Florida Department of Environmental Protection

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3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

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Lt. Governor

Noah Valenstein
Secretary

October 23, 2017

Steven Cutshaw
Division of Recreation and Parks
Department of Environmental Protection
3900 Commonwealth Boulevard, MS 525
Tallahassee, Florida 32399-3000

RE: Washington Oaks Garden State Park - Lease #3648

Dear Mr. Cutshaw:

On **October 20, 2017**, the Acquisition and Restoration Council recommended approval of the **Washington Oaks Garden State Park** management plan. Therefore, the Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the **Washington Oaks Garden State Park** management plan. The next management plan update is due October 20, 2027.

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,

Raymond V. Spaulding
Office of Environmental Services
Division of State Lands
Department of Environmental Protection

Washington Oaks Gardens State Park

APPROVED
Unit Management Plan

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks
October 2017

Washington Oaks Gardens State Park

Lead Agency: Department of Environmental Protection
Division of Recreation and Parks

Common Name of Property: Washington Oaks Gardens State Park

Location: Flagler County

Acreage: 425.52 Acres

Acreage Breakdown:

Natural Communities	Acres
Beach Dune	5.88
Coastal Strand	96.22
Maritime Hammock	158.41
Mesic Flatwoods	16.91
Scrubby Flatwoods	57.80
Shell Mound	1.96
Coastal Interdunal Swale	10.84
Salt Marsh	10.39
Estuarine Unconsolidated Substrate	20.78
Marine Consolidated Substrate	0.90
Marine Unconsolidated Substrate	5.27
Artificial Pond	1.60
Canal/Ditch	3.01
Clearing	0.34
Developed	36.90

Lease/Management Agreement Number: 3648

Use: Single Use

Management Responsibilities

Agency: Dept. of Environmental Protection, Division of Recreation and Parks

Responsibility: Public outdoor recreation and conservation

Designated Land Use: Resource-based public outdoor recreation and conservation is the designated single use of the property

Sublease: None

Encumbrances: See Addendum 1 for details

Type of Acquisition: Donation. See Addendum 1 for details.

Unique Features

Overview: Washington Oaks Gardens State Park is located in Flagler County near the town of Palm Coast. The park was initially acquired on June 10, 1964 by donation from Louise P. Young.

Natural: The continuum of natural communities from the Matanzas River to the Atlantic Ocean, provide an important example of a once common pattern prior to extensive barrier island development. These communities, including dune, coastal strand, maritime hammock, flatwoods, and salt marsh, are home to 34 imperiled species. The park is famous for its unique shoreline of coquina rock formations. These uncommon outcroppings occur in only a few locations along Florida's Atlantic coast. The outcrop's hard-bottom substrate is colonized by at least 100 different plants and animals providing excellent opportunities for nature study and photography.

Archaeological / Historical:

The park protects prehistoric, archaeological resources that provide evidence of the occupation and utilization of the Washington Oaks area by Native Americans during the full sequence of Pre-Columbian cultural periods. Rising 20 feet above the Matanzas River, Washington Oaks midden, site of the formal gardens, provides important information about the life and times of past inhabitants. The park has a very rich historical record dating back to the Plantation Era with the establishment of Bella Vista Plantation by General Jose Hernandez, a Floridian and militia general who commanded troops in this part of Florida during the Second Seminole War. Subsequent owners include a relative of President George Washington. The property was purchased in 1936 by Owen D. Young, founder of RCA and former Chairman of General Electric, and his wife, Louise Clark. The ornamental gardens and citrus groves were planted by the Youngs to enhance their winter retreat. They enjoyed the property until Mrs. Young donated it to the State of Florida in 1964 just before her death. The gardens and groves were designated as a historic district in the National Register of Historic Places in 2009.

Management Goals, Objectives and Actions

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

While the Division of Recreation and Parks utilizes the ten-year management plan to serve as the basic statement of policy and future direction for each park, a number of annual work plans provide more specific guidance for Division staff to accomplish many of the resource management goals and objectives of the park. Where such detailed planning is appropriate to the character and scale of the park's natural resources, annual work plans are developed for prescribed fire management, exotic plant management and imperiled species management. Annual or longer-term work plans

are developed for natural community restoration and hydrological restoration.

The work plans provide the Division with crucial flexibility in its efforts to generate and implement adaptive resource management practices in the state park system. The work plans are reviewed and updated annually. Through this process, the Division's resource management strategies are systematically evaluated to determine their effectiveness. The process and the information collected is used to refine techniques, methodologies and strategies, and ensures that each park's prescribed management actions are monitored and reported as required by Chapters 253.034 and 259.037, Florida Statutes.

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

Natural Resource Management

Hydrological Management

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

- *Objective: Conduct/obtain an assessment of the park's hydrological restoration needs.*
- *Objective: Restore natural hydrological conditions and functions to approximately 2 acres of coastal interdunal swale natural community.*

Natural Communities Management

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

- *Objective: Within 10 years, have 165 acres of the park maintained within the optimum fire return interval.*
- *Objective: Conduct habitat/natural community improvement activities on 7 acres of mesic flatwoods natural community.*
- *Objective: Conduct natural community/habitat improvement activities on 30 acres of coastal strand natural community.*

Imperiled Species Management

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

- *Objective: Update baseline imperiled species occurrence inventory lists for plants and animals.*
- *Objective: Monitor and document 7 selected imperiled animal species in the park.*
- *Objective: Monitor and document 3 imperiled plant species in the park.*

Exotic Species Management

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

- *Objective: Annually treat 2 acres of exotic plant species in the park.*
- *Objective: Implement control measures on 2 exotic animal species in the park.*
- *Objective: Practice preventative measures to avoid accidental introduction and spreading of exotics within the park.*

Cultural Resource Management

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

- *Objective: Assess and evaluate 11 of 12 recorded cultural resources in the park.*
- *Objective: Compile reliable documentation for all recorded historic and archaeological resources.*
- *Objective: Maintain 11 of 12 recorded cultural resources into good condition.*

Ten-Year Implementation Schedule and Cost Estimates: See Table 7, page 101

Acquisition Needs/Acreage: Two small parcels of undeveloped land on the north side of the park have been identified for the optimum boundary. These parcels, totaling 4 acres, would serve as buffers and enhance the boundary for management purposes.

Surplus Lands/Acreage: No lands are considered surplus to the needs of the park.

Summary of Significant Changes in this Update

- **Change in Land Use and Recreation Goals:** New recreational opportunities and facilities have been proposed that are appropriate for this park and consistent with the DRP mission. These include:
    - Picnic pavilions (3)
    - Observation platform
    - Meeting/reception facility

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INTRODUCTION

Washington Oaks Gardens State Park is located in Flagler County (see Vicinity Map). Access to the park is from State Road A1A just south of the town of Marineland (see Reference Map). The Vicinity Map also reflects significant land and water resources existing near the park.

Washington Oaks Gardens State Park was initially acquired on June 10, 1964 as a donation from Louise P. Young. Currently, the park comprises 425.52 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to the park. Currently, DRP is managing the park under a 50-year lease (Lease Number 3648). The current lease will expire on October 3, 2033.

At Washington Oaks Gardens State Park, public outdoor recreation and conservation is the designated single-use of the property. There are no legislative or executive directives that constrain the use of this property (see Addendum 1).

Purpose and Significance of the Park

The purpose of Washington Oaks Gardens State Park is to provide outstanding outdoor recreation opportunities and to protect and maintain the ornamental gardens and surrounding property for the enjoyment of the public. In addition, the park facilitates the protection and interpretation of a wide variety of natural communities between the Matanzas River and Atlantic Ocean.

Park Significance

- The park protects prehistoric, archaeological resources that provide evidence of the occupation and utilization of the Washington Oaks area by Native Americans during the full sequence of Pre-Columbian cultural periods. Rising 20 feet above the Matanzas River, Washington Oaks midden, site of the formal gardens, provides important information about the life and times of past inhabitants.

- The park has a very rich historical record dating back to the Plantation Era with the establishment of Bella Vista Plantation by General Jose Hernandez, a Floridian and militia general who commanded troops in this part of Florida during the Second Seminole War. Subsequent owners include a relative of President George Washington.

- The property was purchased in 1936 by Owen D. Young, founder of RCA and former Chairman of General Electric, and his wife, Louise Clark. The ornamental gardens and citrus groves were planted by the Youngs to enhance their winter retreat. They enjoyed the property until Mrs. Young donated it to the State of Florida in 1965 just before her death. The gardens and groves were designated as a historic district in the National Register of Historic Places in 2009.

- The continuum of natural communities from the Matanzas River to the Atlantic Ocean, provide an important example of a once common pattern prior to extensive barrier island development. These communities, including dune, coastal strand, maritime hammock, flatwoods, and salt marsh, are home to 34 imperiled species.

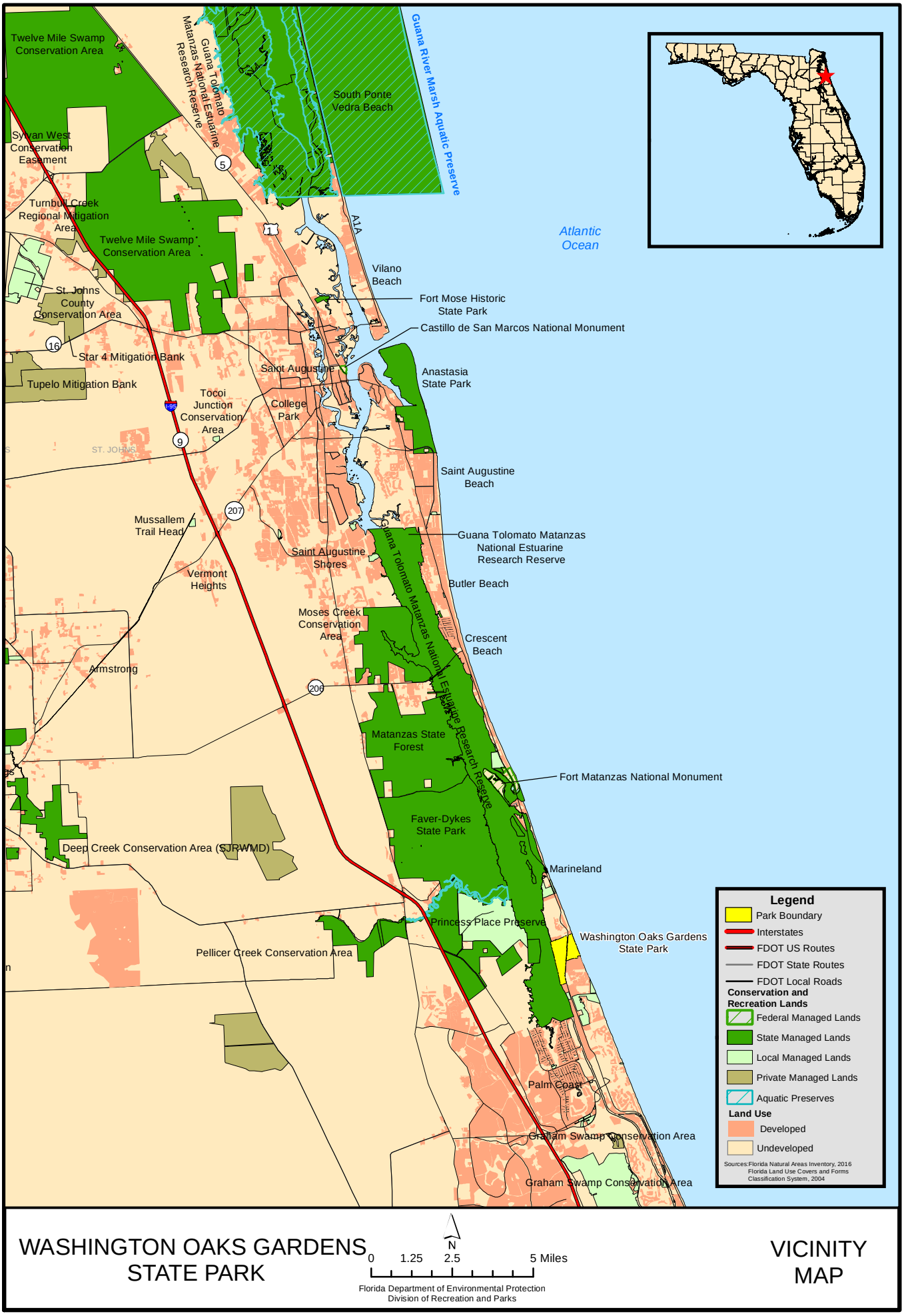
- The park is famous for its unique shoreline of coquina rock formations. These uncommon outcroppings occur only a few times along Florida's Atlantic coast. The outcrop's hard-bottom substrate is colonized by at least 100 different plants and animals providing excellent opportunities for nature study and photography.

Washington Oaks Gardens State Park is classified as a State Gardens in the DRP's unit classification system. In the management of a State Gardens, major emphasis is placed on the maintenance and enhancement of the gardens. Recreational uses are generally passive, related to the aesthetic enjoyment of the gardens; however, the unit also provides active recreational activities such as swimming, fishing and boating. Development in the park has been limited to picnicking and swimming facilities, a nature trail and necessary support facilities. Park programs emphasize interpretation of the natural and cultural attributes of the park.

Purpose and Scope of the Plan

This plan serves as the basic statement of policy and direction for the management of Washington Oaks Gardens State Park as a unit of Florida's state park system. It identifies the goals, objectives, actions and criteria or standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives and provide balanced public utilization. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and is intended to be consistent with the State Lands Management Plan. With approval, this management plan will replace the 2005 approved plan.

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



WASHINGTON OAKS GARDENS STATE PARK

VICINITY MAP

WASHINGTON OAKS GARDENS
STATE PARK

N

0 550 1,100 2,200 Feet

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

REFERENCE MAP

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

The Implementation Component consolidates the measurable objectives and actions for each of the park's management goals. An implementation schedule and cost estimates are included for each objective and action. Included in this table are (1) measures that will be used to evaluate the DRP's implementation progress, (2) timeframes for completing actions and objectives and (3) estimated costs to complete each action and objective.

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. This plan is also intended to meet the requirements for beach and shore preservation, as defined in Chapter 161, Florida Statutes, and Chapters 62B-33, 62B-36 and 62R-49, Florida Administrative Code.

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 the DRP's statutory responsibilities and the resource needs and values of the park. This analysis considered the park natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that no secondary 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) are not consistent with this plan.

DRP may provide the services and facilities outlined in this plan either with its own funds and staff or through an outsourcing contract. Private contractors may provide assistance with natural resource management and restoration activities or a concessionaire may provide services to park visitors in order to enhance the visitor experience. For example, a concessionaire could be authorized to sell merchandise and food and to rent recreational equipment for use in the park. A concessionaire may also be authorized to provide specialized services, such as interpretive tours, or overnight accommodations when the required capital investment exceeds that

which DRP can elect to incur. Decisions regarding outsourcing, contracting with the private sector, the use of concessionaires, etc. are made on a case-by-case basis in accordance with the policies set forth in DRP's Operations Manual (OM).

Management Program Overview

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.

Park Management Goals

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

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

Management Coordination

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

The Florida Department of Agriculture and Consumer Services (FDACS), Florida Forest Service (FFS), assists DRP staff in the development of wildfire emergency plans and provides the authorization required for prescribed burning. The Florida Fish and Wildlife Conservation Commission (FWC) assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within the park. In addition, the FWC aids DRP with wildlife management programs, including imperiled species management. The Florida Department of State (FDOS), Division of Historical Resources (DHR) assists staff to ensure protection of archaeological and historical sites. The Florida Department of Environmental Protection (DEP), Florida Coastal Office (FCO) aids staff in aquatic preserves management programs. The DEP, Bureau of Beaches and Coastal Systems aids staff in planning and construction activities seaward of the Coastal Construction Control Line (CCCL). In addition, the Bureau of Beaches and Coastal Systems aid the staff in the development of erosion control projects.

Faver-Dykes State Park and Washington Oaks State park are within the lands and waters designated as the Guana Tolomato Matanzas National Estuarine Research Reserve (GTM NERR). This non-regulatory designation provides a unique opportunity to enhance research, education and stewardship of natural resources within and adjacent to the managed property. NERR's are established to support natural resource stewardship through research and education. State sovereign submerged lands within GTM NERR along the Matanzas River and the Pellicer Creek

Aquatic Preserve are directly managed by the Florida Department of Environmental Protection's Florida Coastal Office (FCO).

The Park Manager, or designee, serves on the Reserve's Management Advisory Group (MAG). Quarterly meetings of the MAG provide an opportunity for the federal, state and county land managers within the Research Reserve to enhance cooperative management through improved information exchange and partnerships. A Memorandum of Understanding (MOU) between the Division of Recreation and Parks and the Florida Coastal Office recognizes the need for continued cooperation in management compatible with the goals and objectives of the NERR system.

Public Participation

DRP provided an opportunity for public input by conducting a public workshop and an Advisory Group meeting to present the draft management plan to the public. These meetings were held on April 11 and 13, respectively. Meeting notices were published in the Florida Administrative Register, March 31, 2017, VOL 43/63, included on the Department Internet Calendar, posted in clear view at the park, and promoted locally. The purpose of the Advisory Group meeting is to provide the Advisory Group members an opportunity to discuss the draft management plan (see Addendum 2).

Other Designations

Washington Oaks Gardens 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 II waters by the Department. This park is within or adjacent to the Guana Tolomato Matanzas National Esturarine Research Reserve as designated under the Florida Aquatic Preserve Act of 1975 (Section 258.35, Florida Statutes).

RESOURCE MANAGEMENT COMPONENT

Introduction

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

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

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

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

The entire park is divided into management zones that delineate areas on the ground that are used to reference management activities (see Management Zones Map). The shape and size of each zone may be based on natural community type, burn zone, and the location of existing roads and natural fire breaks. It is important to note that all burn zones are management zones; however, not all management zones include fire-dependent natural communities. Table 1 reflects the management zones with the acres of each zone.

Table 1. Washington Oaks Gardens State Park Management Zones			
Management Zone	**Acreage**	**Managed with Prescribed Fire**	**Contains Known Cultural Resources**
WAS-1	75.72	Y	N
WAS-2	58.80	Y	Y
WAS-3	100.92	Y	Y
WAS-4	20.94	N	Y
WAS-5	31.57	N	Y
WAS-6	45.02	N	Y
WAS-7	23.08	N	Y
WAS-8	74.10	N	Y

Resource Description and Assessment

Natural Resources

Topography

The park is located within a physiographic region termed the Eastern Flatwoods District by Brooks (1981). He further defined the region containing Washington Oaks Gardens State Park as the Central Atlantic Coastal Strip and specifically the St. Augustine-Edgewater Ridge. This ridge is of Late Pleistocene origin and is typically beach sands draped over older coquina (Anastasia Formation).

Elevations at this park range from mean sea level (MSL) to 10 feet above MSL. The original topography of this park, which includes a relict dune and swale system, has been slightly altered by mosquito ditching and the construction, many years ago, of a borrow site.

Geology

The unit is part of a barrier beach system that runs the length of the Atlantic coast. The Florida east coast barriers are generally long and narrow and the estuaries behind them are small. The barrier island consists of Holocene unconsolidated sediments (marine sand) over Pleistocene deposits (Anastasia Formation).

The following geologic information on "The Rocks" was supplied by Dr. Donald Lovejoy, Palm Beach Atlantic College. During the last interglacial period of the Ice Age, sea level was about 25 to 30 feet higher than at present. When sea level receded during the following glacial period, offshore bars of unconsolidated sediment were exposed to the air and weather. Rainwater percolating through overlying sediments dissolved calcium carbonate from the shell material. This material reprecipitated and formed a matrix or cement that bound the loose sediment into a hard material called coquina. Once raised from the ocean, these bars of solidified coquina stood above sea level for many thousands of years. About 500 years ago, the rising sea started wearing away the rock to produce the Anastasia Formation as we see it today.

WASHINGTON OAKS GARDENS
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

The rocks are part of several outcroppings that occur along the 250 miles of coast between Marineland and Palm Beach County. The coquina rocks in the park and nearby area differ from rocks found further south in that they have a greater abundance of coquina shell, more potholes, and several unusual layers of iron-stained sands bedded between layers of shell and sand. These bedded sands might be "layers of weakness" that, when weathered or exposed to wave action, dissolve, causing the coquina layers above to collapse. In addition, "lithified infillings" are produced when potholes fill with sediment that hardens and becomes more resistant to erosion than the surrounding coquina rock. Over time, these infillings are left as raised rims and knobs above the general surface of the coquina. There are also calcified, worm-like tubes in the "Rocks." These holes may be relict worm tubes, or may represent lithified (hardened into stone) roots or root channels, perhaps from palm trees. The origin of small, shallow potholes in the rocks is unknown, but these holes probably did not form around palm trunks. Some potholes contain rounded rocks, "grind stones," that deepen and smooth the walls of the potholes.

Soils

Three soil orders are found at this unit: Entisol, Spodosol and Alfisol. The latter soil group, represented by Cocoa-Bulow Sands (aqualfs), has agricultural as well as historical importance and probably was a factor in the settlement of this area during the plantation era. This particular soil type, characterized by well-drained sandy soil underlain by coquina rock, is noted for its relatively high nutrient value. The soils map reflects the soils found within the park.

Most of the soils at the park are classified as Entisols. These mineral soils have no pedogenic horizon and thus differ diagnostically from the common Florida Spodosols that have a characteristic hardpan. At the park, representatives of both soil orders (Entisols and Spodosols) are aquents or aquods, wetter soils in a high-water table.

The mesic maritime hammock and gardens are located over aqualfs soils (Cocoa and Bulow series). The more luxuriant growth of this hammock community is clearly delineated from the lower "scrubbier" vegetation of the scrub oak community, which is found over aquods (Pomello and Immokalee). These soils have a characteristic red hardpan. Lower swale areas and tidal areas are found over aquents, and beach areas occur over quartzipsamments.

Some minor erosion of soil and shell material from cultural site 8FL11 has occurred adjacent to the seawall due to visitor foot traffic, boat wakes and wave action, and heavy rain events. Park staff have installed wooden fencing in problem areas to eliminate visitor impacts and promote the establishment of vegetation to help hold the soil surface in place. Some rip rap material has also been placed in front of problem areas to help break the wave action before it reaches the shore. These actions seem to have improved the erosion situation but staff should continue to regularly inspect these erosion prone areas and evaluate the need for additional erosion control activities in the future.

The park's beach undergoes annual fluctuations of erosion and accretion cycles of beach sands much like any other east coast beach in Florida. Generally speaking, sands tend to erode away during the winter months, especially if there are prolonged periods of strong northeast winds and high seasonal tides, and sands tend to accrete during the summer months when there is typically a southerly or southwesterly wind flow. Hurricanes, tropical storms, and other large storm systems that bring high winds and surf can cause significant erosion of the beach sands in almost any month but these tend to be sporadic and most often occur in summer or fall during periods of general accretion. Occasionally a storm or series of storms will erode away nearly all of the surface sands from most of the park's beach, leaving only exposed coquina rock along the majority of the shoreline. When this happens, the exposed coquina formation does a good job of protecting the dune behind it and preventing the erosion from progressing further westward. Sands will typically accrete rather quickly over the exposed rock and cover much of the beach back over once the storms have passed. To date, there has not been a need for a beach renourishment project along the park's beach.

All management activities will follow generally accepted best management practices to prevent soil erosion and conserve soil and water resources on site. Addendum 4 contains a complete soils description for the nine soil types identified within the park.

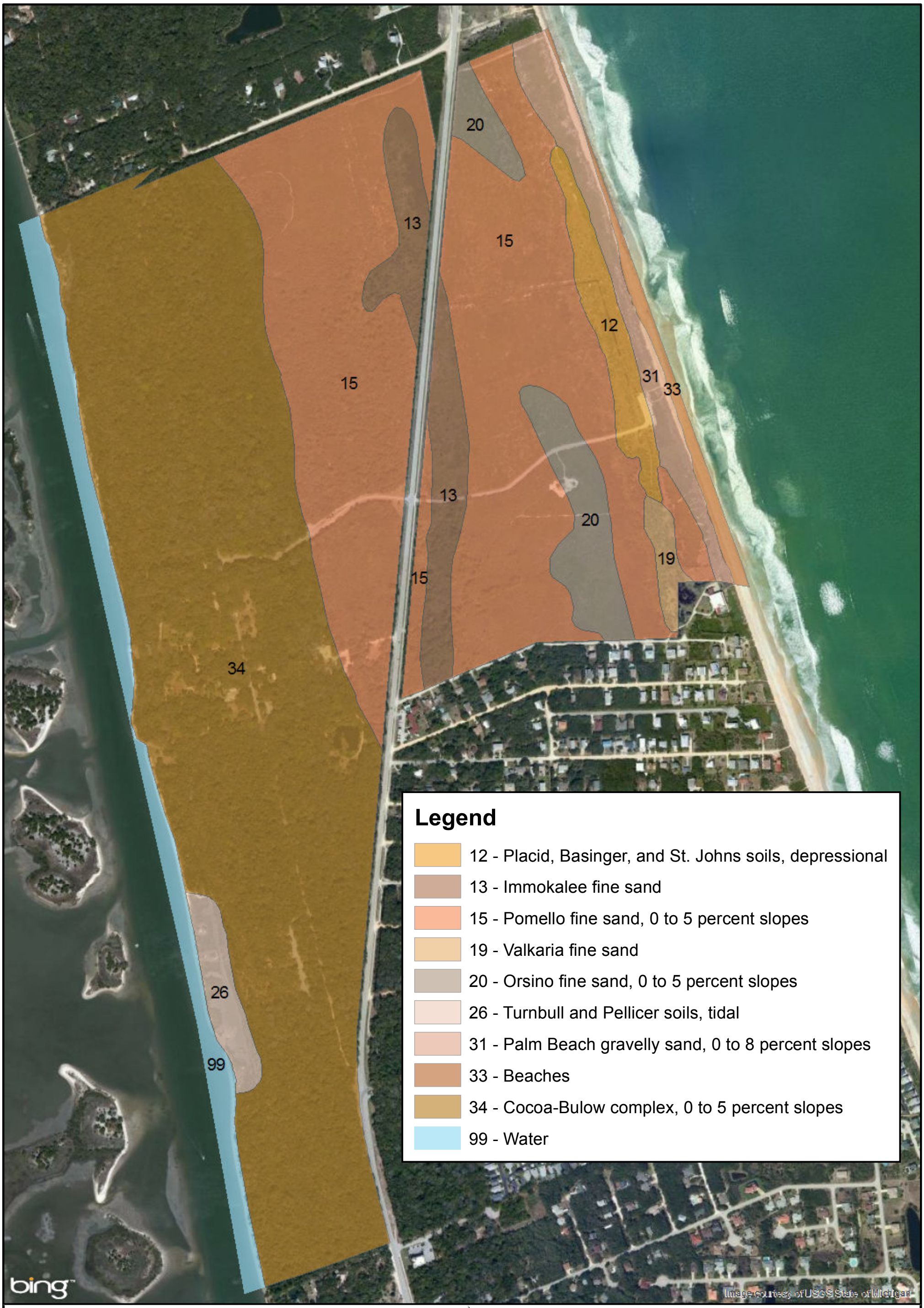
Minerals

There are no known minerals of commercial value at Washington Oaks Gardens State Park.

Hydrology

The park is part of St. Johns River Water Management District's (SJRWMD) Northern Coastal Basin. The SJRWMD further defines this basin into four smaller basins, with the park located in the Pellicer Creek Basin (SJRWMD, 1998). The only natural surface water feature within the park is a north-south oriented inter-dune swale located west of the primary dune. Its hydroperiods have been altered by past mosquito ditching and accelerated drainage as well as by additional inputs of offsite stormwater drainage.

