Lake June-in-Winter Scrub Preserve State Park

APPROVED
Unit Management Plan

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks
December 2016

Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

December 19, 2016

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

RE: Haw Creek Preserve State Park (Lease #2992)
Paynes Creek Historic State Park (Lease #2809)
Lake June-in-Winter Scrub Preserve State Park (Lease #4105)
Lake Griffin State Park (Lease #3631)
Deer Lake State Park (Lease #4123)

Dear Ms. Murray:

On **December 16, 2016**, the Acquisition and Restoration Council recommended approval of the above management plans. 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 above mentioned management plans. The next management plan update for these plans is due December 16, 2026.

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

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INTRODUCTION

Lake June-in-Winter Scrub Preserve State Park is located in Highlands County (see Vicinity Map). Access to the park is from Daffodil St., which is south of Lake June Rd. (County Road 621) and west of US 27 in Lake Placid (see Reference Map). The Vicinity Map also reflects significant land and water resources existing near the park.

Lake June-in-Winter Scrub Preserve State Park was initially acquired on November 15, 1995 with funds from the Conservation and Recreation Lands (CARL) and the Preservation 2000 programs. Currently, the park comprises 845.60 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to the park and on February 19, 1996, the Trustees leased (Lease Number 4105) the property to DRP under a 50-year lease. The current lease will expire on February 18, 2046.

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

Purpose and Significance of the Park

The purpose of Lake June-in-Winter Scrub Preserve State Park is to conserve an important component in central Florida's Lake Wales Ridge ecosystem, protecting the character, biodiversity, and biological function of the diverse ancient scrub community. The park is part of a system of managed areas that safeguards a representative sampling of these environmentally unique and irreplaceable lands, and it also provides outstanding outdoor recreation and wildlife observation opportunities for the enjoyment of Florida residents and visitors.

Park Significance

- The Florida Natural Areas Inventory considers the park an "exemplary site" for a scrub natural community, which contains 17 imperiled species of plants such as the wedge-leaf button snakeroot (*Eryngium cuneifolium*), cutthroat grass (*Panicum abscissum*), and highlands scrub hypericum (*Hypericum cumulicola*).
- The park provides habitat for imperiled wildlife species including the Florida scrub-jay (*Aphelocoma coerulescens*), sand skink (*Plestiodon reynoldsi*), blue-tailed mole skink (*Plestiodon egregius lividus*), Florida scrub lizard (*Sceloporus woodi*), and gopher tortoise (*Gopherus polyphemus*).
- The park protects some of the only natural shoreline on Lake June-in-Winter, Highland County's second largest lake.
- The park provides residents and visitors with high-quality hiking, picnicking, paddling, birding, and wildlife viewing opportunities in a unique, secluded setting.

