery) discarded by Native Americans. The soils will be circumneutral to slightly alkaline, contain minimal organic material, and are very well drained. The shell mound will be undisturbed, and support a variety of hardwood trees and shrubs which include live oak, cabbage palm, red cedar (Juniperus virginiana), and red mulberry (Morus rubra). Areas where there is evidence of more recent human disturbance (i.e. illegal pits dug by artifact collectors) will be repaired or improved to protect the integrity of the mound. Invasive plant species will be minimal. Natural impacts will also be minimized.

Description and Assessment: Numerous shell mounds occur in the park, in zones 1A, 1B, 1C, 3B, 4B, 5B, 5C, and 5D.. The community is considered to be in good condition due to a lack of or minimal continued deterioration. Erosion is a concern for many due to proximity to wave action from the St. Johns River, Hontoon Dead River, and Snake Creek.

The largest mound on Hontoon has a nature trail leading to and traversing on a portion of it. The mound is in good condition but shows signs of past disturbance along with some minimal damage due to the trail.

General Management Measures: Shell mounds require little direct management. The island itself has been fairly thoroughly surveyed by the University of Florida. Signs of erosion and recent looting should continue to be monitored. A current priority has been

and will continue to be a large mound in management zones 5C. Remnants of this mound are being protected from erosion by a sandbag sea wall. Due to age, the wall is deteriorating and a plan must be created for its repair to minimize harm to the midden. In order to achieve the desired future conditions mentioned previously, the park must minimize the amount and impact of human disturbance (including access) on these mounds. Invasive plants are typically not found. However, surveys, treatment of invasives and monitoring for new infestations are required to maintain the mesic hammock in good condition.

Depression Marsh – 8.85 acres

Desired Future Condition: Depression marsh will contain low emergent herbaceous and shrub species which will be dominant over most of the area and include open vistas. Trees (primarily pond cypress) 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 will often be able to see the soil surface through the vegetation when the ephemeral community is not inundated. Dominant vegetation in the depression marsh will include maidencane (Panicum hemitomon), panic grasses (Panicum spp.), cutgrass (Leersia sp.), pickerelweed (Pontederia cordata), arrowheads (Sagittaria sp.), buttonbush (Cephalanthus occidentalis), St. John's wort (Hypericum fasciculatum), and coastalplain willow (Salix caroliniana). The Optimal Fire Return Interval for this community is 2-10 years depending on fire frequency of adjacent communities.

Description and Assessment: The eight depression marshes are located in zones 1B, 1C, 2A, 2B, 2C, and 3B. The community is considered to be in good condition. This community is fire-dependent, requiring frequent fire to remove dead grass accumulation. Fire rotation will be determined by the surrounding upland natural community (mesic flatwoods). This community is ephemeral and rainfall dependent, with no direct connection to the aquifer.

General Management Measures: The depression marshes require frequent fire due to the rapid accumulation of dead grass material. If the surrounding uplands are on a regular fire rotation then the contained marshes will be as well. Currently, all depression marshes are in a regular fire rotation. Woody species (including pine trees) and saw palmetto have built up around the edges of many of the ponds. Fire is currently being used to remove this rim; if fire is not sufficient chainsaws may be utilized to remove the remaining trees. Invasive plants have not been found. However, surveys, treatment of invasives and monitoring for new infestations are required to maintain the depression marshes in good condition.

Dome Swamp – 1.59 acres

Desired Future Condition: Pond cypress (Taxodium ascendens) will dominate, but swamp tupelo (Nyssa sylvatica biflora) will also occur as a co-dominant. Other subcanopy species will include red maple (Acer rubrum), dahoon holly (Ilex cassine), swamp bay (Persea palustris), sweetbay (Magnolia viginiana), and loblolly bay (Gordonia lasianthus). Shrubs will be absent to moderate (a function of fire frequency) and will include Virginia willow (Itea virginica), fetterbush (Lyonia lucida), buttonbush (Cephalanthus occidentalis), wax myrtle (Myrica cerifera), and titi (Cyrilla racemiflora). The herbaceous component will range from absent to dense and include ferns, maidencane (Panicum hemitomon), sawgrass (Cladium jamaicense), sedges (Carex spp.), lizards tail (Saururus

cernuus), and sphagnum moss (Sphagnum spp.). Vines and epiphytes will be commonly found. Maintaining the appropriate hydrology and fire frequency will be critical for preserving the structure and species composition of the community. 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.

Description and Assessment: Dome Swamp is located along the park's western boundary adjacent to the Hontoon Dead River in Management Zone 1C. The community is considered to be in good condition. Considered a fire-influenced community, fire from the surrounding mesic flatwoods has lessened vegetation density along the swamp edges. Interior fire will be rare and should be of low intensity.

General Management Measures: Dome Swamp requires little direct management. The hydroperiod is a major factor affecting the health of the system. Soil moisture in the swamp should be checked prior to the burning of the mesic flatwoods to minimize the impact of the fire on the interior of the swamp. Invasive plants have not been found. However, surveys, treatment of invasives and monitoring for new infestations are required to maintain the dome swamp in good condition.

Floodplain Marsh – 269.42 acres

Desired Future Condition: Floodplain marsh will be characterized as emergent low herbaceous and shrub species which are dominant over most of the area, and there is an open vista. 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 in floodplain marsh will include sand cordgrass (Spartina bakeri), sawgrass (Cladium jamaicense), maidencane (Panicum hemitomon), panicgrasses (Panicum spp.), cutgrass (Leersia sp.), pickerelweed (Pontederia cordata), arrowheads (Sagittaria sp.), buttonbush (Cephalanthus occidentalis), St. John's wort (Hypericum fasciculatum), and coastal plain willow (Salix caroliniana). The Optimal Fire Return Interval for this community is 2-10 years depending on fire frequency of adjacent communities.

Description and Assessment: The floodplain marshes are located in zones 4A, 4B, 5B, 5G, and 8. The community is considered to be in fair condition. Fire should be frequent; however, it is currently infrequent with mixed burn success. Considered a fire-dependent community, the marshes will be burned on their own and not as a part of an upland burn. Hydrology is rainfall and river stage dependent. Due to drought and a lack of fire, the marshes are being encroached upon by woody plants that include coastal plain willow (Salix caroliniana), buttonbush (Cephalanthus occidentalis), red maple (Acer rubrum) and wax myrtle (Myrica cerifera).

General Management Measures: As a fire-dependent community, the floodplain marshes require frequent fire for remove the accumulation of dead grassy material. Since fire has been unsuccessful in reducing the heavy hardwood encroachment present in the marshes, the park is considering an enhancement project to set back the encroaching hardwoods. The enhancement will likely involve the use of herbicides, and is dependent upon the outcome of the Blue Spring marsh enhancement project. When fire is reintroduced into the marshes, the fires will be likely ignited aerially due to the lack of vehicle and boat access. Invasive plants are not an issue currently. Invasive plants have

not been found. However, surveys, treatment of invasive and monitoring for new infestations are required to maintain the floodplain marshes in good condition.

Floodplain Swamp- 853.08 acres

Desired Future Condition: Floodplain swamp will be frequently flooded. Soils will consist of a mixture of sand, organics, and alluvial materials. The closed canopy will be dominated by bald cypress (Taxodium distichum) but will include tupelo species (Nyssa spp.), water hickory (Carya aquatica), and red maple (Acer rubrum). Trees bases will be buttressed. Understory and groundcover will typically be sparse.

Description and assessment: Floodplain Swamp is located along the park's boundary with the St. Johns River, Hontoon Dead River, and Snake Creek in Management Zones 4A, 5B, 5D, 5E, 5G, 6, and 7. The community is considered to be in good condition. Despite timbering many decades ago, numerous cypress trees are present. Wild taro (Colocasia esculenta) occurs in scattered patches of varying sizes along the banks of the St. Johns River, Hontoon Dead River, and Snake Creek. The plants are typically found among the cypress tree knees. Chemical treatment is ongoing and must continue to keep the infestations in a management status. Paragrass (Urochloa mutica) has also invaded the area adjacent to both the St. Johns River and the Hontoon Dead River with Chinese tallowfound occasionally as well. Erosion in this area is minimal.

General Management Measures: Floodplain Swamp requires little direct management. Hydroperiod is the major factor affecting the health of the system. Monitoring (direct and indirect) should continue, with a focus on changes in water quality, water levels, and water withdrawals. An erosion monitoring and repair protocol should be developed and implemented. Chinese tallow, para grass, and wild taro have been found and herbicide treatment is necessary to prevent the further growth of the infestations. The area must continue to be surveyed regularly to monitor for new infestations, chemically treating as necessary.

Hydric Hammock - 160.14 acres

Desired Future Condition: The hydric hammock will be characterized with a closed canopy, evergreen hardwood and 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 (Quercus laurifolia), cabbage palm (Sabal palmetto), live oak (Quercus virginiana), sweetbay (Magnolia viginiana), swamp tupelo (Nyssa sylvatica biflora), American elm (Ulmus americana), and red maple (Acer rubrum). Soils will be poorly drained but only occasionally flooded. The hydric hammock should occasionally burn by allowing fires to naturally burn across ecotones from fires originating in adjacent upland natural communities.

Description and assessment: The hydric hammock is located in zones 1A, 1B, 1C, 2A, and 6. The community is considered to be in good condition. A fire-influenced community, fire should be infrequent. The fire rotation will be determined by the surrounding upland natural community, with fire only approaching the edges of the hammock. The hydrology is rainfall and river stage dependent. Invasive plants are not currently found.

General Management Measures: The hydric hammock requires little direct management. Infrequent fire encroaching on the edges from the adjacent uplands will be beneficial.

Invasive plants have not been found. However, surveys, treatment of invasive and monitoring for new infestations are required to maintain the hydric hammock in good condition.

River Floodplain Lake – 18.47 acres

Desired Future Condition: The river floodplain lake community will be characterized as shallow open-water zones, with floating and submerged aquatic plants, which are surrounded by floodplain swamp. Although water levels will fluctuate substantially, it will be a permanent water body. Water flow will generally be non-existent to very slow moving. Existing vegetation will include American white waterlily (Nymphaea odorata), yellow waterlily (Nymphaea mexicana), spatterdock (Nuphar advena), duckweed (Lemna sp.), coontail (ceratophyllum dermersum), watermilfoil (Heterophyllum sp.), and bladderwort (Utricularia sp.). Substrates will be variable and may be comprised of peat, sand, alluvial clay or any combination of these. Floodplain lake waters will generally be circumnuetral, hard or moderately hard water with high mineral content.

Description and assessment: The river floodplain lake is located in zone 4A and is referred to as the Hontoon lagoon. The community is considered to be in good condition. This is a non-fire-type community. The hydrology is rainfall and river stage dependent. The water quality and water quantity of the St. Johns River will affect the lagoon. Invasive plants are found along the edges (alligatorweed, wild taro, Peruvian primrose willow, water lettuce, Cuban bulrush, and water hyacinth). The Florida Fish and Wildlife Conservation Commission Invasive Plant Management Section (FWC IPMS) and the U.S. Army Corps of Engineers (ACOE) currently treat invasive plants in the lake, with a primary focus on water lettuce and water hyacinth. The treatments involve the use of aquatic herbicides and bio-controls. This area is utilized by the Florida manatee (Trichechus manatus latirostris).

General Management Measures: The river floodplain lake requires little direct management. Cooperation with St. Johns River Water Management District (SJRWMD) should continue dealing with the water quality and quantity of the river. Invasive plants are present and cooperation with FWC IPMS and ACOE should continue, as should their herbicide and bio-control applications. Routine surveys, treatment of invasives and monitoring for new infestations are required to maintain the river floodplain lake in good condition.

Blackwater Stream – 14.42 acres

Desired Future Condition: Blackwater stream will be a perennial 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. Emergent and floating vegetation including American white waterlily (Nymphaea odorata), yellow waterlily (Nymphaea mexicana), spatterdock (Nuphar advena), duckweed (Lemna sp.), coontail (ceratophyllum dermersum), watermilfoil (Heterophyllum sp.), smartweeds (Polygonum spp.), grasses, and sedges will occur but will be limited by steep banks and dramatic seasonal fluctuations in water levels.

Description and Assessment: Hontoon Island is surrounded by blackwater streams, included in zones 5D and 5E. The streams are referred to as the St. Johns River, Snake

Creek, and the Hontoon Dead River. This non-fire-type community is considered to be in good condition. The hydrology is rainfall and spring discharge dependent. The water quality and quantity of the local springs will affect the rivers. This area is home to a population of Florida manatees (Trichechus manatus latirostris) throughout the year. Invasive plants are found along the edges alligator weed, wild taro, Peruvian primrose willow, water lettuce, Cuban bulrush, para grass, and water hyacinth. Although considered an invasive species, water hyacinth and water lettuce are carefully monitored due to its significance as a food source for manatees. Herbicide spraying does not occur annually from October 15 to April 15 in order to leave this food source for manatees utilizing Blue Spring Run as a winter refuge. Treatments of water hyacinth and water lettuce are handled primarily by ACOE and secondarily by FWC IPMS contractors. Due to the herbicide treatments applied by the ACOE Snake Creek has remained open to water traffic and is currently being utilized by canoes and kayaks. Motor boats can slowly traverse Snake Creek with the main restriction being at the intersection with the St. Johns River where the depth of the water is low during times of low rainfall. Snake Creek is also designated as a slow speed zone because of manatee use in the area and for protection for the recreational canoe and kayak users.

General Management Measures: The blackwater stream requires little direct management. Cooperation with SJRWMD and the Florida Coastal Office (FCO) should continue dealing with the water quality and quantity of the river. Invasive plants are present and cooperation with FWC IPMS and ACOE should continue, as should their herbicide and bio-control applications. Routine surveys, treatment of invasives and monitoring for new infestations are required to maintain the river floodplain lake in good condition.

Developed – 10.17 acres

Desired Future Condition: The developed areas within the park will be managed to minimize the effect of the developed areas on adjacent natural areas. Invasive non-native plant species will be removed from all developed areas. Other management measures include proper stormwater management and development guidelines that are compatible with prescribed fire management in adjacent natural areas.

Description and Assessment: The developed areas are a non-fire-type community and are located in zone 3A, 5A, 5C, and 6. Invasive plants are found in low densities and include Caesar's weed, lantana, tuberous sword fern, torpedo grass, and citrus. The parking lot, concession & ranger station, campgrounds & cabin area, shop complex, residences, water treatment facilities, and use area fall into this category. Erosion is minimal in the developed areas, however there is some concern over the aging condition of the sandbag wall along the northern perimeter of the island.

General Management Measures: The developed areas require some direct management. Erosion must be monitored and a plan developed for the aging sandbag wall. Development plans must consider cultural resources, water quality, erosion, and listed species. Routine surveys, treatment of invasive plants and monitoring for new infestations are required to maintain the developed areas in good condition.

Artificial Pond – 0.7 acres

Desired Future Condition: The altered areas within the park will be managed to minimize the effect of the developed areas on adjacent natural areas. Invasive non-native plant species will be removed from this altered area.

Description and Assessment: The artificial pond is located in zone 2C. This community is considered to be in fair condition. This is not a fire-type community. Invasive plants are not currently found there. According to old aerials, the pond did not exist in 1941, therefore it is unknown when it was created. Based on debris found, it is believed to have been a dumping area at some point. Some of the debris has been removed from the area in recent years. The site usually contains standing water and contains some aquatic plants including cattail. No invasive plants have been found.

General Management Measures: The artificial pond requires little direct management other than additional debris removal. However, if the debris is older than 50 years, the park should work with BNCR and create a Master Site File. Routine surveys, treatment of invasive plants and monitoring for new infestations are required to maintain the artificial pond in good condition.

Spoil Area – 27.09 acres

Desired Future Condition: The spoil areas within the park will be managed to minimize the effect of the area on adjacent natural areas. Invasive non-native plant species will be removed from the areas.

Description and Assessment: The seven areas are located along the eastern boundary of the park, adjacent to the St. Johns River in zones 4A and 4B. The dredge spoil piles were deposited by the U. S. Army Corps of Engineers when the St. Johns River channel was dredged. The areas are now overgrown with vegetation and are surrounded by floodplain swamp. Due to difficult access, it is unknown whether invasive plants are located on six of them. Access is available to the southernmost spoil area, and currently there are no invasive plants present.

General Management Measures: Attempts at removal of the spoil piles, which are now re-vegetated, could seriously impact the surrounding communities. Therefore, restoration of the areas is unlikely; however, the floodplain swamp will be enhanced with the removal of any introduced invasive plants. The areas will be surveyed for invasive plants, if access allows. The southernmost spoil, which has been mined for fill for the park in the past, may be a cultural site. If so, a plan should be developed to determine whether restoration of the cultural site is necessary. Routine surveys, treatment of invasive plants and monitoring for new infestations are required to maintain the spoil area in good condition.

Natural Communities 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 fires mimic natural lightning-set fires, a primary natural force that shape Florida's ecosystems. Prescribed burning increases the abundance and health of many wildlife species. Many of Florida's common and imperiled plant and animal species require and thrive with periodic fires. Fire-dependent natural communities gradually accumulate flammable vegetation; therefore, prescribed fire reduces wildfire hazards by reducing these wildland fuels.

All prescribed burns in the Florida state park system are authorized by the Florida Forest Service, a part of FDACS. Wildfire suppression activities in the park fall under the legal jurisdiction of the FFS. Park staff assist with suppression efforts.

Objective A: Maintain 250.26 acres of the parks fire type communities within the optimum fire return interval.

Action 1 Update annual burn plan.
Action 2 Manage fire dependent communities by burning 106- 211 acres annually.

Table 2 contains a list of all fire-dependent natural communities found within the park, their associated acreage and optimal fire return interval, and the annual burn target.

Table 2. Prescribed Fire Management		
Natural Community	**Acres**	**Optimal Fire Return Interval (Years)**
Depression Marsh	9.34	2-4
Scrubby Flatwood	8.42	3-7
Mesic Flatwoods	240.92	2-4
Annual Target Acreage	**106-211**	

Prescribed burns are planned for each management zone based on the natural community with lowest optimal fire return 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 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. Floodplain marsh is not included in this annual target because most of it has succeeded to the next community type which is floodplain forest. A restoration plan must be developed in order to begin to restore the floodplain marsh back to its post fire suppression state.

Mesic Flatwoods

There are 250.26 acres of mesic flatwoods within the park boundary. Found in the interior of the island, this community is predominately in maintenance condition. The zone with the greatest percentage of mesic flatwoods, 2B, has been on a regular burn

rotation since the 1998. Fire shadows do exist in most zones, especially along the fire breaks. Mechanical treatment (brush cutting) will be used if fire direction is limited.

Encroaching hardwoods from the adjacent wetlands should be reduced/removed by writing burn prescriptions with specific wind speeds and directions to push fire intensity towards the encroaching hardwoods. The most recent burns have sent fire into the encroaching hardwood areas and have resulted in a reduction. Future burns will continue to burn this way. If, at some point, fire becomes ineffective then mechanical treatment (chainsaws) will be utilized.

The mesic flatwood in optimum condition is beneficial to white-tailed deer, the Florida black bear, and gopher tortoise. Frequent fires, preventing a saw palmetto dominate ground cover; will encourage more grasses and herbaceous plants. Wiregrass is an expected plant in this community and requires spring burning for the production of fertile seeds.

Floodplain Marsh

The two zones containing floodplain marsh (4Aand 4B) account for 269.42 acres. Like many floodplain marshes, fire has not been routine. The result is the encroachment of hardwoods (red maple, Carolina willow, etc.). No longer a grass dominated community, the susceptibility to prescribed fire is altered. Ignition is more difficult and the fire's ability to carry through the zone is hindered by hardwoods. It if for this reason that the marshes are not included in the fire type acre calculations. Once a restoration plan has been developed and put in motion, then portions of the marsh can be added back to the fire type acre goals for the park.

Freshwater marsh enhancement is a current topic of research. In an attempt to further knowledge of marsh enhancement, Blue Spring State Park is cooperating with FWC AHRES (Aquatic Habitat Restoration and Enhancement Section) on a methodology project to determine the effect of timed herbicide and prescribed fire application on the reduction of unwanted hardwoods and the increase in grasses and herbaceous plant species. Hopefully there will also be a hydrologic benefit by increasing the hydroperiod. It's a multi-year project and, if successful, may be replicated at the other marshes at Blue Spring State Park (north of French Avenue) and Hontoon Island State Park.

Once treated, the marshes are meant to have a short burn interval. This encourages grasses and prevents the encroachment of hardwoods. Floodplain marshes are important areas for fish, invertebrates, and birds such as the limpkin, little blue heron, snowy egret, and bald eagle.

Aerial burns are the preferred methodology for prescribed fire in floodplain marsh areas. Although it can be an expensive method, the results are more similar to a natural fire. Due to the proximity to forested wetlands, fire breaks are not necessary in floodplain marsh communities. The forested wetlands, which are typically non-fire type communities, must contain enough moisture or standing water to prevent the spread of fire from the marsh.

Depression Marsh

Depression marshes are located throughout the park in the mesic flatwoods. The depression marshes encompass 9.34 acres. Though the fire return interval is short and

therefore similar to floodplain marsh, these marshes tend to burn on the same rotation as the uplands around them. All of the depression marshes are in good condition.

One enhancement for depression marshes is the removal of trees around the perimeter. This will increase the amount and retention of rainfall into the marshes. The longer retention of water will improve the habitat for the wetland plants residing in the marsh. Regular fire will prevent tree growth and may remove some trees. Fire has been successful in some of the zones to remove the trees surrounding the marshes. However, if at some point fire is no longer effective in removing the perimeter trees, then chainsaws will be utilized.

Depression marshes provide important feeding and breeding habitat for reptiles, amphibians (gopher frog), and birds (sandhill crane). Routine fire and frequent flooding will also benefit the greatest variety of plants.

There have been reports in the past of hooded pitcher plants on Hontoon Island. Recent surveys of the depression ponds have yet to find any, but post burn surveys will continue looking for the plants. Fire will continue to be used to improve the depression marshes.

In order to track fire management activities, the 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 and experience, backlog, etc. The database is also used for annual burn planning which allows the DRP to document fire management goals and objectives. The database is updated each quarter, and reports are produced to track progress.

Objective B: Conduct habitat/natural community restoration activities on 155 acres of Floodplain Marsh natural community if feasible

Action 1	Develop a site-specific restoration plan based upon the results of the proposed Blue Spring State Park/FWC AHRES project.
Action 2	Implement restoration plan

Prescribed fire alone has proven unable to remove the hardwoods encroaching into the freshwater marshes. A restoration project with timed herbicide and prescribed fire application should restore the freshwater marsh back to a stage solely manageable with fire. Ideally this project will be in cooperation with FWC AHRES. The target area would be the marshes of zone 4a but will be determine when funding and manpower is secured.

Natural Community 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.

Objective C: Conduct natural community/habitat improvement activities on 75 acres of Mesic Flatwoods natural community.

Action 1	Reduce the number of encroaching wetland trees not affected by fire along the perimeter of wetlands using chainsaws.

Prescribed fire alone has proven, over time, to be able to reduce the number of tree species encroaching into the mesic flatwoods from the wetlands. Routine fire every 2-4 years with a specific wind direction with send fire into the wetland edge, effectively reducing the of wetland trees along that ecotone. Fire should not be severe enough to cause either a duff or canopy fire in the wetlands.

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 (FWC) or the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened or of special concern.

Table 4 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.

Management efforts on this property are limited and more work is needed to document imperiled plants and animals. There could be a suite of rare plants found within the matrix of mesic and wet flatwoods and depression marshes that are only partially represented in the list below. However, the plants in the uplands are very well adapted to prescribed fire. Same general principles apply to the imperiled animals. More work is needed to inventory animals within the park with prescribed fire aiding in the proliferation of gopher tortoises. Restoring wetlands will aid the population of breeding and foraging birds, such as the Wood Stork and the birds nest in rookeries.

Table 3. Imperiled Species Inventory

Common and Scientific Name	Imperiled Species Status				Management Actions	Monitoring Level
	FWC	USFWS	FDACS	FNAI		
PLANTS						
Catesby's/pine lily *Lilium catesbaei*			T		1,2	
Rose pogonia *Pogonia ophioglossoides*			T		1,2,4	1
Cardinal airplant *Tillandsia fasciculata*			E	G5/S3	4	
Banded wild pine *Tillandsia flexuosa*			T	G5/S3	4	1
Giant airplant *Tillandsia utriculata*			E		4	
REPTILES						
Gopher tortoise *Gopherus polyphemus*	FT	Candidate		G3/S3	1,2	1

Table 3. Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
BIRDS						
Little blue heron *Egretta caerulea*	FT			G5/S4	2,4	1
Tricolored heron *Egretta tricolor*	FT			G5/S4	2,4	1
Florida sandhill crane *Antigone canadensis pratensis*	ST			G5T2/S2S3	1,2,4	1
Wood stork *Mycteria americana*	FT	T		G4/S2	2,4	1
MAMMALS						
Florida manatee *Trichechus manatus latirostris*	FT	T		G2/S2	1, 4	1

Management Actions:

1. Prescribed Fire
2. Invasive Plant Removal
3. Population Translocation/Augmentation/Restocking
4. Hydrological Maintenance/Restoration
5. Nest Boxes/Artificial Cavities
6. Hardwood Removal
7. Mechanical Treatment
8. Predator Control
9. Erosion Control
10. Protection from Visitor Impacts (establish buffers)/Law Enforcement
11. Decoys (shorebirds)
12. Vegetation Planting
13. Outreach and Education
14. Other

Monitoring Level:

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

Imperiled Species Management

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

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 FWC'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, FWC, FDACS and FNAI as part of their ongoing research and monitoring programs will be reviewed by park staff periodically to inform management of decisions that may have an impact on imperiled species at the park.