Depending on location, surface water drains down slope into either the Atlantic Ocean or the Matanzas River (Intracoastal Waterway). Three man-made surface water features are located in the park. A borrow pond south of the shop and an artesian-fed pond system in the formal garden are thought to have minor effects on the overall hydrology of the park. A third surface water feature is a large ditch system that likely has a significant impact on the park's hydrology. This ditch originates from just outside of the park boundary near the southeastern corner, where it drains some stormwater runoff from Oceanside Drive through a small shallow ditch into a mostly privately owned man-made pond on the park boundary. During high water the pond outfalls to the north into a large mosquito ditch that was dug through the center of the natural interdunal swale located in WAS-2 and



WASHINGTON OAKS GARDENS
STATE PARK

N

0 250 500 1,000 Feet

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

SOILS MAP

WAS-1. A large secondary ditch runs from the ditched swale in WAS-1 to the west, under A1A (where it collects some additional runoff from A1A during rain events), into WAS-3 where it turns ninety degrees north and runs to the northern park boundary (where it collects some additional runoff from Old A1A during rain events), turns ninety degrees west and then continues due west all the way to its outfall into the Intracoastal Waterway at the park's northwest corner. This ditch is 15-20 feet wide and 5-10 feet deep at its largest point and cuts through a large area of coquina near the surface along its western leg. Although portions of the ditch are often dry and water is not always flowing through the ditch, it likely still has a measurable impact on the park's hydrology. However, because this ditch system provides for some offsite stormwater drainage as well as drainage of the park's beach parking lot area and access road and to a lesser degree roadside drainage from A1A and Old A1A, it would likely be difficult to fully restore the hydrology by removing or plugging the ditch system without causing unacceptable impacts to adjacent property. That said, should the opportunity arise to fill or modify this ditch system to provide hydrological restoration benefits to the park's resources without unacceptable offsite impacts, park staff should pursue this endeavor, working closely with the appropriate local agencies and landowners to achieve a desirable outcome. Hurricane Matthew impacted much of the park including drainage features and their vegetation in 2016, and effects of this need assessment to determine if any actions need to be taken beyond manmade debris cleanup.

The borrow pit pond mentioned above lies within WAS-5 to the south of the shop area. Surface water from this pond is used for irrigation within the ornamental gardens. A pump on the western side of the pond is used to fill a large tank and then the water is pumped to the gardens where it provides much of the irrigation. Some sensitive species in the gardens, such as the roses, are irrigated with city water, as the salt content of the pond water is too high and will damage the plants. Although the pond's overall hydrological impact to the park is thought to be minimal, staff should consider the future option of backfilling and restoring the pond area should its use for irrigation water someday become obsolete and its cultural significance be evaluated of little importance.

The groundwater resources were investigated and reported by Frazee and McClaughtery (1979). They identified three aquifers: a sand aquifer located on the western side of the barrier island, a shell-sand aquifer located mid-island, and the Anastasia consolidated coquina aquifer to the east. All three overlie the Floridan Aquifer and are susceptible to salt water intrusion.

The St Johns River Water Management District (SJRWMD) maintains a groundwater monitoring well within the park near the shop area. It is a shallow aquifer well to a depth of approximately 150 feet. SJRWMD staff have sampled this well approximately annually since 2002 and the resulting water quality data are available online via the SJRWMD website by searching for the groundwater station named "F-0200." The SJRWMD also maintains a surface water monitoring station in the Matanzas River (Intracoastal Waterway) located just outside of the park boundary near the southwest corner of the park. SJRWMD staff have sampled this

station approximately bimonthly from 1986-1996 and approximately monthly from 1997 to present and the resulting water quality data are available online via the SJRWMD website by searching for the surface water station named “MAT”. Several other wells exist in the park. There are at least two old wells on the beachside in WAS-2 that used to provide freshwater for irrigation of the formal gardens. These two wells and associated pump-house structures still remain, although the structures are in very poor condition and are planned for removal. The two wells in this area appear to be 2 inches in diameter and set about 40 feet apart from each other. Both are uncapped but not free flowing. They each have a PVC-constructed hand-pump attached that allows for water to be drawn up and a pump could be attached if needed. Across the street in WAS-5, near the SJRWMD monitoring well, are 3 more wells located in the woods a short distance south of the SJRWMD well. Two of them are placed side by side and the third is about 50 feet away. All three are reported to be rather shallow, appear to be 2 inches in diameter, and are currently capped but not formally abandoned.

The remaining three wells in the park are located in the formal gardens area within WAS-7 and provide water to the garden ponds. All three are thought to be rather shallow and are slowly free flowing under normal conditions, although two of them are pumped to increase flow. One is located at the edge of the pond just to the southeast of the gazebo. This one is not pumped, rather water just flows freely from it into the pond. It has a strong sulfur odor and a rather slow flow. The size of this well is unknown. The second is located near the old swimming pool, within a coquina rubble base, and is pumped from there into the garden ponds and fountains. It appears to be 2 inches in diameter. The third is located in the citrus grove area near the park manager’s residence. It also appears to be 2 inches in diameter and is pumped into the ponds and fountains. All three of these wells are said to flow freely when the power is out and the pumps are off, suggesting that perhaps they are deeper wells with more head pressure than others in the park. However, they are old wells that have been associated with the park’s gardens for decades and very little data on them is available.

Outfall from the garden ponds is directed through a buried drainpipe to a shallow ditch near the Park Manager’s residence and then ultimately to the ICW, however, under normal conditions most or all of the garden pond outflow water is lost to percolation and evapotranspiration before ever reaching the ICW outfall. Only during wet periods with high flow does the ditch outflow reach the ICW. The overall hydrological impacts to the park from the garden pond inflow and outflow are thought to be minor.

Freshwater wells in this area of the state are susceptible to saltwater intrusion and the park’s wells are no exception. During periods of prolonged drought some local wells and even the park’s irrigation pond have turned brackish at times. With continuing sea level rise and climate change this will likely become an even bigger issue. The park utilizes water and sewer service from Palm Coast Utilities for most of its facilities. The park should seek opportunities to expand the use of municipal water where available and appropriate and reduce the dependency on well water for irrigation and other purposes. Staff should also continue to incorporate more

drought and salt tolerant plants into the formal garden plantings as this has already proven to be an effective strategy in the park's plantings and is desirable for both the resources and the visitor experience in the gardens.

Natural Communities

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

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

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

The park contains 11 distinct natural communities as well as 4 altered landcover types (see Natural Communities Map). A list of known plants and animals occurring in the park is contained in Addendum 5.

Beach Dune

Desired Future Condition: Beach dune is a coastal mound or ridge of unconsolidated sediments found along shorelines with high energy waves. Vegetation will consist of herbaceous dune forming grass species such as sea oats (*Uniola paniculata*) and sand cordgrass (*Spartina alterniflora*). Other typical species may include sea rocket (*Cakile* spp.), railroad vine (*Ipomea pes-caprae*), seashore paspalum (*Paspalum vaginatum*), beach morning glory (*Ipomea imperati*), and beach sunflower

(*Helianthus debilis*). Occasionally shrubs such as seagrape (*Coccoloba uvifera*) may be scattered within the herbaceous vegetation.

Description and Assessment: Beach dune can be found along a narrow strip behind the shoreline of WAS-1 and WAS-2. It is dominated by salt tolerant grasses and herbaceous plants such as saltmeadow cordgrass (*Spartina patens*), bitter panicgrass (*Panicum amarum*), sea oats, railroad vine, beach sunflower, and beach elder (*Iva imbricata*). It grades gradually into the coastal strand, with which it shares many similar species of plants and animals and the ecotone is somewhat dynamic and not always obvious. There are some gopher tortoise (*Gopherus polyphemus*) burrows along the western side of the beach dune ridge. The park has one wooden dune crossover and a seasonal (marine turtle nesting season) sandy ATV crossover trail that traverse this habitat. The beach dune in WAS-1 has been burned twice in recent years and is in excellent condition. The beach dune in WAS-2 has an unknown burn history and is in good condition. Both areas are free of invasive exotics and composed of a good mix of desirable species. Overall this natural community exists in the park in good condition. Hurricane Matthew impacted beach dune in 2016, and effects of this need assessment to determine if any actions need to be taken beyond manmade debris cleanup.

General Management Measures: Continue to apply prescribed fire to this community whenever the adjacent coastal strand is burned. Survey for and remove invasive exotics as they are found to preserve the current maintenance condition. Erosion and accretion cycles are a normal part of the beach dune community. Monitor for excessive or unnatural erosion and implement mitigating measures as needed. Hurricane Matthew impacted beach dune in 2016, and effects of this need assessment to determine if any actions need to be taken beyond manmade debris cleanup.

Coastal Strand

Desired Future Condition: Coastal strand can be characterized as stabilized, wind-deposited coastal dunes that are thickly vegetated with evergreen salt-tolerant shrubs. It is an ecotonal community that will generally lie between the beach dune and maritime hammock, scrub or tidal swamp. Coastal strand dunes will contain deep, well drained sands that are generally quite stable but become susceptible to severe damage if the vegetation is significantly disturbed. In this region of the state, temperate plant species, including saw palmetto, (*Serenoa repens*), dwarfed cabbage palms (*Sabal palmetto*), tough bully (*Sideroxylon tenax*), yaupon holly (*Ilex vomitoria*), Hercules' club, (*Zanthoxylum clava-herculis*), and dwarfed, shrubby forms of red bay (*Persea borbonia*), red cedar (*Juniperus virginiana*), and live oak (*Quercus virginiana*) will dominate. Smooth domed canopies will develop as the taller vegetation is "pruned" by the windblown salt spray that kills the outer buds. This process is not as prevalent on the west coast of Florida or on the lee-side of islands due to prevailing easterly winds. Significant debate exists on the relative occurrence of natural fires compared to inland pyric communities. The Division Fire Management Standard estimates that the appropriate fire return interval to be between 4 and 15 years. However, variability outside this range may occur based

Legend

Natural Communities

- BD - Beach Dune 5.88 ac.
- CS - Coastal Strand 96.22 ac.
- MAH - Maritime Hammock 158.41 ac.
- MF - Mesic Flatwoods 16.91 ac.
- SCF - Scrubby Flatwoods 57.80 ac.
- SHM - Shell Mound 1.96 ac.
- CIS - Coastal Interdunal Swale 10.84 ac.
- SAM - Salt Marsh 10.39 ac.
- EUS - Estuarine Unconsolidated Substrate 20.78 ac.
- MCNS - Marine Consolidated Substrate 0.90 ac.
- MUS - Marine Unconsolidated Substrate 5.27 ac.
- AP - Artificial Pond 1.60 ac.
- CD - Canal/Ditch 3.01 ac.
- CLR - Clearing 0.34 ac.
- DV - Developed 36.90 ac.
- SA - Spoil Area 2.96 ac.

WASHINGTON OAKS GARDENS
STATE PARK

N

0 250 500 1,000 Feet

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

NATURAL COMMUNITIES MAP

on site specific conditions and management goals. At Washington Oaks, a 3-7 year fire return interval is desirable.

Description and Assessment: This community type occurs in WAS-1, WAS-2, and WAS-3. It is dominated by salt plants such as saw palmetto, yaupon holly, bully (*Sideroxylon sp.*), winged elm (*Ulmus alata*), and dwarfed live oak. There are many gopher tortoise burrows throughout this community and Florida Scrub Jays (*Aphelocoma coerulescens*) were present at the park in the coastal strand community until approximately 2006. The park's beach access road bisects this natural community. Most of the coastal strand in WAS-1 was mowed in 2008, burned in 2013 and is in good condition. The coastal strand in WAS-2 has an unknown burn history, is beginning to succeed to xeric hammock, and is in fair condition. Essentially all of the coastal strand community in WAS-3 was long unburned but recently roller-chopped in 2013 and planned to burn as soon as possible. This area of coastal strand is also in fair condition. All coastal strand areas are nearly free of invasive exotics and composed of a good mix of desirable species. Application of more prescribed fire and mechanical treatment in select areas are all that is likely needed to move this natural community into good condition. Overall this natural community currently exists in the park in fair condition.

General Management Measures: Continue to apply prescribed fire to this community as frequently as the fuels will allow. Survey for and remove invasive exotics as they are found to preserve the current maintenance condition. Consider chain-saw removal of some of the oaks and cabbage palms that were too large for roller-chopping in WAS-3. If unable to safely burn in its current condition, mechanically treat the coastal strand in WAS-2 and follow up as soon as possible with a prescribed burn. Aim to maintain an overall vegetation structure that will be suitable for Florida Scrub Jays and the associated suite of species that will also benefit from similar management. Apply prescribed fire on a 3-7 year interval, preferably as frequently as the fuels will allow for a fire to carry across the zone.

Approximately 30 acres in WAS-2 and 4 acres in WAS-3 of the coastal strand require community improvement efforts to reach the desired future condition. More details related to the restoration of this acreage are discussed in the Resource Management Program section of this component.

<u>Maritime Hammock</u>
Desired Future Condition: Maritime hammock is a coastal evergreen hardwood forest occurring in narrow bands along stabilized coastal dunes. Canopy species will typically consist of live oak (*Quercus virginiana*), red bay, and cabbage palm. The canopy will typically be dense and often salt-spray pruned. Understory species may consist of yaupon holly, saw palmetto, and/or wax myrtle (*Myrica cerifera*). Herbaceous groundcover will be very sparse or absent. Variation in species composition exists along the coast - as you head southward, tropical species become more prevalent.

Description and Assessment: This is the dominant natural community type in the park and can be found in every management zone west of SR A1A. It is dominated

by mature hardwood trees such live oak, southern magnolia (*Magnolia grandiflora*), red bay (although most have succumbed to the laurel wilt disease, many are resprouting), red cedar (*Juniperus virginiana*), hackberry (*Celtis laevigata*), and hickory (*Carya sp.*). Sabal palms are common and yaupon holly dominates the midstory. Ground cover is sparse but some areas have a lot of wild coffee (*Psychotria nervosa*) and coontie (*Zamia pumila*). The soils in this region are more fertile than most maritime hammock soils and contain areas of shell deposits and coquina rock. This natural feature likely influences the abundance of red cedar, hackberry, hickory and other species that are more common here than in many other maritime hammocks.

The maritime hammock provides important habitat for resident and migratory songbirds and a diverse array of other animals. Most of the park's development has occurred in this habitat. Any additional park development should be carefully sited so that additional loss and fragmentation of this habitat is minimized. Overall, the park's maritime hammock is in good to excellent condition.

General Management Measures: Many of the invasive exotic plant infestations in the park occur in this habitat, particularly where plants have escaped from the formal gardens area or gotten a foothold in other disturbed locations within the hammock. Regularly survey for and remove invasive exotics within the hammock to achieve a maintenance condition. Maritime hammock is a climax community that does not require prescribed burning. Controlling exotic species and protecting hydrology should maintain this natural community in excellent condition.

Mesic Flatwoods

Desired Future Condition: Mesic flatwoods is characterized by an open canopy of tall pines, typically longleaf pine (*Pinus palustris*) in this region of the state, and a dense, low ground layer of low shrubs, grasses and forbes. Saw palmetto will generally be present but not overly dominant. Other shrub species may include gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), runner oak (*Quercus elliottii*), dwarf live oak (*Quercus minima*), shiny blueberry (*Vaccinium myrsinites*), and dwarf huckleberry (*Gaylussacia dumosa*). The herbaceous layer is primarily grasses, including wiregrass (*Aristida stricta* var. *beyrichiana*), dropseeds (*Sporobolus curtissii, S. floridanus*), panicgrasses (*Dicanthelium* spp.), and broomsedge (*Andropogon* spp.). This community has minimal topographic relief and the soils contain a hardpan layer within a few feet of the surface which impedes percolation. Due to these factors, water can saturate the sandy surface soils for extended periods during the wet season but lengthy droughts also commonly occur during the dry season. The Optimal Fire Return Interval for this community in most areas is 1-3 years. Given the coastal influences on the vegetation at Washington Oaks, a less frequent fire return interval of 3-7 years is desirable for the mesic flatwoods in the park.

Description and Assessment: This natural community can be found in a narrow north-south oriented strip between the coastal strand and scrubby flatwoods. It exists at a slightly lower elevation than the adjacent habitats and over a pocket of different soils than the surrounding area. These features suggest that the mesic

flatwoods in the park may have developed over an old interdunal swale that gradually filled in. In the park, this community contains slash pine (*Pinus elliottii*), although longleaf pine may have occurred here historically. The understory is dense with saw palmetto over much of the area and a considerable duff layer has developed in the portions that have not been burned in recent years. Some portions of the mesic flatwoods have been roller-chopped and burned (WAS-3), mowed (portions of WAS-2), mowed and burned (WAS-1), or untreated (most of WAS-2), and as such, are currently in varying states of natural community health. The boundary between this community and the scrubby flatwoods is not well defined, as there are only subtle differences in the understory composition and soils. As fire management efforts continue, the distinction between these two communities should become more pronounced and more detailed map revisions can be made.

This natural community is bisected by park service roads and firebreaks, SR A1A, the beach access road, and a large drainage ditch. Community restoration/improvement efforts have improved much of the mesic flatwoods but total restoration may not be possible given the limitations caused by the roads and drainage ditch. Overall, the park's mesic flatwoods are in fair condition.

General Management Measures: There are few invasive exotic plant infestations in the mesic flatwoods. Regularly survey for and remove invasive exotics within the flatwoods to maintain a maintenance condition. The biggest threat to the health of this community within the park is the lack prescribed burning. Recent efforts have made considerable strides toward getting fire back into the flatwoods and adjacent natural communities. A recent project partnered with the Florida Forest Service (FSS) to construct some interior fire breaks in WAS-2 and to mow perimeter fire lines in WAS-1, WAS-2, and WAS-3 that will make prescribed burning of this area much easier and safer. Additional mowing or other mechanical treatment work would benefit this community in WAS-2. See the Resource Management Program section of this component for details regarding the improvement of this area. All of the mesic flatwoods would benefit from prescribed burning on a more frequent interval of 3-7 years. Given the influences of salt spray and wind pruning the flatwoods in this area tend to be slower growing and may not be receptive to fire on a 1-3 year interval as is optimal for most flatwoods. As the habitat improves with more burning, the fire interval may be shortened as fuels become more grass dominated. In the interim, a 3-7 year fire return interval is desired. Increasing the fire frequency, controlling exotic species, and protecting hydrology from further degradation should push this natural community from fair to good condition.

<u>Scrubby Flatwoods</u>
Desired Future Condition: The dominant tree species of the interior of scrubby flatwoods will usually be longleaf pine and/or slash pine. Slash pines will typically be the dominant tree in North Florida barrier island scrubby flatwoods. Mature sand pines (*Pinus clausa*) will typically not be present. There will be a diverse shrubby understory often with patches of bare white sand. A scrub-type oak "canopy" will contain a variety of oak age classes/heights across the landscape. Dominant shrubs will include sand live oak (*Quercus geminata*), myrtle oak (*Quercus myrtifolia*), Chapman's oak (*Quercus chapmanii*), saw palmetto, rusty staggerbush, and

tarflower (*Bejaria racemosa*). Cover by herbaceous species will often be low to moderately dense. The Optimal Fire Return Interval for this community will be regionally variable; typically, 5-15 years when aiming to achieve a mosaic of burned and unburned areas. At Washington Oaks, a 3-7 year fire return interval is desired.

Description and Assessment: This natural community can be found in a narrow north-south oriented strip between the mesic flatwoods and coastal strand to the east and the maritime hammock to the west. It exists at a slightly higher elevation than the adjacent habitats and over a pocket of different soils than the adjacent natural communities. These features suggest that the scrubby flatwoods in this area likely developed on an old eroded coastal dune. In the park, this community is sparsely canopied but there are a few scattered slash pine, most of which are relatively young. The midstory and understory layers are dense with woody shrubs such as sand live oak, myrtle oak, Chapman's oak, saw palmetto, American holly (*Ilex opaca*), and rusty staggerbush. The understory is sparse and there are areas of open white sand. Salt and wind pruning have helped to maintain a relatively low vegetative structure despite infrequent fires. A portion of the scrubby flatwoods has been mowed and burned in WAS-3 in past years. The boundaries between this community and the adjacent natural communities are not well defined, as there are only subtle differences in the understory composition and soils. As fire management efforts continue, the distinction between these communities should become more pronounced and more detailed map revisions can be made at that time.

This natural community is bisected by the park entrance road and SR A1A. Most of the scrubby flatwoods occur within WAS-3 and have been burned in the past. This community would benefit from more frequent fire on a 3-7 year interval, being given the opportunity to burn whenever fire is applied to the adjacent coastal strand community. Vegetative composition and structure are currently not at the desired future conditions level. However, it should be noted that the scrubby flatwoods in the park may never have been or become as diverse or structured as most scrubby flatwoods in other nearby areas. Constant coastal influences such as salt spray, frequent storms, wind pruning, over-wash, and other natural factors may limit the species composition and structure compared to an inland example of scrubby flatwoods at the same latitude. The current community condition in the park is in need of improvement, but goals should take into account the coastal influences and limitations that shape this community. Overall, the park's scrubby flatwoods are in fair condition.

General Management Measures: There are currently no known invasive exotic plant infestations in the scrubby flatwoods. Regularly survey for and remove invasive exotics within the scrubby flatwoods as they are found to maintain a maintenance condition. The biggest threat to the health of this community within the park is fire suppression. Recent projects were completed that improved the fire lines needed to safely and effectively burn the bulk of the park's scrubby flatwoods (in WAS-3) and most of the acreage is on the current annual burn plan. Staff should aim to maintain a 3-7 year prescribed burn interval, even though many burns will be mosaic in this community on such a frequent interval. Whenever the adjacent and more pyric coastal strand community is burned, the scrubby flatwoods should be

given the opportunity to burn as well, allowing the fuels and weather to dictate how much of the community actually burns each time.

Additional mowing work may benefit the small amount of scrubby flatwoods that occurs in WAS-4 if it can be followed up with prescribed fire. The scrubby flatwoods in that zone are succeeding to xeric and maritime hammock. It may not be feasible, or desirable, to restore that particular small isolated patch of scrubby flatwoods given the facilities in that zone, the proximity to SR A1A, and higher priority emphasis that must be placed on the larger patches of higher quality scrubby flatwoods habitat in the surrounding zones. Increasing the fire frequency, controlling exotic species, and protecting hydrology from further degradation should push this natural community from fair to good condition.

Shell Mound

Desired Future Condition: The shell mound natural community type exists atop mounds of shells deposited by Native Americans. Shells can be of various species of mollusk or gastropod but generally one type of shell will dominate the deposit. In marine influenced areas that species is typically the eastern oyster (*Crassostrea virginica*). Species composition and structure are variable but generally fire is rare or absent in the shell mound community and a closed hardwood canopy develops. Tree species tend to be calcium loving species such as red cedar, live oak, and sabal palm. The midstory is often dense with woody shrubs such as yaupon holly, soapberry (*Sapindus saponaria*), snowberry (*Chiococca alba*), and white stopper (*Eugenia axillaris*).

Description and Assessment: This natural community occurs in WAS-7 adjacent to the intra-coastal waterway and the formal gardens. Most of the large mound (8FL11) was developed by prior landowners for residences and the formal garden itself. Some small natural areas on the mound still exist. They have a similar floral component to the maritime hammock. However, there are two species of subtropical plants on the shell mound which are near the northern end of their range and are not widespread elsewhere in the park, snowberry (*Chiococca alba*) and rouge plant (*Rivina humilis*). Some ornamental garden plants have been planted along the margins of these small natural areas of shell mound habitat. These garden plants should be removed where feasible and the areas should be delineated and maintained as remnant shell mound habitat. This should not conflict with the maintenance of the cultural landscape. Due to fragmentation and disturbance from historical uses, overall this community is in fair condition.

General Management Measures: Given the past disturbances and propagation of exotic plants for the formal gardens, this area is prone to invasive exotic plant infestations. Most of the remnant natural habitat has been treated and the gardens no longer intentionally propagate known pest species so the conditions are improving. Regular surveys and continued treatment efforts will be required to maintain a maintenance condition. This natural community is not dependent upon fire and should not be burned. The park's seawall along the intra-coastal waterway serves to protect the main portion of the mound but some erosion has occurred on either end of the seawall and these areas should be monitored and mitigated as

needed to protect the mound's integrity. Continuing to control exotic species, reducing and limiting the impacts of garden plantings, and protecting the mound from further erosion should push this natural community from fair to good condition.

Coastal Interdunal Swale

Desired Future Condition: Coastal interdunal swale is a variable community which occurs as marshes, moist grasslands, dense shrublands, or damp flats which occur in strips between successive dune ridges that develop as beach building occurs seaward (accretion). Dominant plant species may be quite variable and a function of local hydrology, salt water occurrence, and the age of the swale. Wetter areas may include sawgrass (*Cladium jamaicense*), cattail (*Typha* spp.), or needle rush (*Juncus roemerianus*) while shallower areas may have a diverse mixture of herbs, including southern umbrellasedge (*Fuirena scirpoidea*), Carolina redroot (*Lachnanthes carolina*), spadeleaf (*Centella asiatica*), and broomsedges (*Andropogon* spp.). Shrubby areas may contain wax myrtle (*Myrica cerifera*), coastalplain willow (*Salix caroliniana*), or St. Johns wort (*Hypericum* spp.). Hurricanes and tropical storms can flood the swales with salt water after which are recolonized with salt-tolerant species like needle rush (*Juncus roemerianus*), Gulf Coast spikerush (*Eleocharis cellulosa*), and yellow spikerush (*Eleocharis flavescens*).

Description and Assessment: A shallow and narrow north-south oriented coastal interdunal swale occurs just westward of the dune in WAS-1 and WAS-2. This natural community has been heavily impacted by past mosquito ditching and increased drainage. A linear ditch exists through the middle of the swale for the entire length of this natural community within the park. A secondary lateral ditch drains water from this area to the west and ultimately to the intra-coastal waterway. Additional storm water drains into this system from offsite to the south via a roadside ditch and a manmade pond. These alterations have significantly impacted the coastal interdunal swale's hydrology and species composition. The deeper portions of the swale are dominated by cattails while the shallower portions are dominated by cordgrasses (*Spartina* spp.), broomsedges, St. Johns worts and other desirable grasses. The portion of this natural community in WAS-1 has been burned twice in recent years and is in good condition. The portion in WAS-2 is in fair condition. Both portions would benefit from more frequent fire return intervals, being allowed to burn every time fire is applied to the adjacent coastal strand community. There are no known invasive exotics within the coastal interdunal swale.

General Management Measures: Continue to apply prescribed fire to this natural community on a regular interval, typically allowing this area to burn along with the adjacent coastal strand habitat on a 3-7 year interval. Survey for and remove invasive exotics as they are found to preserve the current maintenance condition. Given the limitations created by the offsite drainage provided by the mosquito ditch through the coastal interdunal swale, full restoration of the mosquito ditch through this habitat is likely not feasible or prescribed at this time. However, restoration options should be evaluated and implemented as appropriate. The southern portion of the swale in WAS-2 would benefit from the application of prescribed fire and the

removal of some of the shrubby vegetation and excess sabal palms. See the Resource Management Program section for more detailed habitat improvement objectives for this area. Regular invasive exotic removal and application of prescribed fire on a more frequent interval should maintain this natural community in good condition.