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

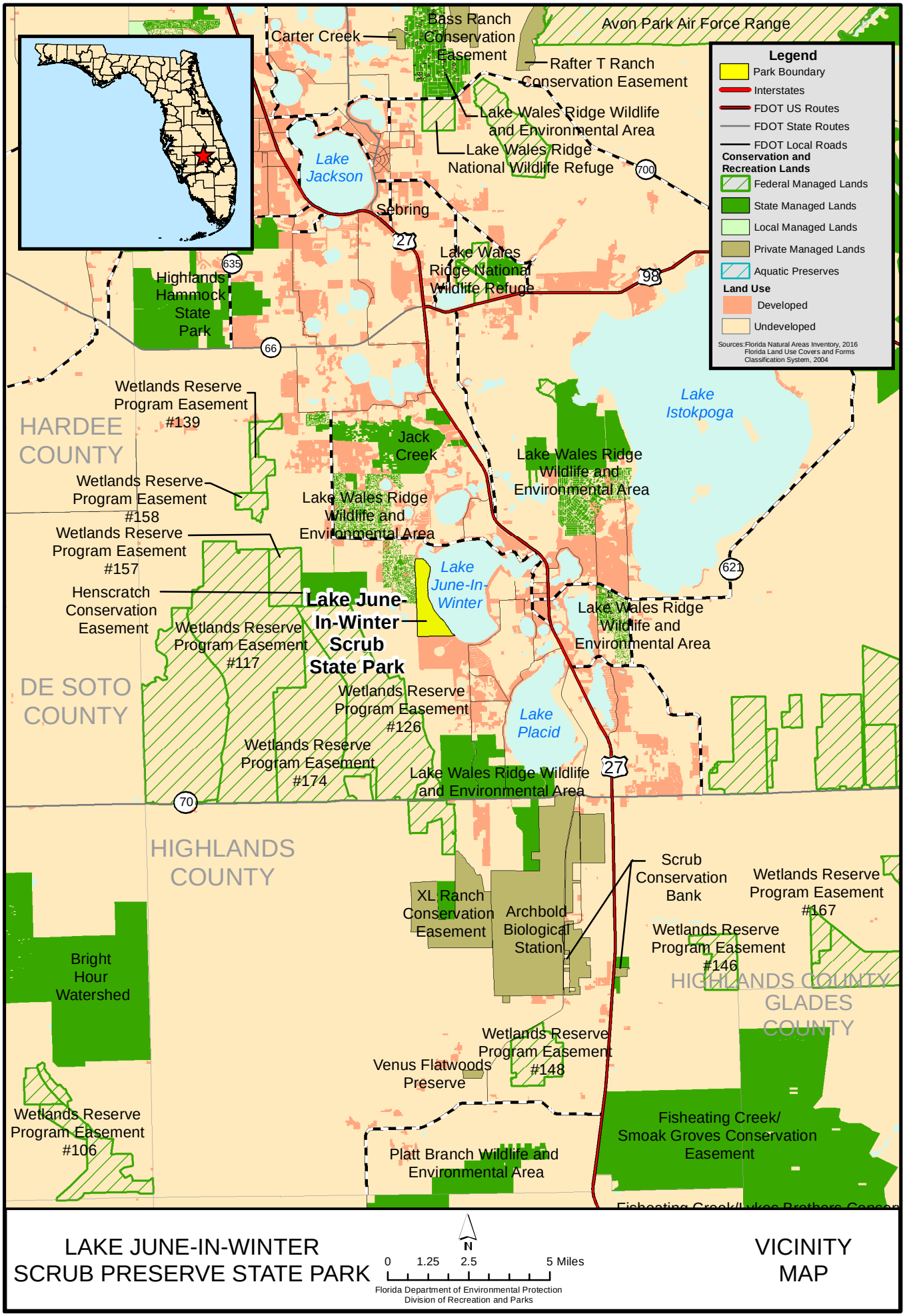
Purpose and Scope of the Plan

This plan serves as the basic statement of policy and direction for the management of Lake June-in-Winter Scrub Preserve State Park as a unit of Florida's state park system. It identifies the goals, objectives, actions, and criteria or standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives and provide balanced public utilization. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and is intended to be consistent with the State Lands Management Plan. With approval, this management plan will replace the 2004 approved plan.

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

The Land Use Component is the recreational resource allocation plan for the park. Based on considerations such as access, population, adjacent land uses, the natural and cultural resources of the park, current public uses, and existing development. Measurable objectives are set to achieve the desired allocation of the physical space of the park. These objectives 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)



LAKE JUNE-IN-WINTER SCRUB PRESERVE STATE PARK

VICINITY MAP

US 27

LAKE JUNE ROAD

LAKE JUNE-IN-WINTER

DAFFODIL STREET

Day Use Area

Entrance Area

CREWS LAKE

CATFISH CREEK ROAD

LAKE AUGUST

Image courtesy of USGS Earthstar Geographics SIO © 2013 Microsoft Corporation

Legend

- Managed Conservation Lands
- County Road
- Park Road Unstabilized
- Park Boundary

LAKE JUNE-IN-WINTER SCRUB PRESERVE STATE PARK

N

0 875 1,750 3,500 Feet

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

REFERENCE MAP

measures that will be used to evaluate the DRP's implementation progress, (2) time frames 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.
In the development of this plan, 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. Uses such as water resource development projects, water supply projects, stormwater management projects, linear facilities, and sustainable agriculture and forestry (other than those forest management activities specifically identified in this plan) are not consistent with this plan.

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

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.

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 June 28 and 29, 2016, respectively. Meeting notices were published in the Florida Administrative Register, June 20, 2016 [VOL 42/119], 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

Lake June-in-Winter Scrub Preserve State Park is not within an Area of Critical State Concern as defined in Section 380.05, Florida Statutes, and it is not presently under study for such designation. The park is a component of the Florida Greenways and Trails System, administered by the Department's Office of Greenways and Trails.