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

Objective A: Develop/Update baseline imperiled species occurrence inventory lists for plants and animals.

Action 1 Continue imperiled species surveys of the property with an emphasis on imperiled land-based vertebrate species.

Action 2 Continue imperiled species surveys of the property with an emphasis on imperiled invertebrate species.

Continue to document and survey for imperiled species on this site, especially for smaller species. Proper management is dependent upon knowing what we need to protect. A partnership with a local university is needed to accomplish this task.

Objective B: Monitor and document 1 imperiled animal species in the park.

Action 1 Continue distribution mapping & activity monitoring for Gopher Tortoises (*Gopherus polyphemus*) after prescribed fires.

Currently, gopher tortoise burrow surveys are conducted after prescribed fires. These surveys have given us baseline information on the number of tortoises on the island and their sizes in most management zones. Baseline surveys should be updated every other time a zone is burned, approximately every 3-4 years and the information will be stored in DEP databases. This can be easily accomplished with park volunteers.

Objective C: Monitor and document 1 imperiled plant species in the park.

Action 1 Development & implement monitoring protocols for Plume Polypody.

Plume polypody (*Pecluma plumula*) is listed a state listed endangered species. Known currently at one location at the park, a more comprehensive survey is needed to determine the island's population. Management decisions will take this species into consideration, and a monitoring protocol developed for the future benefit of this species.

Objective D: Research the history of hooded pitcher plants on park property

Action 1	Conduct a literature search on the history of hooded pitcher plants on Hontoon Island and in the local area
Action 2	If appropriate, conduct a feasibility study to determine the appropriateness and feasibility of reintroducing the plant to the park.

The Hooded Pitcherplant (*Sarracenia minor*) is listed a state listed threatened species. Known to have historically occurred at the park in at least one depression pond, recent surveys have been unsuccessful in locating it. A thorough literature search is needed to discover any other recorded sightings of the species on the island. The search can also tell us if the habitat is acceptable for this species. If the species is no longer on the island, but the habitat is suitable, then a feasibility study is needed to determine the possibility of re-introducing the species to the park. Cooperation with a local university is needed to accomplish this task.

Invasive and Nuisance Species

Invasive species are typically plants or animals that are not native to Florida. Invasive 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 plants and animals alter the character, productivity and conservation values of the natural areas they invade.

Invasive 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 invasive animals, the DRP actively removes invasive 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 Invasive Animal Removal Standard.

Due to sharing the park boundary with three water ways (St Johns River, Hontoon Dead River, and Snake Creek), numerous aquatic invasive species are found along the park boundaries. Due to the remoteness of the island (access by boat only), upland invasive species are few on the island. The aquatic species are diverse in structure, density, and placement. Hydric areas (floodplain swamp and blackwater stream) and disturbed areas (use areas) are the locations for the majority of the present infestations. All Category I and II invasive species found and treated within the park are listed below in Table 3.

While numerous aquatic species have been identified and treated, wild taro (Colocasia esculenta) is the dominant plant of concern. Typically hiding in more hydric areas, the extent of this species' presence was unknown until 2009. Surveying, mapping, and treatment began in the 2009/2010 fiscal year. The only area not surveyed is the parcel west of the Hontoon Dead River. Because this area is primarily floodplain swamp, access through this parcel is difficult to impossible.

The park has been treating upland invasive plants for years, as the infestations have surfaced; however, a more comprehensive survey did not take place until 2009, since then surveys have taken place more frequently.

The park additionally treats invasive species that are currently not listed as either Category I or II species by FISC. These species include citrus (Citrus sp.). While not listed by FISC, this species is easy to keep in maintenance.

Wild taro (Colocasia esculenta) is becoming a significant problem throughout the entire St. Johns River system. These plants can be found in swamps as well as along the edges of the river. This species has the ability to dominate an area if not controlled. In conjunction with FCO and FWC IPMS, the park and river can benefit from a program designed to eradicate wild taro through spraying and mechanical removal. The park does spray, but not all areas can be reached with park equipment, necessitating assistance from FWC IPMS through the use of airboats.

Torpedograss (Panicum repens) and para grass (Urochloa mutica) occur sporadically along the river's edge and in the lagoon. Both need to be controlled by spraying.

Water lettuce (Pistia stratiotes) and water hyacinth (Eichhornia crassipes) are treated on the St. Johns River by ACOE. Due to the spraying moratorium described in the listed species section, ACOE only herbicides water lettuce and water hyacinth annually between April 1st and October 1st. FWC IPMS contractors are a backup sprayer of water lettuce and water hyacinth, and the primary sprayer of Cuban bulrush (Oxycaryum cubense) and Peruvian primrosewillow (Ludwigia peruviana). Alligatorweed (Alternanthera philoxeroides) is controlled along the river by the introduced bio-control alligator weed flea beetle (Agasicles hygrophila), which monitored by FWC IPMS.

Because the park is isolated with limited access, domestic animals are rarely deposited in the park. If not monitored regularly, introduced invasive species can become a severe problem. Although many house pets do not typically propagate in the wild, their free-ranging activities on park lands can have an adverse effect on native species which would normally not have to contend with these additional pressures.

The nine-banded armadillo (Dasypus novemcinctus) has been regularly seen at Hontoon Island. Domestic cats and dogs are rarely seen. Nine-banded armadillos will be removed whenever a need presents itself based on DRP policy. The park will cooperate with Volusia County Animal Control to find appropriate placement for cats and dogs.

Two hundred and twenty-six invasive animals were removed from Hontoon Island during the timeframe of the previous plan. This number included two species, vermiculated sailfin catfish (Pterygoplichthys disjunctivus) and domestic cat (Felis catus).

Raccoons (Procyon lotor) and the eastern grey squirrel (Sciurus carolinensis) occasionally become nuisance species. This is primarily due to feeding by visitors, despite numerous posted "Do Not Feed Wildlife" signs. Park staff will remove the individuals as necessary when deemed a health and safety concern. Removal will follow the DRP policy and operations manual and will be reported monthly.

Table 3 contains a list of the Florida Invasive Species Council (FISC) Category I and II invasive plant species found within the park (FISC, 2019). 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 invasive species found within the park, see Addendum 5.

Table 4: Inventory of FISC Category I and II Invasive Plant Species			
Common and Scientific Name	**FISC Category**	**Distribution**	**Management Zone (s)**
PLANTS			
Alligator weed *Alternanthera philoxeroides*	II	1	HT-05A
		2	HT-05B, HT-05A
		6	HT-08, , HT-05E, HT-05D, HT-05B, HT-05A, HT-04B, HT-01C
Camphor tree *Cinnamomum camphora*	I	1	HT-05A
Wild taro *Colocasia esculenta*	I	1	HT-04B, HT-04A
		2	HT-05E, HT-05B, HT-05D
Umbrella plant *Cyperus involucratus*	II	0	HT-05B
Water-hyacinth *Eichhornia crassipes*	I	1	HT-05A
		2	HT-05D, HT-05B, HT-05E
Cogon Grass Imperata cylindrica	I	2	HT-01A
Lantana *Lantana strigocamara*	I	1	HT-05A
Peruvian primrosewillow *Ludwigia peruviana*	I	2	HT-4A
Swordfern *Nephrolepis cordifolia*	I	6	HT-05A
Torpedograss *Panicum repens*	I	2	HT-05C
		1	HT-4A
Water-lettuce *Pistia stratiotes*	I	2	HT-05A, HT-4A, HT-05B, HT-05D, HT-05E
Water spangles *Salvinia minima*	I	1	HT-05B, HT-05A
		3	HT-05A
Tropical soda apple *Solanum viarum*	I	1	Ht-06
Chinese tallow tree *Triadica sebifera*	I	1	HT-05D
Caesarweed *Urena lobata*	I	2	HT-05C, HT-05D, HT-01A
Paragrass *Urochloa mutica*	I	1	HT-05B, HT-05E, HT-05D

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.

Invasive Species Management

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

The DRP actively removes invasive 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 2 infested acres of invasive plant species *in the park*

Action 1 Annually develop/update invasive plant management work plan.
Action 2 Implement annual work plan by treating 2 infested in park, annually and continuing maintenance and follow-up treatments, as needed.
Action 3 Continue cooperation with FWC IPM and ACOE on aquatic invasive plant species treatment in the St. Johns River.
Action 4 Continue cooperation with FWC IPMS on the release of the alligator weed flea beetle as a bio-control of alligator weed.
Action 5 Annually meet with the Blue Spring Interagency Working Group (FWC, ACOE, USFWS, DEP, Save the Manatee Club (SMC), Sea to Shore Alliance (STSA)) to update and continue the winter spraying moratorium (October-April) of invasive plants.

Invasive non-native plant species can be detrimental to the park's natural communities. Since eradication is not usually possible, maintenance control must be a priority. The majority of the non-natives associated with the park are found on the rivers, including water hyacinth, water lettuce, Cuban bulrush, Peruvian primrose willow, Para grass, and wild taro. Lacking the proper equipment, the park must continue to coordinate with FWC IPMS and ACOE for the treatment of non-native plants on the rivers surrounding the park, and the continued monitoring and release of the alligator weed flea beetle. The park is capable of treating upland non-native plants. The park must continue to participate in the Blue Spring Interagency Working Group, an important cooperative group dealing with non-natives plant species, Florida manatees, and the need to provide manatees a winter food while they are overwintering in Blue Spring Run.

Objective B: Implement control measures on 2 invasive animal species in the park

Action 1 Implement removal protocols for the nine – banded armadillo based on DRP policy and operations manual
Action 2 Continually scout the park for feral hog damage
Action 3 Biennial firearm re- qualification for staff to meet the Divisions' Firearm Use Standard
Action 4 Implement control measures on feral hogs

The nine-banded armadillo is an invasive non-native species causing significant ground disturbance at the park. With few predators on the island to assist in keeping the population numbers down, the park must take steps to remove the armadillos' using methods approved in the DRP operations manual. Feral hog removal is done throughout the year in the park. Typically, signs are detected along management roads and then areas are pre-baited to see if there is activity, then a trap is moved to a site, and then the traps are set. Feral hog activity varies throughout the year along with access to certain areas in the wet and dry season. Park staff are trained off-site per the Division's Firearm Use Standard. Areas of high activity are identified by park visitors or neighbors.

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 normally 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 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.

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.

According to the Florida Master Site File (FMSF), the present boundaries of Hontoon Island State Park encompass fourteen recorded archeological sites.

Description: Archaeological investigations to date have identified a number of extensive, potentially related sites, and have revealed the likelihood that the entire island section of the park should be considered a cultural district. Due to proximity to water (St. Johns River, Hontoon Dead River, and Snake Creek), the majority of recorded cultural resources in the park are pre-contact period aboriginal sites (shell middens and mounds) which dot the perimeter of the island. All fourteen recorded cultural resources are prehistoric sites. These prehistoric cultural resources represent approximately 7000 years of continuous use by people who deliberately constructed shell structures, and contain significant information about their diet, mortuary traditions, crafts, natural resource use, cultivation, trade, and settlement patterns, among other things.

According to Dr. Kenneth Sassaman from the University of Florida who has researched prehistoric culture on the island "Hontoon Island was the location of intensive human activity for much of the past 7,600 years, and the archaeological record of this history is eligible for nomination to the National Register of Historic Places. Major episodes of mound construction took place in three descendant traditions: the Mount Taylor period of 7,600–4,600 years ago; the Orange period of 4,600–3,500 years ago; and the St. Johns II period from ca. A.D. 750 through European contact. Smaller-scale yet significant archaeological deposits on the island date to the intervening St. Johns I period (ca. 3,000 years ago [~1000 B.C.] through A.D. 750).

The intact crescent-shaped shell mound at the south end of the island, Hontoon Dead Creek Mound (8VO214), is the oldest dated shell mound in Florida, established over 6,000 years ago. It was emplaced over the remnants of prior habitation along what was then an active channel of Hontoon Dead Creek. Additional habitation of the island during the Mount Taylor period is evident in deposits at Hontoon Dead Creek village (8VO215), Indian Mound Trail site (8VO7493), and Hontoon Island North (8VO202). The latter site

at the north end of the island has been impacted by shell mining and modern land use, although the oldest portions of this once-massive shell deposit are intact, including a probable Mount Taylor mortuary complex at the west end of the site. Missing today are two sand mounds that were observed in the late nineteenth century by Jeffries Wyman in the southeast sector of 8VO202. Comparable mounds in the region date as early as 5,500 years ago, but sand mortuary mounds were erected intermittently through the contact era. In sum, the Mount Taylor archaeological record of Hontoon Island is robust and relatively well preserved. It includes the oldest intact mound on record in the state of Florida, as well as preserved domestic and mortuary components. A recent summary of the Mount Taylor period by Randall (2013) supplements the inventory of technical reports of work on Hontoon Island by the Laboratory of Southeastern Archaeology, University of Florida, which conducted field schools on the island for several years (Randall 2007; Randall and Sassaman 2005; Sassaman 2003), as well as one contract project at 8VO202 in 2009 (Randall and Sassaman 2009).

Late-period archaeological deposits on Hontoon Island have been severely diminished by shell mining and modern land use. The ridge and mound complex at Hontoon Island North (8VO202) was most likely erected at the end of the Mount Taylor period and into the Orange period, although the diagnostic fiber-tempered pottery of the Orange tradition is not well represented anywhere on the island. In contrast, pottery of the subsequent St. John II period is ubiquitous in the eastern part of the site. In the 1980s, Barbara Purdy (1987) led a team that documented saturated St. Johns II deposits off the eastern shoreline and into Lake Beresford. A thick mantle of stratified shell-rich deposits of comparable age is preserved along the margin of the mining pit at the southeast corner of the site. Across the channel of the river to the north, on what today is the parking lot for the park, was the Thursby Mound, which was completely excavated by C.B. Moore (1999) in the early 20th century. The carved animal effigies recovered from the channel in the 1950s (Bullen 1955) were likely part of a platform structure emanating from the Thursby Mound. It is not unreasonable to refer to these protohistoric remains as those of ancestral Timucuan communities, who arguably had strong affinity to coeval communities of the lower St. Johns Basin that erected platform mounds at the sites such as Mount Royal, Shields, and Grant (Ashley and White 2012). Given the limitations of archaeological data to reconstruct cultural genealogies over centuries, it is not feasible to extend Timucuan ancestry back into the deep past of Hontoon Island. Nonetheless, an archaeological record of thousands of years of domestic living and ritual practice is an enormously valuable resource for investigating native history, one deserving of continued stewardship and protection by Florida State Parks.

The once highly visible shell middens attracted excavators Jeffries Wymann (1873) and C.B. Moore (1892-1894) in the late 19th century, who documented, excavated, and collected artifacts from many of these sites, recovering valuable information but heavily disturbing the sites in the process. Wyman is believed to have visited and documented 8VO35, 8VO36, 8VO40, 8VO182, 8VO183, 8VO202, 8VO214, & 8VO215.. Moore is believed to have visited and documented 8VO35, 8VO36, 8VO182, 8VO183, & 8VO202..

Pre-Columbian Native Americans were believed to have inhabited the area until 1763. By the end of the 16th century, the St. Johns River had been officially named. William Hunton arrived in the 1840's, and in 1844 the island was formed when a dredging project separated the "island" from the mainland (peninsula to island). While living on the island, Hunton operated an orange grove. After Hunton, the next inhabitant was G.A. Dreka, who continued to operate the orange grove and added a small packing house (1890). The island contained an orange grove until 1895. In the early 20th century,

there was a switch from citrus to cattle. In the 20th century, the island name changed from Hunton to Hontoon. In the 1920's Joe Potvin had a lifetime lease, and the 1890 citrus packing house became a machine shop focused on boatworks. Major excavations started in the 1930's, mining midden material for road beds.

A dragline operation in 1955 uncovered the wooden owl totem from the St. Johns River. One of only a couple of totems found in Florida, this totem is quite different. Fine craftsmanship with precise cuts, it is believed that shark's tooth tools were used. Current belief is that the twelve-foot totem may be from the St. Johns II period. The totem is currently located at Fort Caroline National Memorial in Jacksonville. A casuela-shaped vessel was found in the same area, and is believed to be associated with the totem as a ceremonial piece. Ripley Bullen believed that the totem may have been a symbol to travelers that they were entering either the residence or town of the Owl Clan. (Bullen 1955) In 1958, a portion of the totem was radiocarbon tested, with a return age of approximated 1300 A.D. (Purdy 2007)

In 1967, the state acquired the property through donation by the City of DeLand and the state park opened on January 1, 1970. In 1977 a dredging operation in the St. Johns uncovered two additional wooden totems, the pelican and the otter. The workmanship indicates either the same craftsman as the owl or an apprentice. A radiocarbon age is unknown. Both totems are currently located in the Museum of Florida History in Tallahassee. (Purdy 2007)

After a statewide survey of wet sites in Florida identified areas along the northeast margin of the island as containing significant submerged deposits (preserved organic materials in water-saturated sites), Dr. Barbara Purdy (University of Florida) began a series of investigations on the island (1980). 8VO202, despite heavy shell mining, still retains an intact substrate. Uniform substrate denoted cultural stability from A.D. 0 to A.D. 1500. (Purdy 1987)

Dr. Ken Sassaman (University of Florida) and the field school students continued investigations on the island from 2000-2005. In 2000-2001, the reconnaissance survey of the island began. They recorded two new sites (8VO7493 & 8VO7494) and defined the boundaries of 8VO214 and 8VO215 (Sassaman 2003). In 2003-2004, the group conducted mapping and limited testing of 8VO214 and 8VO202. They also completed the mapping, site characterization, and small-scale block excavation of 8VO7494. The reconnaissance survey of the island perimeter continued. The boundaries of 8VO215 and 8VO7493 were extended. Three sites were relocated and tested (8VO215, 8VO8312, and 8VO8314). Two sites were recorded (8VO8313 and 8VO8315) (Randall and Sassaman 2005).
In 2005, the group conducted mapping, coring, and stratigraphic testing of 8VO215. The reconnaissance survey of the island perimeter concluded. The boundaries of 8VO7493 and 8VO8312 were fully established (Randall 2007).
Dr. Sassaman's surveys showed significant use of the perimeter of the island by prehistoric people.

In 2010, an archaeological resources sensitivity model was completed for Hontoon Island by the University of South Florida. The results of the model break the park up into three categories, low, medium, and high sensitivity for archaeological resources. The majority of the park falls into low sensitivity (80.10%), as opposed to medium sensitivity (9.91%), or high sensitivity (9.99%). The model operated well, capturing the majority of the known cultural resources in high and medium sensitive areas.

Condition Assessment: A number of sites on park property were heavily mined for road-based material in the 1930's. After state acquisition, the sites have suffered minimal impact. Most of the sites are easily accessible and considered to be in good condition, suffering only minor animal disturbance and wave action. The sites without easy access have not been evaluated since Dr. Sassaman's projects. They are likely in good condition due to their isolation.

Sites 8VO214, 8VO2600, 8VO35, 8VO7493, and 8VO202 are the most impacted by human use. Park management makes every attempt to minimize impact. Rock was added to the parking lot (8VO2600 & 8VO35) to minimizing the ground disturbance from vehicles. The use area (8VO202) has minimal impact (foot traffic), in part due to the presence of turf grass. Site 8VO214 is located at the termination of the hiking trail. Due to elevation change, this site has some erosion issues. Due to lower annual visitation, the impact is still minor, but may require discussion in the future if visitation increases substantially. Site 8VO7493 is located along the hiking trail where the impact is currently low. However, as with site 8VO214, if visitation increases substantially, then a discussion about the effect of the impact may be needed.

General Management Measures: Currently, only five archeological sites are located in public use areas. Through careful planning of future development and coordination with Florida Division of Historical Resources (DHR), these sites should remain intact.

Sites 8VO35 & 8VO2600 have the potential for substantial disturbance due to their location in the parking lot. Site 8VO202 has the potential for substantial disturbance due to its location in the use area. Site 8VO7493 has the potential for disturbance due to its location along the hiking trail. Site 8VO214 has the potential for substantial disturbance due to its location at the termination of the hiking trail. Site 8VO8313 has the potential for disturbance due to it being the primary fill dirt location for park staff. Believed to be solely spoil from a river dredging, Dr. Sassaman listed it as an archaeological site during the 2003-2004 project. Discussion with Dr. Sassaman should occur to ensure minimal future disturbance to this site. The park monitors the public use areas closely and carefully works in and around the sites in coordination with DHR. Nine-banded armadillo removal will minimize animal impact on these sites. The rest of the middens are located away from the public use areas. Careful future planning, minimizing trespassing, and nine-banded armadillo removal will minimize any impact on these remote sites. All sites will be visited every two years, minimally, and an update to the Master Site Files completed. Significant damage will be noted and a plan developed for restoration.

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: Hontoon Island was acquired in 1967 and opened as a state park in 1970. When the park opened on January 1st, the following buildings were already in place: main office & concession building, camper restroom, shop & equipment shelter, park ranger residence, park manager residence, (3) large cabins, and (2) small cabins. By the end of this unit management plan cycle, these buildings will hit the historic benchmark by being at least 50 years old.

Condition Assessment: The buildings coming of cultural age are in good condition, with the exception being the camper restroom. The camper restroom is in fair condition, partially due to not being elevated and occasionally being flooded.

General Management Measures: The main office and concession building are currently in good condition, but will need truss and roof upgrades within five years. The camper restroom needs to be replaced with an elevated restroom. The rest of the aging buildings are in good condition and only need general maintenance. The structures will be recorded with the Florida Master Site File once they become fifty years of age.

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: Since 2000, the park has had a temperature-controlled exhibit room. It contains wildlife exhibits, a park timeline, and an exhibit on pre-Columbian Native Americans. The exhibits contain taxidermy animals, an insect collection, animal bones, a dug-out canoe, assorted artifacts such as arrowheads, tools, replica totems, and a replica of a shell midden.

Condition Assessment: The exhibit room is temperature-controlled with sealed exhibit cases. There is minimal handling of the collection objects and park staff has maintained the room in good maintenance condition. Therefore, the collection items are in good condition.

General Management Measures: The threats to the collection are minimal as long as the room is maintained in good condition, temperature control is functional and free of leaks, and items are handled infrequently.

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

Table 5. Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
8VO35 Thursby Midden	Prehistoric	Shell Midden	NE	G	P
8VO182 Huntoon Island Mound A	Prehistoric	Mound	NE	NE	P
8VO183 Huntoon Island Mound B	Prehistoric	Mound	NE	NE	P
8VO202 Huntoon Island Shell Midden	Prehistoric to Present	Burial Mound/ Habitation/ Shell Midden	NR	G	P
8VO214 Northern Midden, Hontoon Creek	Prehistoric	Inundated Land Site/Burial Mound/Shell Midden	NR	G	P/S
8VO215 Middle Midden, Hontoon Creek	Prehistoric	Campsite/ Habitation/ Shell Midden/ Shell Scatter	NR	NE	P
8VO216 Southern Midden, Hontoon Creek	Prehistoric	Campsite/ Habitation/ Shell Midden	NE	NE	P
8VO2600 Thursby Midden, Hontoon Landing Parking Lot	Prehistoric	Burial Mound/ Shell Midden	NE	G	P
8VO7493 Indian Mound Trail	Prehistoric	Campsite/ Habitation/ Shell Midden/ Artifact Scatter	NE	NE	P/S
8VO7494 East Hontoon	Prehistoric	Campsite/ Habitation/ Shell Midden/ Artifact Scatter	NE	NE	P
8VO8312 Hontoon Hammock	Prehistoric	Campsite/ Shell Midden/ Artifact Scatter	NE	NE	P
8VO8313 Dredge	St. Johns, 700 B.C.-A.D. 1500	Artifact Scatter	NE	NE	P
8VO8314 South Hontoon Midden	Prehistoric	Habitation/ Shell Midden/	NE	NE	P
8VO8315 Saw Palmetto	St. Johns, 700 B.C.-A.D. 1500	Artifact Scatter	NE	NE	P

Cultural Resource Management

Cultural resources are individually unique, and collectively, very challenging for the public land manager whose goal is to preserve and protect them in perpetuity. The DRP will implement the following goals, objectives and actions, as funding becomes available, to preserve the cultural resources found in Hontoon Island 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, 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 the DHR for consultation and the DRP must demonstrate that there is no feasible alternative to removal and must provide a strategy for documentation or salvage of the resource. Florida law further requires that 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 the DHR.

Objective A: Assess and evaluate 14 of 14 recorded cultural resources in the park.

Action 1	Complete 14 assessments/evaluations of archaeological sites. The sites in areas of public use will be a priority. All sites should have a management plan developed.
Action 2	All known sites will be monitored for degradation annually & management practices revised as needed based on efficacy. Additionally, all park staff should have ARM training to ensure cultural resources are identified and protected on a continual basis.
Action 2	Implement regular monitoring of erosion on Hontoon Dead Creek Mound (8VO214) to determine if a stabilization plan is needed
Action 3	Develop a stabilization plan for Hontoon Island North (8VO202), specifically the seawall edge.
Action 4	Complete 10 Historic Structures Reports (HSR's) for buildings set to reach 50 years old in the next 10 years. Prioritize stabilization, restoration, and rehabilitation projects.
Action 5	Develop additional interpretive panels focusing on the significance of the park’s totems and middens.