Salt Marsh

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

Description and Assessment: Small remnant patches of salt marsh can be found in WAS-6, WAS-7, and WAS-8 along the intra-coastal waterway. This natural community was formerly more extensive in this area prior to the creation of the intra-coastal waterway (based on historical maps and photographs). Some of the salt marsh was directly lost to dredging and/or piling of spoil material in the early 1900's and in subsequent maintenance dredging, and more was likely lost to erosion from wave action along the waterway. The largest area of salt marsh in the park occurs within WAS- 8 near the picnic area. This marsh has been heavily impacted by the effects described above, as well as by the creation of a secondary linear mosquito ditch and the placement of associated spoil piles. These alterations have significantly impacted the salt marsh hydrology, topography, and species composition. The small area of salt marsh in WAS-6 has had fewer impacts and is slightly protected by an oyster shell ridge (cultural site 8FL32). The salt marshes in the park are dominated by smooth cordgrass, black needle rush, black mangrove (*Avicennia germinans*), saltwort (*Batis maritima*), glasswort (*Salicornia virginica*), and sea oxeye (*Borrichia frutescens*). Historically, black mangrove was nearly absent from salt marshes in this region of the state. However, in recent years this species has expanded its range northward due to climate change and other factors such as hydrological and topographical alterations that have helped to provide a foothold for mangrove establishment and expansion. In the absence of regularly occurring hard freezes or frequent marsh fires, this species is likely to become a regular component of salt marsh habitat in northeast Florida and mangrove swamp may someday replace much of the salt marsh in the region. Both areas of salt

marsh in the park are free of invasive exotics and composed of a good mix of desirable species. Only the occasional Brazilian pepper has been found in this habitat and they have been removed as needed. Despite the impacts described above, overall this natural community exists in the park in fair to good condition.

General Management Measures: Protect this community type to the extent possible from further erosion. Monitor for excessive or unnatural erosion and implement mitigating measures as needed. Survey for and remove invasive exotics as they are found to preserve the current maintenance condition. Given the small acreage of this community type in the park and its proximity to the intra-coastal waterway and the limitations created by that, restoration of the mosquito ditch through this habitat is likely not feasible or prescribed at this time. Should the opportunity for restoration of the ditching arise, it should be carefully considered and implemented if possible. Protecting the saltmarsh from further erosion and exotic species infestation should maintain this natural community in good condition.

Estuarine Unconsolidated Substrate

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

Description and Assessment: This community type lines the Matanzas River shore, along the western boundary of the park and is represented by both subtidal and intertidal components. This community is almost completely devoid of attached macrophytes. The intertidal and shallow subtidal areas are important forage areas for shorebirds and wading birds. Overall, this community type exists in the park in good to excellent condition.

General Management Measures: Protect this community type to the extent possible from further erosion. Monitor for excessive or unnatural erosion and implement mitigating measures as needed. Ensure that maintenance dredging projects in the intra-coastal waterway do not negatively impact this community within the park.

Marine Consolidated Substrate

Desired Future Condition: Marine consolidated substrate will consist of open, relatively unvegetated areas, with solidified rock or other substrate typically composed of coquina, limerock, or relic reef materials. Some planktonic, pelagic, or other plants may be sparsely present. Desired conditions include minimizing disturbance attributed to placement of fill material, vehicular traffic, or the accumulation of pollutants.

Description and Assessment: This community type is represented by an outcrop of Anastasia Formation coquina that is exposed on the beach within WAS-1. The outcrop extends through the supratidal and subtidal zones. Zonation by plants and animals is driven by the tides and wave action, with the supratidal zone referred to as the black zone, followed by the yellow zone, the green zone, and the red zone as

you move progressively eastward. The observed colors are the result of the dominant alga occurring within each zone. A wide array of plant and animal species has been identified from this formation locally known as “the rocks.” Juvenile green sea turtles (*Chelonia mydas*) are often seen feeding on the algae coating the rocks below the surface of the water. This community exists in a highly dynamic state, with changes occurring almost daily due to erosion and accretion patterns, wave action, tidal fluctuations, and other natural processes. Overall, this community type exists in the park in good to excellent condition. Hurricane Matthew impacted the park’s coast and reefs in 2016, and effects of this need assessment to determine if any actions need to be taken beyond manmade debris cleanup.

General Management Measures: Protect this community type to the extent possible from vandalism (carving into coquina, breaking of natural formations) and from theft of the coquina material. Ensure that any local beach renourishment projects do not negatively impact this community within the park. Avoid driving ATVs across coquina surfaces during marine turtle nesting surveys. Hurricane Matthew impacted the park’s coast and reefs in 2016, and effects of this need assessment to determine if any actions need to be taken beyond manmade debris cleanup.

Marine Unconsolidated Substrate

Desired Future Condition: Marine unconsolidated substrate will consist of expansive unvegetated, open areas of mineral based substrate composed of shell, coralgal, marl, mud, and/or sand (sand beaches). The presence of natural marine debris, or wrack, is considered desirable as it greatly enhances nutrient cycling and the food web. Desired conditions include preventing soil compaction, dredging activities, and disturbances such as the accumulation of pollutants.

Description and Assessment: This community type is represented by the open stretches of sandy beach within WAS-1 and WAS-2. Although it is mostly unvegetated, this community is quite diverse in the animals that utilize it. Nesting marine turtles and loafing and feeding shorebirds are the most conspicuous visitors. Like the marine consolidated substrate community, this community also occurs through the supratidal and subtidal zones and exists in a highly dynamic state, with changes occurring almost daily due to erosion and accretion patterns, wave action, tidal fluctuations, and other natural processes. Overall, this community type exists in the park in good to excellent condition.

General Management Measures: Protect this community type to the extent possible from excessive erosion. Monitor for excessive or unnatural erosion and implement mitigating measures as needed. Clean up unnatural trash and manmade marine debris that accumulates on the beach but leave the natural beach wrack in place. Ensure that any local beach renourishment projects do not negatively impact this community within the park. Minimize the impacts of driving ATVs across this community during marine turtle nesting surveys by staying below the mean high tide mark as much as possible.

Artificial Pond

Desired Future Condition: All of the altered land cover types within the park will be managed to remove FLEPPC Category I and II priority invasive exotic plant species. Other management measures include limited restoration efforts designed to minimize the effect of the altered areas on adjacent natural areas. Cost-effectiveness, return on investment and consideration of other higher priority restoration projects within the park will determine the extent of restoration measures implemented in altered areas. The artificial pond at Washington Oaks was constructed approximately 50-60 years ago and provides irrigation water to the garden. The desired future condition during this 10 year planning period is to remain in its current condition as an artificial pond.

Description and Assessment: The park includes one area mapped as an artificial pond. It is located in WAS-5 and is approximately 1.6 acres in size. It is a rectangular pond about 8-10 feet deep that was constructed to provide a freshwater source for irrigation to serve the gardens and citrus groves. This particular pond is not currently planned to be restored (although restoration should be considered and implemented if deemed possible at a later date). This feature currently provides irrigation water to the park and full restoration is not considered feasible at this time. Should conditions change and restoration become plausible, the artificial pond should receive careful consideration and restoration should be implemented as much as possible with the goal of restoring the former natural community type of maritime hammock to this site.

General Management Measures: Control of FLEPPC Category I and II invasive exotic plant species in altered areas will be ongoing. Prescribed fire may be applied in some cases for vegetation and fuel management. A burn pile exists at the southern side of the pond. It should be burned if possible and/or collected and hauled to a disposal facility as funds allow. Occasional herbicide treatments of native aquatic vegetation in the pond, such as cattail (*Typha* sp.) or duckweed (*Lemna* sp.) may be necessary to maintain the open water required for irrigation pumps to operate properly. Treatments of this type shall be conducted following appropriate BMPs and using herbicides that are labeled for use on waters that are utilized for irrigation.

Canal/Ditch

Desired Future Condition: All of the altered land cover types within the park will be managed to remove FLEPPC Category I and II priority invasive exotic plant species. Other management measures include limited restoration efforts designed to minimize the effect of the altered areas on adjacent natural areas. Cost-effectiveness, return on investment and consideration of other higher priority restoration projects within the park will determine the extent of restoration measures implemented in altered areas. The canal/ditch system at Washington Oaks is believed to have been constructed in the 1960s and appears to provide storm water drainage to park facilities as well as SR A1A and some adjacent properties. The desired future condition during this 10 year planning period is to remain in its current condition as a canal/ditch altered land cover type.

Description and Assessment: The park includes a canal/ditch system that traverses portions of WAS-1, WAS-2, WAS-3, and WAS-6. It is described in more detail above in the hydrology section and in the coastal interdunal swale description. The ditches were constructed to provide drainage and for mosquito control purposes. This ditch system is not currently planned to be restored (although restoration should be considered and implemented if deemed possible at a later date). This feature currently provides drainage to park facilities and to some degree SR A1A and adjacent private property so full restoration is not considered feasible at this time. Should conditions change and restoration become plausible, the canal/ditch system should receive careful consideration and restoration should be implemented as much as possible with the goal of restoring the former natural community type of each section of ditch, whether it be coastal interdunal swale, coastal strand, mesic flatwoods, scrubby flatwoods, or maritime hammock.

General Management Measures: Control of FLEPPC Category I and II invasive exotic plant species in altered areas will be ongoing. Prescribed fire may be applied in some cases for vegetation and fuel management. Occasional maintenance work is conducted by the Florida Department of Transportation (DOT) on the culvert that carries the drainage from this ditch system under SR A1A and on the lateral roadside ditches within the highway easement that bisects the park. Park staff should coordinate with DOT as needed to ensure minimal impacts to park resources during projects of this nature.

Clearing/Regeneration

Desired Future Condition: All of the altered land cover types within the park will be managed to remove FLEPPC Category I and II priority invasive exotic plant species. Other management measures include limited restoration efforts designed to minimize the effect of the altered areas on adjacent natural areas. Cost-effectiveness, return on investment and consideration of other higher priority restoration projects within the park will determine the extent of restoration measures implemented in altered areas. There is one small area at Washington Oaks mapped as clearing/regeneration. The desired future condition during this 10 year planning period is to remain in its current condition as a clearing/regeneration but to allow natural processes to begin toward reclaiming this area as coastal strand. This area should recover gradually on its own, but it is likely to take longer than the 10 years covered by this unit management plan cycle.

Description and Assessment: The park includes one small area mapped as a clearing/regeneration. It is located within the coastal strand in WAS-2 and is approximately 0.34 acres in size. It is a small clearing surrounding the old pump house, tanks, and wells associated with cultural site 8FL917. It is free of most vegetation except for some sparse grasses and scattered small shrubs. The cultural site is planned for removal (see cultural resources section and resource management program sections below). Once the structures associated with 8FL917 are removed, this area should be allowed to recover to the former coastal strand condition.

General Management Measures: Control of FLEPPC Category I and II invasive exotic plant species in altered areas will be ongoing. Prescribed fire may be applied in some cases for vegetation and fuel management, allowing this area to burn whenever the adjacent coastal strand community is burned. The structures associated with 8FL917 are planned for removal in the near future. Once they are gone, the altered land cover area should be allowed to recruit native vegetation naturally and gradually recover to the adjacent coastal strand natural community type.

Developed

Desired Future Condition: The developed areas within the park will be managed to minimize the effect of the developed areas on adjacent natural areas. Priority invasive plant species (FLEPPC Category I and II species) will be removed from all developed areas. Other management measures include proper storm water management and development guidelines that are compatible with prescribed fire management in adjacent natural areas.

Description and Assessment: The developed areas in the park include the paved roads and parking lots, ranger station, shop and office compound, volunteer sites, formal gardens area and associated structures, and the picnic area. Some FLEPPC listed plant species were used in the historic formal garden plantings. Removal efforts have given priority to the adjacent natural communities, which are now in maintenance condition, and staff are working on removing the remaining invasive exotics from the formal gardens area and other developed areas.

General Management Measures: Control of FLEPPC Category I and II invasive exotic plant species in developed areas will be ongoing. Defensible space will be maintained around all structures in areas managed with prescribed fire or at elevated risk from wildfires.

Spoil Area

Desired Future Condition: All of the altered land cover types within the park will be managed to remove FLEPPC Category I and II priority invasive exotic plant species. Other management measures include limited restoration efforts designed to minimize the effect of the altered areas on adjacent natural areas. Cost-effectiveness, return on investment and consideration of other higher priority restoration projects within the park will determine the extent of restoration measures implemented in altered areas. The spoil areas at Washington Oaks resulted from the dredging of the Intracoastal Waterway in the 1940's and 1950's. The desired future condition during this 10 year planning period is to remain in its current condition as spoil areas.

Description and Assessment: The park includes 5 separate small areas mapped as spoil area. They are all located along the western side of WAS-8 and total approximately 2.96 acres in size. All of the spoil material appears to have come from the initial and/or maintenance dredging of the Intracoastal Waterway (ICW). The spoil material was placed on top of former saltmarsh community. Most of the spoil areas have been in place for over 50 years and have become overgrown with

desirable native vegetation. The largest spoil area lies south of the seawall and along the ICW. This area is now covered in mature trees and resembles the adjacent maritime hammock community but with proportionately more red cedar and sabal palm trees. The remainder of the spoil area is spilt into 4 small piles in the southern section of saltmarsh. The piles are each small and relatively short, extending only slightly above the natural grade of the surrounding marsh. As a result, they have been largely colonized by desirable native species such as black mangrove, sea oxeye daisy, and other salt tolerant species. The spoil areas are not currently planned to be restored (although restoration should be considered and implemented if deemed possible at a later date). Should conditions change and restoration become plausible, the spoil areas should receive careful consideration and restoration should be implemented as much as possible with the goal of restoring the former natural community type of salt marsh to all or portions of the current spoil area sites.

General Management Measures: Control of FLEPPC Category I and II invasive exotic plant species in altered areas will be ongoing. Prescribed fire may be applied in some cases for vegetation and fuel management.

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.

Washington Oaks Gardens State Park has 34 recorded listed species as defined above. Of those 34, 3 are plants, 6 are reptiles, 23 are birds, and 2 are mammals. A few of these species are full time or regular residents of the park, some are regular to casual visitors, and others are only rarely encountered at the park but noteworthy enough to warrant mention in this section.

Two of the park's listed plant species, coastal mock vervain (*Glandularia maritima*), and erect pricklypear (*Opuntia stricta*), occur primarily on the beach side of the park, on or near the dunes. They are tolerant of the harsh dynamic coastal environment and little direct management is needed. Prescribed burning of their habitat on a regular interval, managing visitor foot traffic, and control of invasive exotic species in the area should be sufficient to maintain and protect the population of these two species.

The third listed plant species in the park is an orchid, spiked crested coralroot (*Hexalectris spicata*). This species likes the shady maritime hammocks and shell mound, especially in areas with shell deposits near the surface and alkaline soil conditions. It is extremely difficult to detect except when it is flowering and small but beautiful blooms reach about 12-24 inches above the ground. For the remainder of the year only small nondescript basal leaves are sometimes present and detection is challenging at best. By keeping the favored habitat free of invasive

exotics and managing foot traffic and park development in those areas, this species should persist and thrive in the limited areas of suitable soils and habitat within the park.

Six listed species of reptile are known from the park. Three are marine sea turtle species that nest on the park's beaches every summer: loggerhead turtle (*Caretta caretta*), green turtle (*Chelonia mydas*), and leatherback turtle (*Dermochelys coriacea*). Park staff and volunteers conduct daily nesting beach surveys along 0.7 miles of sandy beach, mark and inventory nests, as part of the statewide index nesting beach survey program administered by FFWCC. Statewide protocols have been developed and are closely followed. Park nesting beach data are submitted annually to FFWCC. Although the portion of the park's beach that is suitable for marine turtle nesting is relatively small, the park reports a fair number of nests every year. Over the past ten nesting seasons, the park has reported a total of 139 nests, for an average of approximately 14 nests per year (min: 6, max: 22). Of the 139 reported nests in the past 10 seasons, 101 (~73%) have been loggerhead, 38 green (~27%), and 1 leatherback (>1%).

The remaining three listed reptile species known from the park are the eastern indigo snake (*Drymarchon couperi*), American alligator (*Alligator mississippiensis*), and gopher tortoise (*Gopherus polyphemus*). Only the latter two are regular residents of the park. There are past records of eastern indigo snakes occurring in the park but the most recent report was from 10-15 years ago. Given the large home range size requirements of this species, the park is not likely to support a population on its own. However, it does provide important habitat for this species if they still occur within the local barrier island system. It is possible this species has been extirpated from the area. American alligators regularly occur in the park's irrigation pond and are occasionally seen in the garden pond, the interdunal swale, or even in the Intracoastal Waterway adjacent to the park. No particular management is needed for this species accept for occasionally having to remove nuisance or dangerous individuals following DRP policies and guidelines. Gopher tortoises occur throughout the park but the highest concentrations are located in the coastal strand habitat nearest the dune and along some of the hammock edges at artificial openings. Tortoise burrows located near the park roads are flagged and protected from accidental damage by vehicles and the main area of tortoise habitat is managed with prescribed fire. Additional habitat work with mechanical treatments, prescribed fire, and invasive exotic removal is underway and is expected to benefit the gopher tortoise as well as a suite of other species. The park would benefit from a thorough gopher tortoise burrow survey, conducted in such a manner as it could be replicated in the future to compare the tortoise population response to habitat manipulation treatments over several years.

Twenty-three listed bird species have been documented in the park. Most of these are either highly migratory species that only use the park during spring and fall migrations as a stopover site for resting and feeding or they are wading birds or other coastal species that use the park's shorelines and beach areas for loafing or feeding. In either case, the park is generally only a small portion of the area used by these species. Nonetheless, it encompasses a very important piece of diverse

coastal habitat in a highly developing barrier island system and the park is well known for its importance to migratory birds. The table below lists all of the recorded listed bird species. A few of them warrant special note. The Atlantic coast flyway is the pathway for an incredible migration of songbirds every fall. Not far behind the songbirds are their predators, mainly hawks, falcons, and other raptors. The park can be a great place to watch southbound migrating falcons, kites, hawks, and other raptors in the fall. Some will stop in the park's habitat to search for a meal before moving on. The park's beach and estuarine shoreline are great places to find a diverse assortment of shorebirds, gulls, terns, and other coastal species. Some notable species that have been recorded from the park include Magnificent Frigatebird, American Oystercatcher, Least Tern, and even a Roseate Tern.

The Florida Scrub-Jay used to occur regularly in the park until approximately 2006. The population in this area was never large and the park does not contain enough habitat to support more than a few family groups at best. However, this species is becoming very rare on the barrier island in this area and the park contains some of the last remnant suitable habitat for a long distance. At one point, Washington Oaks Gardens State Park likely hosted the northernmost coastal population of Florida Scrub-Jays in existence. The park has implemented habitat management techniques (mowing, roller-chopping, prescribed burning) to improve the quality and quantity of suitable habitat and is managing the area to be suitable for jays in hopes that they will recolonize the area. A lone individual was seen sporadically in 2014 in WAS2 and WAS3 after a long absence of jays at the park. Regular casual surveys should be conducted to detect Florida Scrub-Jays as early as possible should they return on a more permanent basis. If they are detected regularly in the park, a tier 3 level of monitoring should be implemented at that time.

Two endangered mammals are known from the waters near the park: North Atlantic Right Whale (*Eubalaena glacialis*) and Florida Manatee (*Trichechus manatus latirostris*). Neither of these species is likely to occur within the actual park boundary on a regular basis, or possibly ever in the case of the whale, however they both are significant enough that their mention is justified in this plan. Manatees can sometimes be seen in the waters of the Intracoastal Waterway, often very close to the park's shoreline or seawall. Park visitors regularly fish in these areas and can have impacts on the manatees. Signage, interpretation, and law enforcement as needed should be used to educate park visitors about manatees and to reduce negative human impacts on their behaviors. North Atlantic Right Whales undertake a long offshore migration every year and many return to the shallow near shore waters of northeastern Florida to give birth to and nurse their calves through the winter months. It is not uncommon to see these whales from shore in this area, often very close, and occasionally potential opportunities exist for park visitors to see this species from the park. Staff should use the opportunity to interpret the whales to park visitors when possible. Strict federal laws protect the whales and limit the distance that swimmers and boaters can approach. Law enforcement should be notified if a potential illegal approach is noted. All sightings of whales offshore of the park should be called in and reported to the local whale watch hotline. The park is regularly surveyed for the presence of North Atlantic Right Whales by volunteers through the winter season. Staff should continue to

coordinate with this volunteer group and encourage the surveys to continue at the park into the future.

If particular issues concerning imperiled species and their management arise, staff will coordinate with FFWCC, USFWS, and/or FDACS as needed to ensure that management and monitoring of imperiled plant and animal species is consistent with statewide recovery goals.

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

Table 2: Imperiled Species Inventory

Common and *Scientific* Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
PLANTS						
Coastal Mock Vervain *Glandularia maritima*			LE	G3,S3	1,2,10	Tier 1
Spiked Crested Coralroot *Hexalectris spicata*			LE		2,10	Tier 1
Erect Pricklypear *Opuntia stricta*			LT		1,2,10	Tier 1
REPTILES						
American Alligator *Alligator mississippiensis*		LT(S/A)		G5,S4	4,10	Tier 1
Loggerhead Turtle *Caretta caretta*		LT		G3,S3	10	Tier 3

Table 2: Imperiled Species Inventory						
Common and *Scientific* Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Green Turtle *Chelonia mydas*		LE		G3,S2	10	Tier 3
Leatherback Turtle *Dermochelys coriacea*		LE		G2,S2	10	Tier 3
Eastern Indigo Snake *Drymarchon couperi*		LT		G3,S3	1,2,7	Tier 1
Gopher Tortoise *Gopherus polyphemus*	LT	C		G3,S3	1,2,6,7,10	Tier 3
BIRDS						
Florida Scrub-Jay *Aphelocoma coerulescens*		LT		G2,S2	1,2,10,13	Tier 2
Little blue heron *Egretta caerulea*	LS			G5,S4	4,10	Tier 1
Reddish Egret *Egretta rufescens*	LS			G4,S2	4,10	Tier 1
Snowy Egret *Egretta thula*	LS			G5,S3	4,10	Tier 1
Tricolored Heron *Egretta tricolor*	LS			G5,S4	4,10	Tier 1
Swallow-tailed Kite *Elanoides forficatus*				G5,S2	10	Tier 1

Table 2: Imperiled Species Inventory						
Common and *Scientific* Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
White Ibis *Eudocimus albus*	LS			G5,S4	4,10	Tier 1
Merlin *Falco columbarius*				G5,S2	10	Tier 1
Peregrine Falcon *Falco peregrinus*				G4,S2	10	Tier 1
Magnificent Frigatebird *Fregata magnificens*				G5,S1	10	Tier 1
Florida Sandhill Crane *Grus canadensis pratensis*	LT			G5T2T3, S2S3	10	Tier 1
American Oystercatcher *Haematopus palliatus*	LS			G5,S2	10	Tier 1
Worm-eating Warbler *Helmitheros vermivorum*				G5,S1	10	Tier 1
Caspian Tern *Hydroprogne caspia*				G5,S2	10	Tier 1
Wood Stork *Mycteria americana*		LE		G4,S2	4,10	Tier 1
Brown Pelican *Pelecanus occidentalis*	LS			G4,S3	10	Tier 1

Table 2: Imperiled Species Inventory						
Common and *Scientific* Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Roseate Spoonbill *Platalea ajaja*	LS			G5,S2	10	Tier 1
Black Skimmer *Rynchops niger*	LS			G5,S3	10	Tier 1
Louisiana Waterthrush *Seiurus motacilla*				G5,S2	10	Tier 1
American Redstart *Setophaga ruticilla*				G5,S2	10	Tier 1
Roseate Tern *Sterna dougallii*		LT		G4,S1	10	Tier 1
Least Tern *Sternula antillarum*	LT			G4,S3	10	Tier 1
Sandwich Tern *Thalasseus sandvicensis*				G5,S2	10	Tier 1
MAMMALS						
North Atlantic Right Whale *Eubalaena glacialis*		LE		G1,S1	13	Tier 1
West Indian Manatee (Florida Manatee) *Trichechus manatus latirostris*		LE		G2,S2	10	Tier 1

Management Actions:

1. Prescribed Fire
2. Exotic Plant Removal
3. Population Translocation/Augmentation/Restocking
4. Hydrological Maintenance/Restoration

5. Nest Boxes/Artificial Cavities
6. Hardwood Removal
7. Mechanical Treatment
8. Predator Control
9. Erosion Control
10. Protection from visitor impacts (establish buffers)/law enforcement
11. Decoys (shorebirds)
12. Vegetation planting
13. Outreach and Education
14. Other

Monitoring Level:

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

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

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

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

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

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

Exotic and Nuisance Species

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

Numerous exotic plant species occur, or have occurred, in the park. Priority removal efforts are given to those species which are categorized as Category I or Category II by the Florida Exotic and Pest Plant Council (FLEPPC). Table 3 provides a summary of the current distribution of all known category I and II invasive exotic plant species within the park. A few additional exotic plant species not listed by FLEPPC are also problematic at Washington Oaks and are removed regularly. This includes species such as giant reed (*Arundo donax*), bamboo (*Bambusa* spp.), four-o'clock (*Mirabilis jalapa*), ricepaper plant (*Tetrapanax papyrifera*), and other occasional ornamental garden plants that volunteer beyond their intended planted location.

Many of the invasive exotic species that have become established and problematic in the park originated from plantings within the formal gardens many years ago. One of the worst invaders in the park is tuberous sword fern (*Nephrolepis*

cordifolia), a species known to have been intentionally planted in the gardens more than 60 years ago. Since that time, it steadily expanded outward into the surrounding maritime hammock and other natural communities. It was not until recent years that park staff were able to get a handle on the infestation and push it back to within the boundaries of the formal garden. In situations like this, priority is given to eradication and maintenance control of the problem species outside of the formal gardens and removals within the gardens are carefully planned and occur in phases once the surrounding natural communities have reached a maintenance condition. The long-term goal is total eradication of all FLEPPC category I and II species from the park with priority given to treatments within natural communities before treatments within the formal gardens. This strategy has proven to be an effective one at the park.

New plantings within the formal gardens may include non-invasive exotic ornamental species, however, any FLEPPC listed species or any other known problematic invasive species will not be intentionally planted at the park. Plants offered for sale at the park by the citizen support organization and/or vendors may include some non-native ornamentals, however, no FLEPPC listed species are to intentionally enter the park or be offered for sale. In addition, park staff and volunteers will not intentionally propagate FLEPPC listed or other known invasive species in the park greenhouse or grounds. Other ornamental species planted in the park will be closely monitored to detect any undesired spread into nearby natural areas.

Park staff have made considerable strides in the control of invasive exotic plants within the park since the last management plan. The entire park is now within a maintenance condition. Over the past 10 fiscal years, a total of 71.02 acres of invasive exotic plant treatments have occurred in the park. Much of this has been done by park staff and volunteers. In addition, grant funding has been secured to provide approximately 21 acres worth of contractual treatment over the past three years. These funded projects have tremendously supplemented park staff's efforts and delivered the park into its current maintenance condition.

All known areas of exotic plant infestation are recorded in a statewide database and assigned individual infestation IDs. New infestations are mapped and recorded as they are found and known infestations are then resurveyed on a two year or less interval and survey data is updated in the database accordingly. All treatment and removal efforts are also recorded in the same database and reported on a quarterly and annual basis.

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

Although exotic and nuisance animals are less of a problem than exotic plants at Washington Oaks, there are a few species that are regularly removed and worthy of discussion.