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

RESOURCE MANAGEMENT COMPONENT

Introduction

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

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

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

Because park units are often components of larger ecosystems, 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: Lake June-in-Winter Scrub Preserve State Park Management Zones			
Management Zone	**Acreage**	**Managed with Prescribed Fire**	**Contains Known Cultural Resources**
LJ-01	49.50	Yes	No
LJ-02	88.84	Yes	No
LJ-03	73.10	Yes	Yes
LJ-04	129.59	Yes	No
LJ-05	43.03	Yes	No
LJ-06	50.84	Yes	No
LJ-07	11.20	Yes	No
LJ-08	53.38	Yes	No
LJ-09	134.00	Yes	No
LJ-10	12.33	Yes	No
LJ-11	24.88	Yes	No
LJ-12	20.05	Yes	No
LJ-13	104.06	Yes	No
LJ-14	49.35	Yes	No

RESOURCE DESCRIPTION AND ASSESSMENT

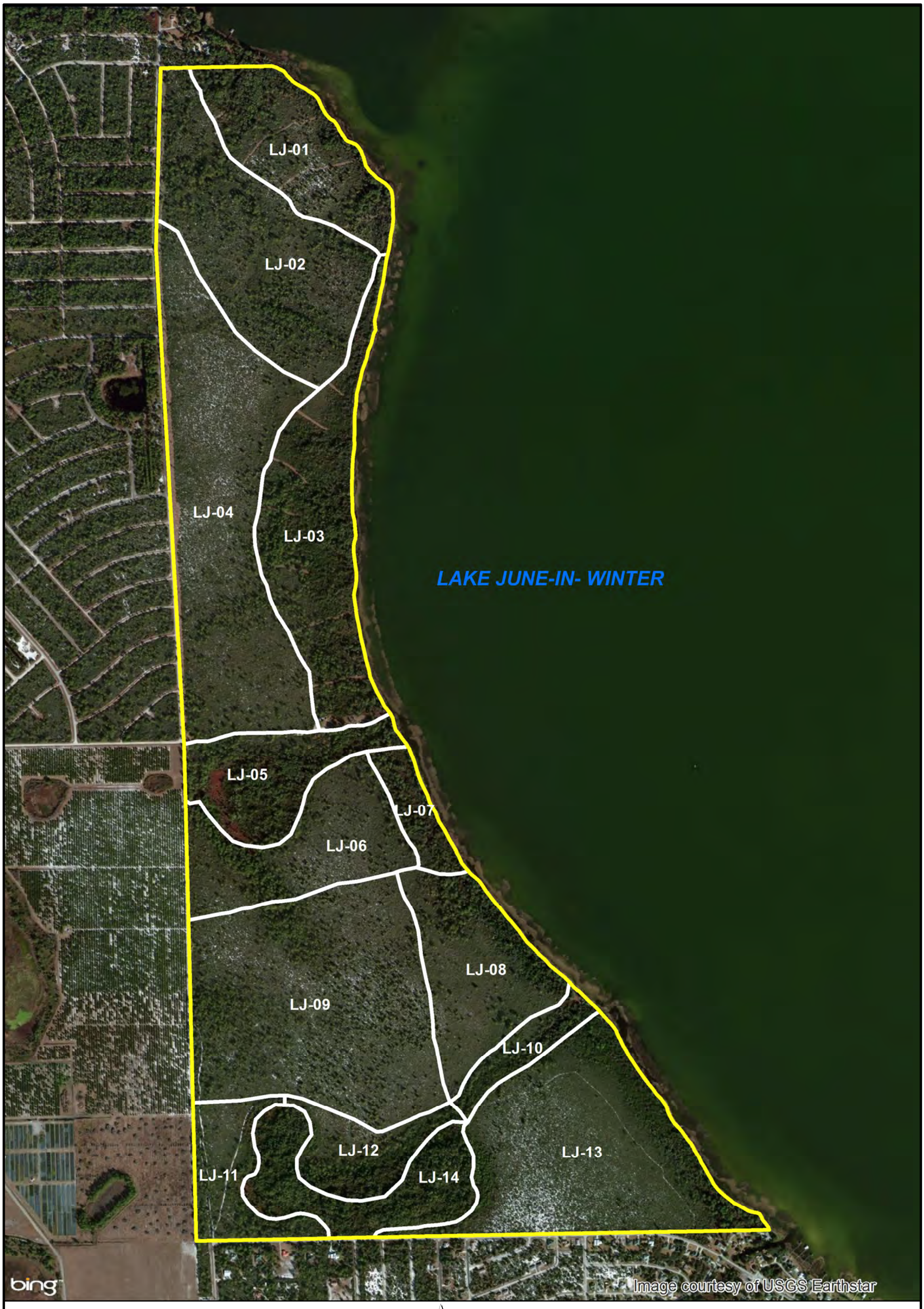
Natural Resources

Topography

The park lies on the southwestern portion of the Lake Wales Ridge (LWR) within the Atlantic Coastal Plain physiographic province. The ancient LWR is the most easterly of the great ridges (not including Bombing Range Ridge) of the Central Highlands and is the dominant physiographic feature of the interior peninsula of central Florida. The elevation within the park ranges from 75 to 120 feet above mean sea level (see Topographic Map).