The cultural richness of the island must be protected and preserved. This will be accomplished through the monitoring of sites, the creation of a protection strategy for those in risk of deterioration, and by the interpretation of the site’s importance to the public.

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 Conduct Phase I archaeological surveys for high priority areas, which were not part of Dr. Sassaman's previous reconnaissance survey but have been identified as an area of high sensitivity by the predictive model.

Action 3 Develop and adopt a Scope of Collections Statement.

Action 4 Research the historic occupations and uses of the property and conduct appropriate oral history interviews.

Action 5 Compile a park administrative history.

The island contains a heavy density of known cultural sites, however it is unknown whether all of the cultural sites have been discovered. Dr. Sassaman's reconnaissance survey uncovered new sites, however the survey did not cover the entire island or the parcel west of the Hontoon Dead River, therefore additional Level 1 archaeology surveys are warranted. As sites are discovered and monitored, updates to the MSF are imperative. Research into the history of the park, prior to state acquisition is needed to interpret the importance of the island to the public. As information is found and interpretation is modified to include the new information, the Visitor's Center should be updated. This should include an up-to-date inventory of all items in the collection.

Objective C: Bring 5 of 14 recorded cultural resources into good condition if possible.

Action 1 Design and implement regular monitoring programs for 14 cultural sites, with a special emphasis on the impact of visitation on the 5 sites located in use areas (day use area, parking lot, and hiking trail).

The sites located in the use areas are currently monitored are in good condition. The rest of the sites are located in remote areas of the park, nestled in the natural communities away from the recreational areas. These areas, though not surveyed recently, are believed to be in good condition due to their isolation.

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 the 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.

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

Arthropod Control Plan

All 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, the 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. The 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.

Sea Level Rise

Potential sea level rise is now under study and will be addressed by Florida's residents and governments in the future. The DRP will stay current on existing research and predictive models, in coordination with other DEP programs and federal, state, and local agencies. The DRP will continue to observe and document the changes that occur to the park's shorelines, natural features, imperiled species populations, and cultural resources. This ongoing data collection and analysis will inform the Division's adaptive management response to future conditions, including the effects of sea level rise, as they develop.

Resource Management Schedule

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

Land Management Review

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

Hontoon Island State Park was subject to a land management review on October 26, 2018. The review team made the following determinations:

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

LAND USE COMPONENT

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the DRP. These responsibilities are to preserve representative examples of original natural Florida and its cultural resources, and to provide outdoor recreation opportunities for Florida's citizens and visitors. These dual responsibilities inform all recreational and infrastructure development considerations. Balancing equitable access to recreational facilities and preservation of Florida's resources is the main priority when developing recreation and land use proposals.

The general planning and land use planning process begins with an analysis of the natural and cultural resources of the unit, proceeds through the creation of a conceptual land use plan, and 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 meetings and advisory groups with key stakeholders. With this approach, the DRP's objective is to provide high-quality facilities 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 management plan includes an inventory and brief description of the existing recreational uses, facilities, and special conditions on use. Specific areas within the park that will be given special protection are also identified. The Land Use Component then summarizes the Conceptual Land Use Plan (CLUP) for the park and identifies large-scale repair and renovation projects, new building and infrastructure projects, and new recreational amenities that are recommended to be implemented over the next ten-year planning period. Any adjacent lands that should be pursued for acquisition are identified as a part of the park's Optimum Boundary.

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

The Timucuan Indians were the first human inhabitants of Hontoon Island and the surrounding area. Evidence is visible in the large shell middens throughout the area and by the owl, pelican, and otter totems that were found in the St. Johns River near the present day Hontoon Island Ferry Dock. Pioneers arrived in the 1800s, and Blue Spring, just to the east of Hontoon Island, became a major stopping point for steamboat traffic in the 1860s. William Hunton, the park's namesake, owned the island in the 1860's.

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. Hontoon Island State Park is included under the Conservation zoning designation in both Volusia and Lake Counties with a future land use category of conservation, with the exception of the visitor ferry launch off River Ridge Road which is included in the Urban

Low Intensity category. There are no foreseen complications associated with local land use regulations or the development of adjacent properties.

Current Recreational Use and Visitor Programs

Visitor access to the park is only available by ferry service or personal motorboat, where overnight boat slips are available for rent. Popular recreational activities at Hontoon Island State Park include paddling, camping, and hiking. A concession operation offers souvenir sales, camping supplies, and paddling rentals. The various options for camping include renting a primitive cabin, tent camping, and youth camping for larger groups. Paddling can be done on the St. John's River and along the island itself. A 1.5-mile nature trail takes visitors from the beginning of the park along the Hontoon Dead River. 6 miles of multi-use trails allow for additional hiking and biking around the island. The day use area overlooking the St. John's River provides a location for picnicking. A visitor center with a museum showcases displays about the islands first inhabitants and the island's natural habitats. Visitation at the park tends to increase starting late October until the end of April and remains steady throughout the year.

Hontoon Island State Park recorded 38,264 visitors in FY 2020/2021. By DRP estimates, the FY 2019/2020 visitors contributed $5.94 million in direct economic impact, the equivalent of adding 83 jobs to the local economy (FDEP 2021).

Other Uses

Hontoon Island State Park provides exceptional outdoor laboratories for students and scientists because of the seasonal abundance of the Florida Manatee, the wealth of archaeological sites, and the great diversity of natural communities and wildlife.

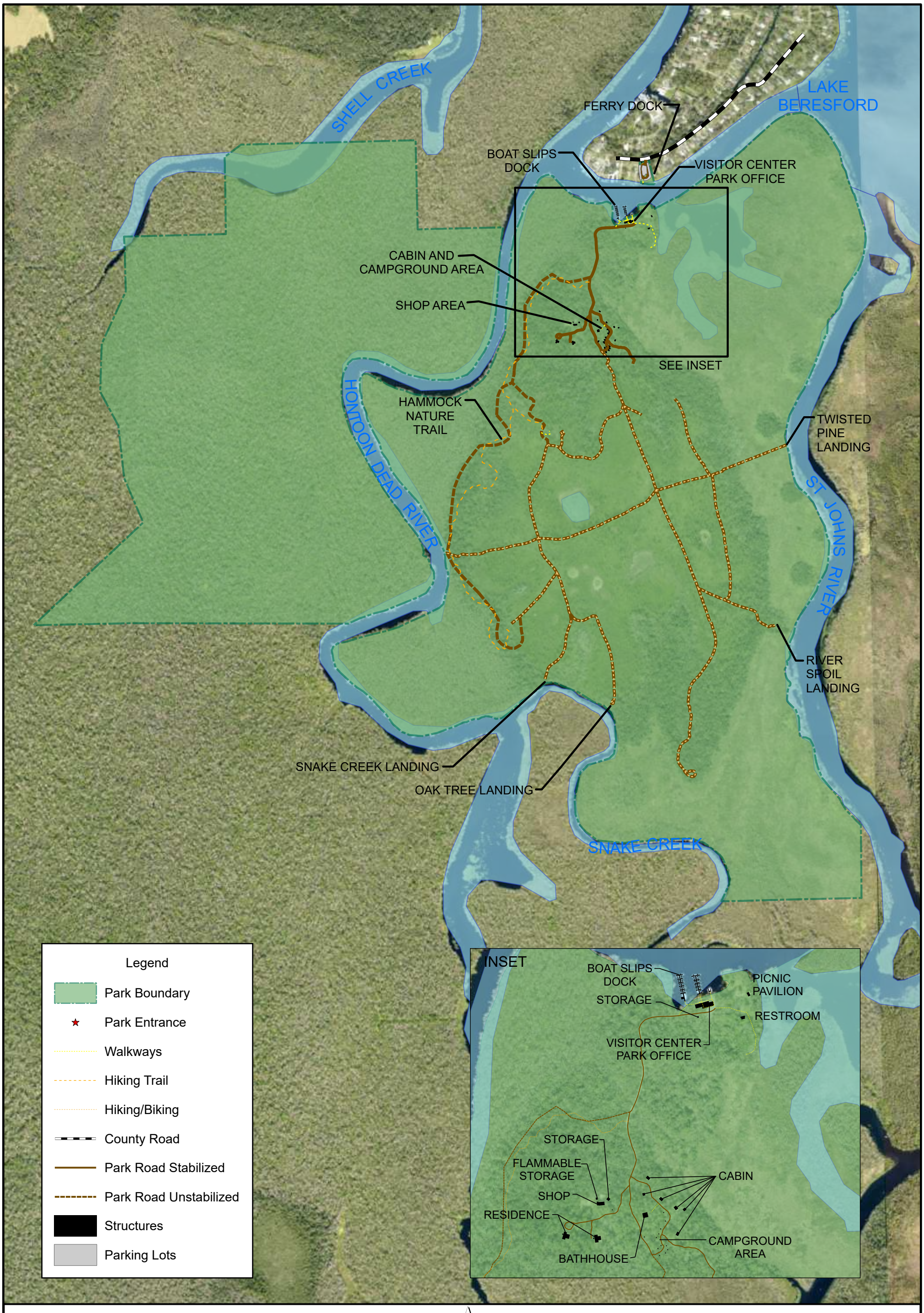
Protected Zones

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 Hontoon Island State Park, all wetlands and floodplain as well as shell mound and known imperiled species habitat have been designated as protected zones. The park's current protected zone is delineated on the Conceptual Land Use Plan.

Existing Facilities

Hontoon Island is accessible only by private boat or passenger ferry service. Vehicle parking is on the mainland at the ferry launch point and boat docking slips are available at the marina. Near this docking area and ferry landing is the day use area with picnic facilities and a playground. There are 6 miles of shared-use trails and a 1.5-mile nature trail. The park also has canoes for rent and small camp store for campers and day-use visitors. A Visitor Center features the story of the interaction of 2,000 years of history and 1,650 acres of nature. Overnight facilities consist of docking facilities for private boats, as well as rustic cabins, primitive tent sites, and a primitive youth camp.



HONTOON ISLAND STATE PARK

N

0 500 1,000 2,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2016

BASE MAP

Recreation Facilities

Parking Area
- Parking (20 spots)
- ADA Parking (2)

Visitor Center
- Museum

Park Office
- Ranger Station
- Concession – Gift Shop

Park Trails
- Nature Trail (1.5 miles)
- Shared / Multi-Use (6 miles)
- Paddling (3 miles)

Day Use Area
- Playground
- Picnic Pavilions
- Restroom

Marina
- Boat Slips (42)
- Ferry Landing

Camping Area
- Primitive Cabins (6)
- Tents Sites (12)
- Bathhouse
- Youth Camp

Support Facilities

Support Area
- Shop Building
- Ranger Residence (2)
- Wastewater Treatment Facility

Park Office
- Ranger Station
- Administrative Office
- Storage Buildings

Parking Area
- Storage Shed

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. 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 and design constraints 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 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.

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 improved activities and programs are also recommended and discussed below.

Objective: Maintain the park's current recreational use.

Public access and recreational opportunities to be maintained include visitation of the island, fishing, canoeing, kayaking, picnicking, interpretive programming, hiking, wildlife observation, and nature study.

Objective: Continue to provide and evaluate interpretive opportunities.

Existing interpretation should continually be assessed for effectiveness, adherence to propriety themes, and relevance to the audience. Throughout the year, Hontoon Island offers many interpretive opportunities to visitors including ranger-led hikes on the park's various natural communities and history of the island. This same program is also offered through a guided kayak tour around the island. Hontoon Island is also an active participant in the Junior Ranger Program.

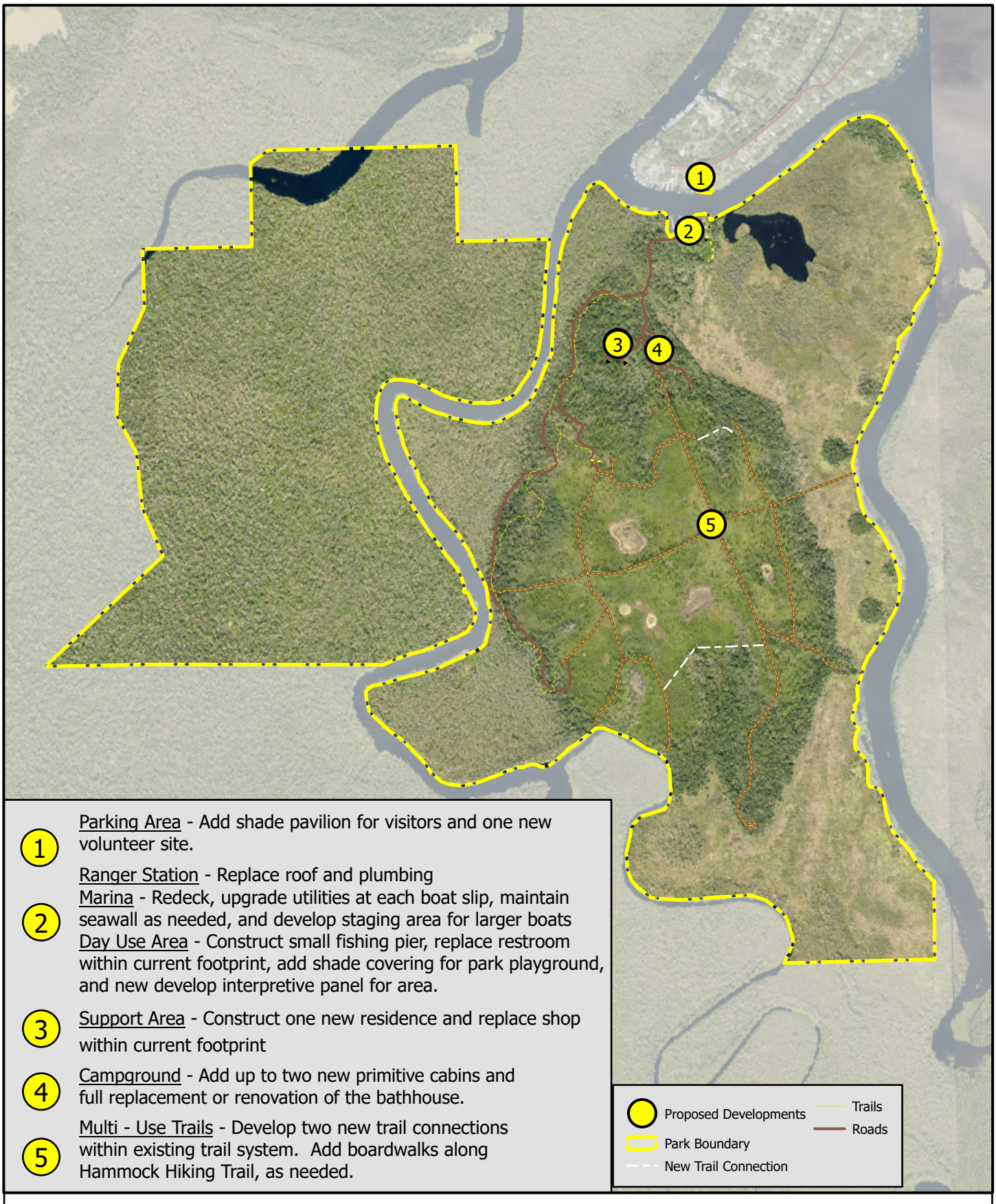
Objective: Plan and develop new interpretive opportunities.

New interpretive programing will focus on the Native American history of the Mayaca Native American's on the island, along with the natural resources and communities of the park for future Earth Day Events. An interpretive program will also be developed focusing on teaching visitors about fishing, a popular activity within the area.

Capital Facilities and Infrastructure

Goal: Develop and maintain use areas and support infrastructure.

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.



1. Parking Area - Add shade pavilion for visitors and one new volunteer site.
2. Ranger Station - Replace roof and plumbing
   Marina - Redeck, upgrade utilities at each boat slip, maintain seawall as needed, and develop staging area for larger boats
   Day Use Area - Construct small fishing pier, replace restroom within current footprint, add shade covering for park playground, and new develop interpretive panel for area.
3. Support Area - Construct one new residence and replace shop within current footprint
4. Campground - Add up to two new primitive cabins and full replacement or renovation of the bathhouse.
5. Multi - Use Trails - Develop two new trail connections within existing trail system. Add boardwalks along Hammock Hiking Trail, as needed.

HONTOON ISLAND STATE PARK
Conceptual Land Use Plan

N

0 100 200 Feet

Objective: Maintain all use area and support facilities in the park.

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

Objective: Improve 7 use areas.

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 ADA standards.

Parking Area

The proposal for this area is to add a pavilion to provide shelter for visitors waiting on the ferry. Additional improvements would include the addition of a volunteer camp host site including electric, water and sewer hookups within the existing parking area and adjacent to the storage shed.

Park Marina

The park marina on the St. John's River contains 42 boat slips and a landing for the park's ferry service. Improvements include upgrading the utilities at each boat slip and re-decking the marina on an as needed basis. Along the marina is an informal area used to unload larger supplies needed at the park. A formal staging area will be developed with the addition of bollards to securely tie off the incoming boats. The entirety of the sea wall should be maintained and repaired as needed.

Campground

The campground is prone to flooding especially during the summer months. A plan should be developed with the district biologist to mitigate the stormwater and flooding. Based on the outcomes of the hydrological study, mitigation options should be considered for implementation, possibly relocating the campground to higher ground within the island.

Two additional primitive cabins and full replacement or renovation of the bathhouse is recommended for the park's campground area.

Park Trails

Two new trail connections are proposed within the existing 6-mile multi use trail system. The first connection will be added on the northeastern portion, approximately 540 feet. The second connection will be on the south west area, approximately 1,530 feet. Both connections will create new loops for viewing opportunities for users and possibly serve as fire breaks for resource management purposes. The addition of segments of boardwalks, as needed, along the Hammock Hiking Trail are recommend to allow users to cross areas prone to flooding.

Day Use Area

Within the only day use area on the island, improvements include the development of a fishing pier with a small observation deck to provide a designated area for visitors to fish

and allow for new viewing opportunities of the St. John's River. An interpretive panel will be added to the day use area to educate visitors about the St. John's River and manatees. The playground needs shade covering and the current restroom will be fully replaced or renovated within the same footprint.

Ranger Station

The park's ranger station is need of renovation or replacement as the building supports the park manager's office, concession area and needed general storage. Upgrades to the ranger station include a new roof and plumbing throughout. To properly secure and shelter all concession rental equipment and camper amenities, a new building behind the current ranger station should be constructed to replace current auxiliary storage buildings.

Support Area

The parks support area currently contains one shop and two residences. Replacement of the current shop within the same footprint and the addition of one new residence to increase staff presence on the island is recommended. General improvements and renovations are needed to the two existing residences.

Visitor Use Management

The DRP manages visitor use to sustain the quality of park resources and the visitor experience, consistent with the purposes of the park. The dynamic nature of visitor use requires an adaptive approach to managing resource impacts from recreational activity.

To manage visitor use, the DRP will rely on a variety of management tools and strategies, potentially including modes of access and limits on the number of people within certain areas of the park. Achieving balance between resource protection and public access is fundamental to the provision of resource-based recreation and interpretation. The premise of a visitor use management strategy is to protect the park's significant natural and cultural resources. A strategy may include site-specific indicators and thresholds selected to monitor resource conditions and visitor experience. By monitoring conditions over time and clearly documenting when conditions become problematic, the DRP can implement actions to prevent unacceptable resource conditions.

Levels of visitation, patterns of recreational use, and varieties of available recreational activities are routinely monitored parkwide. Indicators have shown that this park is operating sustainably for its resources and offers high quality experiences for its visitors.

Resource indicators to be considered during this planning period include:

- Disruption of shell mound sites
- Trampling of vegetation along trails

Quality of visitor experience indicators to be considered include:

- User conflict at marina use area
- Crowding at day use area

Thresholds are defined as the minimally acceptable conditions for each indicator and represent the point at which resource impacts will require a change in management strategy. Thresholds are assigned based on the desired resource conditions, the data on existing conditions, relevant research studies, management experience, and current visitor use patterns. It is important to note that identified thresholds still represent acceptable resource conditions and not degraded or impaired conditions. Management actions may also be taken prior to reaching the thresholds.

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. 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.

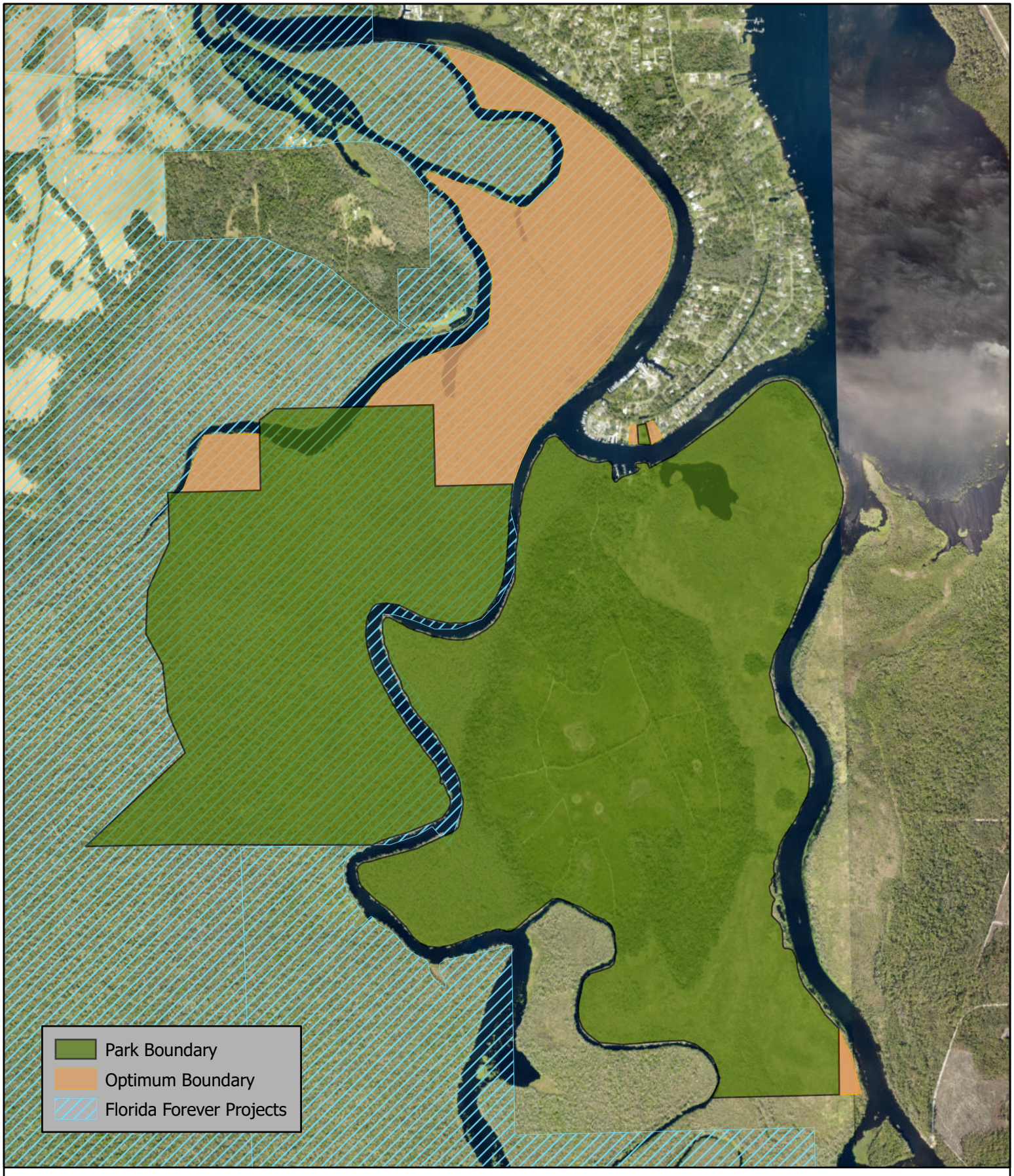
Identification of parcels on the optimum boundary map is intended solely for planning purposes. It is not to be used in connection with any regulatory purposes. Any party or governmental entity should not use a property's identification on the optimum boundary map to reduce or restrict the lawful rights 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.

Wekiva – Ocala Greenway Florida Forever Project

East of the Hontoon Dead River are approximately 370 acres of land currently apart of the Wekiva – Ocala Greenway Florida Forever Boundary. This acquisition would connect the northwest boundary of the park up until a private parcel of land. Acquisition of this parcel within the Florida Forever boundary will protect various plant and animals in the Wekiva and St. John's River basins such as the Florida scrub – jay and Sandhill crane.

Additional Optimum Boundary Lands

A parcel of land, located on the southeast boundary of the park, bordered by the St. John's River and Lower Wekiva River Preserve State Park is identified for the optimum boundary for Hontoon Island State Park. Approximately 5 acres, acquisition of this parcel would provide contiguous ownership along this section of the St. John's River which is important for natural resource protection. At this time, no lands are considered surplus to the needs of the park and no additional lands are identified for acquisition.



Hontoon Island State Park
Optimum Boundary Map

0 2,000 Feet

N

IMPLEMENTATION COMPONENT

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

Resource Management

- In 2012, the park exceeded their target goal for exotic aquatic plant removal.
- In 2014-2018 the park met exotic plant removal goals.
- In 2014-2018 the park met 100% of prescribed fire goal.
- In 2016 and 2018 the park decreased armadillo population

Park Facilities

- In 2010, volunteers constructed a universally accessible walkway between the main building and the picnic facilities.
- In 2014, Phase 2 of the playground was completed.
- Electrical upgrade to Campground Restrooms in 2016.
- New metal carports to protect state vehicles in 2016.
- Bathroom renovation to Ranger residence in 2016.
- Campground Cabins footers replaced in 2016.
- Tankless water heaters installed in restrooms in 2016.
- Re-tiled the Ranger Station office in 2016.
- Both the Resident Ranger and Park Manager plumbing was replaced 2018.
- Both marina docks were resurfaced 2019.
- Replaced all of the toilets in ladies' room at the campground and the main sewage trunk line was replaced in 2021.