Nine-banded armadillos (*Dasypus novencinctus*) are commonly seen in the park. This species is considered by the Florida Park Service to be an introduced exotic species and is treated as such under division policies. Armadillos are known to create considerable ground disturbance, compete with native wildlife for food and resources, consume large quantities of native arthropods, herps, and other wildlife, and can cause considerable damage to the formal garden plantings. Park staff regularly remove armadillos using approved methods outlined in DRP policy. Over the past ten fiscal years since the previous management plan adoption, over 50 armadillos have been removed from the park by staff.

Other non-native animals that occasionally occur in the park and are removed as needed include red-eared slider turtle (*Trachemys scripta elegans*) and feral domestic cats (*Felis domesticus*). Red-eared sliders are known from the irrigation pond. They likely originated as released pets. Their impacts on native fauna are likely minimal, however this species should be removed opportunistically when possible. Feral cats are a much more problematic species. Fortunately, there is not a large colony within the park and they generally occur only sporadically. Some have apparently been dumped in the park in the past and this practice is likely to continue occasionally. Park staff should continue to trap and remove feral cats as needed following DRP approved guidelines. Feral cats are well documented to have immense negative impacts on native wildlife and can be especially harmful to migratory birds. Given the importance of Washington Oaks as a critical stopover site for migratory passerines, feral cats should be removed immediately when detected.

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

While uncommon, occasional nuisance animal issues occur in the park. The two most common species involved are American alligator (*Alligator mississippiensis*) and water moccasin (*Agkistrodon piscivorus*). Both species occasionally find their way into the ponds within the formal gardens or other visitor use areas. This does not always create a problem or safety concern, however, sometimes it does and the nuisance animal must be removed and relocated or in rare cases, euthanized following approved procedures and guidelines.

Additional management measures are taken to address the introduction and spread of pests and pathogens as well as invasive exotic plants and animals. Citrus in the park are regularly monitored by USDA and park staff for signs of disease and/or

problematic pests. The USDA, FDACS, and other researchers also periodically set traps to collect insects within the park. They are then sent to labs for identification. Monitoring of this nature has resulted in the early detection of several serious pest insect species in a few district three state parks in recent years. Any contractors working within the park providing services related to fuels mowing, roller-chopping, etc., or exotic removal are required by contract to clean their equipment prior to entering the park and are subject to inspection by staff and denial of entry if necessary.

Since the last management plan, laurel wilt disease has reached Flagler County and decimated the red bay (*Persea borbonia*) population within the entire area, including the park. Initial attempts to stop the spread by cutting down trees, trapping the beetle vector, and/or inoculating trees largely failed and there was little that could be done to protect the red bays within the park. Nearly all of the mature red bay trees have been killed by this disease. Some are showing signs of resprouting from the root stock but it is too early to determine if any will survive in the long term. Park staff have been working with local researchers and FDACS on this issue and will continue to follow BMPs and suggested recommendations to slow the spread of laurel wilt disease and protect any remaining red bays within the park to the extent feasible.

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

Table 3 contains a list of the Florida Exotic Pest Plant Council (FLEPPC) Category I and II invasive, exotic plant species found within the park (FLEPPC, 2011). The table also identifies relative distribution for each species and the management zones in which they are known to occur. An explanation of the codes is provided following the table. For an inventory of all exotic species found within the park, see Addendum 5.

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

Common and *Scientific* Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
PLANTS			
Coral Ardisia *Ardisia crenata*	I	1	WAS-4
Sprenger's Asparagus-fern *Asparagus aethiopicus*	I	1	WAS-5
		2	WAS-7, WAS-8
Orchid Tree *Bauhinia variegata*	I	1	WAS-7
Wild Taro *Colocasia esculenta*	I	1	WAS-5
		2	WAS-7
Air Potato *Dioscorea bulbifera*	I	6	WAS-6

Lantana *Lantana camara*	I	1	WAS-7, WAS-3, WAS-4, WAS-6
Peruvian Primrosewillow *Ludwigia peruviana*	I	1	WAS-3
Tuberous Sword Fern *Nephrolepis cordifolia*	I	1	WAS-8, WAS-5
		2	WAS-8, WAS-4, WAS-5, WAS-6
		3	WAS-7
Torpedo Grass *Panicum repens*	I	2	WAS-3
Mexican Petunia *Ruellia brittoniana*	I	1	WAS-5
		2	WAS-7
Schefflera *Schefflera actinophylla*	I	1	WAS-7
Brazilian Pepper *Schinus terebinthifolius*	I	1	WAS-8
Arrowhead Vine *Syngonium podophyllum*	I	1	WAS-7
Coral Vine *Antigonon leptopus*	II	1	WAS-5
Calico Flower *Aristolochia littoralis*	II	3	WAS-7
Umbrella Plant *Cyperus involucratus*	II	2	WAS-7
Life Plant *Kalanchoe pinnata*	II	1	WAS-8
Flamegold Tree *Koelreuteria elegans*	II	1	WAS-8, WAS-7
		2	WAS-6
Chinaberry *Melia azedarach*	II	2	WAS-7
Two-leaf Nightshade *Solanum diphyllum*	II	1	WAS-7
Chinese Wisteria *Wisteria sinensis*	II	1	WAS-7
Elephant Ear *Xanthosoma sagittifolium*	II	1	WAS-7

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.

Special Natural Features

The Anastasia Formation coquina outcrop located on the park's beach is a special natural feature. This outcrop provides an important source of hard-bottom substrate that is colonized by a large number of plant and animal species. Naturally occurring rocky beaches are extremely rare in Florida and there are only three known sites with this type of outcrop in the entire state.

Cultural Resources

This section addresses the cultural resources present in the park that may include archaeological sites, historic buildings and structures, cultural landscapes and collections. The Florida Department of State (FDOS) maintains the master inventory of such resources through the Florida Master Site File (FMSF). State law requires that all state agencies locate, inventory and evaluate cultural resources that appear to be eligible for listing in the National Register of Historic Places. Addendum 7 contains the FDOS, Division of Historical Resources (DHR) management procedures for archaeological and historical sites and properties on state-owned or controlled properties; the criteria used for evaluating eligibility for listing in the National Register of Historic Places, and the Secretary of Interior's definitions for the various preservation treatments (restoration, rehabilitation, stabilization and preservation). For the purposes of this plan, significant archaeological site, significant structure and significant landscape means those cultural resources listed or eligible for listing in the National Register of Historic Places. The terms archaeological site, historic structure or historic landscape refer to all resources that will become 50 years old during the term of this plan.

Condition Assessment

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

Level of Significance

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

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

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

Prehistoric and Historic Archaeological Sites

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

Description: The east central Florida region surrounding the park has a very rich cultural prehistory and history. The area that includes the present day Washington Oaks Gardens State Park falls within the East and Central Lake Archaeological Region, as defined by Drs. Jerald Milanich and Charles Fairbanks (1980). The Washington Oaks area saw occupation and/or utilization by Native Americans during the full sequence of Pre-Columbian cultural periods, beginning with the Paleo Indian, and continuing throughout the Archaic, Mount Taylor, Orange, Transitional and St. Johns Periods. The list of Native American cultures also includes the Seminole, although they are primarily descended from Lower Creeks who fled from Georgia and Alabama to north Florida in the 18th century.

Currently, there are four prehistoric archeological sites within the park that are recorded by the Florida Master Site File (FMSF). These include 8FL11, 8FL32, 8FL175, and 8FL176, each of which is briefly described below.

8FL11, Washington Oaks Midden, is the largest and most conspicuous archaeological site in the park. This site lies below essentially all of the formal

garden and surrounding area. It has also been the most heavily degraded of the four recorded sites. The midden site has suffered impacts from past land uses, erosion, looting, park development, and visitor foot traffic. The main erosion problem occurred where this site lies adjacent to the Intracoastal Waterway behind the park visitor center. Wave action from boat wakes and storms was causing accelerated erosion of sensitive cultural resources and looting was noted by park staff at the time. This issue was addressed several years ago by the construction of a concrete retaining wall along the western edge of the main portion of the midden where it meets the Intracoastal Waterway. Now, with less erosion causing materials to become exposed and an increased awareness and presence of park staff, looting is no longer a significant issue at this site. Crushed coquina material has been placed on many of the park's footpaths to protect the resources below from damage and erosion caused by frequent foot traffic. Future park development should avoid this site if possible. Gardening activities should be confined to existing beds and previously disturbed areas. Any construction of new garden beds, stump removal, or other activities which impact previously undisturbed soil should be avoided. Despite previous impacts to this site, it is now stable and the current overall condition assessment is good.

8FL32, Southern Midden, is an oyster shell deposit along the shoreline near the northwestern corner of the park. This site has been impacted by past activities including the construction of a drainage ditch at the park boundary, the dredging of the intracoastal waterway (ICW) and the associated wave action from the wakes of boats using the ICW. Despite these past impacts, this site currently exists in a stable good condition.

8FL175, Big Oak Site, is a prehistoric shell midden with additional possible 19th and 20th century components. This site is protected from erosion by its landlocked location within the park and shows no signs of looting. Historical disturbances have occurred when roads were constructed but the site currently exists in good condition.

8FL176, Sand Dune Site, is a probable prehistoric campsite. This site is relatively protected from erosion, looting, and foot traffic due to its location. Historical disturbances have occurred when roads and firebreaks were constructed but the site currently exists in good condition.

All four recorded sites would benefit from further archaeological investigation and analysis to better assess their significance. Researchers from the University of South Florida (USF) conducted an archeological resource predictive modeling study for the park that was completed in 2010 (Collins, Doering, and Fernandez 2010). This study utilized known sites, historical information, maps, and documents, as well as topographic information and other input variables to develop a model and assess the park for the likelihood of the occurrence of additional cultural resources. The model report generated a map of high, medium, and low probability areas within the park and provides a useful tool to help guide management decisions and avoid areas of high cultural resource sensitivity.

Condition Assessment: Overall, the condition of the four recorded sites is good. Some minor issues have occurred in the past including erosion, looting, and other disturbances but remedial actions have been taken and conditions have stabilized and improved. The descriptions of each recorded site above provide more detailed information on the condition and threats to each particular site.

General Management Measures: All of the recorded archeological sites are currently in good and stable condition. Preservation is the prescribed treatment for all of the recorded archeological sites.

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: The park has a very rich historical record dating back to the Plantation Era. No physical or documentary evidence survives for any Spanish presence in the Washington Oaks area during the First Spanish Period. The first such presence occurred during the British Period, with a "head rights" land grant to John Moultrie, Lieutenant Governor of East Florida, in 1770 that included the Washington Oaks area. During the second Spanish Period (1783-1821), the Spanish crown made land grants in East and West Florida to American and British, as well as Spanish, citizens. While most of the American Loyalists and British subjects left Florida as soon as they could after the resumption of Spanish sovereignty, the refugees from the failed colony of New Smyrna, who had fled to St. Augustine, remained in East Florida.

The availability of large tracts of inexpensive low hammock and bottomland, immediate access to navigable waterways, and high sugar prices fostered the Matanzas-Halifax region's development as a major sugar production area. Throughout the 1790's and into the first decade of the 1800's, Seminole Indians living along the St. Johns River and further west into the interior of Florida, raided the Matanzas area for cattle, horses, slaves, food, clothes, and captives to hold for ransom or to enslave. In January 1812, Seminoles raided the Matanzas area, attacking occupied plantations just north and south of Washington Oaks. Presumably, no one was living on the Washington Oaks tract and there was no development, because the documentary records of that attack do not refer to the property.

In 1803 Juan Bautista Ferreira, a Portuguese merchant who had moved to St. Augustine from Charleston, received a land grant of 300 acres, followed in 1805 by an additional grant of 75 acres, which combined made up the bulk of the Washington Oaks tract. In 1818 Francis Ferreira, Juan Bautista's son and heir, sold the Washington Oaks grant to Jose Mariano Hernandez, the oldest son of a Minorcan family of New Smyrna refugees. The Ferreira grant was contiguous with Hernandez's plantation "Mala Compra" to the south, and Hernandez probably

wanted it as an extension of this existing property. Hernandez called the grant "Bella Vista."

When Florida became a territory of the United States in 1821, Jose Mariano Hernandez became an American citizen by taking the oath of loyalty to the new government. Hernandez was a member of the St. Augustine municipal council at the time of the transfer of sovereignty, and he attended the transfer ceremony in St. Augustine on 10 July 1821. After becoming an American citizen, Hernandez Anglicized his first and middle names to Joseph Marion.

During the Territorial Period, Joseph Marion Hernandez held a number of important public service positions, including Brigadier General of the East Florida militia. His militia brigade was mustered into the U.S. Army during the Second Seminole War, and General Hernandez attacked the Seminoles in the Halifax area, capturing several chiefs. Under direct orders from General Thomas Jesup, Hernandez seized Osceola, a leading war chief, under a flag of truce, and delivered the Seminole chief to St. Augustine. Bella Vista, Mala Compra and Hernandez's other plantations between the Matanzas and Halifax Rivers were destroyed during the war.

In 1844, George L. Washington, a distant relation of President George Washington and a young widower with 2 small children, came to St. Augustine to pursue business interests. He soon met Joseph Hernandez, and presumably, through him his daughter, Luisa, who soon Anglicized her name to Louisa. They married in St. Augustine in 1845, and lived there until 1855 or 1856. There is no evidence that Hernandez ever gave Bella Vista plantation to his daughter Louisa, either upon her marriage or at any time while she was married to Washington. George and Louisa never lived at Washington Oaks; it is unlikely there was a residence on the property until the mid-1870's.

Around 1856 the Washington family left Florida for Kinston, North Carolina, where George L. Washington had been born. In 1859 Louisa had her eighth and last child, Eliza, and died shortly afterward at the age of 36. Left once more a widower with small children, Washington remarried in 1865 to Eleanor Stevens (spelling varies), and had two more sons.

In 1875, Washington returned to St. Augustine to assist in the settlement of Hernandez's estate, and became interested in the Bella Vista property. It appears that Washington arranged with his former sister-in-law, Dorothea Hernandez Walker, for permission to build a house at Bella Vista in exchange for paying the property taxes on the plantation. When in Florida, he probably lived in St. Augustine and visited Bella Vista. In 1888, he bought Bella Vista from Dorothea. His oldest son, George Jr., stayed in the house at Bella Vista from 1889 until he died there in 1892. Washington probably moved to Savannah with his son's family, where he died in 1894. His heirs retained ownership of Bella Vista until 1923.

The house burned in the early 1900's, and nothing had been rebuilt. Washington's son Charles sold the Bella Vista-Washington Oaks property in 1923 to Mr. and Mrs. Ed Johnson. The Johnsons brought in two other parties in partial ownership, and

planned to develop Washington Oaks as a residential subdivision called Hernandez Estates. Florida's economic decline in the late 1920's and the following national depression of the 1930's caused the developers to abandon the planned development.

After a confused sequence of ownership transfers, Louise Clark acquired the Washington Oaks property in 1936. Louise Brown Clark was a widowed artist and designer whose widowed mother, Julia Powis, moved to St. Augustine in the mid-1930's. Owen Young was a wealthy and accomplished attorney, industrialist, corporate organizer, and philanthropist. Young came to St. Augustine in 1936 and helped Mrs. Powis find a small house to buy. Young was widowed himself, and knew Mrs. Powis' daughter Louise socially. Owen Young and Louise Clark married in St. Augustine in February 1937. They held their wedding reception party at Mrs. Powis' house, which they used as their St. Augustine townhouse for the rest of their lives. They then hosted an outdoor party at Washington Oaks the next day.

The Young's planned to use Washington Oaks as their Florida vacation and retirement home. Soon after acquiring title to the property, Louise had begun planning garden plantings and had hired Mr. Vaughan Caldwell, a resident of St. Johns County, as property manager. During the summer of 1936, Caldwell started planting orange and grapefruit trees, azaleas, and papaya, to be followed in 1937 by limes, lemons, tangelos, asters, delphiniums, sweet potatoes, peanuts, soybeans, coontie and other plants. In the same year, Louise purchased two contiguous 500 foot corridors running from the beach to the Washington Oaks property line. After their wedding, the Youngs planned and built a house overlooking the Matanzas River in 1938, and used it as a winter home.

In 1953, Louise Young's daughter Virginia Brown married George Green. Mrs. Green was an artist, and the Youngs built her a residence and studio at Washington Oaks where she lived and worked part time until she died in 1957. In that same year, Owen Young was diagnosed with abdominal cancer. After surgery, the Youngs returned to St. Augustine and lived in Mrs. Powis' house, but only visited Washington Oaks until Owen Young died in 1962. In 1964, Louise Young offered to donate the Washington Oaks property to the State of Florida for use as a state park with the specification that the gardens be maintained in perpetuity for the enjoyment of the public. On July 1st, 1964, Washington Oaks became a state park, under that name. Louise Young died in St. Augustine on January 14th, 1965.

Many significant landscape features and historic structures from the period of the Youngs' ownership of the property remain today and in 2009 they were recognized officially as the "Washington Oaks Gardens and Groves Historic District" on the National Register of Historic Places (FL276). A brief description of each FMSF recorded structure and other significant structures are provided below.

At the main entrance to the formal gardens stand two coquina columns. These stand alongside a segment of the original A1A that bisects the park. A1A was rerouted to the east in 1955 at the request of Mr. Young. The columns served as

the entrance gate to the Youngs' winter residence. The portion of Old State Road A1A that is preserved within the park is recorded as FL277.

The Youngs' winter home still stands along the Matanzas River and today serves as a park visitor's center and houses interpretive displays. It has had some recurring termite issues in the past that have been addressed, but is otherwise currently in good condition. It is recorded as the Owen D. Young Residence, FL271.

Mrs. Young's daughter, Virginia Powis Brown's studio remains in the oak hammock north of the Youngs' home, also along the Matanzas River. Its north side has large skylights that fill the structure with natural light. Today it serves as the Park Manager's residence. This structure is recorded as the Virginia Green House, FL272.

As described above, citrus was one of the earliest planting additions on the property and is an important component of the historical use of the area. Maps from the early 1700's show that there were already citrus groves planted in the general area where the park occurs today. The Youngs cultivated several varieties and marketed some in St. Augustine, shared some with family and friends, and gave some to the local hospital. Mr. Young also sold some, along with other produce, from a stand in front of his office. The park maintains a small portion of the original citrus grove as a reminder of this portion of the property's history. This small grove is included within the National Register Historic District, FL276.

The formal gardens, designed by Mrs. Young in the 1930's, are the centerpiece of the park and their maintenance in perpetuity for the enjoyment of park visitors was a requirement that accompanied the original land donation to the state. Park staff and volunteers care for the gardens and still grow many of the same ornamental species planted by the Youngs in the original garden. Some non-native ornamental species are planted and maintained in the gardens. Plants that are listed by FLEPPC as Category 1 or 2 species should not be planted in the park and existing plantings of these species should continue to be removed from the gardens and replaced with non-invasive alternatives. The historic formal gardens are included within the National Register Historic District, FL276.

The Youngs' greenhouse was originally constructed in the late 1940's from a prefabricated kit purchased from the National Greenhouse Company of Pana, Illinois. It was originally used to house many of Mrs. Young's orchids. The greenhouse had deteriorated significantly over the years so the park staff in cooperation with the Friends of Washington Oaks undertook a complete restoration effort that was completed in 2011. Today, park volunteers use it to propagate plants that are sold at fundraisers for the friends group. This structure is recorded as the Young Greenhouse, FL275.

The park's gift shop occupies the building that was originally Mr. Young's office. It is a log building that was erected in the 1940's. The original three room cabin was constructed from a prefabricated kit. Custom features were added including a coquina rock fireplace, pecky-cypress paneling, and a small windowless interior room that served as Mr. Young's darkroom for photography. The original structure

also contained a small bedroom and bathroom and a long screened floorless porch in the back, where citrus and other produce were washed and processed, much of which was then sold at a stand on the corner of old A1A. This structure is recorded as Owen D. Young's Office, FL273.

Just east of Mr. Young's office is another large structure that was originally the caretaker's residence. The Young's had several staff who cared for the gardens, buildings, orchards, and farm animals, many of them lived on the property. Francisco Lopez was one of these workers. He spent a total of 45 years working for the Young family as their cook, chauffeur, and groundskeeper. The caretaker's residence includes a smokehouse with a steep pyramidal copper roof where Mr. Lopez would prepare wild hog, venison, and mullet for the Youngs and their guests. This structure is now a park staff residence and is recorded as the Caretaker House, FL274.

On the beachside of the park, in WAS-2, there is an old pumphouse structure and water tank that were once associated with the formal gardens. Wells in this area provided irrigation water prior to the construction of the irrigation pond closer to the gardens. This site has been recorded as the Filter House, FL917.

The park also has three structures that will become 50 years old during the life of this plan. These include the park's ranger station, a picnic pavilion, and the picnic area restroom building. Staff should record these structures as appropriate with the FMSF as historic structures during the year that each one reaches the 50 year old threshold.

Condition Assessment: Overall, all of the historic structures and landscape components of the Washington Oaks Historic District are in good condition. The gardens and citrus groves are continually maintained by park staff and volunteers. Mr. Young's office (gift shop), home (visitor's center), and greenhouse have all undergone some level of restoration effort in recent years and are good condition. The studio and caretaker's residence are occupied by park staff living onsite and are regularly up kept and repaired as needed. The coquina columns at the entrance to the gardens and the original path to the Young's home are kept free of excessive vegetation and are still standing in good condition. It is anticipated that with regular maintenance, all of these structures will remain in good condition for at least the life of this plan. Historic structures are regularly inspected for termite damage and are treated as needed to ensure protection. The only significant threat to their continued existence is damage from a hurricane, fire, flood, or other unavoidable occurrence.

The old pumphouse and water tank in WAS-2 (FL917), described above, are in poor condition and approval has been granted by DHR to demolish and remove these structures. Park staff have carefully documented and photographed all components prior to their removal. The pumphouse and tank were once associated with wells that provided irrigation water to the gardens prior to the construction of the irrigation pond in WAS-5. DHR deemed that these components were not of important significance to the overall historical aspect of the park and granted

permission for the park to remove them. This has not yet occurred but is planned to occur during the life of this plan.

General Management Measures: All historic components should be inspected regularly to identify potential threats or damage, and the need for rehabilitation treatments. Continue to maintain historic structures and landscape components in an appropriate manner that is consistent with the original style and design. The Division of Historical Resources should be consulted for guidance with any major rehabilitation treatments. Preservation is the prescribed treatment for all historic structures with the exception of the "Filter House" FL917, which is slated for removal, as described under the Condition Assessment section above.

The historic formal gardens provide a unique management challenge at this park. Several FLEPPC listed invasive exotic plants have been intentionally planted within the gardens in the past. Park staff no longer plant known problem species but some species such as tuberous sword-fern, *Nephrolepis cordifolia*, are now well established within the formal garden boundaries. Staff should continue to remove known problem exotics from all areas of the park, including the formal gardens, as much as possible. Since it may not be feasible to herbicide large areas of vegetation within the gardens without causing unacceptable visual impacts, staff should instead take the approach of slowly phasing out sections at a time and replacing them with non-invasive alternatives as appropriate. Under no circumstances should any FLEPPC listed or other known problem exotic species be planted within the garden. Staff should also closely monitor the plant sales that the friends' group holds at the park and prohibit them from selling FLEPPC listed species at park sponsored events.

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: Washington Oaks Gardens State Park does not currently hold any formal collections. Most items maintained within the historic structures for interpretive purposes are replicas. The park has a few informal collections items such as miscellaneous natural history objects, archival information, etc. These items are maintained for park staff use and for public interpretation and are not historically significant. There are only 3 collections items that are of any reasonable significance. These include a white marble Asian statue of a woman standing on a cloud that is located in the gardens near the gazebo, an artifact display case made of artifacts found at Washington Oaks, and an oil painting of Joseph Hernandez on display in the park's visitors center.

Condition Assessment: The park currently holds no formal collections items. Informal collections items used for staff information and public interpretation, including the items described above, are in good condition.

General Management Measures: Since no formal collections are held at the park, there is little management need. Should formal collections be acquired during the life of this plan, staff will need to develop an official Scope of Collections Statement. An inventory of current informal collections items exists and is used to track the three current collections items described above: statue, artifact case, and oil painting.

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

Table 4: Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture / Period**	**Description**	**Significance**	**Condition**	**Treatment**
8FL11 Washington Oaks Midden	Prehistoric/Unspecified	Archaeological Site	NE	G	P
8FL32 Southern Midden	Prehistoric/Unspecified	Archaeological Site	NE	G	P
8FL175 Big Oak Site	Prehistoric/Unspecified	Archaeological Site	NE	G	P
8FL176 Sand Dune Site	Prehistoric/Unspecified	Archaeological Site	NE	G	P
8FL271 Owen D. Young Residence	Historic/Unspecified	Historic Structure	NE	G	P
8FL272 Virginia Green House	Historic/Unspecified	Historic Structure	NE	G	P
8FL273 Owen D. Young's Office	Historic/Unspecified	Historic Structure	NE	G	P
8FL274 Caretaker House	Historic/Unspecified	Historic Structure	NE	G	P
8FL275 Young Greenhouse	Historic/Unspecified	Historic Structure	NE	G	P

Table 4: Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture / Period**	**Description**	**Significance**	**Condition**	**Treatment**
8FL276 Washington Oaks Gardens and Groves	Historic/Unspecified	Historic District and Historic Landscape	NRL	G	P
8FL277 Old State Road A1A	Historic/Unspecified	Historic Structure	NE	G	P
8FL917 Filter House	Historic/Unspecified	Historic Structure	NS	P	R

Significance:

NRL National Register listed
NR National Register eligible
NE Not evaluated
NS Not significant

Condition

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

Recommended Treatment:

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

Resource Management Program

Management Goals, Objectives and Actions

Measurable objectives and actions have been identified for each of the DRP's management goals for Washington Oaks Gardens State Park. Please refer to the

Implementation Schedule and Cost Estimates in the Implementation Component of this plan for a consolidated spreadsheet of the recommended actions, measures of progress, target year for completion and estimated costs to fulfill the management goals and objectives of this park.

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

The work plans are reviewed and updated annually. Through this process, the DRP's resource management strategies are systematically evaluated to determine their effectiveness. The process and the information collected is used to refine techniques, methodologies and strategies, and ensures that each park's prescribed management actions are monitored and reported as required by Sections 253.034 and 259.037, Florida Statutes.

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

Natural Resource Management

Hydrological Management

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

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

removing obstructions to surface water "sheet flow," installing culverts or low-water crossings on roads, and installing water control structures to manage water levels.

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

Action 1 Assess current impacts of ditch system on the park's natural communities.

Action 2 Determine if any restoration/improvement to benefit natural communities is feasible.

Action 3 If feasible options exist, evaluate and pursue highest priority options to benefit park resources.

As described above, the park has been impacted by some hydrological alterations, mainly in the form of drainage ditches. However, the true impacts of the ditching on the park's hydrology and natural resources are not well understood. Since the ditch system is believed to provide at least some level of drainage for adjacent private property, SR A1A, as well as park roads and facilities, it may not be feasible to completely restore the hydrology by backfilling the ditches. During the life of this plan, park staff should work with partners at SJRWMD, FDOT, Flagler County, and other appropriate agencies to better assess the current impacts of the ditch system and to determine if any restoration actions can be undertaken that will benefit the park's hydrology and natural resources without unacceptable levels of offsite impacts. If hydrological restoration/enhancement projects are possible, the park should pursue the best options to benefit the park's resources.

Objective B: Restore natural hydrological conditions and functions to approximately 2 acres of coastal interdunal swale natural community.

Action 1 Apply prescribed fire to the coastal interdunal swale community.