Geology

The rocks exposed in Highlands County are of Miocene, Pleistocene, and Recent ages. The oldest outcropping formation is the Hawthorn, of early and middle Miocene age, which is exposed in clay pits on the Highlands Ridge. The Tamiami formation of late Miocene age spreads out against the eastern flank of the Highlands Ridge and is completely covered by Pleistocene deposits. The formations of Pleistocene age mantle the entire county and are overlain by recent deposits of dune sand and peat. The advances of the seas during late Miocene and Pleistocene times deposited near-shore material and modified the middle Miocene land surface. The withdrawal of the Pleistocene seas (ca. 12,000 Before Common Era [BCE]) ended large-scale deposition in the county.



LAKE JUNE-IN-WINTER SCRUB
PRESERVE STATE PARK

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

MANAGEMENT ZONES MAP

LAKE JUNE-IN-WINTER SCRUB
PRESERVE STATE PARK

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

TOPOGRAPHIC MAP

The park lies on the boundary between the western rim of the Lake Wales Ridge and the axial valley known as the Intra-ridge Valley that bisects the southern part of the Ridge. This valley is believed to be the result of a more complete reduction of a beach-ridge-controlled zone by dissolution of the underlying soluble limestone; i.e., karst. The primary lakes of the southern part of the Lake Wales Ridge (which include Lake June-in-Winter) are located within this valley. The geologic antiquity of the region, and the fact that this part of peninsular Florida was long isolated from mainland North America, explains why several species of plants and animals are endemic to this unique region.

Soils

The Natural Resources Conservation Service (NRCS) identifies 6 different soil types (see Soils Map) in the park (Carter et al. 1989). The soils reflect the topographic features, elevations, and native vegetation characteristics of the Lake Wales Ridge and Western Flatlands. The 3 soils associated with the ridge system are generally deep, well-drained sandy soils that are represented in the park by St. Lucie sand (0 to 8 percent slope), Satellite sand, and Archbold sand (0 to 8 percent slope), and have native vegetation coverage generally associated with the park's scrub and scrubby flatwoods natural communities. These are in contrast to the poorly-drained, higher water table, Myakka fine sand and Basinger fine sand soils associated with the park's mesic to wet flatwoods and baygall natural communities. The park also has very poorly-drained hydric Hontoon muck soils in the wettest areas of baygall. Addendum 3 contains detailed soil descriptions for this park.

In general, soil erosion is not a problem at the park with the exception of the park's gravel/shell entrance roadbed, which travels down slope from west to east towards the lake, and areas where soil has been disturbed by the destructive rooting of feral hogs (*Sus scrofa*). The park is working to reduce the hog population through a contract with a private hog trapper. In addition, because of imperiled species concerns, park staff work towards minimizing the amount of soil disturbance during fire line maintenance by mowing vegetation, and plowing or tilling less. Other management activities will follow best management guidelines to control soil erosion.

Minerals

The substrate is primarily siliceous sand. The Hawthorn formation of the region contains some sandy clay that has been used as a road-surfacing material in the past, but it is not presently mined since the land is more valuable for citrus culture. The 1956 report by the U.S. Geological Survey (*Geology and Ground-water Resources of Highlands County, Florida* by E. W. Bishop) states, "although a large part of Highlands County is underlain by deposits of pebble phosphorite in the Hawthorn formation, most of these deposits are probably too deep to be mined economically." No other mineral deposits are known.

Hydrology

Regional hydrology is influenced by, and ground water is obtained from 2 sources: (1) the Floridan aquifer that contains Eocene and younger formations underlying the confining clays of the Hawthorn formation, and (2) the aquifers in the upper part of the Hawthorn and in overlying formations. Unit hydrology water conservation issues will be addressed later in the section on management needs. The most apparent hydrological effect appears to be a function of the high, sandy ridge system running through the property. Surface hydrology displays rapid percolation of precipitation falling on the deep sands of the tract.

There are 3 or 4 (depending on the time of the year) seepage streams in the park which run generally west to east and empty into Lake June-in-Winter. Only the southernmost seepage stream significantly traverses the property; it has an extensive baygall community associated with it. The other 2 seepage streams are shorter and smaller; the northernmost one is dry, or nearly so, during the winter. Seepage from these streams emerges near the base of some of the lower topographic contours. Two streams have cutthroat grass (*Panicum abscissum*) seeps associated with them. Cutthroat grass is a rare Florida endemic, and cutthroat grass seeps are known mostly from Highlands and Polk counties.