Park Administration and Operations

- In 2010, improvements were made to the wastewater treatment system in the park.
- In 2010, park converted facilities to energy-efficient lighting.
- In 2012, new metal roofs were installed on cabins and porches were rescreened
- In 2012, siding was replaced on the main visitor/administrative building
- In 2014, the park began renting bicycles and allowing reservations for pavilion use.
- Increased visitation by 20% in 2016.
- New Park signage including improved trail maps and information on venomous snakes in 2016.
- 2018, CSO purchased a Dodge RAM truck.
- 2018, CSO purchased a 16' Trailer

- 2019, CSO purchased a 40’ Pontoon with two 40hp Yamaha engines
- 2020, CSO purchased an 18’ Camp host Camper
- 2020, Guest Services Inc. took over the operation of the camp store and kayak and bicycle rentals

Recreation and Visitor Service

- New fleet of bicycles and single and double kayaks in 2016
- Visitor center opened in 2016

Management Plan Implementation

This management plan is written for a timeframe of ten years, as required by Section 253.034 Florida Statutes. The Ten-Year Implementation Schedule and Cost Estimates (Table 8) summarizes the management goals, objectives and actions that are recommended for implementation over this period, and beyond. Measures are identified for assessing progress toward completing each objective and action. A time frame for completing each objective and action is provided. Preliminary cost estimates for each action are provided and the estimated total costs to complete each objective are computed. Finally, all costs are consolidated under the following five standard land management categories: Resource Management, Administration and Support, Capital Improvements, Recreation Visitor Services and Law Enforcement.

Many of the actions identified in the plan can be implemented using existing staff and funding. However, a number of continuing activities and new activities with measurable quantity targets and projected completion dates are identified that cannot be completed during the life of this plan unless additional resources for these purposes are provided. The plan’s recommended actions, time frames and cost estimates will guide the 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 identified in Table 8 may need to be adjusted during the ten-year management planning cycle.

Table 6. Ten-Year Implementation Schedule and Cost Estimates				
Goal I: Provide administrative support		**Measure**	**Planning Period**	**Estimated Cost**
Objective A	Continue administrative support	Administrative support ongoing	C	$25,400
Goal II: Protect water quality and quantity in the park, restore hydrology, and maintain		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Assess the park's hydrological needs	Plan complete	UNF	$30,000
Action 1	Monitor road between use area and campground to determine if its impeding water flow	Area surveyed	UNF	$10,000
Goal III: Restore and maintain natural communities		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	250 acres of the park maintained within the optimum FRI	Acres burned	LT	ongoing
Action 1	Develop/update annual burn plan	Plan complete	C	ongoing
Action 2	Manage fire dependent communities by burning 106 – 211 acres annually	Acres burned	C	ongoing
Objective B	Conduct natural community restoration activities on 155 acres of Floodplain Marsh	Acres restored	LT	
Action 1	Develop a site-specific restoration plan based upon the results of the proposed Blue Spring State Park / FWC AHRES project	Acres restored	ST	$10,000
Action 2	Implement restoration plan	Plan implemented	LT	$120,000
Objective C	Conduct natural community improvement activities on 75 acres of Mesic Flatwoods	Acres improved	LT	$40,000
Goal IV: Maintain, improve, or restore imperiled species populations and habitats		**Measure**	**Planning Period**	**Estimated Cost**
Objective A	Develop / Update baseline imperiled species occurrence inventory for plants and animals	Implement survey	C	ongoing
Action 1	Conduct a systematic survey of the property with an emphasis on	Implement survey	LT	$30,000

	imperiled land based vertebrate species			
Action 2	Conduct a systematic survey of the property with an emphasis on imperiled invertebrate species	Implement survey	LT	As needed
Objective B	Monitor and document 1 selected imperiled animal species in the park	Monitoring started	C	$5,000
Action 1	Continue the monitoring for gopher tortoise post prescribed fire.	Acres surveyed	C	$20,000
Objective C	Monitor and document 1 selected imperiled plant species in the park	Area surveyed	C	$5,000
Action 1	Develop monitoring protocols for 1 selected imperiled plant species	Protocol developed	ST	$1,000
Action 2	Implement monitoring protocols for 1 imperiled plant species, plume polypody	Area Surveyed	C	$5,000
Objective D	Research the history of hooded pitcher plants on property	Research completed	ST	Re-occurring
Action 1	Conduct literature research on the history of hooded pitcher plants on Hontoon Island and in the local area	Search completed	ST	$5,000
Action 2	If appropriate, conduct a feasibility study to determine the appropriateness and feasibility of reintroducing the plant to the park	Study completed	ST	$10,000
Goal V: Remove exotic and invasive plants and animals from the park and conduct needed maintenance control		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Annually treat 2 acres of exotic plant species in the park	Acres treated	C	$5000 per year
Action 1	Annually develop / update exotic plant management work plan	Plan developed	C	$1,000
Action 2	Implement annual work plan by treating 2 infested in park	Implement Plan	C	ongoing
Action 3	Continue cooperation with FWC IPM and ACOE	Attend meetings	C	ongoing

	on aquatic invasive plant species treatment in the St. Johns River.			
Action 4	Continue cooperation with FWC IPMS on the release of the alligator weed flea beetle as a biocontrol of alligator weed	Attend meetings	C	ongoing
Action 5	Annually meet with the Blue Spring Interagency Working Group to update and continue the winter spraying moratorium (October-April) of invasive plants	Attend meetings	C	ongoing
Objective B	Implement control measures of 2 invasive animal species in the park		C	$5,000 per year
Action 1	Implement removal protocols for the nine – banded armadillo based on DRP policy and operations manual	Implement plan	C	
Action 2	Continually scout the park for feral hog damage		C	ongoing
Action 3	Biennial firearm re – qualification for staff to meet the Divisions' Firearm Use Standard		C	ongoing
Action 4	Implement control measures on feral hogs		C	ongoing
Goal VI: Protect, preserve and maintain the cultural resources		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Annually evaluate 13 of 13 recorded cultural resources in the park	# of sites assessed	LT	$5,000 per year
Action 1	Complete 13 assessments/evaluations of archaeological sites.	Assessments Complete	LT	$20,000
Action 2	Implement regular monitoring of erosion on Hontoon Dead Creek Mound to determine if stabilization is needed		LT	ongoing
Action 3	Develop a stabilization plan for Hontoon Island North (8V0202), specifically the seawall edge	Plan developed	ST	$5,000

Action 4	Complete 10 Historic Structures Reports (HSR's) for building set to reach 50 years old in the next 10 years.	Reports Completed	LT	ongoing
Action 5	Develop additional interpretative panels focusing on the significance of the park's totems and middens.	Panels completed	ST	As needed
Objective B	Compile reliable documentation for all recorded historic and archeological resources		LT	ongoing
Action 1	Ensure all known sites are recorded or updated in the FMSF	Files updated	LT	ongoing
Action 2	Conduct Level 1 archeological surveys for high priority areas	Survey complete	ST	$40,000
Action 3	Develop and adopt a Scope of Collections Statement	Statement Developed	ST	
Action 4	Research the historic occupations and use of the property and conduct appropriate oral history interviews		LT	ongoing
Action 5	Compile a park administrative history		LT	ongoing
Objective C	Bring 5 of 13 recorded cultural resources into good condition if possible	# of sites stabilized	ST	$8,000
Action 1	Design and implement monitoring programs for 13 cultural sites	Plan Implemented	ST	$10,000
Goal VII: Provide public access and recreational opportunities		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Maintain the parks current recreational use	# Recreation/visitor	C	$102,000
Objective B	Continue to provide interpretive opportunities		ST	$3,000
Objective C	Plan and develop new interpretive opportunities	Interpretive/education programs	LT	$3,000
Goal VIII: Develop and maintain the capital facilities and infrastructure		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Maintain all public and support facilities	Facilities maintained	C	$2,413,000
Objective B	Improve 7 use areas	# Facilities/ Miles of Trails/Miles of Roads	LT	$741,000

Addendum 1—Acquisition History

DRP Land Acquisition History Report	
Facility Name	Hontoon Island SP
Date Updated	9/30/2022
County	Volusia
Trustees Lease Number	2468
Current Park Size	1,653.83 Acres (Includes 0.56 acres owned by Volusia County under lease to BOT.)

Acquisition History

Parcel DMID	Date Acquired	Initial Seller	Initial Purchaser	Instrument Type	Section, Township, Range (STR)
367075	9/12/1960	The State of Florida Board of Trustees of the Internal Improvement Trust Fund	Florida Board of Parks and Historic Memorials	Dedication No. 22570	25, 35/17S/29E
4484	5/12/1967	Joshua M. Connell and Frankie Connell	Florida Board of Parks and Historic Memorials	Quit Claim Deed	35/17S/29E
4485	5/12/1967	City of Deland	Florida Board of Parks and Historic Memorials	Municipal Warranty Deed-Donation	35/17S/29E
4488	5/19/1967	Consolidated Financial Corporation, f/k/a Consolidated Naval Stores Company (See Deed reverter clause; page 1 paragraph 4)	Florida Board of Parks and Historic Memorials	Mineral Deed	36/17S/29E, 06/18S/30E
4486	5/24/1967	F.H. Connell and Mary Edna Connell	Florida Board of Parks and Historic Memorials	Warranty Deed	36/17S/29E, 06/18S/30E
4487	5/24/1967	J.M. Connell and Frankie Connell	Florida Board of Parks and Historic Memorials	Warranty Deed	36/17S/29E, 06/18S/30E
4490	9/28/1967	Florida Board of Parks and Historic Memorials - All lands deeded to Florida Board of Parks and Historic Memorials in 1967, to comprise Hontoon Island SP	Trustees	Deed	35,36/17S/29E, 01/18S/29E, 06/18S/30E
4483	9/28/1967	Florida Board of Parks and Historic Memorials - All lands from Dedication #22570 (These lands were previously under BOT Lease No. 2324)	Trustees	Deed	25,35/17S/29E
4489	5/16/1968	Lake Realty Co. - Lot 50 of River Ridge Subdivision (See 10 restrictions; page 1)	Trustees	Warranty Deed	35,36/17S/29E

Lease Number	Initial Lease Date	Initial Lessor	Initial Lessee	Expiration Date
2468	10/12/1970	The State of Florida Board of Trustees of the Internal Improvement Trust Fund	DEP/DRP	10/11/2069

Outstanding Issue(s)	Type of Instrument	Brief Description of the Outstanding Issue
Reverter	Mineral Deed	*"This conveyance is made with the mutual understanding between the Grantor and the Grantee herein that the property herinabove described is to be used by the State of Florida for public recreational purposes only, and further that Grantee will permit no exploration of said minerals; and in the event of transfer of title by the Grantee herein, the mineral interest herin conveyed, together with the right of ingress and egress, shall immediately revert to Grantor."*
Restrictions	Warranty Deed	*Ten restrictions, page one, per original covenants from River Ridge Subdivision. See document for full citation.*

DRP/OPP
Land Administration
Angel Granger, Manager

Addendum 2—Advisory Group Members and Report

Local Government

The Honorable Ben Johnson, Commissioner
Volusia County Commission

The Honorable Josh Blake, Commissioner
Lake County Commission

John Stockham, Planner III
Volusia County Planning Department

Tim Baylie, Director
Volusia County Parks and Recreation

Katrina Locke, Director
Volusia County – Sustainability & Natural Resource

Georgia Turner, Chairperson
West Volusia Tourism Advertising Authority

Partnering State Agencies

Jason O'Donoughue, Ph.D.
Division of Historical Resources

Jason Love, State Lands Management Coordinator
Florida Forest Service

Anthony Petellat, District Manager
Florida Forest Service

Erin McDevitt, District Manager
Florida Forest Service – North Region

Greg Workman, Regional Manager
Florida Wildlife Commission

Barbra Howell, Aquatic Preserve Manager
Wekiva River Aquatic Preserve - DEP

Jeff Panther, Regulatory Director
St. Johns Water Management District

Environmental Organizations

Pat Rose, Vice Chair
Save the Manatee Club

Steven Kinter, Vice Chair
Blue Spring Alliance

Steve Wonderly, South Region Manager
Sierra Club – Volusia / Flagger Group

Volusia County Soil and Water

Florida Park Service

Dustin Allen, Park Manager
Blue Spring State Park

Devin Whitley, Park Manager
Hontoon Island State Park

Adjacent Landowners

Katherine Hallum
Trinket Mason
Debbie Cutler
Steven Aldrich

Local Stakeholder Groups

Kristen Work, Chair – Biology Department
Stetson University

Citizen Support Organization

Melissa Gibbs, President
Friends of Blue Spring State Park

Peggy Thibodeaux, President
Friends of Hontoon Island State Park

Guest Services Inc, General Manager
BG Signatures

Florida Dive Company, General Manager
Florida Dive Company

Summary of Advisory Group Comments

The Advisory Group Public Meeting for the draft unit management plans for Blue Spring State Park and Hontoon Island State Park was held on June 21, 2022 in Orange City, Florida at the Orange City Wava Hall.

To begin the meeting, Ms. Armaghani, welcomed attendees to the public advisory group meeting for the draft unit management plans for Blue Spring State Park and Hontoon Island State Park. Additional members of the Florida Park Service present at the meeting included: District 3 Bureau Chief Robert Yero, District 3 Assistant Bureau Chief Jennifer Roberts, District Biologist Jason DePue, Blue Spring State Park Manager Dustin Allen and Assistant Manager Darrell Thomas, Hontoon Island State Park Manager Devin Whitney, Office of Park Planning Bureau Chief Brian Fugate, and Preston Earley.

To begin the presentation, Ms. Armaghani provided background information on both parks including their general location, what recreation opportunities can be found along with visitation statistics from the 2020/2021 fiscal year, and trends of general visitation at the park throughout the year. Further background information presented were the natural communities within each park's vast acreages and the different imperiled species present. Next, the resource management objectives for the next 10 years were presented along with the Conceptual Land Use Plan maps for both parks which laid out all proposed developments and improvements to the park in their respective use areas.

Following the conclusion of the presentation, there was a question and answer session where the public and advisory group had an opportunity to ask any additional questions.

Following the question and answer session, Ms. Armaghani concluded the meeting by providing additional information on the next steps of the draft plan including a two-week comment period that would end on July 5, 2022. Ms. Armaghani also informed the attendees of the public meeting that the plan would be later submitted to the Division of State Lands where they had 100 days to review the plan for hopeful approval on the October Acquisition and Restoration Council.

Summary of Advisory Group Comments

Several inquiries were made about both parks Conceptual Land Use Plans. At Blue Spring State Park, questions were related to the exact location of the park's relocation of the entrance. District Chief, Robert Yero, replied that the exact location and design has yet to be determined, but the utilization of existing service roads is being explored. A similar question was asked about the manatee staging area, and the location of the new proposed fishing docks at Blue Spring and Hontoon Island. Representatives from the Save The Manatees Club inquired about the proposed addition of the boat slips towards the St. John's River and if this for existing use or the anticipation of an increase of boat traffic. They also noted that an increase in boat traffic would have negative effects on manatees. Mr. Yero replied saying that no increase will be created from this proposed development, rather it would manage the location of where outside boaters land. Mrs. Armaghani added that currently visitors are landing and tying their boats to the trees causing a visitor use management issue. Additional stakeholders inquired about the use of park infrastructure currently on septic, and any future to switch to city sewage. Park Manager Dustin Allen noted that the overall goal within the Park Service is to connect all park infrastructure to

central sewage in the long term but currently the closest connection is 2 miles down West French Avenue. Mr. Yero added that full connection to a local sewer system in the short term is unlikely.

Resource management-based questions were also asked during the public advisory group meeting. The representative from the Sierra Club, inquired about the magnitude of the invasive plant and animal species at both Blue Spring and Hontoon Island. District Biologist Jason DePue replied noting that there are different levels of invasive species vary at each park, and that the development of buffers such as fire breaks have been successful to keep levels manageable. Mr. DePue also added that floating invasive are a challenge to treat, but those are often done by Army Crop of Engineers, FWC and the Park Service. Regarding invasive animal species, an inquiry was made on what animal species are currently present at Blue Spring State Park, Mr. DePue noted the presence of argentine tegus.

An additional question was asked about the current imperiled status of the little blue heron at Blue Spring State Park and why it is considered imperiled. Mr. DePue replied that they are listed as imperiled not due loss of habitat, but due to threats to nesting and rookeries and habitat loss from increased developments. Lastly, inquiries were made about the ongoing restoration of the spring run and spring boil. Mr. DePue added that all the restoration is being completed in phases, currently noting that the north side of the boil is being restored next and noting general success of the restoration so far. Visitor use issues where raised during the conversation of the park's restoration including the issues of visitors continually jumping off the recently restored embankments. Mr. Allen added that tension wires have been placed around the restored areas to deter continued jumping, but people are still finding ways to damage the area.

Representatives from the Florida Forest Service at the meeting noted the presence of the Land Management Report within the plans addendum and added they would like to see more data on the canopy cover and the trees in the overstory at both parks. The Forest Service's Recreation Coordinator commended both plans on their proposed improvements to recreation and support services while keeping conservation efforts in high consideration.

General and operational inquires presented at the meeting included park capacity and issues, and congestion problems at the park entrance from visitors waiting to enter Blue Spring especially during peak season. Attendees asked if the Park Service or if park management have looked into various options such as texting services or placing time limits to guests. Questions about park interpretive programming where presented regarding the Firefly Presentation at Blue Spring, to which Assistant Park Manager Darryl Thomas stated that this interpretive program is typically end towards the end of March.

Written Advisory Group Comments

Melissa Gibbs provided written comments on the Blue Spring State Park draft management plan regarding exotic species, hydrological issues, and visitor capacity. Full comments are attatched below.

Representatives from Save the Manatee Club provided additional written feedback supporting future acquisition of land within the Wekiva – Ocala Greenway for Hontoon Island State Park. For Blue Spring State Park, concerns about loss of submerged aquatic vegetation within the St. Johns River system and available forage for manatees. Suggestions include the use of hand or mechanical removal as the preferred method versus the use of herbicide to treat aquatic invasive. The organization also commented on the proposed new boat slip dock along the St. Johns River and have recommended the implementation of a monitoring program by either volunteers or park staff to continually monitor manatees that may come into close proximity to the new boat slips, and to limit its use during colder months. Editorial comments were also provided. Full comments are attatched below.

Jason O'Donoughue from the Division of Historical Resources provided editorial revisions for both Blue Spring and Hontoon Island's draft plans.

Summary of Written Public Comments

Suze and Fred Peace provided public comments on both the Blue Spring State Park and Hontoon Island State Park draft unit management plans. Regarding Blue Spring, Mr. and Mrs. Peace showed support for the proposed environmental education building and suggested the addition of meeting space within the building itself. Additional comments include removing all plastic bags from the concession rather using paper bags instead. Regarding Hontoon Island State Park, Mr. and Mrs. Peace showed support for the proposed shade pavilion at the parking area, new fishing dock within the day use area, and new trail connections. Suggestions made include the addition of new interpretive signage within certain areas of the park.

Edward Evangelidi provided public comments on the draft plan for Blue Spring State Park supporting the addition of new amenities such as the new fishing dock, interpretive kiosk, and restroom to French Landing.

Katherine Hallum provided public comments regarding the draft plan for Blue Spring State Park suggesting additional land use component proposals: new loops within the existing trail system to accommodate for off road electrical wheelchairs, a new connection within the Stark Multiuse Trial, and an adult fitness playground.

Staff Recommendations

Staff recommendations include making editorial revisions to both plans.

Notes on Composition of the Advisory Group

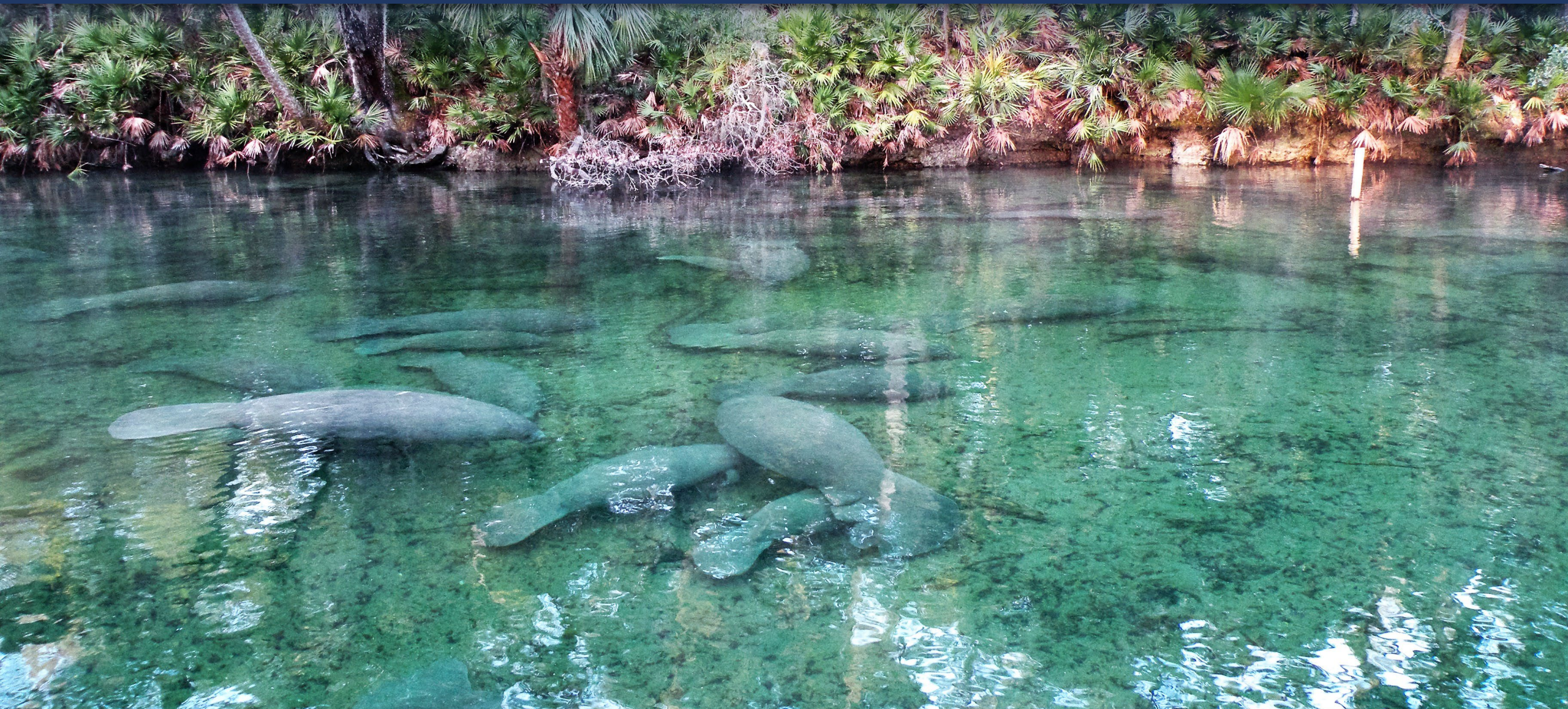
Florida Statutes Chapter 259.032 Paragraph 10(b) establishes a requirement that all state land management plans for properties greater than 160 acres will be reviewed by an advisory group:

> "*Individual management plans required by s. 253.034(5), for parcels over 160 acres, shall be developed with input from an advisory group. Members of this advisory group shall include, at a minimum, representatives of the lead land managing agency, co-managing entities, local private property owners, the appropriate soil and water conservation district, a local conservation organization, and a local elected official.*"