Action 2 Use mechanical means such as chainsawing to reduce the cover of large offsite woody shrubs and trees within the coastal interdunal swale community that have grown too large to be killed by prescribed fire.

The park contains very little acreage of wetland natural communities. The most prominent wetland feature is a linear coastal interdunal swale that has been impacted by drainage ditching and fire suppression. This has resulted in woody shrub and cabbage palm encroachment into the graminoid-dominated swale community. Since complete restoration of the ditches may not be feasible (see objective above) additional actions may be required in place of, or in conjunction with, ditch backfilling/plugging to reduce the shrub/palm encroachment into the swale community and improve the natural community health and function. Staff should use prescribed fire to burn through the swale community, which will top kill some of the woody shrubs. Mechanical means such as chainsawing should be used to reduce the cover by large woody shrubs and trees that have grown too large to be killed by fire. Prescribed burning on a regular return interval should then be used to limit future recruitment and growth of woody species within the coastal

interdunal swale community. These actions alone will improve the community health and natural function to achieve this objective, even if full hydrological restoration of the ditches is not possible during the life of this plan.

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

All prescribed burns in the Florida state park system are conducted with authorization from the FDACS, Florida Forest Service (FFS). Wildfire suppression activities in the park are coordinated with the FFS.

Objective A: Within 10 years, have 165 acres of the park maintained within the optimum fire return interval.

Action 1	Develop/update annual burn plan
Action 2	Manage fire dependent communities for ecosystem function, structure, and processes by burning between 3 and 7 acres annually, as identified in the annual burn plan.
Action 3	Reintroduce fire to WAS2, after first implementing mechanical treatments as needed to allow safe application of fire.
Action 4	Install mineral firebreak along south side of WAS2.
Action 5	Install perimeter fencing and signage along southern boundary of WAS2.

Some of the natural communities at Washington Oaks Gardens State Park are fire adapted or at least fire influenced. The coastal strand, mesic and scrubby flatwoods all require relatively frequent burning to maintain their natural diversity and to prevent invasion by non-fire tolerant species. The coastal interdunal swale and beach dune communities, although not entirely fire dependent, will benefit from being given the opportunity to burn every time fire is applied to the adjacent coastal strand community. Even non-fire dependent communities, such as maritime

hammock, are affected by fire along their ecotones with fire adapted communities. The maintenance of natural ecotones between communities is an important function of prescribed burning on a regular interval.

Based upon the fire return intervals and acreage figures for the fire dependent natural communities within the park, optimally at least 24-55 acres should be burned each year (on average) to maintain the natural communities within their optimal fire return intervals. Not all zones may be burned within the maximum recommended fire return intervals, while others may be burned more frequently. Some fire type acres will be unavailable for burning until conditions within the management zone allow. Since the park only has fire-type communities in four management zones, some years there may be no burning in the park and other years it may be possible to burn all four zones. Weather and fuel conditions will be the dominant factors that dictate when burns occur in the park.

The park currently has most of the fire breaks needed to meet its burn needs. The exception is the perimeter line described below under objective C. Staff should maintain existing fire breaks at all times to be prepared for burn windows when weather conditions are favorable. Any new fire break needs should be carefully evaluated and planned to avoid negative impacts to natural communities, important ecotones, and sensitive cultural resources.

Several of the listed plant and animal species that have been documented at Washington Oaks are dependent upon or will benefit from regular prescribed burning. This includes species such as gopher tortoises, indigo snakes, and the Florida Scrub-Jay. Regular prescribed fire management is the primary tool used to manage the habitat that these species require. Achieving the prescribed burning goals for the park will also help the park to achieve its goals for listed species management.

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

Table 5: Prescribed Fire Management

Natural Community	Acres	Optimal Fire Return Interval (Years)
Coastal Strand	96.2	3-7
Mesic Flatwoods	16.9	3-7
Scrubby Flatwoods	57.8	3-7
Annual Target Acreage	23.8 – 55.6	

Prescribed fire is planned for each burn zone on the appropriate interval. The park's burn plan is updated annually because fire management is a dynamic process. To provide adaptive responses to changing conditions, fire management requires careful planning based on annual and very specific burn objectives. Each annual

burn plan is developed to support and implement the broader objectives and actions outlined in this ten-year management plan.

The park is partitioned into management zones, and burn prescriptions are implemented on the prescribed burn cycle for each zone. Prescribed fire is planned for each burn zone on the appropriate interval. The park's burn plan is updated annually because fire management is a dynamic process. To provide adaptive responses to changing conditions, fire management requires careful planning based on annual and very specific burn objectives. Each annual burn plan is developed to support and implement the broader objectives and actions outlined in this ten-year management plan.

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 on an annual basis. Each quarter the database is updated and reports are produced that track progress towards meeting annual burn objectives.

A 2013 project conducted in cooperation with FFS created a mowed fire break along nearly the entire southern boundary east of SR A1A. The resulting product is a wide fuel break where the vegetation was mowed to near ground level. This will aid the park in achieving its burn goals for WAS-2. However, the park's fire program would benefit from the additional installation of a mineral fire break along the entire southern perimeter of WAS-2, within the currently mowed area. This would allow the park to maintain a mineral fire line and allow for equipment access without the need to use the privately-owned Oceanside Drive that is adjacent to the park's southern boundary in this area. The mineral break should be approximately 10 feet wide and free of vegetation and roots such that it can be maintained by harrowing 1-2 times per year. Once the mineral fire line has been installed, perimeter fencing should be installed as soon as funding allows.

Natural Community Restoration

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

Examples that would qualify as natural community restoration, requiring annual restoration plans, include large mitigation projects, large-scale hardwood removal and timbering activities, roller-chopping and other large-scale vegetative

modifications. The key concept is that restoration projects will go beyond management activities routinely done as standard operating procedures such as routine mowing, the reintroduction of fire as a natural process, spot treatments of exotic plants, and small-scale vegetation management.

The park contains no natural communities that are in such poor condition as to warrant true restoration needs. Rather, the areas that are not currently in the desired future condition are proposed for natural community improvement and are addressed in the next section below (objectives D and E).

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. Following are the natural community/habitat improvement actions recommended at the park.

Objective B: Conduct habitat/natural community improvement activities on approximately 7 acres of mesic flatwoods natural community.

Action 1	Use mechanical treatments as needed in WAS2 to allow for the safe and effective application of fire to the mesic flatwoods community.
Action 2	Apply prescribed fire to WAS2.

Most of the mesic flatwoods within WAS-2 have an unknown burn history and have become very overgrown. Recent projects in cooperation with the Florida Forest Service have improved existing fire lines and installed some new fire lines in this area that will make burning WAS-2 safer and more obtainable. However, the current condition of the mesic flatwoods in this area may require additional restoration actions, beyond solely the application of prescribed fire, in order to attain the desired future condition. Staff should develop and implement an appropriate plan for this area that will allow the safe and effective application of prescribed fire and move the current natural community condition toward the desired future condition. This plan may include the use of mowing or other mechanical treatment and/or hardwood/timber removal to reduce fuel heights and loading prior to burning the area. Once any planned mechanical treatments have been conducted, the area should be followed up with a prescribed burn as soon as possible and then burned regularly on an appropriate interval to benefit the natural community condition.

Objective C: Conduct natural community/habitat improvement activities on approximately 30 acres of coastal strand natural community.

Action 1	Mechanically treat the coastal strand community in WAS2 as needed to allow for the safe and effective application of fire to the coastal strand natural community.
Action 2	Apply prescribed fire to WAS2.

Most of the coastal strand community in the park has been mechanically treated in the recent past and much of it has been followed up by a successful prescribed burn. Approximately 30 acres of this community type remains in WAS-2 that has not been mechanically treated and/or burned. During the next ten-year period, the park should improve this section of habitat by applying prescribed fire in its current condition, if it can be safely and effectively done, or by mowing or roller-chopping the vegetation as needed and then burning the habitat. The habitat improvement project should not be considered complete until the area has been successfully burned at least once. Once the area has been burned, essentially all of the coastal strand community in the park will be in a maintenance condition that is in, or well on its way toward reaching, the desired future condition.

Imperiled Species Management

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

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

In the preparation of this management plan, DRP staff consulted with staff of the 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 Update the imperiled species occurrence list accordingly as needed during the management plan cycle.

Action 2 Conduct appropriate management measures for the affected listed species following the guidance outlined in this plan.

The park's imperiled species list is current as of the publication of this plan. New species are likely to be documented in the park during the ten year plan cycle and some of those species could be imperiled species that are new records for the park. Additionally, species already known from the park could become up-listed or delisted during the ten-year period. The park's listed species occurrence and inventory lists will be updated accordingly as needed during the management plan cycle and appropriate management measures for the affected listed species will be conducted. Park management and district biological staff will keep park staff informed of listed species presence and distribution to avoid potential impacts and protect these species from harm.

The park would benefit from additional surveying work and subsequent additions. Particularly, surveys for under-represented taxa such as invertebrates, fungi, and marine life. The park should continue to work closely with local chapters of Audubon, Florida Native Plant Society, and other special interest groups, as well as local researchers, professors, and students to encourage surveys and research to occur in the park that will in turn benefit our knowledge of the park's flora and fauna. Park and district staff should also continue to report and document interesting sightings as they occur and build on the existing park species list.

Objective B: Monitor and document 7 selected imperiled animal species in the park. (Green turtle, loggerhead turtle, leatherback, gopher tortoise, Florida Scrub-Jay, American Oystercatcher, Least Tern)

Action 1 Develop monitoring protocols for 4 selected imperiled animal species including gopher tortoise, Florida scrub-jay, American oystercatcher, and least tern.

Action 2 Implement monitoring protocols for 7 imperiled animal species including those listed in Action 1 above and green turtle, loggerhead turtle, and leatherback turtle.

Park staff and volunteers should continue to follow the established FWC protocols for the survey, monitoring, and reporting of the three listed marine turtle species known to nest on the park's beach. This includes the loggerhead, green, and leatherback turtles. Additional sightings of these species away from the nesting beach, in the park's waters should also be recorded. Stranded turtles should be processed and reported following established FWC protocols.

The park has resident gopher tortoises occupying nearly every upland natural community. However, the highest density of burrows is located in the coastal dune,

coastal strand, and scrubby flatwoods natural communities. These areas of highest tortoise density within fire-type natural communities should be the priority areas for gopher tortoise survey and monitoring efforts. Ideally, these areas should be surveyed as soon as possible following a burn, when burrows are easily visible and a detailed survey can be done over a large area. The preferred method would be to survey the entire burn zone(s) and gps the location of every burrow and determine if each appears occupied or unoccupied. If time and staff limitations do not allow for a detailed survey of the entire area, then transects through each of the priority habitats should be used so that a subset of the available habitat is surveyed and an estimate of the total population can be derived. Recommended survey and tortoise density assessment protocols are provided in the Gopher Tortoise Management Plan (FWC 2007). Repeat surveys should be conducted following subsequent prescribed burns or mechanical treatments within the areas of core tortoise habitat at the park.

Since the park had a small population of Florida Scrub-Jays in the recent past and a goal of the coastal community restoration is to create habitat suitable for the recolonization of jays, staff should conduct targeted surveys for this species at least on an annual basis even though they are not currently known to occur within the park with regularity (aside from a lone individual seen sporadically in 2014). If the species is detected, tier 3 monitoring following established guidelines should be implemented at that time.

The park will conduct surveys for nesting and resting shorebird species from March 1st to August 31st during the six FWC established count windows. Data will be recorded and then entered into the Florida Shorebird Database which is housed online. The focus of these surveys will be to locate and detect nesting shorebirds, specifically the American Oystercatcher and the Least Tern and to protect these species from possible harm.

Any additional listed species observed in the park should be casually documented in an appropriate manner. The park should continue to participate in regularly occurring shorebird surveys in the region. FWC and partners help to coordinate the regional survey effort which includes the park's shorelines and nearshore waters.

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

Action 1	Develop and implement a more formalized monitoring protocol for listed plant species as resources allow.
Action 2	Continue to document listed plant species in the park as they are encountered.

Three listed plant species are currently known from the park. These include coastal mock vervain, spiked crested coralroot, and erect pricklypear. Currently staff document sightings of these species casually and no formal monitoring protocol exists for them. Staff should evaluate historic and current distribution records for

the park and a more formalized monitoring protocol should be developed and implemented as resources allow.

Exotic Species Management

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

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

Objective A: Annually treat approximately 2 acres of exotic plant species in the park.

Action 1	Annually develop/update exotic plant management work plan.
Action 2	Implement annual work plan by treating 2 acres in park, annually, and continuing maintenance and follow-up treatments, as needed.
Action 3	Map and update infestations in the FPS exotic plant database biannually.
Action 4	Report treatment efforts quarterly.

An exotic removal goal for the park is set each fiscal year. Annual goals are based upon the current needs of the park. Park and district staff and volunteers conduct much of the exotic removal work and FWC invasive plant removal funding serves to supplement our program when we are awarded projects. It is difficult to predict how much exotic removal acreage will be needed or possible in a given year because of fluctuations in weather, funding, and staffing, but on average, 2 acres per year of removal effort should be sufficient to maintain the park in its current maintenance condition. Infestations will be mapped and updated in the FPS exotic plant database biannually. Treatment efforts will be reported quarterly.

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

Action 1	Continue to remove exotic animals as needed following established humane methods and protocols.
Action 2	Report exotic animal removals monthly.

The only exotic animal species that are problematic at the park are nine-banded armadillos and occasionally feral cats. Staff should regularly remove these two species following established humane methods and protocols.

Objective C: Practice preventative measures to avoid accidental introduction and spreading of exotics within the park.

Action 1 Develop preventative measures.
Action 2 Implement preventative measures.

Guidelines for clean sod, fill dirt, limerock, mowing, as well as cleaning and inspecting equipment that enters the park are recommended. New infestations of exotics can be prevented by ensuring that contractors and staff clean their equipment before entering the park and do not spread exotics by moving from a contaminated area within the park without cleaning their equipment. Any vendor providing contractual services in the park related to vegetation management shall be required to clean their equipment prior to arrival and departure, and will be subject to inspection by park staff. Contractual language will require these preventative measures to reduce the chances of accidental invasive species introduction.

The park maintains a formal garden as a historical feature and a stipulation of the original land donation. Any new ornamental plantings within the gardens must not include any species listed by FLEPPC as Category 1 or 2 species, or any additional species that have proven to be problematic at the park. The park also hosts regular plant sales where the citizen support organization (CSO) and/or vendors sell plants to the public. No FLEPPC listed species will be allowed into the park or offered for sale at these events. In addition, no FLEPPC listed or otherwise problematic invasive species shall be intentionally propagated by staff or volunteers in the park greenhouse or grounds. Other non-invasive exotic ornamental species shall be acceptable but staff should monitor regularly to detect any undesired escape of these species from cultivation into nearby natural habitats.

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 Washington Oaks Gardens 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, monitoring of the project site by a certified archaeological monitor, cultural

resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effect. In addition, any demolition or substantial alteration to any historic structure or resource must be submitted to 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 11 of 12 recorded cultural resources in the park.

Action 1	Visit all known sites and evaluate and document condition. Prioritize preservation efforts based upon the updated assessments and evaluations.
Action 2	Share any important site condition updates with DHR.

The park intends to have 11 recorded cultural sites/structures evaluated and condition assessments updated during the plan period. Park staff will visit each site and record information on the site's current condition as well as any possible threats to the site's condition. Site assessments should be documented on appropriate forms and a copy sent to the Division of Historical Resources for inclusion in each site's master site file. Copies should also be maintained in the park and district files. The park will prioritize preservation efforts based upon the assessments and evaluations. The one recorded site that will not be assessed and evaluated is FL917 which is slated for removal.

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	Record each of 3 structures formally with the FMSF within the same year that each structure reaches the 50-year threshold.
Action 3	Develop a Scope of Collections Statement

All known archaeological and historic resources in the park are currently documented with the Florida Master Site File (FMSF). Any new information that is found regarding any of the known cultural sites should be documented with the appropriate FMSF(s) to expand our knowledge of and reference materials for each site. Materials should be submitted as they are found.

The park's history is fairly well known and documented. However, there is always the opportunity to learn more. Park staff should be aware of existing cultural resources and watchful for any new resources that may be discovered within the

park. Any new finds will be assessed and appropriately documented as soon as possible following their discovery. The park has had a predictive modeling study conducted which identifies areas of high, medium, and low probability of containing cultural resources. Staff should be especially careful when working in areas identified as high probability and report any possible cultural resources they may discover. The park currently does not maintain a formal collection of artifacts and as such, does not have a formal scope of collections statement. If collections items are acquired in the future, the park will develop a scope of collections statement accordingly at that time.

Washington Oaks Gardens State Park contains 3 park structures that will become 50 years old during the life of this plan. These include the ranger station, picnic area restroom, and one picnic pavilion. These structures were all constructed shortly after the property became a state park. Florida statute requires that they be considered historic upon reaching 50 years of age. Staff should record each one formally with the FMSF within the same year that each structure reaches the 50-year threshold. Once they become 50 years of age, regular monitoring and inspections of should commence as well as appropriate regular maintenance and repairs in accordance with DHR guidelines for historic structures.

Objective C: Maintain 11 of 12 recorded cultural resources in good condition.

Action 1	Conduct regular inspections and maintenance of historic structures and follow DHR recommendations regarding any needed stabilization/preservation activities.
Action 2	Remove FL917.

All but one known recorded cultural site (FL917, slated for removal) are currently in good condition. The park staff take pride in the condition of the archaeological sites and historic structures and maintain them very well. Regular monitoring and inspections of sites/structures should continue as well as appropriate regular maintenance to keep all 11 sites in good condition. All repairs and/or stabilization/preservation activities should be conducted in accordance with DHR guidance to maintain the cultural and historical integrity and significance.

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.

A timber management analysis was not conducted for this park since its total acreage is below the 1,000-acre threshold established by statute. Timber management will be re-evaluated during the next revision of this management plan.

Coastal/Beach Management

The DRP manages over 100 miles of sandy beach, which represents one-eighth of Florida's total sandy beach shoreline. Approximately one-quarter of Florida's state parks are beach-oriented parks and account for more than 60 percent of statewide park visitation. The management and maintenance of beaches and their associated systems and processes is complicated by the presence of inlets and various structures (jetties, groins, breakwaters) all along the coast. As a result, beach restoration and nourishment have become increasingly necessary and costly procedures for protecting valuable infrastructure. Beach and inlet management practices affect beaches for long distances on either side of a particular project. DRP staff needs to be aware of and participate in the planning, design and implementation of these projects to ensure that park resources and recreational use are adequately considered and protected.

Washington Oaks has approximately 0.7 miles of Atlantic coast beach within the park boundary. Only about half of this distance is regularly open sandy beach, while the remaining northern portion consists of Anastasia formation coquina outcrops that are typically exposed. The entire beach front is highly dynamic and accretion/erosion cycles can bury or expose more or less coquina at any given time. In general terms, summer tends to be a season of accretion with the beach taking on a summer profile of deeper sands and less exposed rock, while the winter season typically brings increased erosion from nor'easters and the beach takes on a winter profile, often with more exposed coquina. This is, however, strictly a generalization and storms, tides, and winds can rapidly accrete or erode sands at any given time.

The Anastasia formation along the park's shoreline serves to protect the shoreline tremendously during storm events. Past storms have eroded sands down to almost bare coquina along nearly the entire park shore, but the dune remained relatively intact considering the loss of sand from the beach itself. The exposed rock provides a hardened shoreline that seems to limit further landward erosion from most storm events. As a result, the beach in this area has never needed artificial renourishment. It is hoped that this will continue to be the case at least for the life of this plan. Should conditions change dramatically and beach renourishment become necessary or inevitable, park staff should work closely will all of the appropriate stakeholders to protect the natural resources and the best interests of the park as well as the surrounding area.

While the exposed coquina provides important habitat to many unique plants and animals, it is detrimental to the nesting success of the park's many nesting marine turtles. During times of heavy erosion and large amounts of exposed coquina the frequency of false crawls increases dramatically. Marine turtles require deep sands for nesting and many nests can be lost to erosion when large storm events occur.

The park provides day use beach access to visitors via an entrance off of A1A and a small parking area with primitive restroom and dune crossover. The beach is a popular destination for beach walkers, beach-combers, and photographers who like to use the exposed coquina formations as a scenic backdrop. The park's beach is less popular for swimming and surfing because of the dangerous exposed coquina above and below the surface. Overall visitor impacts to the beach and its natural resources are minimal. However, a recurring issue is dogs on the beach. Dogs are prohibited on the state park beach. Signage is in place but enforcement needs to increase. Most dogs come with their owners from the south where they walk up the beach and enter the park. Dogs cause considerable disturbance to shorebirds as well as loafing gulls and terns. Even a well behaved leashed dog is perceived as a predator by birds and other wildlife and negative impacts can result. The state park beach should be free of dogs and other pets at all times to protect the welfare of the park's wildlife and visitors.

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.

Washington Oaks has an adopted arthropod control plan with the East Flagler County Mosquito Control District. The approved plan was adopted in 1987, at a time when many parks were establishing plans with their local mosquito control districts. An effort is being made to update these old plans to address the use of new pesticides and other options for control that were not available in 1987. During the life of this unit management plan, staff should pursue updating the park's arthropod control plan in cooperation with the local mosquito control district.

The current adopted plan allows for the use of *Bacillus thuringiensis israelensis* (BTI) but no other larvicides or pupacides are currently approved for use in the park. The creation of any physical alterations such as ditches, dikes, impoundments, etc. are prohibited. Ground application of adulticides in public use areas is allowed upon the request of the park manager, as is the placement of larvae eating native fishes such as *Gambusia* sp.

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.

Additional Considerations

A stipulation of the original land donation of what was to become the park, was that the gardens be kept and maintained for the enjoyment of the public. The park must maintain the formal gardens within their original footprint in perpetuity. Any proposed park improvements within this area must take this requirement into consideration.

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 managing agency shall consider the recommendations of the land management review team and update their management plan accordingly.

Because Washington Oaks Gardens State Park is less than 1000 acres, it has not been subject to a land management review at this time.

LAND USE COMPONENT

Introduction

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

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

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

External Conditions

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

Washington Oaks Gardens State Park is located within Flagler County about 3 miles south of the St. Johns-Flagler County line, 7 miles north of Palm Coast, and 20 miles south of St. Augustine in the northeastern part of the state. Approximately 370,000 people live within 30 miles of the park (U.S. Census 2010).

According to the U.S. Census Data (2013), approximately 26% of residents in Flagler County and 16% in St. Johns County identify as black, Hispanic or Latino, or another minority group. Half of residents in Flagler and St. Johns can be described as youth or seniors (U.S. Census 2010). 60% of the population in

Flagler County and 66% in St. Johns County are of working age (16 to 65) (U.S. Census Bureau 2010). Flagler County's per capita personal income was $36,753 in 2013. St. Johns County ranked 7th statewide in per capita personal income at $54,082 (above the statewide average of $41,497) (U.S. Bureau of Economic Analysis 2013).

A significant amount of resource-based recreation opportunities exist within 15 miles of Washington Oaks Gardens State Park. Gamble Rogers Memorial State Recreation Area at Flagler Beach, Bulow Creek State Park, Bulow Plantation Ruins Historic State Park, and Faver-Dykes State Park offer biking, boating, paddling, fishing, hiking, swimming, beach access, and surfing. Guana Tolomato Matanzas National Estuarine Research Reserve, maintained by DEP, includes a variety of preserves, management areas, and conservation lands in the area. Managed by the Florida Forest Service, Matanzas State Forest provides canoeing, fishing, wildlife viewing, hunting, and primitive camping.

Several parks and preserves managed by St. Johns and Flagler County are located in the vicinity of the park. Lehigh Greenway, Haw Creek Preserve, Varn Park, and Betty Steflik Preserve in Flagler County allow wildlife viewing and hiking. Princess Place Preserve, to the parks immediate south, allows biking, camping, paddling, hiking, and fishing on the Matanzas River. At Southeast Intracoastal Waterway Park visitors can hike, picnic, and fish. Moses Creek Conservation Area, Deep Creek Conservation Area, and the Graham Swamp Conservation Area, all managed by the St. Johns River Water Management District provide hiking, bicycling, wildlife viewing, and fishing. The River to Sea Preserve is along A1A and the Atlantic Intracoastal Waterway providing opportunities for beach access, biking, camping, paddling, fishing, and hiking.

The park is located in the Northeast Vacation Region, which includes Baker, Clay, Duval, Flagler, Nassau, Putnam, and St. Johns counties (Visit Florida 2013). According to the 2013 Florida Visitor Survey, approximately 6.6% of domestic visitors to Florida visited this region. Roughly 86% visitors to the region traveled to the Northeast for leisure purposes. The top activities for domestic visitors were visiting friends or relatives and beach/waterfront. Summer was the most popular travel season, but visitation was generally spread throughout the year. Most visitors traveled by non-air (81%), reporting an average of 3.5 nights and spending an average of $115 per person per day (Visit Florida 2013).

Florida's Statewide Comprehensive Outdoor Recreation Plan (SCORP) indicates that participation rates in this region for saltwater beach activities, freshwater fishing, freshwater boat-ramp use, visiting archaeological and historic sites, wildlife viewing, bicycle riding, hiking, and camping are higher than the state average with demand for additional facilities increasing through 2020 (FDEP 2013).

Existing Use of Adjacent Lands

The area surrounding Washington Oaks Gardens State Park is mainly single family residential. Marineland, an aquatic theme park and research facility, is located a few miles north along A1A. The development of Palm Coast, a few miles to the southwest, is largely responsible for the rapid growth rate in Flagler County in the last twenty years. Single and multi-family residence and the accompanying commercial uses comprise the majority of the development. State Road A1A passes through the park. The Atlantic Ocean forms the eastern boundary and the Matanzas River (Intracoastal Waterway) is the west boundary.

Planned Use of Adjacent Lands

Surrounding properties to the north of the park are zoned for rural residential development. To the northeast and southeast corners of the park, along the Atlantic Ocean, are pockets of low density commercial uses. South of the park are single-family residential units. The Matanzas River and Intracoastal Waterway serve as the parks western boundary. The Atlantic Ocean bounds the park to the east. A1A runs through the middle of Washington Oaks Gardens. Commercial uses are water-oriented because of the abundant water resources in the area. The A1A Scenic Corridor Overlay (SCO) district runs through the park and continues north and south along the highway. The overlay implements a series of design regulations to preserve the natural and scenic resources on the corridor.

Land adjacent to Washington Oaks Gardens State Park is designated for low intensity residential and commercial development. Medium intensity is permitted along the Atlantic Ocean, on the east of A1A. To the south lies a mixed-use low intensity district running along the A1A corridor. Conservation lands are also designated south of the park. The Flagler County Comprehensive Plan specifies that tree harvesting is prohibited within 150 feet of the mean high water mark of the Matanzas River and 75 feet of the water course bank of Bulow Creek and Pellicer Creek.

Flagler and St. Johns County are members of the Northeast Florida Regional Planning Council. It is expected that the region will increase by 1.6 million people by 2060 (NEFRC 2014) making the regional population exceed 3.1 million residents. St. Johns and Flagler alone are expected to contribute over 800,000 to that total. The county and nearby City of Palm Coast are targeting new businesses and industries to help area's economy. The area boasts proximity to urban centers such as Jacksonville and Orlando markets, transportation access, and low land costs. However, there is a significant older population as Flagler County is a large retiree destination. The region is hoping to attract high-tech industries and increase accessibility to their state universities in order to attract a younger, more educated workforce.