Approximately 2.7 miles of shoreline border Lake June-in-Winter on the eastern side of the park. The hydrology of the lake is summarized in the Southwest Florida Water Management District's (SWFWMD) memo *"Proposed minimum and guidance levels for Lake June-in-Winter in Highlands County, Florida"* (Munson and Leeper 2003). Lake June has a drainage area of 44 square miles and, depending on lake levels, can range in acreage from around 3,700 acres to slightly more than 3,800 acres. There are no permitted surface water withdrawals, and the lake receives inflows from Lake Placid to the southeast through a canal (Catfish Creek), Lake Henry to the northeast through a canal, and a dredged basin to the southwest through a canal. There are also several natural seepage streams that flow east to the lake from wetlands in the park. Historically water flowed out of the north side of Lake June through Stearns Creek into Lake Francis, which then flowed out into Jack Creek. In the 1960s, a canal and water control structures were constructed to bypass Lake Francis and drain north to Jack Creek. Flow through the canal is controlled by a weir known as G-90 that is owned and operated by SWFWMD. The normal pool elevation for the lake was set using the elevations of live oaks (*Quercus virginiana*), pines (*Pinus* sp.), and saw palmettos (*Serenoa repens*) around the lake's perimeter, and was set at 75.5 feet above National Geodetic Vertical Datum (NGVD). The lake is considered structurally altered because the normal pool elevation is higher than the water control structures at the G-90 site, which is at 74 to 75 feet NGVD, therefore the lake's average level is lower because of the canal and water control structures than it was historically. The guidance and minimum levels adopted for lakes by SWFWMD (2012) under Rule 40D-8.624, Florida Administrative Code, for Lake June-in-Winter established above NGVD are: High Guidance Level, 74.7 ft., which is an advisory level used for construction; High Minimum Lake Level, 74.5 ft., lake should exceed this level 10 percent of the time; Minimum Lake Level, 74.0 ft., lake should exceed this level 50 percent of the time;

LAKE JUNE-IN-WINTER SCRUB
PRESERVE STATE PARK

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Department of Environmental Protection
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Date of aerial; 2011

SOILS MAP

and Low Guidance Level, 73.2 ft., lake should exceed this level 90 percent of the time.

Natural Communities

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

The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors such as climate, geology, soil, hydrology, and fire frequency generally determine the species composition of an area, and that areas that are similar with respect to those factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, however, despite similar physical conditions. In other instances, physical factors are substantially different, yet the species compositions are quite similar. For example, coastal strand and scrub - 2 communities with similar species compositions - generally have quite different climatic environments, and these necessitate different management programs. Some physical influences, such as fire frequency, may vary from FNAI's descriptions for certain natural communities in this plan.

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

The park contains 6 distinct natural communities, as well as developed areas (see Natural Communities Map). A list of known plants and animals occurring in the park is contained in Addendum 5.

The natural communities map for the park will be refined as prescribed fire is introduced into long unburned and overgrown areas. In many cases, natural community identification is easier to determine post-fire response in the vegetation.

Mesic Flatwoods

Desired Future Condition: The mesic flatwoods natural community is characterized by an open canopy of tall longleaf pine (*Pinus palustris*) and/or slash pine (*Pinus elliottii*), and a dense, low ground layer of low shrubs, grasses, and forbs. Saw

palmetto will generally be present but not overly dominant. Other shrub species may include gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), dwarf live oak (*Quercus minima*), shiny blueberry (*Vaccinium myrsinites*), and dwarf huckleberry (*Gaylussacia dumosa*). The herbaceous layer is primarily grasses, including wiregrass (*Aristida stricta var. beyrichiana*), dropseeds (*Sporobolus* spp.), panicgrasses (*Dicanthelium* spp.), and broomsedges (*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 (FRI) for this community is one to 4 years.

Description and Assessment: The 6 acres of mesic flatwoods identified at the park are distributed as 6 small pockets within the scrubby flatwoods and scrub communities. The largest of these pockets is slightly more than 3 acres and is located along the western side of the park south of the park drive. The mesic flatwoods are located as small pockets in a matrix of more xeric natural communities (scrub and scrubby flatwoods) that have a longer FRI. They would be considered in fair condition, because of the lack of frequent fire, allowing saw palmetto and shrubs to become dominant, resulting in shaded ground cover. The ground cover grass and herbaceous species are present and would benefit from mechanical treatment and fire. Invasive exotic plants have not been recorded in the mesic flatwoods, with the exception of weedy species commonly found in areas with soil disturbance such as rose natalgrass (*Melinis repens*), and balsampear (*Momordica charantia*). Feral hog damage in the mesic flatwoods is minor because of the overgrown nature of this community, but if ground cover improves through prescribed fire and/or mechanical treatment hogs could more easily disturb the ground cover.