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

Blue Spring State Park & Hontoon Island State Park

Public Advisory Group Meeting – 6/21/2022

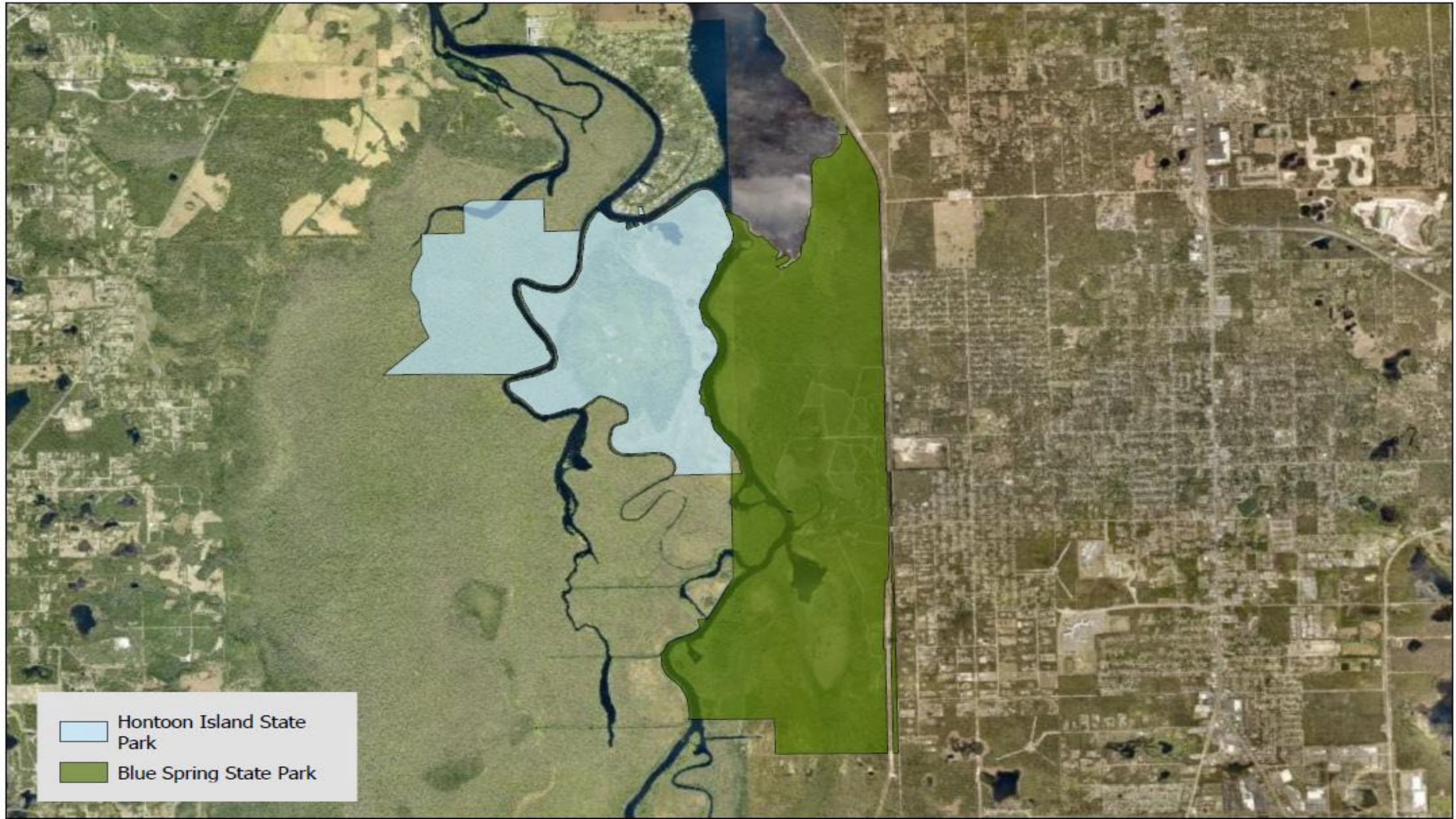


Blue Spring State Park & Hontoon Island State Park

Public Advisory Group Meeting – 6/21/2022

Agenda

- Introductions
- Background Information
- Management Objectives
- Question & Answer
- Open Discussion


Hontoon Island State Park
Blue Spring State Park

Blue Spring State Park & Hontoon Island State Park

Recreation & Visitation

Recreational Opportunities

- Paddling
- Camping
- Fishing
- Hiking

Visitor Attendance – 2020/2021 Fiscal Year

- 559,835 Visitors – Blue Spring
- 38,264 Visitors – Hontoon Island

Blue Spring & Hontoon Island State Park

Natural Community Acreages

Blue Spring		
Natural Community	**Acreage**	**Percentage**
Floodplain Swamp	1,416.59	50%
Floodplain Marsh	889.41	32%
Scrub	157.10	6%
Mesic Hammock	97.15	3%
Blackwater Stream	75.52	3%
Total Acreage	**2,643.90**	

Hontoon Island		
Natural Community	**Acreage**	**Percentage**
Floodplain Swamp	1,104.62	57%
Upland Mixed Woodland	606.13	13.8%
Hydric Hammock	372.67	11.6%
Floodplain Marsh	146.25	10.8%
Altered Landcover Types	75.53	1.6%
Total Acreage	**1,648.90**	

Blue Spring & Hontoon Island State Park

Imperiled Species

Blue Spring State Park – 27 Imperiled Species

- Manatee
- Florida gopher frog
- Gopher tortoise
- Shell mound prickly - pear

Hontoon Island State Park – 12 Imperiled Species

- Little blue heron
- Wood stork
- Banded wild pine
- American alligator

Blue Spring & Hontoon Island State Park

Resource Management Objectives

Blue Spring
Hydrological
Improve 206 acres of freshwater marsh
Prescribed Fire
Burn 194 – 398 acres annually
Natural Community Restoration
Restore acres of Scrub, Floodplain Marsh, Scrubby Flatwoods, Mesic Hammock & Aquatic Cave
Imperiled Species
Monitor 3 species (gopher tortoise, Florida scrub jay and Florida manatee)
Exotic Species
Treat 10 acres annually
Implement control measures on 3 species
Cultural Resources
Monitor 2 sites per year

Hontoon Island
Hydrological
Conduct assessment on hydrological needs
Prescribed Fire
Burn 106 – 211 acres annually
Natural Community Restoration
Restore 178.47 acres of Floodplain Marsh
Imperiled Species
Monitor 2 species (gopher tortoise & plume polypody)
Exotic Species
Treat 2 infested acres annually
Implement control measures on 2 species
Cultural Resources
Monitor 13 sites per year

Blue Spring & Hontoon Island State Park

Proposed Developments & Improvements

Conceptual Land Use Plan

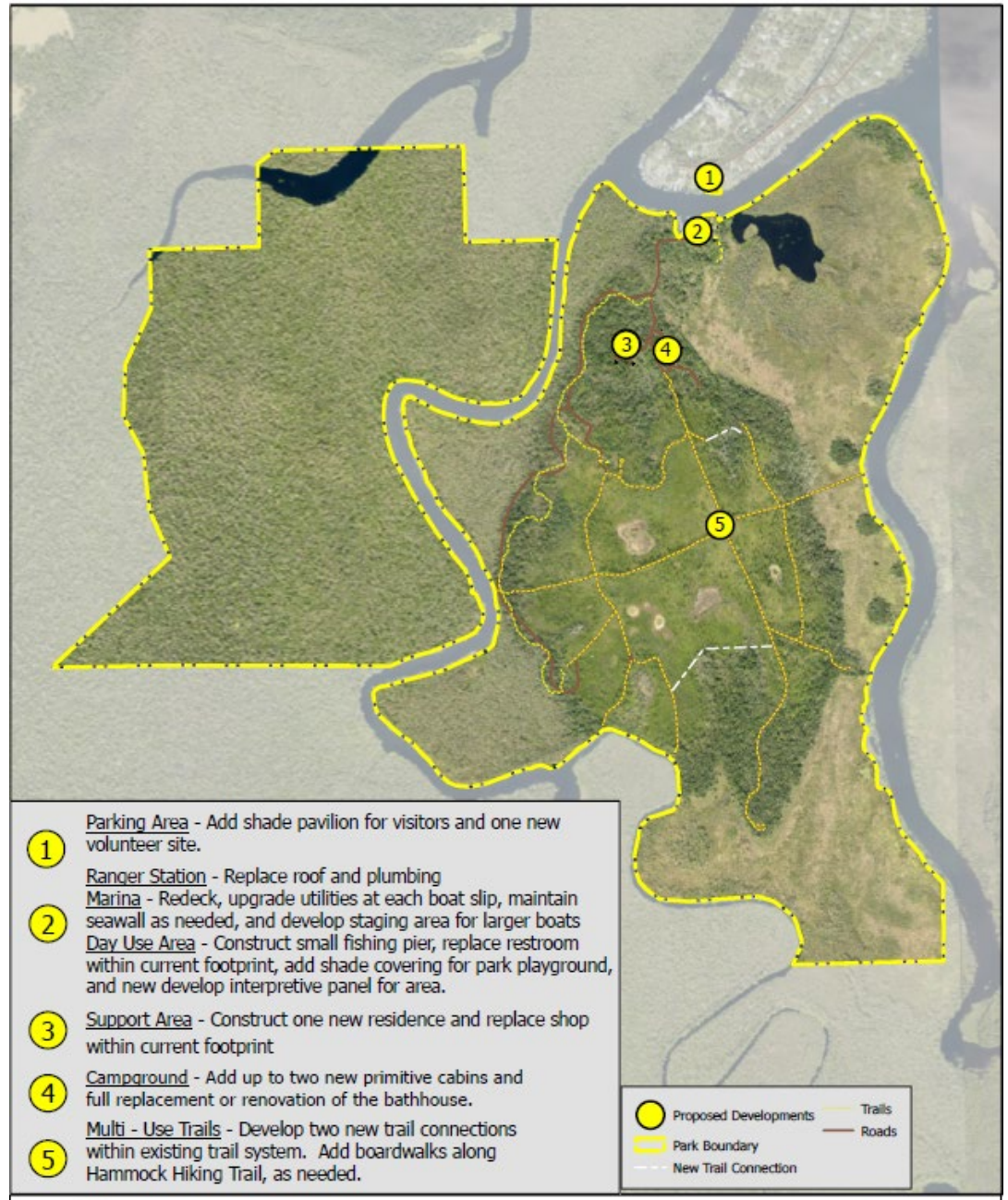
BLUE SPRING STATE PARK

Conceptual Land Use Plan

0 500 1,000 2,000 Feet

N

1. Park Entrance - Relocate park entrance to alleviate current issues of cars stacking along West French Avenue and general congestion and develop new traffic plan.
2. Support Area - Expand current shop building to a larger footprint, and improve staff access to area by stabilizing leading road. Add residence or volunteer site within the open field adjacent to support area. Relocation of the shop will be considered
3. Campground - Add up to 10 new campsites a mixture of RV , tents, glamping, and volunteer sites. Upgrade utilities within entire campground and add a new dump station at the southern end of campground.
4. Pine Island Trail - Develop new boardwalk from existing Pine Island Trail, approximately 200 feet, for new viewing opportunities of the lagoon.
5. Lower River Use Area - Develop manatee staging area along spring run. Add new dock with up to 10 boat slips for outside boaters along river. Add new floating dock for paddling launch. Add small Environmental Education Building.
6. Upper Spring Run - Renovate main concession building, formalize outdoor/indoor seating, meeting space, and new storage areas for tube rentals. Expand boardwalk along spring run, and replace/renovate current restroom.
7. Inholding - Acquire park inholding, approximately .28 acres
8. French Landing - Develop master plan to formalize area. Stabilize road leading to French Landing. Upgrade boat ramp and add small fishing dock. Add one interpretive kiosk



HONTOON ISLAND STATE PARK
Conceptual Land Use Plan

Blue Spring State Park & Hontoon Island State Park

Public Advisory Group Meeting – 6/21/2022

Comment Period

Open Through July 5

Yasmine.Armaghani@FloridaDEP.gov

FloridaDEP.gov/Parks/Public-Participation

PLEASE SIGN IN (PRINT CLEARLY)

BLUE SPRING STATE PARK – HONTOON ISLAND STATE PARK
ADVISORY GROUP PUBLIC MEETING
JUNE 21, 2022

	PRINT NAME	EMAIL ADDRESS (NOTE: UNDER FLORIDA LAW, EMAIL ADDRESSES ARE PUBLIC RECORDS.)	
1.	CHARLES & BETTY SMITH	RBSMITH4@EARTHLINK.NET	☑ Check Box for Advisory Group Member
2.	Mitchell Greenberg	Mitch.Greenberg@SORBAORlando.com	☐ Check Box for Advisory Group Member
3.	Ron Nance	com.nance@[illegible].com	☐ Check Box for Advisory Group Member
4.	Wayne Hartley	ranger wh@att.net	☐ Check Box for Advisory Group Member
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6.	DAVID BOTTOMLEY	MICHAMOCHA18C YAHOO.COM	☐ Check Box for Advisory Group Member
7.	Barbara Howell	Barbara.Howell@FloridaDEP.gov	☑ Check Box for Advisory Group Member
8.	Suze Peace	10sfpeace@gmail.com	☐ Check Box for Advisory Group Member
9.	FRED PEACE	" "	☐ Check Box for Advisory Group Member
10.	Jim Newell	Billing@FloridaDiveCompany.Com	☐ Check Box for Advisory Group Member

PLEASE SIGN IN (PRINT CLEARLY)

BLUE SPRING STATE PARK – HONTOON ISLAND STATE PARK
ADVISORY GROUP PUBLIC MEETING
JUNE 21, 2022

	PRINT NAME	EMAIL ADDRESS (NOTE: UNDER FLORIDA LAW, EMAIL ADDRESSES ARE PUBLIC RECORDS.)		
1.	Connor Wagner	Connor.Wagner@FloridaDEP.gov		☐ Check Box for Advisory Group Member
2.	Cora Berchem	cberchem@savethemanatee.org		☐ Check Box for Advisory Group Member
3.	Alex Zelenski	azelenski@clearviewgeographic.com	representing Sierra Club Steve Wonderly	☑ Check Box for Advisory Group Member
4.	Tara Wagner	wagasw@comcast.net		☐ Check Box for Advisory Group Member
5.	KATHERINE HALLUM	DBIKE56@GMAIL.COM		☐ Check Box for Advisory Group Member
6.	YOKO SHIMADA			☐ Check Box for Advisory Group Member
7.	John Baker	johnbkr700@gmail.com		☐ Check Box for Advisory Group Member
8.	Melinda A. Avni	melinda.avni@FDACS.gov	Representing FL Forest Service	☑ Check Box for Advisory Group Member
9.				☐ Check Box for Advisory Group Member
10.				☐ Check Box for Advisory Group Member

From: Melissa Gibbs
To: Armaghani, Yasmine
Subject: blue spring
Date: Tuesday, June 14, 2022 8:31:42 AM

EXTERNAL MESSAGE
This email originated outside of DEP. Please use caution when opening attachments, clicking links, or responding to this email.

I received the email about the advisory group and have read the document & prepared comments (tho I will be out of town and unable to attend the meeting).
~Missy Gibbs

Comments:
I don't think BSSP is "exemplifying the balance between enjoying & protecting the spring"....in fact, the state of the park has gone downhill in the past 10 years....we are destroying it
I also don't think that the park is promoting "responsible aquatic activities". Although most visitors are fairly responsible, the complete lack of law enforcement and reduced staffing means that no one is there to ride herd on irresponsible park visitors. They are damaging the headspring (climbing to jump) with impunity.

The brown hoplo (fish) is not really a problem...the most common exotic fish are Pterygoplichthys (armored catfish), Tilapia, Grass Carp and now, Chanchita (another cichlid that we have seen in ever increasing numbers in the upper half of the spring run).

I'm a little confused about the hydrological management plan, as I don't see that will be affected until water removal by humans is greatly reduced. The river has always backed up in the late summer/fall to some extent. I don't understand the first hydrological objective at all. Where is the proposed culvert? And won't that interfere with natural hydrology? The document says that the historic flow was 162 cfs, but doesn't say what the current flow is.

Water lettuce is not exotic...there is pretty clear evidence from 15,000 year old sediment cores that include water lettuce seeds.

The water in the spring run is rarely very clear, due to the excessive numbers of park visitors allowed in...we need to cut down the number of people allowed into the park to better protect it.

We need to not just monitor erosion...we need to have law enforcement DO something about the people who are breaking the law and undoing 100s of thousands of dollars worth of restoration work!

The primary manatee assessments are by SMC, so that should be reflected in the document. The park also does manatee counts, but are relatively new to it.
p. 55 – "Work in progress" is Rubio et al. 2016
p. 59 Objective B – "Remove all exotic fish species from the park" is literally impossible. It would be incredibly difficult even if there were no connection to the river, but there is....it is fluid. We can never remove the exotics, but we can mitigate the impact they are having by protecting the spring a little more. Its being loved to death right now and over the past 24 years of conducting research there, I've only seen it go downhill....both in terms of water

quality, human disregard for the spring (jumping), and facilities.
Recreational opportunities are excessive and destroying the park....none of this is currently sustainable. I know it will not be popular to restrict access but if we don't, I'm really afraid that the park will degrade even more seriously. We aren't just trying to protect the park as a warm water refuge for manatees and as a swimming hole, but we are trying to protect the park for all of the other aquatic & terrestrial wildlife...and to keep it as natural as possible.

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SAVE THE MANATEE® CLUB

The Voice For Manatees Since 1981

Ms. Yasmine Armagani
Florida Department of Environmental Protection
Sent Electronically Only

RE: Blue Spring State Park and Hontoon Island State Park Unit Management Plans

Ms. Armagani,

We appreciate this opportunity to comment on the Blue Spring and Hontoon Island State Park Unit Management Plans and the long-term, continued collaborations between the Park Service and Save the Manatee Club that is acknowledged in the plans.

We commend park staff for success in implementing the plan adopted in 2005 and generally support the proposed projects and improvements included in the current draft. As you are likely aware, we continue to be concerned about the loss of submerged aquatic vegetation in the St. Johns River system and the availability of forage for manatees at Blue Spring and the surrounding area. We are encouraged by the partnership demonstrated by the Blue Spring Interagency Working Group and ask that special attention is paid to any herbicide application affecting plants that serve as food sources for the manatee (particularly water lettuce and water hyacinth). Mechanical or hand removal should be identified in the plans as the preferred option for managing invasive or nuisance aquatic vegetation when necessary.

We understand that a ten-slip boat dock is proposed at Blue Spring and agree that it is important to manage waterward access. Manatees must traverse this area when coming to or leaving the spring, and as such, the project has the potential to result in increased manatee-human conflicts. We recommend including a provision to monitor use and for additional staff or volunteers to serve as a manatee observer(s) at the dock during high-use periods, particularly during cold events when manatees are present in high numbers. Please also consider limiting dock use during winter months.

Regarding Hontoon Island, development pressures continue to be of concern, and we support continued acquisition of the properties identified in the Florida Forever 5-yr Plan (2022) for the Wekiva-Ocala Greenway in the vicinity.

We have also provided additional specific comments as an attachment to this letter, and hope that you will take them under advisement as you finalize the respective unit management plans.

As always, please let us know of any way that we can continue to be of assistance with volunteers, signage, research and other issues that pertain to manatees at Blue Spring and Hontoon Island.

Regards,

Kim Dinkins

Kim Dinkins
Sr. Conservation Associate- Save the Manatee Club

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Blue Spring/Hontoon Island Draft Management Plans
Save the Manatee Club Comments

Blue Spring

- p. viii and p. 85: The plan mentions the Manatee Observer Volunteer Program but does not list it as a collaboration between multiple agencies, incl. Save the Manatee Club (SMC), Clearwater Marine Aquarium Research Institute (CMARI) and Volusia County Environmental Management (VCEM)
- p. viii: The plan mentions "monitoring protocols will be developed for the gopher tortoise, scrubjay and manatee" – per the public comment meeting these are ongoing plans that are continuously adjusted and Save the Manatee Club has input on the monitoring plan for the Florida manatee.
- P.58: We would like to make sure that special attention is being paid whenever removal of invasive vegetation is addressed that may serve as a food source for the manatee (water hyacinth, water lettuce in particular).
- P.17 under "Soils", the 2nd paragraph states that the erosion at the boil is caused by the **"**tunneling of manatees". While manatees are certainly part of the issue causing erosion, they are not the sole culprit and especially at the boil (vs. the undercut banks along the spring run), most erosion is caused by visitors not obeying the rules.
- P. 19: The plan says FWC/FWRI are "monitoring hypothermia" – Our understanding is that this means FWC is monitoring the health of the manatees and intervenes in case a manatee with cold stress syndrome is found in the spring run. Perhaps this statement should be clarified.
- P.20: The plan mentions "continued river intrusion monitoring to provide data on manatee distribution". This statement and the section on river intrusion seems confusing and may need to be re-phrased. The dark water intrusion itself does not provide data on manatee distribution, but rather on shifts in temperature and spring flow which affects manatee distribution. Save the Manatee Club has a long history of documenting river intrusion since the early 1980s which has helped with the establishment for MFLs for Blue Spring. We would like to know if the park has plans to increasingly monitor the river intrusion more closely (SMC will continue to do so during the winter months).
- P.34: The plan states that the spring is "devoid of vegetation because the manatees eat it." It is unclear whether this is in regard to submerged aquatic vegetation (SAV) or floating vegetation. The little floating vegetation there is at the beginning of winter season is being eaten by manatees, but there is no SAV to begin with and there has not been for many years.
- P.47: The Blue Spring Interagency Working Group is correctly mentioned in the Hontoon Plan, but referred to as the "Aquatic Plant Management Working Group" in this document. This should be corrected/standardized.
- P. 47: The plan mentions SMC and the park coordinating the manatee ID research but does not list SMC as an agency to assist with rescue/release, we would like to be included as a participating agency for manatee rescues/releases. Any mention of Sea 2 Shore should be changed to their updated name Clearwater Marine Aquarium Research Institute (CMARI). Another option would be to mention the Manatee Rescue and Rehabilitation Partnership (MRP) of which all above mentioned agencies are part of.
- P. 53: There seems to be a typo in the section where it talks about vegetation monitoring for the FL scrubjay but instead says "manatee".
- P.81 The plan mentions a new environmental education building. We are very supportive of this project and would like the opportunity to participate as appropriate.
- P.8 1 The plan mentions the addition of 10 new boat slips down by the river. Per the public comment meeting, we understand that this is not because the park is anticipating more boat traffic but to better manage existing boats that dock along the shoreline without any limits. We

want to point out that year-round manatees use this area to travel from the spring run to the lagoon and back.

Hontoon Island

- P.58 We appreciate that under improved use areas, the plan mentions they want to put up more educational manatee signage. Please let us know if we can be of assistance.
- As with the Blue Spring management plan, we would like to ask that special attention is paid to any herbicide application affecting plants that serve as food sources for the manatee (particularly water lettuce and water hyacinth)

FLORIDA DEPARTMENT of STATE

RON DESANTIS
Governor

CORD BYRD
Secretary of State

July 5, 2022

Yasmine Armaghani
Office of Park Planning
Florida Department of Environmental Protection
Division of Recreation and Parks
3900 Commonwealth Boulevard
Tallahassee, FL 32399

Dear Ms. Armaghani,

Thank you for inviting the Division of Historical Resources (DHR) to participate in the advisory group review of the draft unit management plan for Blue Spring and Hontoon Island State Parks. Overall, the plans sufficiently address the historical resources of the parks. We have the following comments and recommendations:

1. There are some discrepancies between the plans and those of the Florida Master Site File (FMSF). For the Hontoon Island plan, the first portions of the Cultural Resources section correctly discuss 14 archaeological sites. However, Table 5 (pp. 44–45) lists 15 archaeological sites. According to our records, site 8VO238 lies outside the park boundaries and should be removed from this list. Further, the goals and objectives for Cultural Resources (pp. 45–47) refer to 13 cultural resources. This should be changed to 14.

2. Resource groups 8VO07236 (Atlantic & Western RR) and 8VO07641 (Jacksonville, Tampa, & Key West Railroad) intersect Blue Spring State Park but are not listed in the plan.

3. Archaeological site 8VO8263 is listed in Table 5 of the Blue Spring State Park plan, but no forms were ever filed for this site with the FMSF. This site number has been merged with 8VO2641 and should be removed from the plan. If this is incorrect, please contact FMSF staff to reconcile the discrepancy.

4. The number of cultural resources given throughout the report will need to be updated based on the above comments. According to FMSF records, there are 14 cultural resources in Hontoon Island State Park (all archaeological sites) and 21 cultural resources in Blue Spring State Park (17 archaeological sites, 2 resource groups, and 2 standing structures).

5. The Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties provided in Addendum 7 is out of date (both plans). The most recent version can be found at: https://dos.myflorida.com/historical/preservation/compliance-and-review/regulations-guidelines/

6. We recommend that all archaeological and historical resources be monitored for degradation on an annual basis. Staff from DHR's Public Lands Archaeology section can provide guidance if you feel certain sites need not be monitored annually or at all.

Please let us know if you have any questions or concerns regarding these comments. Thank you for your diligence in preserving, promoting, and interpreting Florida's cultural heritage.

Sincerely,

Jason O'Donoughue, Ph.D.
Bureau of Archaeological Research
B. Calvin Jones Center for Archaeology
1001 DeSoto Park Drive
Tallahassee, Florida 32301
850-245-6481
jason.odonoughue@dos.myflorida.com

Addendum 3—References Cited

No Park References Cited

Addendum 4—Soils Description

10 - Bluff sandy clay loam - This nearly level, very poorly drained, frequently flooded soil is on low terraces bordering the St. Johns River. Natural vegetation must be water tolerant due to frequent flooding for long durations. Vegetation includes cypress, swamp maple, loblolly pine, cabbage palms, and bluestem. A portion of the floodplain swamp community along the Hontoon Dead River contains this soil type.

19 – Bluff and Manatee soils, frequently flooded - This nearly level, very poorly drained, slowly to moderately permeable soil is on low terraces/flood plains bordering the Hontoon Dead River. Natural vegetation must be water tolerant due to frequent flooding for long durations. Vegetation includes cypress, swamp maple, loblolly pine, cabbage palms, and bluestem. This soil type dominates the floodplain swamp shoreline west of the Hontoon Dead River.

20 - EauGallie fine sand - This soil is nearly level and poorly drained with a sandy surface layer over loamy subsoil, usually associated with flats, sloughs, and depressions in Peninsular Florida. The water table fluctuates within 1-10 inches of the surface for periods of 1-4 months in most years and within 40 inches for more than 6 months. This soil type occurs in portions of the hydric hammock, both basin swamps, the artificial pond, one depression marsh, dome swamp, shell middens, and the mesic hammock area.

27 – Everglades muck, depressional – The Everglades series consists of nearly level, very deep, very poorly drained, rapid to very rapidly permeable organic soils in freshwater swamps and marshes. They formed in thick deposits of hydrophytic plant remains. This soil type occurs in the floodplain swamp west of the Hontoon Dead River (shoreline excluded) and south of Snake Creek.