Palm Coast city properties, just a few miles to the south of the park, are designated as a Greenbelt district intended to connect parks, greenways, golf courses, and other open spaces in the city to prevent urban sprawl and create a transition between urban and agricultural land (City of Palm Coast 2010). The city's population has increased rapidly over the last decade. Since 2000, the population has grown by 130% (U.S. Census 2010).

Florida Greenways and Trails System (FGTS)

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

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

The Florida Circumnavigational Saltwater Paddling Trail, or the CT, spans 1,515 miles along Florida's coast, from Pensacola to Fort Clinch. Segment 23, a 48-mile link from Smyrna Dunes Park to Faver-Dykes State Park/Mellon Islands, runs past Washington Oaks Gardens State Park on the Intracoastal Waterway. The park can be accessed from the paddling trail.

The East Coast Greenway Trail along A1A runs through the park property. The Bella Vista Trail system (Jungle Road Trail, Old A1A and Timucuan Trail) is listed by the Florida Trail Association as a loop & side trail of the Florida Greenways and Trails System.

Property Analysis

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

Recreational Resource Elements

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

Land Area

The natural communities of the park provide a good representation of natural barrier island communities along Florida's northeast coast. Although the garden is the primary focal point of the park, it is the integrity of the surrounding area--the rocky shore, the barrier island setting, the vanishing coastal scrub, the dense hammock and spreading western marshes--that give the garden a setting of great natural depth and integrity.

Water Area

The park is bordered by the Atlantic Ocean on the east and the Intracoastal Waterway on the west. These waters are important to the park setting and vistas. Open water within the park occurs only at the flooded borrow pit and along the mosquito ditches during wet seasons. These areas are not recommended for visitor access or use.

Shoreline

The shoreline bordering the Intracoastal Waterway provides access points for fishing and peaceful views across the wetlands and open water. One section of the river shoreline has a bulkhead for easier fishing access and a trail between the gardens and the visitor center. Unique coquina rock outcrops, an exposure of the Anastasia Formation, accentuate the Atlantic beach. There are only three known sites in Florida with similar outcrops. The rocks make this section of beach unsafe for swimming but provide excellent opportunities for nature study and photography. Habitats for 100 species of plants and animals exist in and around these exposed rocks. Loggerhead, green, and leatherback turtles all use the beach for nesting.

Natural Scenery

This park has many distinctive visual resources. The historic, formal gardens with reflecting pools and a diversity of plants offer views that change with the seasons. The eight natural communities within the park boundaries offer vistas unique to their systems. An overlook at the dune affords 360-degree views, taking in the ocean coastal system and west past the trees to the inland waterway.

Significant Habitat

The maritime hammock, flatwoods, coastal strand, and beach dune communities are all part of a barrier island system and provide habitat for a variety of wildlife. Some of the 45 designated species found at the park are Indigo snake, gopher tortoise, and Florida scrub jay. These all live in the park's fire-maintained natural communities. Annual surveys have recorded three species of marine turtles nesting on the Atlantic beach.

Archaeological and Historical Features

The property that is now Washington Oaks Gardens State Park has had a rich history. There are four known archaeological sites substantiating the prehistoric period. Documented historic presence begins in the 1770s. The site of a 1870s residence is all that remains of the Hernandez estate. In the 1930s Owen D. Young and Louise Clark Young bought the property. The gardens and buildings remain from the Young's occupation. The cultural record provided abundant opportunities for interpretive programming.

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 early development of this property as a plantation, and the later residence and ornamental gardens by the Young family, are past uses that have the greatest effect on present management. State Road A1A originally ran through the center of the property, west of its current location. The former alignment of the state road forms the present park road which terminates inside the southern and northern boundaries of the park. The southern end exits onto A1A and is open during times of high use or emergencies.

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 allow typical state park uses and facilities necessary for the provision of resource-based recreation.

The current future land use designation is Recreation and Open Space intended to provide recreational facilities for county residents and visitors and enhance local quality of life. The park also falls within the A1A Scenic Corridor Overlay district. The current zoning classification is agricultural. There are no expected conflicts between the future land use or zoning designations and typical state park land uses.

Current Recreational Use and Visitor Programs

Resource-based outdoor recreation in Florida continually increases in popularity. The growth of Florida's resident and tourist populations brings increasing pressure for access that is more widespread and for denser levels of public use in the natural areas available to the public. Consequently, one of the greatest challenges for public land management today is the balancing of reasonable levels of public access with the need to preserve and enhance the natural and cultural resources of the protected landscapes.

Recreational activities at the park are touring the ornamental gardens, picnicking, fishing, hiking, bicycling, beachcombing, nature study, ranger led walks, special seasonal events, and horticultural lectures and classes. Washington Oaks Gardens State Park is part of the Great Florida Birding and Wildlife Trail.

Washington Oaks Gardens State Park recorded 84,300 visitors in FY 2015/2016. By DRP estimates, the FY 2015/2016 visitors contributed $ 9.5 million in direct economic impact, the equivalent of adding 152 jobs to the local economy (FDEP 2016).

Other Uses

The park is a very popular wedding location. Various settings in the park are used for this activity, particularly the ornamental gardens.

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 Washington Oaks Gardens State Park all wetlands and floodplain as well as Beach Dune, Coastal Strand, Shell Mound, Estuarine and Marine Communities, cultural sites, 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

Recreational Facilities

The formal gardens are the focus of Washington Oaks Gardens State Park. A

small parking area accommodating 18 vehicles is near the garden entrance. The visitor center, located in the historic Young home, provides interpretive information on the park's natural and cultural resources. Restroom facilities are also located in this building. A gazebo, within the gardens, is a focal point.

An event field is located near the garden entrance. A small stage on the west side of the field is used for two major events a year and smaller monthly events.

Other recreation areas attracting visitors are the Atlantic beach and the inland picnic area. Beach amenities consist of parking for 20 vehicles and a portable toilet. The dune crossover with an observation deck was washed away during Hurricane Matthew in 2016. Although swimming is not recommended because of the rocks, this area is popular for nature study and photography, sunbathing, fishing, beachcombing, and relaxing. A tree-shaded picnic area west of A1A is located along the Matanzas River. It has parking for 76 vehicles, one picnic pavilion, a playground, and a restroom. In addition, the park has about 1.5 miles of shared-use trail for pedestrians and bicyclists, and about 1.2 miles of pedestrian only trails.

Support Facilities

Support facilities for the garden include a greenhouse, a storage building, and a pumphouse and tank for the irrigation system. Other park support facilities include a ranger station/park office, a shop building, an equipment storage building, two portable storage buildings, two ranger residences and four volunteer residence sites (see Base Map).

Picnic Area
Picnic Pavilion
Restroom
Playground
Parking

Trailhead Area
Parking
Hiking trail (1.7 mi.)
Shared-use trail (1.2 mi)

Gardens
Visitor center
Gazebo
Stage
Restroom
Greenhouse
Storage building
Parking

Beach Area
Parking
Portable restroom

Entrance Area
Ranger station

Shop Area
Shop building/office
Equipment shelter
Pumphouse and tank
Volunteer campsites (4)
Storage buildings (2)

Residence Areas
Staff residences (2)

OLD A1A

BELLA VISTA TRAIL SYSTEM

MATANZAS RIVER

ENTRANCE STATION

RESTROOM

BEACH ACCESS

ATLANTIC OCEAN

INSET

MONITOR WELL

VOLUNTEER SITES

IRRIGATION POND

MALA COMPRA TRAIL

OLD A1A

A1A

RESTROOM

PICNIC PAVILION

PLAYGROUND

SPECIAL EVENT EXIT

INTRACOASTAL WATERWAY

INSET

TRAILHEAD

RESIDENCE

SHOP & OFFICE

STORAGE

GARDENS

GREENHOUSE & POTTING SHED

GAZEBO

GIFT SHOP

STORAGE

RESIDENCE

SHADE BENCH

STAGE

RESTROOM

PUMPHOUSE

VISITOR CENTER

IRRIGATION POND

SEAWALL

bing™

Image courtesy of USGS Earthstar Geographics SIO © 2017 Microsoft Corporation

Legend

- Park Boundary
- Structures
- State Road
- Park Road Paved
- Park Road Stabilized
- Park Road Unstabilized
- Private Road
- Walkways
- Hiking/Biking
- Parking Lots

bing™

Image courtesy of USGS Earthstar Geographics SIO © 2017 Microsoft Corporation

WASHINGTON OAKS GARDENS STATE PARK

N

0 375 750 1,500 Feet

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

BASE MAP

Conceptual Land Use Plan

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

During the development of the conceptual land use plan, the DRP assessed the potential impact of proposed uses or development on the park resources and applied that analysis to determine the future physical plan of the park as well as the scale and character of proposed development. Potential resource impacts are also identified and assessed as part of the site planning process once funding is available for facility development. At that stage, design elements (such as existing topography and vegetation, sewage disposal and stormwater management) and design constraints (such as imperiled species or cultural site locations) are investigated in greater detail. Municipal sewer connections, advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Creation of impervious surfaces is minimized to the greatest extent feasible in order to limit the need for stormwater management systems, and all facilities are designed and constructed using best management practices to limit and avoid resource impacts. Federal, state and local permit and regulatory requirements are addressed during facility development. This includes the design of all new park facilities consistent with the universal access requirements of the Americans with Disabilities Act (ADA). After new facilities are constructed, park staff monitors conditions to ensure that impacts remain within acceptable levels.

Potential Uses

Public Access and Recreational Opportunities

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

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

Objective: Maintain the park's current recreational carrying capacity of 1020 users per day.

The park will continue to provide opportunities for touring the ornamental gardens, picnicking, fishing, hiking, bicycling, beachcombing, nature study,

ranger led walks, special seasonal events, and horticultural lectures and classes. Interpretive exhibits will continue to be offered at the visitor center and ornamental gardens.

Objective: Expand the park's recreational carrying capacity by 128 users per day.

Opportunities for meetings, special events, interpretive presentations, and wedding receptions will be expanded with the construction of an enclosed meeting/reception facility. Picnicking opportunities will be expanded with the addition of picnic pavilions. Additional parking will be provided to improve access to the formal garden area. A new ranger station and improvements to the entrance drive will enhance the experience for visitors on entering the park.

Objective: Continue to provide the current repertoire of 7 interpretive, educational and recreational programs on a regular basis.

Seven interpretive programs are currently offered to park visitors on a regular basis. These include a First Friday Garden and History Walk led by a ranger, as well as numerous guided walks and field trips scheduled by request. The second Saturday of every month during park plant sales, visitors learn about a specific group of plants or gardening topic during "plant chats". Visitors can also discover the unique Coquina rock on the beach during guided Coquina beach walks held several times per month all winter. Each July, three hour saltwater fishing clinics are held every Thursday for youth, and every Friday for adults. Approximately three concerts per year are held on the stage during the "Music in the Gardens" series, where visitors can listen to music while children's activities are set-up and rangers offer roving interpretation.

The park and citizen support organization celebrate two major events each year, "Holiday in the Gardens" and "Earth Day". During "Holiday in the Gardens" in December the park is beautifully decorated during the entire holiday season, with one day devoted to music, family activities, holiday vendors, and more. "Earth Day" is celebrated in April with environmental awareness exhibitors and vendors, plant sales, music, and children's activities.

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

There is potential for adding interpretive programs which focus on connecting visitors to their surroundings while exposing them to the unique cultural and natural resources of the park. These programs should build on the current visitor base already in place, while working towards bringing new visitors to the park. Utilizing the gardens and the trails as a way of promoting health and fitness by designing recreational programs such as fun runs, bike rides with rangers, and yoga classes will allow visitors to enjoy the gardens and environment while encouraging a healthy lifestyle. Expanding programs which focus on the arts, such as photography, art, writing, etc. would allow visitors to

WASHINGTON OAKS GARDENS
STATE PARK

N

0 250 500 1,000 Feet

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

CONCEPTUAL LAND USE PLAN

find inspiration from their surroundings in an informal, outdoor setting. Lastly, expanding interpretive programs offered on the beachside of the park has the potential to expose more visitors to the natural resources which make up the coastal strand and scrub communities. Such programs could revolve around specific animal migrations or seasons, or could focus on changes observed at the shoreline as the year progresses.

Proposed Facilities

Capital Facilities and Infrastructure

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

The existing facilities of this state park are appropriate to the natural and cultural resources contained in the park and should be maintained. New construction, as discussed further below, is recommended to improve the quality and safety of the recreational opportunities, to improve the protection of park resources, and to streamline the efficiency of park operations. The following is a summary of improved and new facilities needed to implement the conceptual land use plan for Washington Oaks Gardens State Park:

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

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

Objective: Improve/repair 5 existing facilities and .25 miles of road.

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

Picnic Area: Picnicking opportunities will be enhanced with the addition of two, accessible picnic pavilions near the parking lot. An observation platform is proposed for the southwest corner of the site to provide visitors with scenic views over the Matanzas River.

Ornamental Gardens: Parking will be expanded for the gardens with the addition of up to 50 spaces. Additional parking will be provided by reconfiguring the existing parking area and by providing designated spaces in the open field on the north side of the gift shop. To meet the demand for indoor special events, a meeting/reception facility is proposed just outside the historic district boundaries on the north side of the gardens.

The existing trailhead will be redesigned and incorporated into the space where the new meeting/reception facility is proposed. Parking for the trailhead and the meeting facility will be provided in the open field on the north side of the gift shop.

Entrance Area: A small, designated parking lot will be provided at the ranger station for use by visitors and staff. The entrance drive from A1A to Old A1A will be improved to facilitate the smooth and safe flow of traffic. The park will work with the Florida Department of Transportation to have turning and deceleration lanes installed on A1A to create safer conditions for park visitors and the traveling public.

Beach Area: In 2016, Hurricane Matthew caused significant damage to the Beach Area. The scenic overlook and approximately half of the parking area was washed away. During the next planning period the beach access will be improved, the parking lot will be renovated, and new facilities will be provided including a permanent restroom and a picnic pavilion.

Shop Area: A 3-bay shop building is recommended for the shop area.

Facilities Development

Preliminary cost estimates for these recommended facilities and improvements are provided in the Ten-Year Implementation Schedule and Cost Estimates (Table 7) located in the Implementation Component of this plan. These cost estimates are based on the most cost-effective construction standards available at this time. The preliminary estimates are provided to assist DRP in budgeting future park improvements, and may be revised as more information is collected through the planning and design processes. New facilities and improvements to existing facilities recommended by the plan include:

Picnic Area
Picnic pavilion (2)
Observation platform

Garden Area
Meeting/reception facility
Parking addition
Trailhead redesign

Beach Area
Beach access improvements
Parking area renovation
Restroom
Picnic pavilion

Shop Area
3-bay shop

Entrance Area
Ranger station parking area
Entrance drive improvements

Recreational Carrying Capacity

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is

determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 6).

The recreational carrying capacity for this park is a preliminary estimate of the number of users the unit could accommodate after the current conceptual development program has been implemented. When developed, the proposed new facilities would approximately increase the unit's carrying capacity as shown in Table 6.

Table 6. Recreational Carrying Capacity

	Existing Capacity*		Proposed Additional Capacity		Estimated Recreational Capacity	
Activity/Facility	**One Time**	**Daily**	**One Time**	**Daily**	**One Time**	**Daily**
Trails						
Hiking	24	48			24	48
Shared Use	15	60			15	60
Picnicking	188	376	8	16	196	392
Fishing						
Shoreline	40	80			40	80
Gardens	60	240	120	120	180	360
Beachcombing	108	216			108	216
TOTAL	**435**	**1020**	**128**	**136**	**563**	**1156**

*Existing capacity revised from approved plan according to DRP guide

Optimum Boundary

The optimum boundary map reflects lands considered desirable for direct management by the DRP as part of the state park. These parcels may include public or privately owned land that would improve the continuity of existing parklands, provide the most efficient boundary configuration, improve access to the park, provide additional natural and cultural resource protection or allow for future expansion of recreational activities. Parklands that are potentially surplus to the management needs of DRP are also identified. As additional needs are identified through park use, development, and research, and as land use

changes on adjacent property, modification of the park's optimum boundary may be necessary.

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

Two small parcels of undeveloped land on the north side of the park have been identified for the optimum boundary. These parcels, totaling 4 acres, would serve as buffers and enhance the boundary for management purposes (see Optimum Boundary Map).

WASHINGTON OAKS
STATE PARK

N

0 250 500 1,000 Feet

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

OPTIMUM BOUNDARY MAP

IMPLEMENTATION COMPONENT

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

MANAGEMENT PROGRESS

Since the approval of the last management plan for Washington Oaks Gardens State Park in 2005, significant work has been accomplished and progress made towards meeting the DRP's management objectives for the park. These accomplishments fall within three of the five general categories that encompass the mission of the park and the DRP.

Park Administration and Operations

- Constructed a new stage in event field in 2013.
- Established a location within the greenhouse complex and currently providing plants for sale to the public.

Resource Management

Natural Resources

- Removed 35 acres of exotic plants from the outer perimeter of the historical gardens. A portion of the removal was done under a grant from Florida Wildlife Conservation.
- Removed 106 exotic animals (armadillos) from the west quadrant of the park.
- Completed prescribed burns on 195 acres.
- Completed mechanical restoration on approximately 110 acres of coastal scrub and coastal strand communities. This restoration was completed on the northeast zone of the beachside of the park.
- Completed fire line installation in coordination with the Florida Forest Service Mitigation Team. They defined and implemented fire breaks on the southeast zone of the park. Fire lines were installed in four smaller plots and around the entire perimeter to provide access during burning.

Cultural Resources

- Master Site File booklet was created with files on the cultural sites in the park.
- National Register of Historic Places designation process was completed. Washington Oaks Historic District established September 2009.
- Restoration of historical cistern grate and minor masonry work completed. Fencing installed to protect site and interpretive signage.
- Completed research of the pre-history and history of the park and surrounding areas. This project was completed during the application process for the National Register designation in 2009.

Recreation and Visitor Services

- Installed eight interpretive panels highlighting the significant historical structures on the park grounds including: the Citrus Grove, Historical Gardens, Owen D. Young Visitor's Center, Greenhouse, Owen D. Young Office (Gift Shop), Caretaker's House with Smoke Stack, Daughter Virginia's Art Studio and Coquina Columns at Main Garden Path (original columns from the 1940's).
- Installed interpretive signage highlighting other significant features in the park: Indian Mound, Cistern Well, Old A1A Road, Coquina Rock Formations, Historical Columns.
- Installed exhibits and signage inside the Owen D. Young Visitor's Center to replicate the living room of the donors. Interpretive panels educate park visitors about the cultural resources in the park and the area's pre-history significance.
- Designed and printed park brochure relating to the historical features of the park and the individual sites added to the National Register of Historic Places.

Park Facilities

- Constructed a new stage in event field in 2013.
- ADA sidewalk was installed in the picnic area from parking lot to pavilions, playground and restroom facility.
  ADA pathway surface material improvement provided for the historical gardens.
- Restored historical greenhouse and potting area shed, which includes ADA sidewalks.
- Upgraded Rose Garden walkways to provide ADA access to park visitors and defined rose beds to secure and protect plantings.
- Owen D. Young Office at park's Gift Shop was renovated/restored. ADA ramp installed to provide access to all areas of the facility, including ADA parking pad and upgraded restroom facility. Interpretive displays were installed on the interior walls providing park visitors with some interesting facts about the Young Family and the property.

MANAGEMENT PLAN IMPLEMENTATION

This management plan is written for a timeframe of ten years, as required by Section 253.034 Florida Statutes. The Ten-Year Implementation Schedule and Cost Estimates (Table 7) 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 7 may need to be adjusted during the ten-year management planning cycle.

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Goal I: Provide administrative support for all park functions.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Continue day-to-day administrative support at current levels.**	Administrative support ongoing	C	**$717,000**
Objective B	**Expand administrative support as new lands are acquired, new facilities are developed, or as other needs arise.**	Administrative support expanded	C	**$90,000**
Goal II: Protect water quality and quantity in the park, restore hydrology to the extent feasible, and maintain the restored condition.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Conduct/obtain an assessment of the park's hydrological needs.**	Assessment conducted	LT	**$21,000**
Action 1	Assess current impacts of ditch system on the park's natural communities	Assessment conducted	UFN	$15,000
Action 2	Determine feasibility of restoration/improvement to benefit natural communities	Feasibility determined	UFN	$5,000
Action 3	Evaluate and pursue highest priority options to benefit park	Options evaluated	UFN	$1,000
Objective B	**Restore natural hydrological conditions and function to approximately 2 acres of coastal interdunal swale natural community.**	# Acres restored or with restoration underway	UFN	**$20,000**
Action 1	Apply precribed fire to the coastal interdunal swale community	Prescribed fire applied	C	$5,000
Action 2	Use mechanical treatments to reduce woody cover in coastal interdunal swale.	Mechanical treatments applied	C	$15,000
Goal III: Restore and maintain the natural communities/habitats of the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Within 10 years have 165 acres of the park maintained within optimal fire return interval.**	# Acres within fire return interval target	LT	**$51,000**
Action 1	Develop/update annual burn plan	Plan updated	C	$2,000
Action 2	Manage fire dependent communities for ecosystem function, structure, and processes by burning between 3 and 7 acres annually, as identified in the annual burn plan.	Average # acres burned annually	C	$7,500
Action 3	Reintroduce fire to WAS2, after implementing implementing mechanical treatments.	Mechanical treatments applied, fire introduced	C	$7,500
Action 4	Install mineral firebreak along southside of WAS2	# Miles established	UFN	$12,000
Action 5	Install perimeter fencing and signage along southern boundary of WAS2	Fencing and signage installed	UFN	$22,000

* 2016 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.				
Objective B	**Conduct habitat/natural community improvement activities on 7 acres of mesic flatwood natural community.**	# Acres improved or with improvements underway	UFN	**$18,000**
Action 1	Use mechanical treatments as needed in WAS2 to allow for the safe and effective applicaction of fire to the mesic flatwood community.	Mechanical treatments applied	C	$10,000
Action 2	Apply prescribed fire to WAS2.	Prescribed fire applied	C	$8,000
Objective C	**Conduct natural community/habitat improvement activities on approximately 30 acres of coastal strand community.**	# Acres improved or with improvements underway	UFN	**$43,000**
Action 1	Mechanically treat the coastal strand community in WAS2 as needed to allow for the safe and effective application of fire to the coastal strand natural community.	Mechanical treatments applied	C	$35,000
Action 2	Apply prescribed fire to WAS2.	Prescirbed fire applied	C	$8,000
Goal IV: Maintain, improve or restore imperiled species populations and habitats in the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Update baseline imperiled species occurrence inventory lists for plants and animals, as needed.**	List updated	C	**$23,000**
Action 1	Update the baseline imperiled species occurrence inventory lists for plants and animals	List updated	C	$8,000
Action 2	Conduct appropriate management measures for the affected listed species following the guidance outlined in this plan.	Management measures applied	C	$15,000
Objective B	**Monitor and document 7 selected imperiled animal species in the park.**	# Species monitored	C	**$25,000**
Action 1	Develop monitoring protocols for 4 selected imperiled animal species including gopher tortoise, Florida scrub-jay, American oystercatcher, and least tern.	# Protocols developed	ST	$5,000
Action 2	Implement monitoring protocols for 7 imperiled animal species including those listed in Action 1 above and green turtle, loggerhead turtle, and leatherback turtle.	# Species monitored	C	$20,000
Objective C	**Monitor and document 3 selected imperiled plant species in the park.**	# Species monitored	C	**$15,000**
Action 1	Develop monitoring protocols for 3 selected imperiled plant species including mock vervain, spiked crested coralroot, and erect pricklypear.	# Protocols developed	ST	$5,000
Action 2	Continue to document listed plant species in the park as they are encountered.	# Species monitored	C	$10,000

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UFN = currently unfunded need

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Goal V: Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Annually treat 2 acres of exotic plant species in the park.**	# Acres treated	C	**$31,000**
Action 1	Annually develop/update exotic plant management work plan.	Plan developed/updated	C	$1,000
Action 2	Implement annual work plan by treating 2 acres in park, annually, and continuing maintenance and follow-up treatments, as needed.	Plan implemented	C	$10,000
Action 3	Map and update infestations in the FPS exotic plant database biannually.	Infestation mapped/updated	C	$10,000
Action 4	Report treatment efforts quarterly	Treatments reported	C	$10,000
Objective B	**Implement control measures on 2 exotic and nuisance animal species in the park.**	# Species for which control measures implemented	C	**$11,000**
Action 1	Continue to remove exotic animals as needed following established humane methods and protocols.	Exotic animals removed	C	$8,000
Action 2	Report exotic animal removals monthly.	Exotic animal removals reported	C	$3,000
Objective C	**Practice preventative measures to avoid accidental introduction and spreading of exotics within the park.**	# Measures implemented	C	**$3,000**
Action 1	Develop preventative measures.	# Measures developed	ST	$1,000
Action 2	Implement preventative measures.	# Measures implemented	C	$2,000

Goal VI: Protect, preserve and maintain the cultural resources of the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Assess and evaluate 11 of 12 recorded cultural resources in the park.**	Documentation complete	LT	**$30,000**
Action 1	Complete 11 assessments/evaluations of archaeological sites. Prioritize preservation and stabilization projects.	Assessments complete	UFN	$25,000
Action 2	Share site condition updates with DHR	Updates submitted to DHR	C	$5,000

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C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.				
Objective B	**Compile reliable documentation for all recorded historic and archaeological sites.**	Documentation complete	C	**$5,000**
Action 1	Ensure all known sites are recorded or updated in the Florida Master Site File.	# Sites recorded or updated	ST	$3,000
Action 2	Record 3 structures with the FMSF when each reaches the 50 year threshold.	# Structures recorded	LT	$1,000
Action 3	Develop a Scope of Collections Statement	Scope of Collections	LT	$1,000
Goal VII: Provide public access and recreational opportunities in the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Maintain the park's current recreational carrying capacity of 1020 users per day.**	# Recreation/visitor	C	**$1,379,000**
Objective B	**Expand the park's recreational carrying capacity by 128 users per day.**	# Recreation/visitor	UFN	**$173,000**
Objective C	**Continue to provide the current repertoire of 7 interpretive, educational and recreational programs on a regular basis.**	# Interpretive/education programs	C	**$35,000**
Objective D	**Develop 2 new interpretive, educational and recreational programs.**	# Interpretive/education programs	UFN	**$21,000**
Goal VIII: Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Maintain all public and support facilities in the park.**	Facilities maintained	C	**$2,979,000**
Objective B	**Continue to implement the park's transition plan to ensure facilities are accessible in accordance with the American with Disabilities Act of 1990.**	Plan implemented	LT	**$250,000**
Objective C	**Improve and/or repair 5 existing facilities and .25 miles of road as identified in the Land Use Component.**	# Facilities/Miles of Trail/Miles of Road	UFN	**$3,000,000**
Objective D	**Expand maintenance activities as existing facilities are improved and new facilities are developed.**	Facilities maintained	UFN	**$200,000**

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C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Summary of Estimated Costs

Management Categories		Total Estimated Manpower and Expense Cost* (10-years)
Resource Management		**$296,000**
Administration and Support		**$807,000**
Capital Improvements		**$3,250,000**
Recreation Visitor Services		**$4,787,000**
Law Enforcement Activities	Note: Law enforcement activities in Florida State Parks are conducted by the FWC Division of Law Enforcement and by local law enforcement agencies.	

* 2016 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Addendum 1—Acquisition History

Purpose of Acquisition:

The Board of Trustees of the Internal Improvement Fund (Trustees) of the State of Florida acquired the initial area of Washington Oaks Gardens State Park for the establishment of a park area to provide public, resource-based recreation.