General Management Measures: As discussed above, the mesic flatwoods would benefit from more frequent prescribed fire with FRI of 2 to 4 years, and a reduction of saw palmetto and shrub density through mechanical treatment by roller-chopping, mowing, and fire. The mesic flatwoods will be thoroughly surveyed a minimum of every other year for invasive exotic plants, with incidental observation and treatment between surveys. Feral hog trapping and removal will be intensified to reduce the damage done to natural communities throughout the park.

Scrub

Desired Future Condition: Within oak scrub habitats, the dominant plant species will include scrub oak (*Quercus inopina*), sand live oak (*Quercus geminata*), myrtle oak (*Quercus myrtifolia*), Chapman's oak (*Quercus chapmanii*), saw palmetto, scrub palmetto (*Sabal etonia*), and rusty staggerbush (*Lyonia ferruginea*). There will be a variety of oak age classes differing in height between different scrub patches. Scattered openings in the canopy will be evident, with bare patches of sand that support many imperiled and/or endemic plant species; these species will regularly flower and replenish their seed banks. Sand pine (*Pinus clausa*), where present, will usually not be dominant in abundance, percent cover, or height. Some areas of

LAKE JUNE-IN-WINTER SCRUB
PRESERVE STATE PARK

NATURAL COMMUNITIES MAP

mature sand pine may occur. The optimum FRI for this community will be typically 5-20 years when aiming to achieve a mosaic of burned and unburned areas in the oak dominated scrub. The "oak" scrub will generally be managed for the optimum Florida scrub-jay (*Aphelocoma coerulescens*) habitat conditions identified in the "*Scrub Management Guidelines for Peninsular Florida: Using the Scrub-Jay as an Umbrella Species*" (FWC 2010); however, these will be modified to include management measures for other scrub species that require different habitat conditions. Optimal conditions for scrub-jays at the 25-acre territory scale include: at least 10 percent of the oaks between 4 to 5.5 feet, no more than one acre taller than 5.5 feet, and the remainder either 4 to 5.5 feet or less than 4 feet tall; 10 to 50 percent bare sand open ground; less than one tree greater than 15 feet tall per acre (on average); and a buffer distance to forest edge, where trees have a density of greater than one per acre. Scrub-jays can tolerate up to 2 pine trees per acre, but less than one tree per acre is optimal. In the park, one to 2 mature pines or oaks greater than 15 feet are typically retained per acre, but this can vary over the landscape from a few clustered trees, to areas with none.

Rosemary scrub variant (rosemary bald) is dominated by Florida rosemary (*Ceratiola ericoides*), usually with large areas of bare sand. The FRI for rosemary scrub is 15 to 30 years, aiming for a patchy burn to provide refuges for older rosemary plants, based on recommendations from population viability models of rare endemic plants like the wedge-leaved button-snakeroot (*Eryngium cuneifolium*; Menges 2004).

Description and Assessment: In addition to the species listed above, the oak scrub has scattered scrub hickory (*Carya floridana*), silk bay (*Persea borbonia* var. *humilis*), scrub holly *(Ilex opaca* var. *arenicola*), tough bumelia (*Sideroxylon tenax*), prickly-pear cactus (*Opuntia humifusa*), and scrub palmetto in the understory. The silk bays at the park are showing signs of laurel wilt disease, a fatal disease of tree species in the laurel family caused by a fungus (*Raffaela lauricola*). The fungus is spread by the red bay ambrosia beetle (*Xyleborus glabratus*), a non-native species. The disease was detected in Highlands County in 2009, and by 2010, had killed swamp bays (*Persea palustris*) in the park along the lake shoreline. The following typical scrub lichens are abundant in areas that have not burned recently: Dixie reindeer lichen (*Cladina subtenuis*), deer moss (*Cladina evansii*), jester lichen (*Cladonia leporina*), and resurrection cladonia (*Cladonia prostrata*). Sand spike moss (*Selaginella arenicola)* is also common in patches of open white sand. Incidental observations suggest that Florida scrub lizards (*Sceloperus woodi*) are common at the park.