29 - Immokalee sand - This nearly level, poorly drained sandy soil generally occurs in flatwoods, between sand ridges, or in slightly elevated areas between ponds and sloughs. The water table is within 10 inches of the surface for 1 to 2 months in most years and between 10 to 40 inches for more than half the year. Occasionally in very wet seasons, it rises above the surface for extended periods. The natural vegetation is an open forest of slash pine and longleaf pine and an understory of saw palmetto and gallberry. Immokalee sand is associated with one section of mesic flatwoods.

32 - Myakka fine sand – This series consists of fairly level, very deep, poorly/very poorly drained, moderately rapid to moderately permeable soils in mesic flatwoods and depression ponds. They formed in sandy marine deposits. This soil type occurs in the mesic flatwoods portion of the main island.

53 – Pompano-Placid complex – This complex consists of nearly level, very deep, very poorly drained, rapidly permeable soils in mesic flatwoods and depression ponds. They formed in thick beds of marine sands and sandy marine sediments. This soil type occurs in a depression pond in the mesic flatwoods portion of the main island.

65 - Terra Ceia muck - This is very poorly drained soil formed in organic material. It occurs in freshwater marshes. The water table is as much as 2 feet above the surface at times during the rainy season. Water is at or above the surface for 6 to 9 months in most years and is seldom below a depth of 10 inches except in extended dry periods. This soil

occurs in association with floodplain swamp and floodplain marsh along the St. Johns River and Hontoon Dead River.

99 - Water -

Addendum 5—Plant and Animal List

LICHENS

Bulbothrix goebelii	Rough Eyelash Lichen
Bulbothrix confoederata	Smooth Eyelash Lichen
Byssoloma meadi	Fuzzy Rim
Canoparmelia amazonica	Black-bottomed Carolina
Canoparmelia caroliniana	Carolina Shield Lichen
Canoparmelia texana	Powdery Texas Shield Lichen
Chrysothrix chlorina	Sulphur Dust Lichen
Cladonia subtenuis	Dixie Reindeer Lichen
Cladonia subradiata	Powdery peg lichen
Cladonia incrassata	Powder-foot British soldiers
Cladonia evansii	Powder-puff lichen (deer moss)
Cladonia abbreviatula	Short Cladonia
Coccocarpia palmicola	Salted shell lichen
Collema pulcellum	Blistered jelly lichen
Crocynia pyxinoides	Cotton lobed lichen
Cryptothecia striata	Green Christmas lichen
Cryptothecia rubrocincta	Christmas lichen
Dirinaria aegialita	Grainy medallion lichen
Graphis spp.	Script Lichen
Haematomma accolens	Tree blood spot lichen
Herpothallon rubrocintum	Christmas lichen
Heterodermia speciosa	Powdered fringe lichen
Heterodermia albicans	White Fringe Lichen
Heterodermia obscurata	Orange-tinted fringe lichen
Heterodermia crocea	Orange-bellied fringe lichen
Heterodermia casarettiana	Powdered fringe lichen
Hypotrachyna livida	Wrinkled loop lichen
Hypotrachyna osseoalba	Grainy loop lichen
Hypotrachyna pustulifera	Pustulate loop lichen
Leptogium isidiosellum	Salted blue jellyskin
Leptogium austroamericanum	Dixie jellyskin
Leptogium cyanescens	Ruffled blue jellyskin
Lobaria ravenelii	Dixie lungwort
Parmelinopsis minarum	Hairless-spined shield lichen
Parmotrema ultralucens	Spotted gray ruffle lichen
Parmotrema tinctorum	Palm ruffle lichen
Parmotrema perforatum	Complex(UV-perforated lichen)
Parmotrema endsulphureum	Yellow-colored ruffle
Phyllospora parvifolia	Lace-scale lichen

Pyxine eschweileri	Thin rosette lichen
Ramalina willeyi	Thorney ramalina
Ramalina stenospora	Southern strap ramalina
Stricta canariensis	Moon lichen
Usnea dimorpha	Powder-tipped beard lichen
Usnea strigosa	Bushy beard lichen
Usnea ceratina	Warty beard lichen
Usnea subscabrosa	Horney beard lichen

PTERIDOPHYTES AND BRYOPHYTES

Blechnum	*serrulatum*	Toothed midsorus fern; Swamp fern	
Nephrolepis	*cordifolia*	Tuberous sword fern*	
Nephrolepis	*exaltata*	Sword fern; Wild Boston fern	
Osmunda	*cinnamomea*	Cinnamon fern	AS, HH
Osmunda	*regalis*	Royal fern	
Pecluma	*plumula*	Plume Polypody	SHM
Phlebodium	*aureum*	Golden polypody	
Pleopeltis	*polypodioides var. michauxiana*	Resurrection fern	
Pteridium	*aquilinum*	Bracken fern	
Salvinia	*minima*	Water spangles	
Thelypteris	*kunthii*	Southern shield fern	
Vittaria	*lineata*	Shoestring fern	
Woodwardia	*virginica*	Virginia chain fern	
Woodwardia	*areolata*	Netted chain fern	

GYMNOSPERMS

Juniperus virginiana	Red cedar	
Taxodium distichum	Bald-cypress	
Taxodium ascendens	Pond-cypress	
Pinus clausa	Sand pine	
Pinus palustris	Longleaf pine	
Pinus taeda	Loblolly pine	
Pinus elliottii	Slash pine	
Pinus serotina	Pond pine	
Zamia pumila	Florida arrowroot; Coontie	DV

ANGIOSPERMS (MONOCOTS)

Andropogon floridanus	Florida bluestem	
Andropogon lanuginosa	Bottlebrush treeawn	
Andropogon virginicus	Broomsedge bluestem	
Andropogon virginicus var. decipiens	Broomsedge bluestem	
Andropogon virginicus var. glaucus	Chalky bluestem	
Aristida beyrichiana	Wiregrass	
Aristida spiciformis	Bottlebrush threeawn	
Burmannia biflora	Bluethread	
Callisia graminea	Grassleaf roseling	
Calopogon multiflorus	Manyflowered grasspink	
Canna flaccida	Bandana-of-the-everglades	
Carex longii	Long's sedge	
Carex lupuliformis	False hop sedge	
Carex sp.	Sedge	
Carex stipata	Awlfruit sedge	
Carex verrucosa	Warty sedge	
Carya floridana	Scrub hickory	
Carya glabra	Pignut hickory	
Cenchrus spinifex	Coast sandbur	
Chasmanthium laxum var. sessiliflorum	Longleaf chasmanthium	
Colocasia esculenta	Wild taro; Dasheen; Coco yam*	
Commelina diffusa	Dayflower	
Commelina erecta	Whitemouth dayflower	
Crinum americanum	Seven-sisters; String-lily	
Cynodon dactylon	Bermudagrass *	
Cyperus croceus	Baldwin's flatsedge	
Cyperus distinctus	Swamp flatsedge	
Cyperuspolystachyos	Manyspike flatsedge	
Cyperus virens	Green flatsedge	
Dactyloctenium aegyptium	Durban crowfootgrass *	
Dichanthelium aciculare	Needleleaf witchgrass	
Dichanthelium commutatum	Variable witchgrass	
Dichanthelium dichotomum	Forked panicgrass	
Dichanthelium ensifolium	Cypress witchgrass	
Dichanthelium ensifolium var. unciphyllum	Cypress witchgrass	
Dichanthelium laxiflorum	Openflower witchgrass	
Dichanthelium portoricense	Hemlock witchgrass	
Digitaria ciliaris	Southern crabgrass	

Echinochloa muricata	Rough barnyardgrass	
Echinochloa paludigena	Florida cockspur	
Eichhornia crassipes	Common water-hyacinth*	
Eleocharis baldwinii	Baldwin's spikerush; Roadgrass	
Encycliatampensis	Florida butterfly orchid	
Epidendrum conopseum	Green-fly orchid	FS, MH, HH
Eriocaulon compressum	Flattened pipewort	
Eustachys petraea	Pinewoods fingergrass	
Habenaria floribunda	Toothpetal false reinorchid; Mignonette orchid	
Hydrilla verticillata	Waterthyme*	
Hypoxis juncea	Fringed yellow stargrass	
Imperata cylindrica	Cogongrass *	
Juncus effusus ssp. solutus	Soft rush	
Juncus repens	Lesser creeping rush	
Juncus scirpoides	Needlepod rush	
Kyllinga brevifolia	Shortleaf spikesedge*	
Lachnanthes caroliniana	Carolina redroot	
Lachnocaulon anceps	Whitehead bogbutton	
Leersia virginica	Whitegrass	
Lolium perenne	Italian ryegrass*	
Luziola fluitans	Southern watergrass	
Muhlenbergia schreberi	Nimblewill muhly	
Murdannia nudiflora	Nakedstem dewflower*	
Najas guadalupensis	Southern waternymph	
Nothoscordum bivalve	Crowpoison; False garlic	
Oplismenus hirtellus	Woodsgrass; Basketgrass	
Panicum anceps	Beaked panicum	
Panicum hemitomon	Maidencane	
Panicum maximum	Guineagrass*	
Panicum repens	Torpedograss*	
Panicum rigidulum	Redtop panicum	
Paspalum distichum	Knotgrass	
Paspalum repens	Water paspalum	
Paspalum setaceum	Thin paspalum	
Peltandra sagittifolia	White arrow arum; Spoonflower	
Phragmites australis	Common reed	
Pistia stratiotes	Water-lettuce*	
Pontederia cordata	Pickerelweed	
Potamogeton diversifolius	Waterthread pondweed	
Potamogeton illinoensis	Illinois pondweed	
Potamogeton pectinatus	Sago pondweed	

Prunus caroliniana	Carolina laurelcherry	
Rhynchospora colorata	Starrush whitetop	
Rhynchospora debilis	Savannah beaksedge	
Rhynchospora latifolia	Giant whitetop; Sandswamp whitetop	
Rhynchospora microcarpa	Southern beaksedge	
Sabal palmetto	Cabbage palm	
Saccharum giganteum	Sugarcane plumegrass	
Sagittaria latifolia	Broadleaf arrowhead; Duck potato	
Salvinia minima	Water spangles	
Schizachyrium scoparium	Little bluestem	
Scleria triglomerata	Tall nutgrass; Whip nutrush	
Serenoa repens	Saw palmetto	
Sida ulmifolia	Common wireweed	
Sisyrinchium angustifolium	Narrowleaf blue-eyed grass	
Sisyrinchium sp.	Blue-eyed grass	
Smilax auriculata	Earleaf greenbrier	
Smilax bona-nox	Saw greenbrier	
Smilax glauca	Cat greenbrier; Wild sarsaparilla	
Smilax laurifolia	Laurel greenbrier	
Smilax pumila	Sarsaparilla vine	
Smilax sp.	Greenbrier	
Sorghastrum secundum	Lopsided Indiangrass	
Spartina bakeri	Sand cordgrass	
Spiranthes vernalis	Spring ladiestresses	
Spirodela polyrhiza	Common duckweed	
Sporobolus indicus	Smutgrass*	
Thalia geniculata	Alligatorflag; Fireflag	
Tillandsia bartramii	Bartram's airplant	
Tillandsia fasciculata	Cardinal airplant	FS, HH
Tillandsia recurvata	Ballmoss	
Tillandsia simulata	Florida air plant	
Tillandsia usneoides	Spanish moss	
Tillandsia utriculata	Giant airplant	FS, HH
Tradescantia ohiensis	Bluejacket; Ohio spiderwort	
Typha domingensis	Southern cattail	
Urochloa mutica	Paragrass*	
Vallisneria americana	Tapegrass; American eelgrass	
Xyris caroliniana	Carolina yelloweyed grass	
Xyris elliottii	Elliott's yelloweyed grass	
Yucca aloifolia	Spanish bayonet; Aloe yucca*	
Yucca filamentosa	Adam's needle	
Zeuxine strateumatica	Soldier's orchid; Lawn orchid*	

ANGIOSPERMS (DICOTS)

Acer negundo	Boxelder	
Acer rubrum	Red maple	
Acer saccharinum	Silver maple	
Acer saccharum ssp. floridanum	Florida maple	
Alternanthera philoxeroides	Alligatorweed*	
Amorpha fruticosa	Bastard false indigobush; False indigobush	
Ampelopsis arborea	Peppervine	
Aralia spinosa	Devil's walkingstick	
Arenaria lanuginosa	Spreading sandwort	
Asclepias incarnata	Swamp milkweed	
Asclepias lanceolata	Fewflower milkweed	
Asclepias pedicellata	Savannah milkweed	
Asclepias tuberosa	Butterflyweed; Butterfly milkweed	
Baccharis halimifolia	Groundsel tree; Sea myrtle	
Bacopa caroliniana	Lemon bacopa; Blue waterhyssop	
Bacopa monnieri	Herb-of-grace	
Berchemia scandens	Alabama supplejack; Rattan vine	
Boehmeria cylindrica	False nettle, Bog hemp	
Boerhavia diffusa	Red spiderling; Wineflower	
Calyptocarpus vialis	Straggler daisy*	
Campsis radicans	Trumpet creeper	
Carphephorus odoratissimus	Vanillaleaf	
Carpinus caroliniana	American hornbeam; Bluebeech	
Carya aquatica	Water hickory	
Carya sp.	Hickory	
Celtis laevigata	Sugarberry; Hackberry	
Centella asiatica	Spadeleaf	
Centella erecta	American Coinwort	
Cephalanthus occidentalis	Common buttonbush	
Cerastium fontanum subsp. vulgare	Big chickweed*	
Chamaecrista fasciculata	Partridge pea	
Chamaesyce hirta	Pillpod sandmat	
Cirsium nuttallii	Nuttall's thistle	
Citrus sp.	Citrus	
Clinopodium brownei	Brownes Savory	

Conoclinium coelestinum	Blue mistflower	
Coreopsis leavenworthii	Leavenworth's tickseed	
Cornus florida	Flowering dogwood	
Cornus foemina	Swamp dogwood; Stiff dogwood	
Cucurbita okeechobeensis	Okeechobee gourd	
Cuscuta gronovii	Scaldweed	
Cyclospermum leptophyllum	Marsh parsley*	
Cyperus sp.	Flatsedge	
Desmodium glabellum	Dillenius' ticktrefoil	
Dichondra caroliniensis	Carolina ponysfoot	
Diodia virginiana	Virginia buttonweed	
Diospyros virginiana	Common persimmon	
Drosera brevifolia	Dwarf sundew	
Drosera capillaris	Pink sundew	
Eclipta prostrata	False daisy	
Edrastima uniflora	Clustered Mille Graines	
Erechtites hieracifolia	American burnweed; Fireweed	
Erigeron quercifolius	Oakleaf fleabane	
Erigeron sp.	Fleabane	
Erythrina herbacea	Coralbean; Cherokee bean	
Euonymus americanus	American strawberrybush	
Eupatorium serotinum	Lateflowering thoroughwort	
Euthamia caroliniana	Slender goldenrod	
Fraxinus caroliniana	Carolina ash; Water ash; Pop ash	
Fraxinus pennsylvanicus	Green ash; Pumpkin ash	
Galactia elliottii	Elliott's milkpea	
Galactia regularis	Eastern milkpea	
Galactia volubilis	Downy milkpea	
Galium hispidulum	Coastal bedstraw	
Galium tinctorium	Stiff marsh bedstraw	
Gamochaeta antillana	Caribbean purple everlasting	
Gamochaeta pensylvanica	Pennsylvania everlasting*	
Gaylussacia dumosa	Dwarf huckleberry	
Gaylussacia frondosa var. tomentosa	Blue huckleberry	
Geranium carolinianum	Carolina cranesbill	
Gleditsia aquatica	Water locust	
Gonolobus suberosus	Angularfruit milkvine	FS, HH, MH, SHM
Gordonia lasianthus	Loblolly bay	
Hexasepalum teres	Rough buttonweed	
Hibiscus coccineus	Scarlet rosemallow	
Hibiscus grandiflorus	Swamp rosemallow	

Hieracium gronovii	Queen-devil	
Houstonia procumbens	Innocence	
Hydrocotyle bonariensis	Largeleaf marshpennywort	
Hydrocotyle ranunculoides	Floating marshpennywort	
Hydrocotyle umbellata	Manyflower marshpennywort	
Hypericum cistifolium	Roundpod St. John's-wort	
Hypericum hypericoides	St. Andrew's-cross	
Hypericum tenuifolium	Sandhill St. John's-Wort	
Hypericum tetrapetalum	Fourpetal St. John's-wort	
Hyptis alata	Clustered bushmint; Musky mint	
Ilex ambigua	Carolina holly; Sand holly	
Ilex cassine	Dahoon holly	
Ilex cassine var. cassine	Dahoon holly	
Ilex glabra	Inkberry; Gallberry	
Ilex arenicola	Scrub holly	
Ilex opaca	American Holly	
Ilex vomitoria	Yaupon	
Indigofera caroliniana	Carolina indigo	
Indigofera spicata	Trailing indigo*	
Indigofera suffruticosa	Anil de pasto*	
Ipomoea alba	Moonflowers; Tropical white morning-glory	
Iresine diffusa	Juba's bush	
Iris virginica	Virginia iris	
Itea virginica	Virginia willow; Virginia sweetspire	
Lactuca graminifolia	Grassleaf lettuce	
Lantana camara	Lantana; Shrubverbena*	
Lepidium virginicum	Virginia pepperweed	
Linaria canadensis	Canada toadflax	
Liquidambar styraciflua	Sweetgum	
Ludwigia linearis	Narrowleaf primrosewillow	
Ludwigia maritima	Seaside primrosewillow	
Ludwigia peruviana	Peruvian primrosewillow*	
Ludwigia suffruticosa	Shrubby primrosewillow	
Lyonia ferruginea	Rusty staggerbush	
Lyonia fruticosa	Coastalplain staggerbush	
Lyonia lucida	Fetterbush	
Lyonia mariana	Piedmont staggerbush	
Magnolia grandiflora	Southern magnolia	
Malvastrum coromandelianum	Threelobe false mallow*	
Medicago lupulina	Black medick *	
Medicago polymorpha	Burrclover*	

Melanthera nivea	Snow squarestem	
Melothria pendula	Creeping cucumber	
Mikania scandens	Climbing hempvine	
Mimosa strigillosa	Powderpuff	
Mitchella repens	Partridgeberry; Twinberry	
Morella cerifera	Southern bayberry; Wax myrtle	
Morus rubra	Red mulberry	
Myriophyllum aquaticum	Parrot feather watermilfoil*	
Nuphar advena subsp. advena	Spatterdock; Yellow pondlily	
Nyssa sylvatica var. biflora	Swamp tupelo	
Oclemena reticulata	Pinebarren whitetop	
Oldenlandia uniflora	Clustered mille graine	
Osmanthus americanus	Wild olive	
Oxalis corniculata	Common yellow/Creeping woodsorrel	
Oxalis debilis var. corymbosa	Pink woodsorrel*	
Packera glabella	Butterweed	
Parietaria floridana	Florida pellitory	
Parthenocissus quinquefolia	Virginia creeper; Woodbine	
Persea palustris	Swamp bay	
Phyla nodiflora	Turkey tangle fogfruit	
Pilea microphylla	Artillery plant; Rockweed	
Piloblephis rigida	Wild pennyroyal	
Pinguicula pumila	Small butterwort	
Plantago virginica	Virginia plantain; Southern plantain	
Pluchea baccharis	Rosy camphorweed	
Pluchea foetida	Stinking camphorweed	
Pluchea odorata	Sweetscent	
Polygala nana	Candyroot	
Polygala rugelii	Yellow milkwort	
Polygala setacea	Coastalplain milkwort	
Polygonum hydropiperoides	Mild waterpepper; Swamp smartweed	
Polygonum setaceum	Bog smartweed	
Polypremum procumbens	Rustweed	
Pouzolzia zeylanica	Pouzolz's bush*	
Prunus serotina var. serotina	Black cherry	
Psychotria nervosa	Wild coffee	
Pterocaulon pycnostachyum	Blackroot	
Ptilimnium capillaceum	Mock bishopsweed; Herbwilliam	
Quercus geminata	Sand live oak	
Quercus laurifolia	Laurel oak; Diamond oak	

Quercus minima	Dwarf live oak	
Quercus myrtifolia	Myrtle oak	
Quercus nigra	Water oak	
Quercus pumila	Running oak	
Quercus virginiana	Virginia live oak	
Rhexia mariana	Pale or Maryland meadowbeauty	
Rhexia nashii	Maid marian	
Rhexia petiolata	Fringed meadowbeauty	
Rhus copallina	Winged sumac	
Rivina humilis	Rougeplant	
Rubus pensilvanicus	Pennsylvania blackberry	
Rubus trivialis	Southern dewberry	
Ruellia caroliniensis	Carolina wild petunia	
Sabatia brevifolia	Shortleaf rosegentian	
Salix caroliniana	Carolina willow; Coastalplain willow	
Salvia lyrata	Lyreleaf sage	
Samolus valerandi ssp. parviflorus	Pineland pimpernel; Seaside brookweed	
Sanicula canadensis	Canadian blacksnakeroot	
Sapindus saponaria	Soapberry	
Saururus cernuus	Lizard's tail	
Senna marilandica	Maryland wild sensitive plant	
Sesbania punicea	Rattlebox*	
Sesbania vesicaria	Bladderpod	
Sesbania vesicaria	Bladderpod; Bagpod	
Sida rhombifolia	Cuban jute; Indian hemp	
Sonchus asper	Spiny sowthistle*	
Tephrosia florida	Florida hoarypea	
Teucrium canadense	Wood sage; Canadian germander	
Toxicodendron radicans	Eastern poison ivy	
Triadenum virginicum	Virginia marsh St. John's-wort	
Trifolium repens	White clover; Dutch clover *	
Ulmus americana	American elm	
Urena lobata	Caesarweed*	
Utricularia purpurea	Eastern purple bladderwort	
Vaccinium corymbosum	Highbush blueberry	
Vaccinium myrsinites	Shiny blueberry	
Vaccinium stamineum	Deerberry	
Verbesina virginica	White crownbeard; frostweed	
Viburnum obovatum	Walter's viburnum; Small-leaf viburnum	
Vicia acutifolia	Fourleaf vetch	
Vicia floridana	Florida vetch	

Viola lanceolata	Bog white violet	
Viola sororia	Common blue violet	
Vitis cinerea var. floridana	Florida grape	
Vitis shuttleworthii	Calloose grape	
Wahlenbergia marginata	Southern rockbell*	
Xyris sp.	Yelloweyed grass	
Youngia japonica	Oriental false hawksbeard*	

INSECTS

Acrosternum hilare	Green stink bug
Actias luna	Luna moth
Aedes sp.	Fresh water mosquitoes
Agapostemon splendens	Green metallic bee
Agapostemon virescens	Virescent green metallic bee
Agraulis vanillae nigrior	Gulf fritillary
Amblyscirtes aesculapius	Lace-winged roadside-skipper
Amblyscirtes alternata	Dusky roadside-skipper
Amorbia humerosanna	White-lined leafroller
Anartia jatrophae guantanamo	White peacock
Anisomorpha buprestoides	Walking stick
Antheraea polyphemus	Polyphemus moth
Aphylla williamsoni	Two-striped forceptail
Asterocampa celtis alicia	Hackberry emperor
Bombus pennsylvanicus	Bumble bee
Camponotus abdominalis floridanus	Florida carpenter ant
Camponotus socius	Carpenter ant
Caripeta aretaria	Hodges 6869
Chrysops sp.	Deerfly
Copris minutus	Small Black Dung Beetle
Culex sp.	Fresh water mosquitoes
Danaus gilippus berenice	Queen butterfly
Danaus plexippus	Monarch or milkweed butterfly
Dasychira spp.	Tussock Moths
Dasymutilla occidentalis	Cow Killer Velvet Ant
Disclisioprocta stellata	Somber Carpet Moth
Dryas julia	Julia
Eacles imperialis	Imperial moth
Eupithecia miserulata	Hodges 7474
Euptoieta claudia	Variegated fritillary

Euptychia cymela viola	Little wood satyr
Eurytides marcellus floridensis	Zebra swallowtail
Glenoides texanaria	Texas gray moth
Hermeuptychia sosybius	Carolina satyr
Heterocampa astarte	Hodges 7977
Hyalophora cecropia	Cecropia moth
Junonia coenia	Common buckeye
Lerema accius	Clouded skipper
Lethocerus griseus	Eastern Toe Biter
Macaria sandfordi	Hodges 6337
Macaria spp	Macaria moths
Ormenaria rufifascia	planthopper
Panthea furcilla	Eastern Panthea
Papilio glaucus australis	Eastern tiger swallowtail
Papilio palamedes	Palamedes swallowtail
Phoebis sennae eubule	Cloudless sulphur butterfly
Photinus sp.	Firefly
Pseudomyrmex gracilis	Elongate twig ant
Reticulitermes flavipes	Termites
Sinea diadema	Assassin bug
*Solenopsis invicta**	Fire ant
Sphecius speciosus	Cicada killer
Stenotrachelus approximaria	Mystery Beetle
Tabanus gracilis	Horsefly
Tolype notialis	Small tolype moth
Vanessa atalanta rubria	Red admiral butterfly
Zale squamularis	Gray-banded Zale Moth