Sequence of Acquisition:

On June 10, 1964, the Florida Board of Parks and Historic Memorials (FBPHM), predecessor in interest to the State of Florida Department of Environmental Protection, Division of Recreation and Parks (DRP), acquired title to a 267.23-acre property that constituted the initial area of Washington Oaks Gardens State Park. The FBPHM acquired the property from Louise P. Young. Since this initial acquisition, Trustees acquired several parcels through the Land Acquisition Trust Fund (LATF), Save our Coast (SOC) and Preservation 2000/Additions and Inholdings (P2000/A&I) and added them to the Washington Oaks Gardens State Park. Presently the park comprises 425.52 acres.

Title Interest:

The Trustees hold fee simple title to Washington Oaks Gardens State Park.

Lease Agreement:

On August 2, 1966, the State of Florida leased a 72.73-acre property to the FBPHM to be managed as part of Washington Oaks Gardens State Park. Currently, DRP is managing this park under a fifty (50)-year term lease, Lease No. 3648. This lease will expire on October 3, 2033. According to the Trustees Lease No. 3648, DRP manages Washington Oaks Gardens State Park for the purpose of developing, operating, and maintaining the land for outdoor recreational, park, conservation and related purposes.

Special Conditions on Use:

The Washington Oaks Gardens State Park is designated as a single-use property to provide resource-based public outdoor recreation and other park related uses. Uses such as water resource development projects, water supply projects, storm-water management projects, and linear facilities and sustainable agriculture and forestry are not consistent with the purpose for which DRP manages Washington Oaks Gardens State Park.

Outstanding Reservations:

There is no known outstanding encumbrance that applies to Washington Oaks Gardens State Park.

Addendum 2—Advisory Group Members and Report

Local Government Officials

The Honorable James Johns, Chair St. Johns County Board of County Commissioners

Tim Telfer
Representing Flagler County Board of County Commissioners

Agency Representatives

Renee Paolini, Manager
Washington Oaks Gar State Park

Michael Shirley, Manager
Guana Tolomato Matanzas National Estuarine Research Reserve

Wade Brenner
Florida Fish and Wildlife Conservation Commission

Chris Wadelton, Chair
St. Johns Soil and Water Conservation District

J.B. Miller
St. Johns River Water Management District

Michael Edwards, Other Public Lands Forester
Florida Forest Service

Tourist Development Councils

Matt Dunn, Manager
Flagler County Tourist Development Council

Tera Meeks, Executive Director
St. Johns County Tourist Development Council

Environmental Representatives

Alex Farr, President
Sea Oats Chapter,
Florida Native Plant Society

Frank Quinn, President
Flagler Audubon Society

User Groups

Victoria Kelsey
Black Bear Chapter,
Florida Trail Association

Alex Auton, President
Florida Trail Blazers

Citizen Support Organization

Lucy Crowley, President
Friends of Washington Oaks Gardens State Park

Local Private Property Owners

Anne Wilson

William McIntosh

The Advisory Group meeting for Washington Oaks Gardens and Faver-Dykes State Parks was held at the Guana Tolomato Matanzas Estuarine Research Reserve Marineland Office Classroom on April 13, 2017. Commissioner James Johns, Tim Telfer, Wade Brenner, Chris Wadelton, Matt Dunn, Tera Meeks, Victoria Kelsey, Alex Auton and Anne Wilson were unable to attend. All other Advisory Group members were in attendance. Attending staff were Larry Fooks, Robert Yero, Chris Matson, Renee Paolini, Chris Clauson and David Copps. Michael Shirley submitted written comments before and after the meeting. Michael Edwards submitted written comments after the meeting.

Mr. Copps began the meeting by explaining the purpose of the Advisory Group, reviewing the meeting agenda, and summarizing the comments from the public hearing that was held the previous evening. Mr. Copps then asked each member of the Advisory Group to express his or her comments on the draft plan.

Summary of Advisory Group Comments

Michael Edwards (Florida Forest Service) recommended that park managers coordinate with the regional FFS Wildfire Mitigation Team for assistance in creating fire lanes and prescribed burning. He said that park staff should be involved with the local Cooperative Invasive Species Management Area (CISMA) to coordinate volunteer workdays to treat invasive species and to educate park visitors and neighbors about the threats they pose. Mr. Edwards said that park staff should participate in Archaeological Resource Management (ARM) training and monitor all archaeological sites at least once per year. He recommended that funding be sought for restoration of the depression marsh described in the Faver-Dykes resource management section. Mr. Edwards encouraged FPS to connect all park facilities to municipal sewage treatment as soon as practical. He stated that thinning is needed in the Faver-Dykes pine plantation areas to reduce the basal area. Mr. Edwards recommended that the pine planting beds be allowed to level out through natural erosion. He recommended that the parks work to achieve the recommended fire return interval for each fire-dependent community. For Washington Oaks Gardens State Park, Mr. Edwards recommended that the dense woody vegetation in the scrubby flatwoods be mechanically reduced before burning.

Michael Shirley (Guana Tolomato Matanzas NERR) stated that the Faver-Dykes plan should mention the MOU that the FPS has with the NERR and that the park manager has a seat on the NERR Advisory Group. He recommended that the plan recognize the importance of the research that the NERR is conducting in the salt marshes and in Pellicer Creek. He cautioned that prescribed fire should not be allowed to burn into the salt marshes unless there is water below. Mr. Shirley described the pristine nature of Pellicer Creek and its importance as a research site. He said that the Faver-Dykes plan should address the elevated levels of fecal coliform in Pellicer Creek and

the need for more research to determine its type. Mr. Shirley said that if the US Highway 1 entrance is established in the future the NERR wants to maintain access at the existing Faver-Dykes Road entrance for convenient access to their monitoring instruments on the south side of the park. He mentioned the recreation activities on Faver-Dykes' Mellon Island and said that the NERR is seeking funding to develop a spoil island management plan for the east coast of Florida. He said that the park plans should describe the NERR's involvement with the local CISMA to treat invasives and to educate the public about the environmental threats they pose. J.B. Miller recommended that the NERR provide a paragraph to David Copps (for insertion into the management plans) to clarify the NERR's role and to describe their activities, research, and collaboration with the parks. A statement was provided that described NERR research, education, and stewardship programs and the collaboration/partnerships with both state parks. The Memorandum of Understanding (MOU) between the NERR and the parks was discussed.

Frank Quinn (Flagler Audubon Society) recommended that the green fly orchid be added to the imperiled species list for Washington Oaks Gardens. He stated that Florida scrub-jay habitat should contain Florida scrub oaks and 30% open area. He expressed doubt that the scrub-jay will ever return to the park. Mr. Quinn said that the defunct campground on Washington Oaks northern boundary is for sale and recommended that the state purchase it for an addition to the park. Concerning Faver-Dykes, Mr. Quinn stated that the proposed entrance road be designed with enough culverts so as not to impede surface water flow. He described possible trail conflicts in the future between different trail user groups and recommended that the Faver-Dykes staff work with Flagler Audubon Society and other conservation and recreation groups for optimal trail routing.

Lucy Crowley (Friends of Washington Oaks Gardens and Faver Dykes State Parks) expressed her support for the proposed Faver-Dykes entrance on US 1 and the additional camping loops. She said that it is very important that the trail system be expanded and improved. Ms. Crowley said she does not support paving the existing park drive and would like to see the "Old Florida" dirt road experience preserved. For Washington Oaks Gardens, she said the Gardens Area needs additional parking. She said she supports the proposed meeting/reception facility and picnic facilities for the beach access area.

Alex Farr (Florida Native Plants Society, Sea Oats Chapter) stated her objection to equestrian uses in Faver-Dykes. She said that she supports the proposed entrance on US 1 and would like for the existing entrance to be maintained for some type of public access. Ms. Farr expressed objection to adding new camping loops to accommodate large camping rigs. She said that adding a few new camping sites is appropriate. Mr. Shirley said that if new camping loops were developed they should use advanced sewage treatment technologies. Ms. Farr asked about the status of the proposed Ocala to

Matanzas greenway/wildlife corridor. Mr. Miller said that it is on the Florida Forever acquisition list but not a high priority now. Ms. Farr stated concern that the proposed equestrian campground at Faver-Dykes might conflict with bear movements within the park. She said that the use of the park by bears is more important than equestrian uses.

Bill McIntosh (Local Private Property Owner) expressed concern about the estimate that only twenty percent of park visitors pay honor box fees. He recommended that Faver-Dykes install a new electronic fee collection system to accept cash or credit cards. Mr. Shirley said that the NERR installed such a system but a spotty internet connection forced them to go back to the old system. Mr. Yero said the Florida Park Service is currently experimenting with several self-service payment systems to solve the problem of non-paying visitors. Mr. McIntosh said Faver-Dykes needs more and better marketing and promotion. He said there needs to be more effort to educate the public about the park's natural and cultural history and recreational opportunities. He recommended the proposed paddling launch be located well away from the fishing boardwalk to avoid user conflicts. Mr. McIntosh said that the Faver-Dykes Road neighbors are opposed to paving the existing park drive. He said paving would degrade the "Old Florida" dirt road experience. He said that money appropriated for paving the existing drive should go toward developing the proposed entrance and park drive. Mr. McIntosh said the Faver-Dykes road neighbors want the existing park entrance to remain open for pedestrians and golf carts if the proposed US 1 entrance is developed.

J.B. Miller (St. Johns River Water Management District) said language should be added on page 9 under the "Management Coordination" section stating that Faver-Dykes is used for water resource management as well as land management. He said there are duplicative statements in Appendix 9 (Land Management Review) that should be rectified. Mr. Miller pointed out a housing development that was included on the Faver-Dykes Optimum Boundary Map (southwest boundary) and recommended its removal. He said the Pellicer Creek Paddling Trail on the Conceptual Land Use Map should be extended from the bridge to the Matanzas River. Mr. Miller recommended advanced sewage treatment for the proposed camping loops. He said that government agencies should serve as role models for such technologies. Mr. Miller said all trails in the system should be designated as shared-use except possibly in some sensitive areas. He said trail users are pretty much self-regulating. Mr. Shirley said that visitor surveys suggest that shared-use trails are preferred by trail users. Mr. Miller recommended against paving the existing park drive. He said that driving on the dirt canopy road is an important contributor to the Faver-Dykes experience. He said the original Faver-Dykes property is classified as an Outstanding Florida Water but the newer part of the park is not. He recommended the seepage area near the powerline gate be regularly burned to promote and maintain wildflowers such as orchids and pitcherplants. He said that Faver-Dykes staff should work with

Matanzas State Forest staff to open the proposed access points between the two properties now (don't wait until plan approval).

Renee Paolini (Washington Oaks Gardens and Faver-Dykes State Parks) said she supports the proposed camping loops at Faver-Dykes and supports the provision of advanced waste water treatment for that facility. She said additional information should be provided in the Faver-Dykes plan concerning the management of the spoil islands. Ms. Paolini said that the recreation opportunities on the islands are adequate and don't need to be expanded. She agreed that gardens parking should be expanded at Washington Oaks by adding a parking area in the old grove on the north side and redesigning the existing lot to achieve more spaces. She stated that visitation at both parks has been steadily increasing. Ms. Paolini asked that the location of the proposed observation platform at the Washington Oaks picnic area be considered for the Fish Island area. Mr. Miller said that the proposed platform would probably receive more use if located closer to the picnic area. Chris Clausen recommended that underground utilities be installed along the proposed entrance drive at Faver-Dykes as overhead lines would impede the burn program.

Summary of Written Comments

Michael Shirley (Guana Tolomato Matanzas NERR) submitted written comments after the meeting (see attached) that reiterated what was stated at the meeting. An additional statement was provided for inclusion in the management plan describing NERR research, education, and stewardship programs and the collaboration/partnerships with both state parks.

Michael Edwards (Florida Forest Service) submitted written comments after the meeting (see attached) that reiterated what was stated at the meeting. Additional information was provided including a recommended basal area metric for pineland management. He also recommended a hydrological assessment for Faver-Dykes to guide future restoration projects.

Staff Recommendations

Comments received at the Advisory Group meeting resulted in the following modifications to the draft management plans:

- Language will be added to recognize the role and services of the NERR and its collaboration with the parks. The MOU between the parks and the NERR will be mentioned in both plans.
- Clarification will be made in the Introduction that Faver-Dykes is adjacent to (not within) Pellicer Creek Aquatic Preserve.
- The information describing the water quality monitoring station on Faver-Dykes will be updated.
- Language will be added in the Faver-Dykes plan that mentions the fecal coliform impairment of Pellicer Creek. The TMDL will be

referenced and a statement made that the NERR and Florida Park Service will coordinate to investigate the source/type of the fecal coliform.

- Language will be added to the Faver-Dykes plan to describe the issues and concerns related to prescribed fire in the salt marsh community.
- The Faver-Dykes Optimum Boundary Map will be revised to delete the housing development on the park's southwestern boundary.
- The Faver-Dykes Conceptual Land Use Plan will be revised to more accurately delineate the Pellicer Creek paddling trail.
- Language will be added in the Faver-Dykes Introduction stating that the park is used for water resource management as well as land management.
- The Outstanding Florida Waters designation will be clarified in the Faver-Dykes Introduction.
- Additional information will be provided in the Faver-Dykes plan to describe management of the spoil islands.

Several Advisory Group members expressed opposition to the planned paving of the Faver-Dykes park drive. The DRP understands the concerns but the decision to pave was made to improve safety for visitors and staff and to reduce the time and costs for maintaining the road in its current condition. Operational issues such as improvements to existing roads are typically not addressed in management plan updates.

With these modifications, DRP staff recommends approval of the proposed management plans for Washington Oaks Gardens and Faver-Dykes State Parks.

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. 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 DRP staff.

Addendum 3—References Cited

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Addendum 4—Soil Description

(12) Placid, Basinger, St. Johns soils, depressional.
These nearly level, very poorly drained soils are depressions in the flatwoods. Undrained areas are ponded for long periods. Slopes are concave and less than 1 percent.

Typically, the surface layer of the Placid soil is fine sand about 20 inches thick. It is black in the upper 10 inches and very dark gray in the lower 10 inches. The underlying material to a depth of about 80 inches is grayish brown fine sand in the upper part, light grayish brown fine sand in the middle part, and light gray fine sand in the lower part.

Typically, the surface layer of the Basinger soil is black fine sand about 2 inches thick. The subsurface layer is about 27 inches thick. It is light gray fine sand in the upper part and grayish brown fine sand in the lower part. The subsoil is dark yellowish brown fine sand about 21 inches thick. The underlying material to a depth of about 80 inches is pale brown fine sand.

Typically, the surface layer of the St. Johns soil is black fine sand about 10 inches thick. The subsurface layer is gray fine sand 15 inches thick. The subsoil, to a depth of about 39 inches, is very dark grayish brown in the upper part and dark brown in the lower part. Next is dark yellowish brown fine sand to a depth of about 54 inches. The underlying material to a depth of 80 inches or more is dark gray fine sand.

In most years, undrained areas are ponded for more than 6 months. Permeability is rapid in the Placid soil and very rapid in the Basinger soil. Permeability of the St. Johns soil is rapid in the surface and subsurface layer and moderately slow or moderate in the subsoil layer. Available water capacity of the Basinger soil is very low in the surface and subsurface layers and medium in the subsoil. In the St. Johns soil available water capacity is medium in the surface layer, very low or low in the subsurface layer and medium in the Placid and St. Johns soils and low in the basinger soils.

(13) Immokalee fine sand.
This nearly level, poorly drained soil is on broad flats and low knolls in the flatwoods. Slopes are smooth to convex and range from 0 to 2 percent.

Typically, the surface layer is black fine sand about 5 inches thick. The subsurface layer is light brownish gray fine sand about 34 inches thick. The subsoil from 39 to 40 inches is very dark gray fine sand in the upper 8 inches and dark brown fine sand in the lower 13 inches. The subsoil is coated with organic matter. The underlying material to a depth of 80 inches is dark grayish brown fine sand.

In most years the seasonal high water table is at a depth of less than 10 inches for about 2 months and between 10 and 40 inches from more than 8 months. In extended dry periods the water table recedes to a depth of more than 40 inches. The available water capacity is low in the surface layer, very low in the subsurface layer and medium to very high in the subsoil.

Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. Natural fertility and organic matter content are low.

(15) Pomello fine sand, 0 to 5 percent slopes.
This nearly level or gently sloping moderately well drained soil is on low ridges and knolls in the flatwoods and coastal ridge. Slopes are smooth to convex.

Typically, the surface layer is very dark gray fine sand about 5 inches thick. Typically, the soil is light gray fine sand to a depth of 41 inches or more. The subsoil to a depth of about 66 inches is very dark brown fine sand in the upper part and very dark gray fine sand in the lower part. The underlying material to a depth of about 80 inches is grayish brown fine sand in the upper part and dark gray fine sand in the lower part.

A seasonal high water table is within a depth of 20 to 40 inches of the surface for 1 to 4 months. Permeability is very rapid in the surface and subsurface layers and rapid in the subsoil layer and below. The available water capacity is very low in the surface and subsurface layer, moderate in the subsoil layer and very low below. Natural fertility and organic matter content are low.

(19) Valkaria fine sand.
This very deep, poorly drained soil is formed in beds of marine sediments. They are typically found in flats associated with flatwoods and have slopes less than 2%.

Typically the upper layers are gray, acidic, fine sand which extend to a depth of nearly 18 inches. The subsoil is typically brown-yellow fine sand to a depth of 36 inches. The underlying layer is gray sand to a depth of 80 inches.

A seasonal high water table is typically found at a depth of 0-6 inches for up to 6 months of the year. During dry periods, the water table will be found at a depth of 10-40 inches.

(20) Orsino fine sand, 0 to 5 percent slopes.
This nearly level to gently sloping moderately well drained soil is on ridges and knolls in the flatwoods, and on coastal ridges near the Atlantic Ocean. Slopes are short and convex.

Typically, the surface layer is gray brown fine sand about 3 inches thick. The subsurface is white fine sand to 12 inches. The subsoil to a depth of 49 inches is brown fine sand in the upper part and pale brown fine sand in the lower part. The underlying layer to a depth of 80 inches is light gray sand.

A periodic high water table is within a depth of 40 to 60 inches of the surface for more than 6 months in most years. Permeability is very rapid throughout. The available water capacity is very low. Natural fertility and organic matter content are low.

(26) Turnbull and Pellicer soils, tidal.
These nearly level and very poorly drained soils are in tidal marsh areas. Slopes are smooth to convex and are less than 1 percent. Typically, the surface layer of the Turnbull soil is very dark gray muck about 8 inches thick. Next is dark grayish brown clay loam to a depth of 34 inches. The underlying layer is dark grayish brown loamy fine sand to a depth of 72 inches.

Typically, the surface layer of the Pellicer soil is very dark grayish brown silty clay loam about 10 inches thick. The next layer to a depth of 45 inches is dark gray clay loam. Below that is a dark gray sandy clay about 5 inches thick and then dark gray fine sandy loam to a depth of 80 inches or more.

Most areas of this unit are flooded twice daily by normal high tide. Some areas are flooded only a few times each year when weather or other conditions cause unusually high tides. The soils of this unit are continuously saturated. Permeability is rapid in the organic surface layer of the Turnbull soil. It is slow or very slow in the clayey layers of both the Turnbull and Pellicer soils. Available water capacity is very high in the organic surface layer of the Turnbull soil and medium in the clayey layers of both the Turnbull and Pellicer soils.

(31) Palm Beach sand, 0 to 8 percent slopes.
This nearly level to sloping and well to excessively drained soil is on dunelike ridges parallel to the Atlantic Coast. Slopes are convex.

Typically, the surface layer is grayish brown sand about 4 inches thick with about 15 percent sand size shell fragments. The next layer is about 21 inches thick. It is light brownish gray sand with about 15 percent shell fragments. Between 25 and 47 inches is pale brown sand with multicolored shell fragments. Below that, to a depth of 80 inches is stratified layers of multicolored shell fragments mixed with light gray sand. This layer is about 75 percent by volume shell fragments.

In most years, a seasonal high water table is more than 80 inches deep. Permeability is very rapid throughout. Available water capacity, organic matter content and natural fertility are low.

(33) Beaches.
Beaches are comprised of non-sequenced sand and shell that is nearly level to sloping. It's found on narrow wave and tide washed areas along the Atlantic Ocean. In the area around the park, Anastasia Formation features are exposed with the sand and shell fragments.

(34) Cocoa-Bulow sands, 0 to 5 percent slopes.
These nearly level or gently sloping, well drained soils are on low narrow ridges lying parallel to the shore of the Atlantic Ocean. These soils are underlain by a moderately deep to deep coquina limestone formation. Slopes are convex.

Typically, the Cocoa soil has a surface layer of grayish brown sand about 3 inches thick. The subsurface layer is pale brown sand to 16 inches. The Upper subsoil is reddish yellow sand to 29 inches. The lower subsoil is yellowish red loamy sand to 35 inches. Coquina limestone and loose shell occurs at a depth of about 35 inches, but the depth varies from 20 to 40 inches within short distances.

Typically, the Bulow soil has a surface layer of dark grayish brown sand about 5 inches thick. This subsurface is very brown sand to 20 inches. The upper subsoil is yellowish brown sand to 60 inches. The lower subsoil is yellowish red sandy clay loam to 68 inches. Coquina limestone and loose shell occurs at a depth below 68 inches.

A seasonal high water table occurs at a depth greater than 72 inches in most years. In the Cocoa soil, permeability is rapid in the layers above the coquina limestone. Available water capacity is very low in the surface, subsurface, and upper subsoil, and low in the lower subsoil. In the Bulow soil, permeability is rapid in the surface, subsurface, and upper subsoil layers, and moderately rapid in the lower subsoil. Available water capacity is low in the surface layer, very low in the upper subsoil layer and medium in the lower subsoil.

Addendum 5 – Plant and Animal List

Washington Oaks Gardens State Park Plants and Animals

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

LICHENS

Reindeer lichen	*Cladonia* spp.	

PTERIDOPHYTES

Tuberous sword fern	*Nephrolepis exaltata*	
Golden polypody	*Phlebodium aureum*	
Resurrection fern	*Pleopeltis polypodiodes*	
Whisk-fern	*Psilotum nudum*	
Bracken fern	*Pteridium aquilinum*	

GYMNOSPERMS

Southern red cedar	*Juniperus virginiana*	
Sand pine	*Pinus clausa*	
Slash pine	*Pinus elliottii*	
Longleaf pine	*Pinus palustris*	
Coontie	*Zamia pumila*	

ANGIOSPERMS

Beach false foxglove	*Agalinis fasciculata*	
Common ragweed	*Ambrosia artemisiifolia*	
False indigobush	*Amorpha fruticosa*	
Peppervine	*Ampelopsis arborea*	
Bushy bluestem	*Andropogon glomeratus* var. *pumilus*	
Broomsedge bluestem	*Andropogon virginicus* var. *decipiens*	
Broomsedge	*Andropogon* ssp.	
Coral vine*	*Antigonon leptopus*	
Groundnut	*Apios americana*	
Devil's walkingstick	*Aralia spinosa*	
Wiregrass	*Aristida stricta* var. *beyrichiana*	
Giant reed*	*Arundo donax*	
Smallflower pawpaw	*Asimina parviflora*	
Crested saltbush	*Atriplex cristata*	
Black mangrove	*Avicennia germinans*	
Saltwater falsewillow	*Baccharis angustifolia*	
Groundsel tree; Sea myrtle	*Baccharis halimifolia*	
Herb-of-grace	*Bacopa monnieri*	
Coastalplain honeycombhead	*Balduina angustifolia*	
Saltwort	*Batis maritima*	
Tarflower	*Bejaria racemosa*	
Beggarticks; Romerillo	*Bidens alba*	
Sea oxeye	*Borrichia frutescens*	
American beautyberry	*Callicarpa americana*	

Washington Oaks Gardens State Park Plants and Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Trumpet creeper	*Campsis radicans*	
Long's sedge	*Carex longii*	
Pignut hickory	*Carya glabra*	
Mockernut hickory	*Carya alba*	
Sugarberry; Hackberry	*Celtis laevigata*	
Slender sandbur	*Cenchrus gracillimus*	
Coast sandbur	*Cenchrus spinifex*	
Butterfly-pea	*Centrosema virginianum*	
Common buttonbush	*Cephalanthus occidentalis*	
Pillpod sandmat	*Chamaesyce hirta*	
Graceful sandmat	*Chamaesyce hypericifolia*	
Spotted sandmat	*Chamaesyce maculata*	
Slender woodoats	*Chasmanthium laxum*	
Longleaf chasmanthium	*Chasmanthium laxum* var. *sessiliflorum*	
Snowberry; Milkberry	*Chiococca alba*	
Coastalplain goldenaster	*Chrysopsis scabrella*	
Yellow thistle	*Cirsium horridulum*	
Citrus	*Citrus* ssp.	
Tread softly	*Cnidoscolus stimulosus*	
Whitemouth dayflower	*Commelina erecta*	
Dwarf Canadian horseweed	*Conyza canadensis* var. *pusilla*	
Spring coralroot	*Corallorhiza wisteriana*	
Seven-sisters; String-lily	*Crinum americanum*	
Rattle-box*	*Crotalaria pallida* var. *obovata*	
Vente conmigo	*Croton glandulosus* var. *glandulosus*	
Gulf croton; Beach tea	*Croton punctatus*	
Gulf coast swallowwort	*Cynanchum angustifolium*	
Bermudagrass*	*Cynodon dactylon*	
Swamp flatsedge	*Cyperus distinctus*	
Yellow nutgrass*	*Cyperus esculentus*	
Baldwin's flatsedge	*Cyperus croceus*	
Fragrant flatsedge	*Cyperus odoratus*	
Strawcolored flatsedge	*Cyperus strigosus*	
Ticktrefoil; Zarzabacoa comun*	*Desmodium incanum*	
Dixie ticktrefoil*	*Desmodium tortuosum*	
Poor Joe	*Diodia teres*	
Saltgrass	*Distichlis spicata*	
Baldwin's spikerush; Roadgrass	*Eleocharis baldwinii*	
Tall elephantsfoot	*Elephantopus elatus*	
Florida butterfly orchid	*Encyclia tampensis*	
Green-fly orchid	*Epidendrum conopseum*	
Lovegrass	*Eragrostis* sp.	
American burnweed; Fireweed	*Erechtites hieracifolia*	
Coralbean; Cherokee bean	*Erythrina herbacea*	
Dogfennel	*Eupatorium capillifolium*	
False horehound	*Eupatorium rotundifolium*	