The scrub is home to numerous endemic and listed species and includes 14 listed plants, 4 listed reptiles, one listed bird, and one listed mammal. The plants include Curtiss' milkweed (*Asclepias curtissii*), Ashe's savory (*Calamintha ashei*), wedge-leaved button-snakeroot, Garberia (*Garberia heterophylla*), Highlands scrub hypericum (*Hypericum cumulicola*), nodding pinweed (*Lechea cernua*), Florida gay-feather (*Liatris ohlingerae*), Britton's bear-grass (*Nolina brittoniana*), paper-like nailwort (*Paronchia chartacea)*, hairy jointweed (*Polygonella basiramia*), Small's jointweed (*Polygonella myriophylla*), scrub plum (*Prunus geniculata*), scrub

bluestem (*Schizachyrium niveum*), and scrub stylisma (*Stylisma abdita*). The gopher tortoise (*Gopherus polyphemus*), 2 listed and rarely observed fossorial lizards (blue-tailed mole skink [*Plestiodon egregious lividus*] and the sand skink [*Plestiodon reynoldsi*]) and the eastern indigo snake (*Drymarchon couperi*) are found in the scrub. Florida scrub-jays occur at the park as well. Listed species will be discussed in detail in the Imperiled Species section of the plan.

There are approximately 522 acres of scrub within the park, which is the most abundant upland natural community. The scrub is in good to excellent condition. At the end of 2015, 77 percent of the scrub was within the recommended FRI. Most of the scrub-jay family groups are found in the scrub considered to be in excellent shape, as it has been burned since 1998. The remaining intentionally unburned scrub is considered in good condition, because it is outside the FRI and some is overgrown. Some scrub is being left unburned until recently-burned scrub matures enough to support scrub-jay territories. The unburned scrub is in good condition because it has the representative scrub species present, and invasive exotic plants are minimal, with most found along management zone perimeters and along boundary fences where there is mowing or ground disturbance (fire line maintenance). Invasive exotic plant species of concern are cogongrass (*Imperata cylindrica*) and rose natalgrass. In addition, on 340 acres, trees greater than 15 feet tall have been reduced to less than one tree per acre as per recommendations in the scrub management guidelines (FWC 2010). This was accomplished through a grant to hire chainsaw crews, and with help from park staff, volunteers, and a partnership with the Ridge Rangers.

A site-specific scrub/scrubby flatwoods habitat management plan will be developed for the park, to ensure that the life history needs of the numerous imperiled scrub species and Lake Wales Ridge endemics are being met, and to reduce the likelihood of their extirpation through resource management practices. The scrub/scrubby flatwoods plan will be described in more detail in the resource management section.

Within the scrub, there are small pockets of xeric hammock that have canopy-age sand live oak trees, little ground cover vegetation, and a few shrubs. The xeric hammock pockets are small and have not been mapped separately from the scrub.

Lake June-in-Winter is considered an exemplary site for scrub in the 2010 edition of FNAI's "*Guide to the Natural Communities of Florida*."

General Management Measures: The scrub requires prescribed fire within the optimal fire return interval to improve habitat for the listed species at the park, and the remainder needs to be maintained with fire. Managing scrub is complicated by the life histories of listed plants and animals, other scrub species, and the presence of bald eagle (*Haliaeetus leucocephalus*) nests. Active bald eagle nests are protected from disturbance during the nesting season from October 1 through May 15, and there are specific management guidelines in place and buffer zones for activities (including resource management) near nests. For example, following the Florida Fish and Wildlife Conservation Commission's (FWC) guidelines (2008a), prescribed fires should not be conducted within 330 feet of nests, and fire line

maintenance and construction should not be conducted within 660 feet of nests during nesting season. These restrictions limit the time of year and the number of opportunities for burning in certain areas of scrub. The life history needs of other listed species at the park may not be met by restricting prescribed fires near nests to periods outside of the nesting season. To balance these conflicting needs, a scrub habitat management plan will be developed for the park.

Invasive exotic plants will be treated and removed as they are found in the scrub. Herbicide treatment needs to be done carefully to prevent non-target damage to listed plants. In some cases, hand-pulling rose natalgrass would be required near populations of listed species to protect them from accidental exposure to herbicides. Removal of feral hogs will continue.

Mechanical treatment for fire preparation (mowing and disking), hardwood reduction (tree cutting), pine thinning, or reduction of saw palmetto (mowing) should be minimized to protect listed species populations. However, mechanical treatment may be necessary in some cases to restore and maintain habitat for listed species, but these activities should be implemented to reduce potential adverse impacts.

Scrubby Flatwoods

Desired Future Condition: The dominant canopy tree species within scrubby flatwoods will usually be longleaf pine and/or slash pine. There will be an open canopy of widely spaced pines, and mature sand pines typically will not be present. A diverse shrubby understory will be evident, often interspersed with patches of bare white sand. A scrub-type oak “canopy” will contain a variety of oak age classes and heights across the landscape. Dominant shrubs will include sand live oak, myrtle oak, Chapman’s oak, saw palmetto, scrub palmetto, rusty staggerbush, and tarflower. Cover by herbaceous species will often be low to moderately dense. The optimum FRI for this community will be regionally variable, typically 8 to 15 years when aiming to achieve a mosaic of burned and unburned areas.