ARACHNIDS

Amblyomma americanum	Lone star tick
Centruroides sp.	Centruroides scorpion
Ixodes scapularis	Blacklegged tick
Nephila clavipes	Golden orb spider
Phalangium opilio	Harvestman
Phidippus regius	Regal Jumping Spider
Phidippus sp.	Jumping spider
Pirata piraticus	Pirate Wolf spider

GASTROPODS & CRUSTACEANS

Callinectes sapidus	Blue Crab
Palaemonetes sp.	Shrimp
Procambarus sp.	Crayfish
Aphaostracon asthenes	Blue Spring hydrobe
Cincinnatia parva	Blue Spring siltsnail
Elimia spp.	Rasp Elimia
Euglandina rosea	Rosy Wolf Snail
Planorbella sp.	Ram's horn snail
Pomacea canaliculata	Channeled apple snail
Pomacea paludosa	Florida applesnail
Viviparus georgianus	Banded mysterysnail

FISH

Hickory shad	Alosa mediocris
White catfish	Ameiurus catus
Yellow bullhead	Ameiurus natalis
Brown bullhead	Ameiurus nebulosus
American eel	Anguilla rostrata
Pirate perch	Aphredoderus sayanus
Southern Stingray	Dasyatis americana
Gizzard shad	Dorosoma cepedianum
Threadfin shad	Dorosoma petenense
Ladyfish	Elops saurus
Bluespotted sunfish	Enneacanthus gloriosus
Lake chubsucker	Erimyzon sucetta
Seminole killifish	Fundulus seminolis
Western mosquitofish	Gambusia affinis
Eastern mosquitofish	Gambusia holbrooki
Least killifish	Heterandria formosa
Blue catfish	Ictalurus furcatus
Channel catfish	Ictalurus punctatus
Spotted gar	Lepisosteus oculatus
Longnose gar	Lepisosteus osseus
Florida gar	Lepisosteus platyrhincus
Redbreast sunfish	Lepomis auritus
Warmouth	Lepomis gulosus
Bluegill	Lepomis macrochirus
Longear sunfish	Lepomis megalotis
Redear sunfish	Lepomis microlophus
Spotted sunfish	Lepomis punctatus

Bluefin killifish	Lucania goodei
Tarpon	Megalops atlanticus
Striped mullet	Mugil cephalus
Golden shiner	Notemigonus crysoleucas
*Blue tilapia**	Oreochromis aureus*
Sailfin molly	Poecilia latipinna
Black crappie	Pomoxis nigromaculatus
Needlefish	Strongylura spp

AMPHIBIANS

Acris crepitans crepitans	Northern cricket frog
Acris gryllus dorsalis	Florida cricket frog
Amphiuma means	Two-toed amphiuma
Anaxyrus quercicus	Oak Toad
Anaxyrus terrestris	Southern Toad
Bufo quercicus	Oak toad
Bufo terrestris	Southern toad
Eleutherodactylus planirostris	Greenhouse frog *
Hyla andersonii	Pine barrens treefrog
Hyla cinerea	Green treefrog
Hyla squirella	Squirrel treefrog
Lithobates grylio	Pig Frog
Lithobates sphenocephalus utricularius	Southern Leopard Frog
*Osteopilus septentrionalis**	Cuban treefrog*
Rana capito aesopus	Florida gopher frog
Rana catesbeiana	Bullfrog
Rana grylio	Pig frog
Rana heckscheri	River frog
Siren lacertina	Greater siren

REPTILES

Agkistrodon piscivorus conanti	Florida cottonmouth	
Apalone ferox	Florida softshell	
Aspidoscelis sexlineatus sexlineatus	Six-lined racerunner	
Cemophora coccinea coccinea	Florida scarlet snake	
Chelydra serpentina	Florida snapping turtle	
Coluber constrictor priapus	Southern black racer	
Crotalus adamanteus	Eastern diamondback rattlesnake	
Deirochelys reticularia reticularia	Eastern chicken turtle	
Diadophis punctatus punctatus	Southern ringneck snake	

Drymarchon corais couperi	Eastern indigo snake	
Elaphe guttata guttata	Corn snake	
Eumeces fasciatus	Five-lined skink	
Eumeces inexpectatus	Southeastern five-lined skink	
Eumeces laticeps	Broad-headed skink	
Gopherus polyphemus	Gopher tortoise	MF
Heterodon platyrhinos	Eastern hognose snake	
Kinosternon baurii	Striped mud turtle	
Kinosternon subrubrum steindachneri	Florida mud turtle	
Lampropeltis trianglulum elapsoides	Scarlet kingsnake	
Masticophis flagellum flagellum	Eastern coachwhip	
Micrurus fulvius fulvius	Eastern coral snake	
Nerodia cyclopion	Mississippi green water snake	
Nerodia fasciata fasciata	Banded water snake	
Nerodia fasciata pictiventris	Florida water snake	
Nerodia floridana	Florida green water snake	
Nerodia taxispilota	Brown water snake	
Opheodrys aestivus	Rough green snake	
Ophisaurus attenuatus longicaudus	Eastern slender glass lizard	
Ophisaurus ventralis	Eastern glass lizard	
Pituophis melanoleucus mugitus	Florida pine snake	
Pseudemys floridana floridana	Florida cooter	
Pseudemys floridana peninsularis	Peninsula cooter	
Pseudemys nelsoni	Florida redbelly turtle	
Rhadinaea flavilata	Pine woods snake	
Sceloporus undulatus undulatus	Southern fence lizard	
Scincella lateralis	Ground skink	
Seminatrix pygaea pygaea	North Florida swamp snake	
Sistrurus miliarius barbouri	Dusky pigmy rattlesnake	
Sternotherus minor minor	Loggerhead musk turtle	
Sternotherus odoratus	Common musk turtle	
Tantilla relicta neilli	Central Florida crowned snake	
Terrapene carolina bauri	Florida box turtle	
Thamnophis sirtalis sirtalis	Eastern garter snake	

BIRDS

Accipiter cooperii	Cooper's Hawk	
Accipiter striatus	Sharp-shinned Hawk	
Actitis macularius	Spotted Sandpiper	
Agelaius phoeniceus	Red-winged Blackbird	
Aimophila aestivalis	Bachman's Sparrow	
Aix sponsa	Wood Duck	

Anas americana	American Wigeon	
Anas clypeata	Northern Shoveler	
Anas discors	Blue-winged Teal	
Anas fulvigula	Mottled Duck	
Anas platyrhynchos	Mallard	
Aphelocoma coerulescens	Florida Scrub-Jay	
Aramus guarauna	Limpkin	
Archilochus colubris	Ruby-throated Hummingbird	
Ardea alba	Great Egret	
Ardea herodias	Great Blue Heron	
Aythya affinis	Lesser Scaup	
Baeolophus bicolor	Tufted Titmouse	
Bartramia longicauda	Upland Sandpiper	
Bombycilla cedrorum	Cedar Waxwing	
Botaurus lentiginosus	American Bittern	
Bubo virginianus	Great Horned Owl	
Bubulcus ibis	Cattle Egret*	
Buteo brachyurus	Short-tailed Hawk	
Buteo jamaicensis	Red-tailed Hawk	
Buteo lineatus	Red-shouldered Hawk	
Buteo platypterus	Broad-winged Hawk	
Buteo swainsoni	Swainson's Hawk	
Butorides virescens	Green Heron	
Cairina moschata	Muscovy Duck *	
Caprimulgus carolinensis	Chuck-will's-widow	
Caprimulgus vociferus	Whip-poor-will	
Cardinalis cardinalis	Northern Cardinal	
Carduelis tristis	American Goldfinch	
Carpodacus purpureus	Purple Finch	
Cathartes aura	Turkey Vulture	
Catharus fuscescens	Veery	
Catharus guttatus	Hermit Thrush	
Catharus minimus	Gray-cheeked Thrush	
Catharus ustulatus	Swainson's Thrush	
Chaetura pelagica	Chimney Swift	
Charadrius vociferus	Killdeer	
Chordeiles minor	Common Nighthawk	
Circus cyaneus	Northern Harrier	
Cistothorus palustris	Marsh Wren	
Cistothorus platensis	Sedge Wren	
Coccyzus americanus americanus	Yellow-billed Cuckoo	
Colaptes auratus	Northern Flicker	
Colinus virginianus	Northern Bobwhite	

Columba livia	Rock Pigeon *	
Columbina passerina	Common Ground-Dove	
Contopus virens	Eastern Wood-Pewee	
Coragyps atratus	Black Vulture	
Corvus brachyrhynchos	American Crow	
Corvus ossifragus	Fish Crow	
Cyanocitta cristata	Blue Jay	
Dendroica caerulescens	Black-throated Blue Warbler	
Dendroica castanea	Bay-breasted Warbler	
Dendroica coronata	Yellow-rumped Warbler	
Dendroica discolor	Prairie Warbler	
Dendroica discolor paludicola	Florida Prairie Warbler	
Dendroica dominica	Yellow-throated Warbler	
Dendroica fusca	Blackburnian Warbler	
Dendroica magnolia	Magnolia Warbler	
Dendroica palmarum	Palm Warbler	
Dendroica petechia	Yellow Warbler	
Dendroica pinus	Pine Warbler	
Dendroica striata	Blackpoll Warbler	
Dendroica tigrina	Cape May Warbler	
Dendroica virens	Black-throated Green Warbler	
Dolichonyx oryzivorus	Bobolink	
Dryocopus pileatus	Pileated Woodpecker	
Dumetella carolinensis	Gray Catbird	
Egretta caerulea	Little Blue Heron	
Egretta rufescens	Reddish Egret	
Egretta thula	Snowy Egret	BST, RFLK, FM, DM
Egretta tricolor	Tricolored Heron	BST, RFLK, FM, DM
Elanoides forficatus	Swallow-tailed Kite	HH, MF, DV
Empidonax virescens	Acadian Flycatcher	
Eudocimus albus	White Ibis	BST, RFLK, DV
Falco columbarius	Merlin	
Falco peregrinus	Peregrine Falcon	
Falco sparverius	American Kestrel	
Falco sparverius sparverius	Eastern American Kestrel	
Fulica americana	American Coot	
Gallinago delicata	Wilson's Snipe	
Gallinula chloropus	Common Moorhen	
Geothlypis trichas	Common Yellowthroat	
Grus canadensis	Sandhill Crane	DV, BST, RFLK, SULK, MF
Grus canadensis pratensis	Florida Sandhill Crane	
Guiraca caerulea	Blue Grosbeak	
Haliaeetus leucocephalus	Bald Eagle	

Helmitheros vermivorus	Worm-eating Warbler	
Himantopus mexicanus	Black-necked Stilt	
Hirundo rustica	Barn Swallow	
Hylocichla mustelina	Wood Thrush	
Hyprogne caspia	Caspian Tern	
Icterus spurius	Orchard Oriole	
Larus argentatus	Herring Gull	
Larus delawarensis	Ring-billed Gull	
Larus philadelphia	Bonaparte's Gull	
Leucophaeus atricilla	Laughing Gull	
Limnothlypis swainsonii	Swainson's Warbler	
Lophodytes cucullatus	Hooded Merganser	
Megaceryle alcyon	Belted Kingfisher	
Megascops asio	Eastern Screech-Owl	
Melanerpes carolinus	Red-bellied Woodpecker	
Melanerpes erythrocephalus	Red-headed Woodpecker	
Meleagris gallopavo	Wild Turkey	
Melospiza georgiana	Swamp Sparrow	
Melospiza melodia	Song Sparrow	
Mergus serrator	Red-breasted Merganser	
Mimus polyglottos	Northern Mockingbird	
Mniotilta varia	Black-and-white Warbler	
Molothrus ater	Brown-headed Cowbird	
Mycteria americana	Wood Stork	BST, RFLK, DV
Myiarchus crinitus	Great Crested Flycatcher	
Nyctanassa violaceus	Yellow-crowned Night-Heron	
Nycticorax nycticorax	Black-crowned Night-Heron	
Pandion haliaetus	Osprey	
Parula americana	Northern Parula	
Passer domesticus	House Sparrow *	
Passerculus sandwichensis	Savannah Sparrow	
Passerina ciris	Painted Bunting	
Passerina cyanea	Indigo Bunting	
Pelecanus erythrorhynchos	American White Pelican	
Pelecanus occidentalis	Brown Pelican	
Phalacrocorax auritus	Double-crested Cormorant	
Pheucticus ludovicianus	Rose-breasted Grosbeak	
Picoides pubescens	Downy Woodpecker	
Picoides villosus	Hairy Woodpecker	
Pipilo erythrophthalmus	Eastern Towhee	
Piranga olivacea	Scarlet Tanager	
Piranga rubra	Summer Tanager	
Platalea ajaja	Roseate Spoonbill	

Plegadis falcinellus	Glossy Ibis	
Podiceps auritus	Horned Grebe	
Podilymbus podiceps	Pied-billed Grebe	
Poecile carolinensis	Carolina Chickadee	
Polioptila caerulea	Blue-gray Gnatcatcher	
Pooecetes gramineus	Vesper Sparrow	
Porphyrio martinicus	Purple Gallinule	
Porzana carolina	Sora	
Progne subis	Purple Martin	
Protonotaria citrea	Prothonotary Warbler	
Quiscalus major	Boat-tailed Grackle	
Quiscalus quiscula	Common Grackle	
Rallus elegans	King Rail	
Rallus limicola	Virginia Rail	
Regulus calendula	Ruby-crowned Kinglet	
Riparia riparia	Bank Swallow	
Rostrhamus sociabilis plumbeus	Snail Kite	
Sayornis phoebe	Eastern Phoebe	
Scolopax minor	American Woodcock	
Seiurus aurocapilla	Ovenbird	
Seiurus motacilla	Louisiana Waterthrush	
Seiurus noveboracensis	Northern Waterthrush	
Setophaga ruticilla	American Redstart	
Sialia sialis	Eastern Bluebird	
Sphyrapicus varius	Yellow-bellied Sapsucker	
Spizella passerina	Chipping Sparrow	
Spizella pusilla	Field Sparrow	
Stelgidopteryx serripennis	Northern Rough-winged Swallow	
Sterna forsteri	Forster's Tern	
Strix varia	Barred Owl	
Sturnella magna	Eastern Meadowlark	
Sturnus vulgaris	European Starling *	
Tachycineta bicolor	Tree Swallow	
Thalasseus maxima	Royal Tern	
Thryothorus ludovicianus	Carolina Wren	
Toxostoma rufum	Brown Thrasher	
Tringa melanoleuca	Greater Yellowlegs	
Tringa solitaria	Solitary Sandpiper	
Troglodytes aedon	House Wren	
Troglodytes troglodytes	Winter Wren	
Turdus migratorius	American Robin	
Tyrannus tyrannus	Eastern Kingbird	
Tyto alba	Barn Owl	

Vermivora celata	Orange-crowned Warbler	
Vermivora peregrina	Tennessee Warbler	
Vermivora pinus	Blue-winged Warbler	
Vireo flavifrons	Yellow-throated Vireo	
Vireo griseus	White-eyed Vireo	
Vireo olivaceus	Red-eyed Vireo	
Vireo philadelphicus	Philadelphia Vireo	
Vireo solitarius	Blue-headed Vireo	
Wilsonia citrina	Hooded Warbler	
Zenaida macroura	Mourning Dove	
Zonotrichia albicollis	White-throated Sparrow	

MAMMALS

Dasypus novemcinctus	Nine-banded armadillo*	
Didelphis virginiana	Virginia opossum	
Eptesicus fuscus	Big brown bat	
Felis catus	Feral cat*	
Geomys pinetis	Southeastern pocket gopher	
Glaucomys volans	Southern flying squirrel	
Lontra canadensis	River otter	
Lynx rufus	Bobcat	
Mephitis mephitis	Striped skunk	
Neofiber alleni	Round-tailed muskrat	
Neotoma floridana	Eastern woodrat	
Ochrotomys nuttalli	Golden mouse	
Odocoileus virginianus	White-tailed deer	
Oryzomys palustris	Marsh rice rat	
Peromyscus gossypinus	Cotton mouse	
Pipistrellus subflavus	Eastern pipistrelle	
Procyon lotor	Raccoon	
Rattus rattus	Black rat *	
Scalopus aquaticus	Eastern mole	
Sciurus carolinensis	Gray squirrel	
Sigmodon hispidus	Hispid cotton rat	
Sus scrofa	Feral pig*	
Sylvilagus floridanus	Eastern cottontail	
Sylvilagus palustris	Marsh rabbit	
Trichechus manatus	Florida manatee	BST
Urocyon cinereoargenteus	Gray fox	
Ursus americanus floridanus	Florida black bear	
Vulpes vulpes	Red fox*	

Primary Habitat Codes

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
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.....EWR

Primary Habitat Codes

MARINE

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

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: https://www.dos.myflorida.com/historical/preservation/compliance-and-review/regulations-guidelines/

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: https://www.dos.myflorida.com/media/31392/minimum_review_documentation_requirements.pdf.

* * *

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

Division of Historical Resources
Bureau of Historic Preservation
Compliance and Review Section
R. A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250
Phone:(850) 245-6333
Email: CompliancePermits@DOS.MyFlorida.com

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; ora 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
- **e)** 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 —Land Management Review

2018 Land Management Review Team Report for Hontoon Island State Park / Blue Springs State Park

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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 cases 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 or jurisdictional water management 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: Hontoon Island State Park / Blue Springs State Park
Managed by: Department of Environmental Protection, Florida Park Service
Acres: 1,648 and 2,643 (4,292 total) **County:** Lake and Volusia
Purpose(s) for Acquisition: 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): CARL/P2000/Florida Forever **Original Acquisition Date:**
Area Reviewed: Entire Property **Last Management Plan Approval Date:** 10/14/2005
Review Date: 10/26/18

Agency Manager and Key Staff Present:

- Michael Watkins, Park Manager, Blue Springs SP
- Rene Acuna, Park Manager, Hontoon Island SP

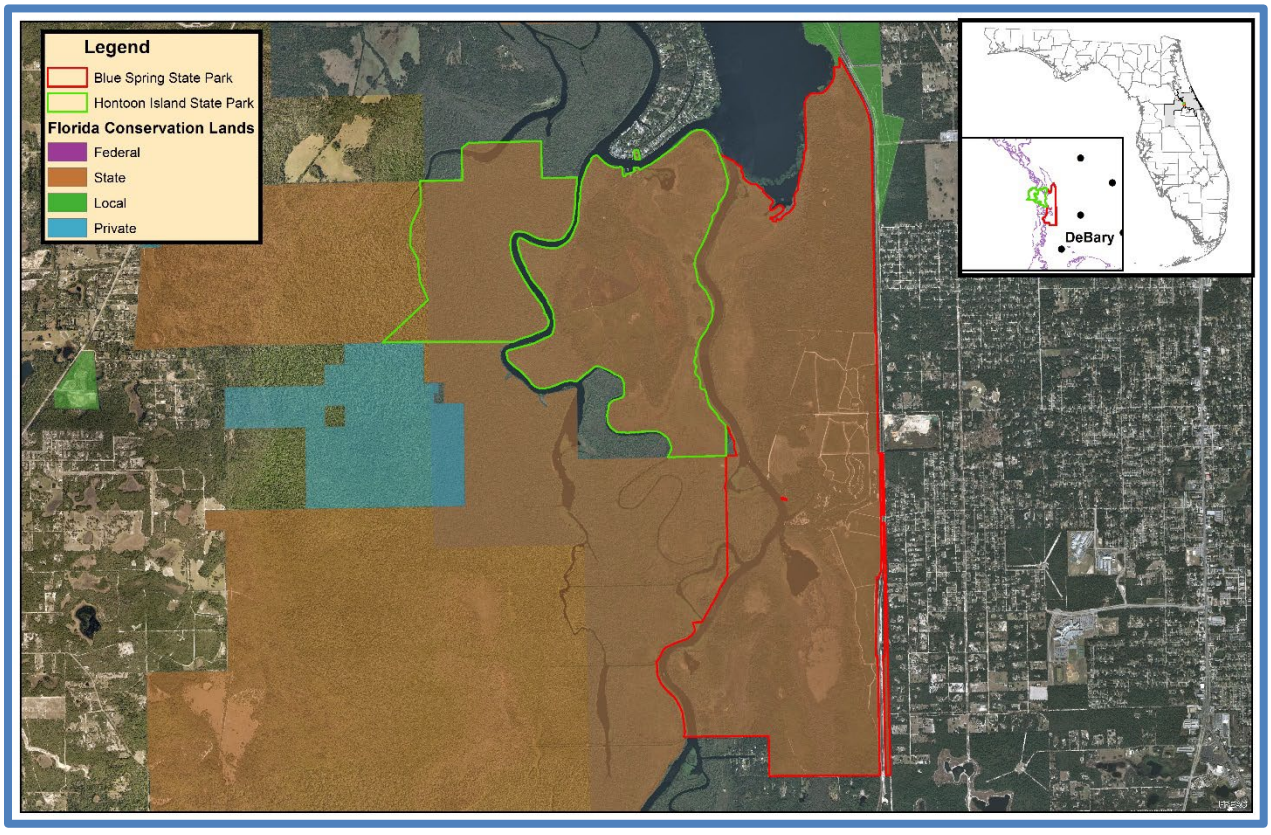
Review Team Members Present (voting)

- Jason DePue, DRP District
- Richard Harris, Local Gov't.
- Alex Kropp, FWC
- Brennan Hagan, DEP District
- Michael Edwards, FFS
- Brent Bachelder, SJRWMD
- Ray Jarrett, Cons. Organization
- Mike Brown, Private Land Manager

Other Non-Team Members Present (attending)

- Keith Singleton, DEP/DSL
- Andrew Lawrence, FWC/IPMS
- Barbara Howell, DEP/FCO

1.2 Property Map



1.3. Overview of Land Management Review Results

Is the property managed for purposes that are compatible with conservation, preservation, or recreation?

Yes = 8, No = 0

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

Yes = 8, 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	3.96	3.15
Prescribed Fire / Habitat Restoration	4.48	3.11
Hydrology	3.95	3.02
Imperiled Species	4.44	3.35
Exotic / Invasive Species	3.83	3.07
Cultural Resources	3.50	3.31
Public Access / Education / Law Enforcement	4.10	3.38
Infrastructure / Equipment / Staffing	2.95	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 the Florida Park Service (FPS) for continued management of scrub habitat at Blue Spring SP. The FPS has improved the habitat for the Florida scrub jays. (7+, 0-)
2. The team commends the FPS for the prescribed burn program at Blue Spring and Hontoon Island State Parks. Total acres burned, frequency and quality of burns is good. Staff have accomplished burning with unique obstacles of Hontoon Island. (7+, 0-)
3. The team commends the park staff for doing an excellent job with invasive plant management through the use of volunteers and proper treatment techniques. (7+, 0-)
4. The team commends the FPS for excellent mesic flatwoods habitat management. (7+, 0-)
5. The team commends the FPS for their excellent listed species monitoring program, expecially with Florida scrub jay and manatees. (7+, 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 the FPS update the timber assessment since it has been over 10 years from previous assessment and there is a need for timber management. (7+, 0-)

   Managing Agency Response: ***Agree. A new timber assessment will be included in the revised unit management plan.***

2. The team recommends that the FPS seek funding to aid in invasive plant management. (7+, 0-)

   Managing Agency Response: ***FPS will continue to seek outside funding for invasive plant management to augment Park funding/efforts to further combat the spread of invasive plants.***

3. The team recommends that the FPS continue spring vent and spring run erosion solutions. Make it a priority to see funding for bank stability. (7+, 0-)

   Managing Agency Response: ***Agree. FPS initiated talks with FWC's Aquatic Habitat Conservation and Restoration (AHCR) Section to seek funding for the bank stabilaztion and the park has been awarded AHCR funds to start the restoration.***

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, scrub, upland hardwood forest, baygall, depression marsh, floodplain swamp, hydric hammock, river floodplain lake, sandhill upland lake, blackwater stream, spring-run stream, aquatic cave, wet flatwoods, and sinkhole.**
2. **Listed species, plants and animals in general, and specifically scrub jay, manatee, silt snail and gopher tortoise.**
3. **Natural resource survey/monitoring resources, specifically listed species or their habitat monitoring, other non-game species or their habitat monitoring, and invasive species survey and monitoring.**
4. **Resource management (prescribed fire), specifically area being burned, frequency, and quality.**
5. **Restoration, specifically scrub restoration.**
6. **Non-native, invasive, and problem species, specifically prevention and control of plants, and control of animals.**
7. **Ground water and surface water monitoring, specifically quality and quantity.**
8. **Resource protection, specifically boundary survey.**
9. **Adjacent property concerns, land use, specifically expanding development, and well fields.**
10. **Public access, specifically roads and parking.**
11. **Environmental education and outreach, specifically wildlife, invasive species, habitat management activities, interpretive facilities and signs, recreational opportunities, and management of visitor impacts.**
12. **Management resources, specifically waste disposal**.