Washington Oaks Gardens State Park Plants and Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Hurricanegrass	*Fimbristylis cymosa*	
Dwarf umbrellasedge	*Fuirena pumila*	
Firewheel	*Gaillardia pulchella*	
Elliott's milkpea	*Galactia elliottii*	
Downy milkpea	*Galactia volubilis*	
Dwarf huckleberry	*Gaylussacia dumosa*	
Coastal mock vervain	*Glandularia maritima*	BD, CIS
Firebush	*Hamelia patens*	
East coast dune sunflower	*Helianthus debilis* ssp. *debilis*	
Seaside heliotrope	*Heliotropium curassavicum*	
Camphorweed	*Heterotheca subaxillaris*	
Spiked crested coralroot	*Hexalectris spicata*	SHM
Largeleaf marshpennywort	*Hydrocotyle bonariensis*	
St. Andrew's-cross	*Hypericum hypericoides*	
Fourpetal St. John's-wort	*Hypericum tetrapetalum*	
Tropical bushmint*	*Hyptis mutabilis*	
Gallberry	*Ilex glabra*	
Scrub holly	*Ilex opaca* var. *arenicola*	
Yaupon	*Ilex vomitoria*	
Railroad vine	*Ipomoea pes-caprae*	
Saltmarsh morning-glory	*Ipomoea sagittata*	
Rockland morning-glory	*Ipomoea tenuissima*	
Marsh elder	*Iva frutescens*	
Iva	*Iva imbricata*	
Black needlerush	*Juncus roemerianus*	
Flamegold*	Koelreuteria elegans	
Saltmarsh mallow	*Kosteletzkya virginica*	
Lantana; Shrubverbena*	*Lantana camara*	
Gopher apple	*Licania michauxii*	
Carolina sealavender	*Limonium carolinianum*	
Japanese honeysuckle*	*Lonicera japonica*	
Peruvian primrosewillow*	*Ludwigia peruviana*	
Christmasberry	*Lycium carolinianum*	
Staggerbush	*Lyonia ferruginea*	
Fetterbush	*Lyonia lucida*	
Southern magnolia	*Magnolia grandiflora*	
Snow squarestem	*Melanthera nivea*	
Chinaberrytree*	*Melia azedarach*	
White sweetclover*	*Melilotus albus*	
Creeping cucumber	*Melothria pendula*	
Poorman's patch; stickleaf	*Mentzelia floridana*	
Mikania	*Mikania scandens*	
Spotted beebalm	*Monarda punctata*	
Indianpipe	*Monotropa uniflora*	
Red mulberry	*Morus rubra*	
Wax myrtle	*Myrica cerifera*	

Washington Oaks Gardens State Park Plants and Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Seaside evening-primrose	*Oenothera humifusa*	
Cutleaf eveningprimrose	*Oenothera laciniata*	
Flattop mille graines*	*Oldenlandia corymbosa*	
Prickly pear	*Opuntia humifusa*	
Erect pricklypear	*Opuntia stricta*	SHM, BD
Wild olive	*Osmanthus americanus*	
Bitter panicgrass	*Panicum amarum*	
Maidencane	*Panicum hemitomon*	
Virginia creeper; Woodbine	*Parthenocissus quinquefolia*	
Knotgrass	*Paspalum distichum*	
Purple passionflower	*Passiflora incarnata*	
Red bay	*Persea borbonia* var. *borbonia*	
Oak mistletoe	*Phoradendron leucarpum*	
Common reed	*Phragmites australis*	
Cape-weed	*Phyla nodiflora*	
Pokeweed	*Phytolacca americana*	
American pokeweed	*Phytolacca americana*	
Wild pennyroyal	*Piloblephis rigida*	
Golden aster	*Pityopsis graminifolia*	
Rosy camphorweed	*Pluchea rosea*	
Paintedleaf	*Poinsettia cyathophora*	
Fiddler's spurge	*Poinsettia heterophylla*	
Tall jointweed	*Polygonella gracilis*	
Dotted smartweed	*Polygonum punctatum*	
Pickerelweed	*Pontederia cordata*	
Carolina laurelcherry	*Prunus caroliniana*	
Black cherry	*Prunus serotina* var. *serotina*	
Wild coffee	*Psychotria nervosa*	
Chapman's oak	*Quercus chapmanii*	
Sand live oak	*Quercus geminata*	
Laurel oak; Diamond oak	*Quercus laurifolia*	
Myrtle oak	*Quercus myrtifolia*	
Water oak	*Quercus nigra*	
Live oak	*Quercus virginiana*	
Winged sumac	*Rhus copallina*	
Least snoutbean	*Rhynchosia minima*	
Anglestem beaksedge	*Rhynchospora caduca*	
Starrush whitetop	*Rhynchospora colorata*	
Tropical Mexican clover*	*Richardia brasiliensis*	
Rougeplant	*Rivina humilis*	
Sand blackberry	*Rubus cuneifolius*	
Carolina wild petunia	*Ruellia caroliniensis*	
Cabbage palm	*Sabal palmetto*	
Smallflower mock buckthorn	*Sageretia minutiflora*	
Arrowhead	*Sagittaria lancifolia*	
Coastal plain willow	*Salix caroliniana*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Tropical sage; Blood sage	*Salvia coccinea*	
Lyreleaf sage	*Salvia lyrata*	
American elder; Elderberry	*Sambucus nigra* ssp. *canadensis*	
Chinese tallowtree*	*Sapium sebiferum*	
Perennial glasswort	*Sarcocornia perennis*	
Helmet skullcap	*Scutellaria integrifolia*	
Saw-palmetto	*Serenoa repens*	
Rattlebox*	*Sesbania punicea*	
Bladderpod; Bagpod	*Sesbania vesicaria*	
Seapurslane	*Sesuvium portulacastrum*	
Cuban jute; Indian hemp	*Sida rhombifolia*	
Saffron plum	*Sideroxylon celastrinum*	
Tough bully	*Sideroxylon tenax*	
Narrowleaf blueeyed grass	*Sisyrinchium angustifolium*	
Earleaf greenbriar	*Smilax auriculata*	
Saw greenbriar	*Smilax bona-nox*	
Laurel greenbrier	*Smilax laurifolia*	
Sticky nightshade*	*Solanum sisymbriifolium*	
Chapman's goldenrod	*Solidago odora* var. *chapmanii*	
Seaside goldenrod	*Solidago sempervirens*	
Saltmarsh cordgrass	*Spartina alterniflora*	
Marshhay cordgrass	*Spartina patens*	
Creeping oxeye*	*Sphagneticola trilobata*	
Spring ladiestresses	*Spiranthes vernalis*	
Seashore dropseed	*Sporabolus virginicus*	
Florida hedgenettle; Fl betony	*Stachys floridana*	
St. Augustinegrass*	*Stenotaphrum secundatum*	
Trailing fuzzybean	*Strophostyles helvula*	
Wood sage	*Teucrium canadense*	
Ballmoss	*Tillandsia recurvata*	
Spanish moss	*Tillandsia usneoides*	
Poison ivy	*Toxicodendron radicans*	
Bluejacket; Ohio spiderwort	*Tradescantia ohiensis*	
Forked bluecurls	*Trichostema dichotomum*	
Broadleaf cattail	*Typha latifolia*	
Sea oats	*Uniola paniculata*	
Sparkleberry; Farkleberry	*Vaccinium arboreum*	
Shiny blueberry	*Vaccinium myrsinites*	
Frostweed	*Verbesina virginica*	
Giant ironweed	*Vernonia gigantean*	
Hairypod cowpea	*Vigna luteola*	
Bog white violet	*Viola lanceolata*	
Muscadine	*Vitis rotundifolia*	
Catbird grape	*Vitis palmata*	
Oriental false hawksbeard*	*Youngia japonica*	
Spanish bayonet	*Yucca aloifolia*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Hercules'-club	*Zanthoxylym clava-herculis*	

AMPHIBIANS

Florida cricket frog	*Acris gryllus dorsalis*	
Oak toad	*Bufo quercicus*	
Southern toad	*Bufo terrestris*	
Eastern narrow-mouthed toad	*Gastrophryne carolinensis*	
Green treefrog	*Hyla cinerea*	
Pine woods treefrog	*Hyla femoralis*	
Squirrel treefrog	*Hyla squirella*	
Southern leopard frog	*Lithobates utricularia*	
Eastern spadefoot toad	*Scaphiophus holbrooki*	

REPTILES

Florida cottonmouth	*Agkistrodon piscivorus conanti*	
American alligator	*Alligator mississippiensis*	CD, IAP
Green anole	*Anolis carolinensis carolinensis*	
Brown anole*	*Anolis sagrei*	
Florida softshell turtle	*Apalone ferox*	
Atlantic loggerhead turtle	*Caretta caretta caretta*	BD, MUS
Green turtle	*Chelonia mydas*	BD, MUS
Florida snapping turtle	*Chelydra serpentina osceola*	
Six-lined racerunner	*Cnemidophorus sexlineatus sexlineatus*	
Southern black Racer	*Coluber constrictor priapus*	
Eastern diamondback	*Crotalus adamanteus*	
Leatherback turtle	*Dermochelys coriacea*	BD, MUS
Southern ringneck snake	*Diadophis punctatus punctatus*	
Eastern indigo snake	*Drymarchon corais couperi*	MAH, SCF, CS, BD
Corn snake	*Elaphe guttata guttata*	
Yellow rat snake	*Elaphe obsoleta quadrivittata*	
Five-lined skink	*Eumeces fasciatus*	
Southeastern five-lined skink	*Eumeces inexpectatus*	
Broad-headed skink	*Eumeces laticeps*	
Gopher tortoise	*Gopherus polyphemus*	MAH, SCF, CS, BD
Striped mud turtle	*Kinosternon baurii*	
Scarlet kingsnake	*Lampropeltis triangulum elapsoides*	
Eastern coachwhip	*Masticophis flagellum flagellum*	
Eastern coral snake	*Micrurus fulvius fulvius*	
Florida banded water snake	*Nerodia fasciata pictiventris*	
Rough green snake	*Opheodrys aestivus*	
Eastern glass lizard	*Ophisaurus ventralis*	
Florida cooter	*Psuedemys floridana*	
Pine woods snake	*Rhadinaea flavilata*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Ground skink	*Scincella lateralis*	
Dusky pigmy rattlesnake	*Sistrurus miliarius barbouri*	
Florida box turtle	*Terrapene carolina bauri*	
Florida ribbon snake	*Thamnophis sauritus sackeni*	
Eastern garter snake	*Thamnophis sirtalis sirtalis*	
Red-eared slider*	*Trachemys scripta elegans*	

BIRDS

Cooper's Hawk	*Accipiter cooperii*	
Sharp-shinned Hawk	*Accipiter striatus*	
Spotted Sandpiper	*Actitis macularius*	
Red-winged Blackbird	*Agelaius phoeniceus*	
Wood Duck	*Aix sponsa*	
Razorbill	*Alca torda*	
Saltmarsh Sparrow	*Ammodramus caudacutus*	
Seaside Sparrow	*Ammodramus maritima*	
Blue-winged Teal	*Anas discors*	
Mottled Duck	*Anas fulvigula*	
Mallard	*Anas platyrhynchos*	
Anhinga	*Anhinga anhinga*	
Florida Scrub-Jay	*Aphelocoma coerulescens*	SCF, CS
Ruby-throated Hummingbird	*Archilochus colubris*	
Great Egret	*Ardea alba*	
Great Blue Heron	*Ardea herodias*	
Ruddy Turnstone	*Arenaria interpres*	
Lesser Scaup	*Aythya affinis*	
Cedar Waxwing	*Bombycilla cedrorum*	
American Bittern	*Botaurus lentiginosus*	
Great Horned Owl	*Bubo virginianus*	
Cattle Egret	*Bubulcus ibis*	
Bufflehead	*Bucephala albeola*	
Red-tailed Hawk	*Buteo jamaicensis*	
Red-shouldered Hawk	*Buteo lineatus*	
Broad-winged Hawk	*Buteo platypterus*	
Green Heron	*Butorides virescens*	
Sanderling	*Calidris alba*	
Dunlin	*Calidris alpina*	
Red Knot	*Calidris canutus*	
Purple Sandpiper	*Calidris maritima*	
Western Sandpiper	*Calidris mauri*	
Least Sandpiper	*Calidris minutilla*	
Semipalmated Sandpiper	*Calidris pusilla*	
Chuck-will's-widow	*Caprimulgus carolinensis*	
Whip-poor-will	*Caprimulgus vociferus*	
Northern Cardinal	*Cardinalis cardinalis*	

Washington Oaks Gardens State Park Plants and Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
American Goldfinch	*Carduelis tristis*	
House Finch	*Carpodacus mexicanus*	
Turkey Vulture	*Cathartes aura*	
Veery	*Catharus fuscescens*	
Hermit Thrush	*Catharus guttatus*	
Gray-cheeked Thrush	*Catharus minimus*	
Swainson's Thrush	*Catharus ustulatus*	
Chimney Swift	*Chaetura pelagica*	
Semipalmated Plover	*Charadrius semipalmatus*	
Killdeer	*Charadrius vociferus*	
Black Tern	*Chlidonias niger*	
Common Nighthawk	*Chordeiles minor*	
Bonaparte's Gull	*Chroicocephalus philadelphia*	
Northern Harrier	*Circus cyaneus*	
Marsh Wren	*Cistothorus palustris*	
Sedge Wren	*Cistothorus platensis*	
Yellow-billed Cuckooo	*Coccyzus americanus*	
Northern Flicker	*Colaptes auratus*	
Northern Bobwhite	*Colinus virginianus*	
Common Ground-Dove	*Columbina passerina*	
Eastern Wood-Pewee	*Contopus virens*	
Black Vulture	*Coragyps atratus*	
American Crow	*Corvus brachyrhynchos*	
Fish Crow	*Corvus ossifragus*	
Blue Jay	*Cyanocitta cristata*	
Black-throated Blue Warbler	*Dendroica caerulescens*	
Bay-breasted Warbler	*Dendroica castanea*	
Yellow-rumped Warbler	*Dendroica coronata*	
Prairie Warbler	*Dendroica discolor*	
Yellow-throated Warbler	*Dendroica dominica*	
Blackburnian Warbler	*Dendroica fusca*	
Magnolia Warbler	*Dendroica magnolia*	
Palm Warbler	*Dendroica palmarum*	
Chestnut-sided Warbler	*Dendroica pensylvanica*	
Yellow Warbler	*Dendroica petechia*	
Pine Warbler	*Dendroica pinus*	
Blackpoll Warbler	*Dendroica striata*	
Cape May Warbler	*Dendroica tigrina*	
Black-throated Green Warbler	*Dendroica virens*	
Bobolink	*Dolichonyx oryzivorus*	
Pileated Woodpecker	*Dryocopus pileatus*	
Gray Catbird	*Dumetella carolinensis*	
Little Blue Heron	*Egretta caerulea*	CIS, EUS, CD, IAP
Reddish Egret	*Egretta rufescens*	EUS, MUS
Snowy Egret	*Egretta thula*	CIS, EUS, CD, IAP, MUS
Tricolored Heron	*Egretta tricolor*	CIS, EUS, CD, IAP, MUS

Washington Oaks Gardens State Park Plants and Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Swallow-tailed Kite	*Elanoides forficatus*	OF
Yellow-bellied Flycatcher	*Empidonax flaviventris*	
Least Flycatcher	*Empidonax minimus*	
Acadian Flycatcher	*Empidonax virescens*	
White Ibis	*Eudocimus albus*	CIS, EUS, CD, IAP, MUS
Merlin	*Falco columbarius*	MTC, OF
Peregrine Falcon	*Falco peregrinus*	MTC, OF
American Kestrel	*Falco sparverius*	
Magnificent Frigatebird	*Fregata magnificens*	OF
American Coot	*Fulica americana*	
Wilson's Snipe	*Gallinago delicata*	
Common Gallinule	*Gallinula chloropus*	
Common Loon	*Gavia immer*	
Common Yellowthroat	*Geothlypis trichas*	
Florida Sandhill Crane	*Grus canadensis pratensis*	OF
Blue Grosbeak	*Guiraca caerulea*	
American Oystercatcher	*Haematopus palliatus*	EUS, MUS, MCNS
Bald Eagle	*Haliaeetus leucocephalus*	
Worm-eating Warbler	*Helmitheros vermivorus*	MH
Barn Swallow	*Hirundo rustica*	
Wood Thrush	*Hylocichla mustelina*	
Caspian Tern	*Hyprogne caspia*	EUS, MUS, SAM
Yellow-breasted Chat	*Icteria virens*	
Baltimore Oriole	*Icterus galbula*	
Orchard Oriole	*Icterus spurius*	
Least Bittern	*Ixobrychus exilis*	
Loggerhead Shrike	*Lanius ludovicianus*	
Herring Gull	*Larus argentatus*	
Ring-billed Gull	*Larus delawarensis*	
Lesser Black-backed Gull	*Larus fuscus*	
Great Black-backed Gull	*Larus marinus*	
Laughing Gull	*Leucophaeus atricilla*	
Short-billed Dowitcher	*Limnodromus griseus*	
Long-billed Dowitcher	*Limnodromus scolopaceus*	
Hooded Merganser	*Lophodytes cucullatus*	
Belted Kingfisher	*Megaceryle alcyon*	
Eastern Screech-Owl	*Megascops asio*	
Red-bellied Woodpecker	*Melanerpes carolinus*	
Red-headed Woodpecker	*Melanerpes erythrocephalus*	
White-winged Scoter	*Melanitta fusca*	
Black Scoter	*Melanitta nigra*	
Surf Scoter	*Melanitta perspicillata*	
Wild Turkey	*Meleagris gallopavo*	
Swamp Sparrow	*Melospiza georgiana*	
Song Sparrow	*Melospiza melodia*	
Red-breasted Merganser	*Mergus serrator*	

Washington Oaks Gardens State Park Plants and Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Northern Mockingbird	*Mimus polyglottos*	
Black-and-white Warbler	*Mniotilta varia*	
Brown-headed Cowbird	*Molothrus ater*	
Northern Gannet	*Morus bassanus*	
Wood Stork	*Mycteria americana*	CIS, EUS, CD, IAP
Great Crested Flycatcher	*Myiarchus crinitus*	
Black-hooded Parakeet*	*Nandayus nenday*	
Yellow-crowned Night-Heron	*Nycticorax violaceus*	
Black-crowned Night-Heron	*Nycticorax nycticorax*	
Osprey	*Pandion haliaetus*	
Northern Parula	*Parula americana*	
Tufted Titmouse	*Parus bicolor*	
Carolina Chickadee	*Parus carolinensis*	
Savannah Sparrow	*Passerculus sandwichensis*	
Painted Bunting	*Passerina ciris*	
Indigo Bunting	*Passerina cyanea*	
American White Pelican	*Pelecanus erythrorhynchos*	
Brown Pelican	*Pelecanus occidentalis*	OF, EUS, MUS
Double-crested Cormorant	*Phalacrocorax auritus*	
Great Cormorant	*Phalacrocorax carbo*	
Red-necked Phalarope	*Phalaropus lobatus*	
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	
Downy Woodpecker	*Picoides pubescens*	
Eastern Towhee	*Pipilo erythrophthalmus*	
Scarlet Tanager	*Piranga olivacea*	
Summer Tanager	*Piranga rubra*	
Roseate Spoonbill	*Platalea ajaja*	CIS, EUS, CD, MUS
Glossy Ibis	*Plegadis falcinellus*	
Black-bellied Plover	*Pluvialis squatarola*	
Horned Grebe	*Podiceps auritus*	
Pied-billed Grebe	*Podilymbus podiceps*	
Blue-gray Gnatcatcher	*Polioptila caerulea*	
Vesper Sparrow	*Pooecetes gramineus*	
Purple Gallinule	*Porphyrula martinica*	
Purple Martin	*Progne subis*	
Prothonotary Warbler	*Protonotaria citrea*	
Boat-tailed Grackle	*Quiscalus major*	
Common Grackle	*Quiscalus quiscula*	
Clapper Rail	*Rallus longirostris*	
Ruby-crowned Kinglet	*Regulus calendula*	
Black Skimmer	*Rynchops nigra*	OF, EUS, MUS
Eastern Phoebe	*Sayornis phoebe*	
Ovenbird	*Seiurus aurocapilla*	
Louisiana Waterthrush	*Seiurus motacilla*	MH, IAP, CD
Northern Waterthrush	*Seiurus noveboracensis*	
American Redstart	*Setophaga ruticilla*	MH

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Eastern Bluebird	*Sialia sialis*	
Common Eider	*Somateria mollissima*	
Yellow-bellied Sapsucker	*Sphyrapicus varius*	
Chipping Sparrow	*Spizella passerina*	
Field Sparrow	*Spizella pusilla*	
No. Rough-winged Swallow	*Stelgidopteryx serripennis*	
Parasitic Jaeger	*Stercorarius parasiticus*	
Pomarine Jaeger	*Stercorarius pomarinus*	
Roseate Tern	*Sterna dougallii*	OF, MUS
Forster's Tern	*Sterna forsteri*	
Common Tern	*Sterna hirundo*	
Sandwich tern	*Sterna sandvincensis*	OF, EUS, MUS
Least Tern	*Sternula antillarum*	OF, EUS, MUS
Barred Owl	*Strix varia*	
Eastern Meadowlark	*Sturnella magna*	
Tree Swallow	*Tachycineta bicolor*	
Royal Tern	*Thalasseus maxima*	
Carolina Wren	*Thryothorus ludovicianus*	
Brown Thrasher	*Toxostoma rufum*	
Lesser Yellowlegs	*Tringa flavipes*	
Greater Yellowlegs	*Tringa melanoleuca*	
Willet	*Tringa semipalmata*	
House Wren	*Troglodytes aedon*	
American Robin	*Turdus migratorius*	
Gray Kingbird	*Tyrannus dominicensis*	
Eastern Kingbird	*Tyrannus tyrannus*	
Orange-crowned Warbler	*Vermivora celata*	
Golden-winged Warbler	*Vermivora chrysoptera*	
Blue-winged Warbler	*Vermivora cyanoptera*	
Tennessee Warbler	*Vermivora peregrina*	
Nashville Warbler	*Vermivora ruficapilla*	
Yellow-throated Vireo	*Vireo flavifrons*	
White-eyed Vireo	*Vireo griseus*	
Red-eyed Vireo	*Vireo olivaceus*	
Blue-headed Vireo	*Vireo solitarius*	
Hooded Warbler	*Wilsonia citrina*	
Wilson's Warbler	*Wilsonia pusilla*	
Mourning Dove	*Zenaida macroura*	
White-throated Sparrow	*Zonotrichia albicollis*	

MAMMALS

Nine-banded armadillo*	*Dasypus novemcinctus*	
Virginia opossum	*Didelphis marsupialis*	
North Atlantic right whale	*Eubalaena glacialis*	offshore waters
Feral cat*	*Felis catus*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Bobcat	*Felis rufus*	
Southern flying squirrel	*Glaucomys volans*	
Northern yellow bat	*Lasiurus intermedius*	
River otter	*Lutra canadensis*	
Striped skunk	*Mephitis mephitis*	
Golden mouse	*Ochrotomys nuttalli*	
White-tailed deer	*Odocoileus virginianus*	
Cotton mouse	*Peromyscus gossypinus*	
Raccoon	*Procyon lotor*	
Eastern mole	*Scalopus aquaticus*	
Eastern gray squirrel	*Sciurus carolinensis*	
Hispid cotton rat	*Sigmodon hispidus*	
Eastern spotted skunk	*Spilogale putorius*	
Eastern cottontail	*Sylvilagus floridanus*	
Marsh rabbit	*Sylvilagus palustris*	
Florida Manatee	*Trichechus manatus*	nearshore waters
Gray fox	*Urocyon cinereoargenteus*	

FISH

Lined sole	*Achirus lineatus*	
Striped anchovy	*Anchoa hepsetus*	
Bay anchovy	*Anchoa mitchilli*	
Ocellated flounder	*Ancylopsetta quadrocellata*	
American eel	*Anguilla rostrata*	
Sheepshead	*Archosargus probatocephalus*	
Sea catfish	*Arius felis*	
Silver perch	*Bairdiella chrysoura*	
Frillfin goby	*Bathygobius soporator*	
Atlantic menhaden	*Brevoortia tyrannus*	
Crevalle jack	*Caranx hippos*	
Horse-eye jack	*Caranx latus*	
Bay whiff	*Citharichthys spilopterus*	
Atlantic bumper	*Cloroscombrus chrysurus*	
Spotted seatrout	*Cynoscion nebulosus*	
Sheepshead minnow	*Cyprinodon variegatus variegatus*	
Atlantic stingray	*Dasyatis sabina*	
Irish pompano	*Diapterus auratus*	
Dwarf sand perch	*Diplectrum bivittatum*	
Silver jenny	*Eucinostomus gula*	
Tidewater mojarra	*Eucinostomus harengulus*	
Mojarra	*Eucinostomus* spp.	
Gulf killifish	*Fundulus grandis*	
Mummichog	*Fundulus heteroclitus*	
Striped killifish	*Fundulus majalis*	
Longnose killifish	*Fundulus similis*	

Eastern mosquitofish	*Gambusia holbrooki*
Darter goby	*Gobionellus boleosoma*
Goby	*Gobionellus spp*
Naked goby	*Gobiosoma bosc*
Smooth butterfly ray	*Gymnura micrura*
Brook silverside	*Labidesthes sicculus*
Pinfish	*Lagodon rhomboides*
Spot	*Leiostomus xanthurus*
Bluegill	*Lepomis macrochirus*
Gray snapper	*Lutjanus griseus*
Atlantic silverside	*Menidia menidia*
Whiting, southern kingfish	*Menticirrhus americanus*
Gulf kingfish	*Menticirrhus littoralis*
Clown goby	*Microgobius gulosus*
Atlantic croaker	*Micropogonias undulatus*
Largemouth bass	*Micropterus salmoides*
Striped mullet	*Mugil cephalus*
White mullet	*Mugil curema*
Mullet	*Mugil* spp
Leatherjack	*Oligoplites saurus*
Atlantic thread herring	*Opisthonema oglinum*
Pigfish	*Orthopristis chrysoptera*
Gulf flounder	*Paralichthys albigutta*
Southern flounder	*Paralichthys lethostigma*
Sailfin molly	*Poecilia latipinna*
Black drum	*Pogonias cromis*
Bluefish	*Pomatomus saltatrix*
Leopard searobin	*Prionotus scitulus*
Bighead searobin	*Prionotus tribulus*
Red drum	*Sciaenops ocellatus*
Barbfish	*Scorpaena brasiliensis*
Southern puffer	*Sphoeroides nephelus*
Redfin needlefish	*Strongylura notata*
Needlefish	*Strongylura* spp
Blackcheek tonguefish	*Symphurus plagiusa*
Chain pipefish	*Syngnathus louisianae*
Gulf pipefish	*Syngnathus scovelli*
Inshore lizardfish	*Synodus foetens*
Permit	*Trachinotus falcatus*

INVERTEBRATES

Asian tiger mosquito	*Aedes albopictus*
Mosquito	*Aedes hendersoni*
Mosquito	*Aedes triseriatus*
Gulf fritillary	*Agraulis vanillae*
Great southern white	*Ascia monuste*
Hackberry butterfly	*Asterocampa celtis*

Pipevine swallowtail	*Battus philenor*
Polydamas swallowtail	*Battus polydamus*
Blue crab	*Callinectes sapidus*
Lesser blue crab	*Callinectes similis*
Eastern oyster	*Crassostrea virginica*
Queen	*Danaus gilippus*
Monarch	*Danaus plexippus*
Horace's duskywing	*Erynnis horatius*
Atala	*Eumaeus atala*
Zebra longwing	*Heliconius charitonius*
Common buckeye	*Junonia coenia*
Giant swallowtail	*Papilio cresphontes*
Eastern tiger swallowtail	*Papilio glaucus*
Palamedes swallowtail	*Papilio palamedes*
Eastern Black swallowtail	*Papilio polyxenes*
Spicebush swallowtail	*Papilio troilus*
Cloudless sulphur	*Phoebis sennae*
Cicada killer	*Sphecius speciosus*
Mosquito	*Toxorhynchites rutilus*
Long-tailed skipper	*Urbanus proteus*
Red admiral	*Vanessa atalanta*
Bromeliad mosquito	*Wyeomia mitchellii*

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

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 that are owned or controlled by the agency.

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

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

C. Statutory Authority

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

Chapter 253, F.S. – State Lands

Chapter 267, F.S. – Historical Resources

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

Other helpful citations and references:

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

Other helpful citations and references:

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

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

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

D. Management Implementation

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

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

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

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

E. Minimum Review Documentation Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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.