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. ***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: ***If it is determined that additional staff and funding are needed at the time of the next unit management plan revision, it will be included in the plan. 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.***

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	4	5	4	5	5	5	5	5	4.75
Scrub	I.A.2	3	4	5	4	4	4	4	4	4.00
Shell Mound	I.A.3	2	4	3	4	1	4	5	4	3.38
Upland Hardwood Forest	I.A.4	4	5	4	5	4	5	4	5	4.50
Baygall	I.A.5	4	5	2	5	5	4	5	5	4.38
Depression Marsh	I.A.6	5	5	4	5	4	5	5	4	4.63
Floodplain Swamp	I.A.7	4	5	5	5	5	4	5	5	4.75
Floodplain Marsh	I.A.8	4	3	3	3	3	3	3	3	3.13
Hydric Hamock	I.A.9	4	5	4	5	4	5	5	5	4.63
River Floodplain Lake	I.A.11	4	5	4	4	4	5	5	4	4.38
Sandhill Upland Lake	I.A.12	4	4	5	x	x	4	5	3	4.17
Blackwater Stream	I.A.13	4	5	5	5	4	5	5	5	4.75
Spring-Run Stream	I.A.14	2	5	5	4	5	5	5	4	4.38
Aquatic Cave	I.A.15	3	5	5	5	5	5	5	4	4.63
Scrubby Flatwoods	I.A.16	4	4	4	x	1	5	3	3	3.43
Wet Flatwoods	I.A.17	4	5	5	5	3	4	5	5	4.50
Sinkhole	I.A.19	4	5	5	5	4	4	5	5	4.63
									Natural Communities Average Score	4.29
Listed species:Protection & Preservation (I.B)										
Animals	I.B.1			5	5	4	4	5	5	4.67
Scrub Jay	I.B.1.a	5	5	5	5	4	5	5	5	4.88
Manatee	I.B.1.b	5	5	5	5	4	4	5	5	4.75
Silt Snail	I.B.1.c	4	4	5	4	4	3	5	3	4.00
Gopher Tortoise	I.B.1.d	4	4	5	5	4	3	5	5	4.38
Plants	I.B.2		3	5	4		4	5	3	4.00
									Listed Species Average Score	4.44

Natural Resources Survey/Monitoring Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	4	5	5	5	4	5	5	5	4.75
Other non-game species or their habitat monitoring	I.C.3	4	4	5	4	3	3	5	4	4.00
Fire effects monitoring	I.C.4	5		5	3	3	4	3	3	3.71
Other habitat management effects monitoring	I.C.5	4	4	5	x	3	3	2	4	3.57
Invasive species survey / monitoring	I.C.6	5	4	5	4	4	4	4	5	4.38
Cultural Resources (Archeological & Historic sites) (II.A, II.B)										
Cultural Res. Survey	II.A	4	3	5	3	3	4	2	4	3.50
Protection and preservation	II.B	3	4	5	3	3	2	4	4	3.50
								Cultural Resources Average Score		3.50
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A1	5	4	5	4	4	4	4	4	4.25
Frequency	III.A.2	5	4	5	4	4	4	4	4	4.25
Quality	III.A.3	5	4	5	5	4	3	4	4	4.25
								Resource Management, Prescribed Fire Average Score		4.25
Restoration (III.B)										
Scrub Restoration	III.B.2		5	5	5	4	5	5	4	4.71
								Restoration Average Score		4.71
Forest Management (III.C)										
Timber Inventory	III.C.1	4	4	3	4	3	4	2	4	3.50
Timber Harvesting	III.C.2	4	4	3	4	3	4	4	4	3.75
								Forest Management Average Score		3.63
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.D.1.a	4	5	5	4	1	5	4	4	4.00
prevention - animals	III.D.1.b	4	4	5	3	2	2	4	3	3.38
prevention - pests/pathogens	III.D.1.c	4	4	5	3	2	4	3	3	3.50
Control										
control - plants	III.D.2.a	4	5	5	5	3	5	4	4	4.38
control - animals	III.D.2.b	4		5	4	3	5	4	4	4.14
control - pest/pathogens	III.D.2.c	4		4	3	3	4	4	3	3.57
								Non-Native, Invasive & Problem Species Average Score		3.83
Hydrologic/Geologic function Hydro-Alteration (III.E.1)										
Roads/culverts	III.E.1.a	4	4	4	4	2	4	3	4	3.63
Discharge Pipe (on Stark Tract)	III.E.1.f	4	4		3	x	3	5	3	3.67
								Hydrologic/Geologic function, Hydro-Alteration Average Score		3.65
Ground Water Monitoring (III.E.2)										
Ground water quality	III.E.2.a	4	5	5	3	x	4	5	3	4.14
Ground water quantity	III.E.2.b	4	5	5	3	x	3	5	3	4.00
								Ground Water Monitoring Average Score		4.07
Surface Water Monitoring (III.E.3)										
Surface water quality	III.E.3.a	4	5	5	3	x	4	5	3	4.14

Surface water quantity	III.F.3.b	4	5	5	3	x	4	5	3	4.14
									Surface Water Monitoring Average Score	4.14
Resource Protection (III.F)										
Boundary survey	III.F.1	4	4	5	4	3	5	5	3	4.13
Gates & fencing	III.F.2	4	4	3	3	3	3	2	3	3.13
Signage	III.F.3	2	4	5	3	3	4	5	3	3.63
Law enforcement presence	III.F.4	3	5	5	3	3	4	5	3	3.88
									Resource Protection Average Score	3.69
Adjacent Property Concerns (III.G)										
Land Use										
Expanding development	III.G.1.a	4	4	5	x	3	4	5	4	4.14
Sand Mine	III.G.1.b	4	4	5	5	3	4	5	4	4.25
Inholdings/additions	III.G.2	3	4	5	3	3	5	5	3	3.88
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	4	5	5	4	4	5	5	5	4.63
Parking	IV.1.b	4	5	5	4	4	4	5	4	4.38
Boat Access	IV.1.c	4	5	3	4	4	4	5	4	4.13
Environmental Education & Outreach										
Wildlife	IV.2.a	5	5	5	4	4	5	5	5	4.75
Invasive Species	IV.2.b	4	5	5	4	4	5	5	5	4.63
Habitat Management Activities	IV.2.c	4	5	5	4	4	3	5	4	4.25
Interpretive facilities and signs	IV.3	5	5	5	5	4	4	5	5	4.75
Recreational Opportunities	IV.4	5	5	5	5	4	5	5	5	4.88
Management of Visitor Impacts	IV.5	2	5	5	4	4	4	5	5	4.25
									Public Access & Education Average Score	4.51
Management Resources (V.1, V.2, V.3. V.4)										
Maintenance										
Waste disposal	V.1.a	4	4	5	4	1	4	5	5	4.00
Sanitary facilities	V.1.b	4	4	4	4	1	3	5	5	3.75
Infrastructure										
Buildings	V.2.a	3	4	3	2	1	4	2	5	3.00
Equipment	V.2.b	3	4	4	3	1	4	2	5	3.25
Staff	V.3	2	2	1	2	x	2	1	2	1.71
Funding	V.4	1	2	3	2	x	2	2	2	2.00
									Management Resources Average Score	2.95

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. ***Natural Communities, specifically floodplain marsh, scrubby flatwoods, wet flatwoods, and sinkhole, received below average scores. This is an indication that the management plan does not sufficiently address current or desired condition and/or future management actions to protect or restore.***

   Managing Agency Response: ***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. A discussion of these communities will be more thoroughly addressed in the next plan update.***

2. ***Listed Species protection and preservation, specifically gopher tortoise, received a below average score. This is an indication that the management plan does not sufficiently address protection and preservation of listed species.***

   Managing Agency Response: ***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 protection and preservation of gopher tortoise will be more thoroughly addressed in the next plan update.***

3. ***Natural Resources Survey and Monitoring Resources, specifically other habitat management effects monitoring, received a below average score. This is an indication that the management plan does not sufficiently address survey or monitoring.***

   Managing Agency Response: ***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. A discussion about habitat management and survey/monitoring will be more thoroughly addressed in the next plan update.***

4. ***Restoration, specifically scrub restoration, received a below average score. This is an indication that the management plan does not sufficiently address restoration.***

   Managing Agency Response: ***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. A discussion about scrub restoration and what has been accomplished in the past 10 years will be more thoroughly addressed in the next plan update.***

5. ***Non-native, Invasive & Problem Species, specifically prevention of animals, and pests/pathogens, received below average scores. This is an indication that the management plan does not sufficiently address prevention of invasive species.***

Managing Agency Response: *Agree. The current plan is old and a new version of the plan is in process which will include a discussion about the prevention of animals, pests, and pathogens.*

6. ***Hydrologic/Geologic function, Hydro-Alteration, specifically discharge pipe (on Stark Tract), received a below average score. This is an indication that the management plan does not sufficiently address hydrologic and geologic function.***

   Managing Agency Response: *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. A discussion about about the discharge pipe will be more thoroughly addressed in the next plan update.*

7. ***Adjacent Property Concerns, specifically discussion of potential surplus land determination, received below average scores. This is an indication that the management plan does not sufficiently address adjacent property.***

   Managing Agency Response: *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. A discussion about surpluss lands will be more thoroughly addressed in the next plan update.*

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	5	4	3	2	4	3	3	3.63
Scrub	I.A.2	5	5	5	3	4	4	3	3	4.00
Shell Mound	I.A.3	3	4	3	3	3	4	3	3	3.25
Upland Hardwood Forest	I.A.4	4	4	4	3	3	5	2	3	3.50
Baygall	I.A.5	4	4	4	3	2	3	3	3	3.25
Depression Marsh	I.A.6	5	4	5	3	3	4	3	3	3.75
Floodplain Swamp	I.A.7	4	4	4	3	2	3	3	3	3.25
Floodplain Marsh	I.A.8	4	4	2	3	3	2	3	2	2.88
Hydric Hamock	I.A.9	4	4	4	3	2	3	3	3	3.25
River Floodplain Lake	I.A.11	4	4	4	3	2	4	3	2	3.25
Sandhill Upland Lake	I.A.12	4	4	5	3	1	3	3	3	3.25
Blackwater Stream	I.A.13	4	4	4	3	2	5	3	3	3.50
Spring-Run Stream	I.A.14	3	4	4	3	2	5	3	3	3.38
Aquatic Cave	I.A.15	4	4	5	3	2	4	2	3	3.38
Scrubby Flatwoods	I.A.16	4	4	3	2	1	3	2	1	2.50
Wet Flatwoods	I.A.17	5	2	1	2	1	2	1	1	1.88
Sinkhole	I.A.19	4	3	4	1	1	1	1	1	2.00
									Natural Communities Average Score	3.17

Listed species: Protection & Preservation (I.B)										
Animals	I.B.1			5	2	3	4	3	3	3.33
Scrub Jay	I.B.1.a	5	4	4	3	3	5	3	3	3.75
Manatee	I.B.1.b	4	4	5	3	3	5	4	3	3.88
Silt Snail	I.B.1.c	4	4	3	2	3	3	3	2	3.00
Gopher Tortoise	I.B.1.d	4	4	4	1	3	1	3	1	2.63
Plants	I.B.2		4	4	3		4	3	3	3.50
									Listed Species Average Score	3.35
Natural Resources Survey/Monitoring Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	4	4	4	3	3	5	3	3	3.63
Other non-game species or their habitat monitoring	I.C.3	4		4	2	3	3	3	3	3.14
Fire effects monitoring	I.C.4	5	4	3	2	3	3	2	2	3.00
Other habitat management effects monitoring	I.C.5	4	4	3	3	3	2	2	2	2.88
Invasive species survey / monitoring	I.C.6	5	4	4	3	3	3	3	3	3.50
Cultural Resources (Archeological & Historic sites) (II.A,II.B)										
Cultural Res. Survey	II.A	4	4	3	3	3	4	3	3	3.38
Protection and preservation	II.B	4	4	2	3	3	3	4	3	3.25
									Cultural Resources Average Score	3.31
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A.1	5	4	4	3	3	5	2	3	3.63
Frequency	III.A.2	5	4	4	3	3	4	2	3	3.50
Quality	III.A.3	5	4	5	3	3	2	2	3	3.38
									Resource Management, Prescribed Fire Average Score	3.50
Restoration (III.B)										
Scrub Restoration	III.B.2		4	4	3	2	2	2	2	2.71
									Restoration Average Score	2.71
Forest Management (III.C)										
Timber Inventory	III.C.1	4	4	3	3	1	3	3	3	3.00
Timber Harvesting	III.C.2	4	4	3	3	2	4	3	3	3.25
									Forest Management Average Score	3.13
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.E.1.a	4	4	4	3	1	4	2	3	3.13
prevention - animals	III.E.1.b	4	4	4	3	1	2	2	2	2.75
prevention - pests/pathogens	III.E.1.c	4	4	3	3	1	4	2	2	2.88
Control										
control - plants	III.E.2.a	4	4	4	3	3	4	2	3	3.38
control - animals	III.E.2.b	4		4	3	3	4	2	3	3.29
control - pest/pathogens	III.E.2.c	4		3	3	3	3	2	3	3.00
									Non-Native, Invasive & Problem Species Average Score	3.07
Hydrologic/Geologic function, Hydro-Alteration (III.E.1)										

Roads/culverts	III.F.1.a	4	4	3	3	2	4	3	3	3.25
Discharge Pipe (on Stark Tract)	III.F.1.f	4	4		1	1	2	1	1	2.00
									Hydrologic/Geologic function, Hydro-Alteration Average Score	2.63
Ground Water Monitoring (III.E.2)										
Ground water quality	III.F.2.a	4	4	4	3	1	4	3	3	3.25
Ground water quantity	III.F.2.b	4	4	5	3	1	3	3	3	3.25
									Ground Water Monitoring Average Score	3.25
Surface Water Monitoring (III.E.3)										
Surface water quality	III.F.3.a	4	4	4	3	1	4	2	3	3.13
Surface water quantity	III.F.3.b	4	4	4	3	1	4	3	3	3.25
									Surface Water Monitoring Average Score	3.19
Resource Protection (III.F)										
Boundary survey	III.G.1	4	4	5	3	1	5	3	3	3.50
Gates & fencing	III.G.2	4	4	3	3	1	3	3	3	3.00
Signage	III.G.3	4	4	4	3	1	3	3	3	3.13
Law enforcement presence	III.G.4	4	4	5	3	1	4	3	3	3.38
									Resource Protection Average Score	3.25
Adjacent Property Concerns (III.G)										
Land Use										
Expanding development	III.H.1.a	4	4	4		2	4	3	3	3.43
Sand Mine	III.H.1.b	4	4	5	3	2	4	3	3	3.50
Inholdings/additions	III.H.2	3	4	5	4	1	5	2	3	3.38
Discussion of Potential Surplus Land Determination	III.H.3	3	2	1	1	1	1	2	1	1.50
Surplus Lands Identified?	III.H.4	4	4	5	4	1	4	2	4	3.50
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	4	4	5	3	2	4	2	3	3.38
Parking	IV.1.b	4		4	3	2	4	3	3	3.29
Boat Access	IV.1.c	4		3	3	2	4	3	3	3.14
Environmental Education & Outreach										
Wildlife	IV.2.a	5	4	5	3	2	5	3	3	3.75
Invasive Species	IV.2.b	4	4	5	3	2	5	3	3	3.63
Habitat Management Activities	IV.2.c	4	4	4	3	2	3	3	3	3.25
Interpretive facilities and signs	IV.3	5	5	5	3	2	4	3	3	3.75
Recreational Opportunities	IV.4	5	5	5	3	2	5	3	3	3.88
Management of Visitor Impacts	IV.5	4	4	5	3	2	4	3	3	3.50
									Public Access & Education Average Score	3.51
Managed Area Uses (VI.A, VI.B)										
Existing Uses										
Camping	VI.A.1	5	5	5	5	3	5	4	5	4.63
Cabins	VI.A.2	5	5	5	5	3	3	4	5	4.38
Fishing	VI.A.3	5	5	4	5	4	3	4	5	4.38

Picnicking	VI.A.4	5	5	5	5	4	3	5	5	4.63
Hiking	VI.A.5	5	5	5	5	4	4	4	5	4.63
Canoeing	VI.A.6	4	5	5	5	4	4	5	5	4.63
Shared Use Trails	VI.A.7	4	5	5	5	4	4	4	5	4.50
Nature Study	VI.A.8	5	5	5	5	4	3	5	5	4.63
Swimming/SCUBA Diving	VI.A.9	4	5	5	5	4	5	5	5	4.75
Proposed Uses										
Observation Pier	VI.B.1	4	5	5	5	0	5	5	5	4.25

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 9—Timber Management Analysis

Florida State Parks
Timber Management Analysis

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 the 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.

Hontoon Island State Park (Hontoon Island) is designated as a single-use park. As such, timber management is only permitted as a method of natural community restoration and maintenance rather than as an ongoing extractive activity. The feasibility of managing/harvesting timber at Hontoon Island during the period covered by the UMP was considered pursuant to the DRP statutory responsibilities to analyze 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 natural characteristics to the degree practicable, except in those natural communities specifically managed for a structure that differs from that described in the timber assessment found at reference sites for those communities established by the Florida Natural Areas Inventory (FNAI). In the case of imperiled species, the management of certain natural communities may differ from standard treatments to provide optimum habitat conditions within the park.

The natural community evaluated at Hontoon Island had overstory pine stocking levels generally within range or above the upper limits identified for corresponding FNAI Reference Sites. Conversely, non-pine (hardwood) overstory stocking levels were below the lower limits identified for corresponding FNAI Reference Sites. The Timber Management Analysis found in Addendum __8__ provides additional details. Overstory thinning is a management tool that may be utilized in areas which have overstocked conditions. However, the specific management goals and objectives for each natural community are detailed in the Resource Management Component. Activities related to stand improvement, including palmetto and midstory reduction, are ongoing in many areas, as well.

Addendum _____
Timber Management Analysis

1. *Management Context and Best Management Practices*
Timber management at Hontoon Island State Park (Hontoon Island) is based on the desired future condition (DFC) of a management zone or natural community (NatCom) as determined by the DRP Unit Management Plans, along with guidelines developed by the Florida Natural Areas Inventory (FNAI). In most cases, the DFC will be closely related to the historic NatCom. However, it is important to note, that in areas where the historic community has been severely altered by past land use practices, the DFC may not always be the same as the historic NatCom. All timber management activities undertaken will adhere to or exceed the current Florida Silvicultural Best Management Practices (BMPs) and Florida Forestry Wildlife BMPs for State Imperiled Species. DRP shall take all measures necessary to protect water quality and wildlife species of concern while conducting timber management activities. DRP has contracted with a private sector, professional forest management firm to complete this timber assessment: F4 Tech.

2. *Purpose of Timber Management Activities*
Timber management activities may be conducted to help improve or maintain current conditions to achieve the associated DFC. Timber management will primarily be conducted in upland NatCom types. Candidate upland NatCom types may include upland mixed woodland along with scrubby flatwoods, scrub, and altered landcover types such as successional hardwood forest and pine plantations. There will likely be no scheduled timber management activities in historically hardwood-dominated or wetland NatCom types, e.g., upland hardwood forest, hydric hammock, and slope forest. In some circumstances, timber management may include the harvesting and removal of overstory invasive/exotic trees. Descriptions of community types are detailed in the in the Resource Management Component.

3. *Potential Silvicultural Treatments*
Several silvicultural treatments may be considered and utilized over the next ten years. The various types of timber harvests may include pine thinning, targeted hardwood overstory removal, and clearcutting. Silvicultural treatments will be selectively implemented to minimize potential impacts to water and soil resources, non-target vegetation, and wildlife (see BMPs). Depending upon the condition and marketability of the timber being manipulated, it is possible to generate revenue from the harvest. It is also possible the timber removal could be a cost to DRP. In all decisions, the mission of preserving and restoring natural communities will be the guiding factor.

Thinning is conducted to reduce the basal area (BA) or density of trees/stems in a stand to improve forest health and growth conditions for residual trees. Allowing trees more room to grow has the potential to increase tree and forest vigor, which helps mitigate the potential for damaging insect and disease outbreaks. Most tree harvesting/removals also increase sunlight reaching the forest floor and fine fuels that facilitate consistent fire return intervals and responses, which can benefit groundcover vegetation abundance, species richness, and overall ecological diversity.

The disruption of natural fire regimes and fire return intervals can often result in the need to remove undesirable or overstocked hardwood stems that currently occupy growing space in the canopy and sub-canopy. Clearcutting may be used to support restoration goals by removing off-site pine or hardwood species and is a precursor to establishing site-appropriate species. It can also be used to control insect infestations that are damaging or threatening forest resources and ecosystem conditions.

On occasion, salvage cuts may need to be conducted to remove small volumes of wood damaged by fire, wind storm, insect or other natural causes. The decision whether or not to harvest the affected timber will depend on the threat to the surrounding stands, risk of collateral ecological damage, and the volume/value of the trees involved. For example, small, isolated lightning-strike and beetle kills are a natural part of a healthy ecosystem and normally would not be cut. However, if a drought caused the insect infestation to spread, the affected trees and buffer zone might have to be removed to prevent significant damage.

4. *Inventory Data and Potential Actions per Area of Interest or Management Zone*

Hontoon Island comprises 1,654 acres in Volusia and Lake Counties. A total of 232 acres are associated with one (1) upland NatCom type that is a potential candidate for timber management. From September 2017 to January 2018, an inventory based on field plots was conducted across and within these areas to quantify overstory, midstory, and understory conditions. Various park-level and NatCom-level summary statistics can be found in the following tables.

This timber assessment was based on management zone and NatCom boundary GIS data provided by DRP in April 2019. It is not intended to be prescriptive. Stakeholders and DRP staff are encouraged to view this timber assessment and inventory data as supplemental information for future consideration. Given the dynamic nature of property ownership and land management activities at Hontoon Island, together with the timeframe required to create or update a UMP, it is possible that some tabular data may be dated. Therefore, NatCom acreages and recent treatments that occurred after the April 2019 period may not be reflected in the following tables.

Table 1. General summary statistics for Hontoon Island State Park

Number of Management Zones within the Park	19
Upland NatCom acres	244

Upland Mixed Woodland (232.0 acres)

Longleaf pine (*Pinus palustris*), southern red oak (*Quercus falcata*), mockernut hickory (*Carya tomentosa*), and sand post oak (*Q. margaretta*) are the preferred overstory species in the region. The FNAI reference site in this region for upland

mixed woodland contains longleaf pine at a basal area (BA) of 10 to 30 square feet per acre with non-pine species between 26 to 132 trees per acre (TPA). The following table shows the overstory condition for this natural community at Hontoon Island and target overstory condition for upland mixed woodland in this region.

MZ ID	Upland Mixed Woodland (Acres)	Current Average Overstory Conditions							Target Overstory Conditions	
		Pine BA (ft2/ac)	Pine TPA	Pine Volume (tons/ac)	Non-Pine BA (ft2/ac)	Non-Pine TPA	Non-Pine Volume (tons/ac)	Total Pine and Non-Pine Volume (tons/ac)	FNAI Reference Condition Pine BA Range (ft2/ac)	FNAI Reference Condition Non-Pine TPA Range
HT-01A	18.0	12.0	41.3	5.5	0.0	0.0	0.0	5.5	10 - 30	26 -132
HT-01B	17.2	38.0	89.2	24.4	4.0	3.2	3.2	27.6	10 - 30	26 -132
HT-01C	27.0	22.5	75.3	13.1	0.0	0.0	0.0	13.1	10 - 30	26 -132
HT-02A	42.2	20.0	42.2	13.2	0.0	0.0	0.0	13.2	10 - 30	26 -132
HT-02B	66.6	23.0	53.2	14.1	1.0	1.8	0.0	14.1	10 - 30	26 -132
HT-03A	19.3	26.7	43.9	18.7	0.0	0.0	0.0	18.7	10 - 30	26 -132
HT-03B	33.8	35.0	55.7	21.5	0.0	0.0	0.0	21.5	10 - 30	26 -132
HT-03C	7.1	72.5	132.2	49.8	0.0	0.0	0.0	49.8	10 - 30	26 -132
HT-04B	0.8	--	--	--	--	--	--	--	--	--
Total	**232.0**									

Addendum 10—Local Government Comprehensive Plan Compliance

From:	Degagne, Demi
To:	planning@volusia.org; cmcfarlane@volusia.org
Cc:	tfoelker@volusia.org; Armaghani, Yasmine; Alsentzer, Daniel; Fugate, Brian
Subject:	Request for County Review RE Comprehensive Plan Compliance - Blue Spring and Hontoon Island State Parks Unit Management Plans
Date:	Thursday, June 9, 2022 11:34:19 AM
Attachments:	image001.png

Good Morning,

The Florida Department of Environmental Protection, Division of Recreation and Parks, Office of Park Planning is responsible for the unit management planning of all Florida State Parks. As part of this planning process, prior to the unit management plan being presented to its Acquisition and Restoration Council for consideration, the Office of Park Planning is now required to connect and communicate with the area's agency that is responsible for the local comprehensive plan to determine if the park unit management plan is in compliance with the comprehensive plan. Specifically, we want to make sure we are accurately citing the future land use and zoning designations for the park and would like to confirm that our proposed developments in the conceptual land use section comply with those designations. The existing facilities section will also need to be reviewed.

We would like to have the Blue Spring State Park and Hontoon Island State Park draft unit management plans reviewed for compliance. The documents can be found at the following links:
https://floridadep.gov/parks/parks-office-park-planning/documents/blue-spring-state-park-2022-ag-draft-unit-management-plan
https://floridadep.gov/parks/parks-office-park-planning/documents/hontoon-island-state-park-2022-ag-draft-unit-management

Please acknowledge receipt and provide an approximate turn-around time for the review. If this request should be redirected to another person or section, please let us know. In the meantime, if you need any clarification regarding this request, the draft document or its contents, please contact Yasmine Armaghani at Yasmine.Armaghani@floridadep.gov or by phone at 850-245-3066. Ms. Armaghani, who has been copied with this communication, is the Planner assigned to handle this park's management planning and will be able to answer any questions regarding the plan.

Thank you for your time, help and direction.

Have a good rest of the day!

Demi P. Degagne
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Division of Recreation and Parks/Office of Park Planning
Government Operations Consultant and
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