Description and Assessment: At 141 acres, scrubby flatwoods is the second-most abundant upland natural community in the park. Slash pines are the dominant tree species in the scrubby flatwoods, but because of fire exclusion, the density of trees is higher than the optimum following scrub management guidelines (FWC 2010) in some areas, with several trees per acre versus one to 2 per acre that are considered suitable habitat for scrub-jays. This is especially true in the ecotones (transition zones) along the baygall. Aerial photography from 1944 shows greater open sand areas and far fewer pines, with a quarter or less of the present canopy cover. Compared to the ground cover in mesic flatwoods (discussed above), wiregrass is less frequent. Acid-loving heaths such as tarflower, fetterbush, dwarf huckleberry, Darrow's blueberry (*Vaccinium darrowii*), deerberry (*Vaccinium stamenium*), and shiny blueberry occur in less well-drained portions of the scrubby flatwoods. Big flower pawpaw (*Asimina obovata*) is also common. As noted above, specimens of sand pine are occasionally found among slash pines. According to Abrahamson *et al*. (1984), the soils of scrubby flatwoods communities have a water table closer to the surface than does sand pine scrub. There is also a greater

abundance of fine fuels on or near the ground, compared to scrub. Judging from the sugar sands and the ground cover of scrub lichens and other scrub elements, some of what presently is mapped as scrubby flatwoods may actually be scrub. Restoration burning, post-burn monitoring, and mapping should help refine the extent of the scrubby flatwoods community.

Many listed species within scrub can also be found in the scrubby flatwoods. At least 2 of the park's bald eagle nests in 2015 were located in scrubby flatwoods. The scrubby flatwoods would be considered in good to excellent condition because listed species are still present, invasive exotic plant species are not a problem, and the biological diversity is high. However, tree density and the overgrown shrub layer are not considered optimum habitat for scrub-jays in a few areas. In 2015, approximately 60 percent of the scrubby flatwoods was within the optimum FRI. The remaining unburned pockets are within a matrix of a larger scrub community intentionally not burned to allow recently burned (2012 to 2014) scrub and scrubby flatwoods time to recover to support scrub-jays. Resource management of scrubby flatwoods will be included in the scrub habitat management plan being developed for the park. Approximately 40 acres of scrubby flatwoods had tree densities reduced to one or 2 per acre as part of the aforementioned grant to improve scrub-jay habitat at the park.

Within the scrubby flatwoods there are small pockets of xeric to mesic hammock that have a canopy of sand live oak trees, little ground cover vegetation, and a few shrubs. The mesic hammock has a live oak canopy, with most found near the ecotone with baygall or along the lake. These hammock pockets are small and have not been mapped separately from the scrubby flatwoods.

General Management Measures: The scrubby flatwoods require prescribed fire within the optimum FRI to maintain habitat for the park's listed species and other fire-dependent species. Historically, fire in the scrubby flatwoods was more frequent than in scrub because of the greater density of vegetation conducive to frequent fires (e.g. saw palmetto and wiregrass). Managing the scrubby flatwoods is also complicated by the presence of nesting bald eagles and the resource management restrictions described previously and in the Imperiled Species section. Initially, overgrown scrubby flatwoods will require restoration prescribed burning to reduce fuel loading at a frequency of 4 to 8 years. After 2 or 3 restoration burn cycles, the scrubby flatwoods can be burned at a frequency more suitable for scrub-jays (8 to 15 years).

Invasive exotic plants will be treated and removed as they are found; care must be taken when using herbicides to protect listed plants. Similar to scrub, hand-pulling invasive exotic plants will be required near populations of listed species to protect them from accidental exposure to herbicides. Removal of feral hogs will continue.

As noted above for scrub, mechanical treatment may be necessary in some cases but should be minimized to protect listed species.

Baygall

Desired Future Condition: Baygall consists of a wet, densely forested, peat-filled depression typically near the base of a slope. Seepage from adjacent uplands will maintain saturated conditions. Medium to tall trees will mainly consist of sweetbay (*Magnolia virginiana*), loblolly bay (*Gordonia lasianthus*), and swamp bay. Occasionally, sparse slash pines may also exist. A thick understory consisting of gallberry, fetterbush, and dahoon holly (*Ilex cassine*) will be typical; climbing vines such as greenbriar (*Smilax* spp.), and muscadine grape (*Vitis rotundifolia)* will usually be abundant. The dominant baygall species are fire intolerant indicating an infrequent optimum fire return interval of 25 to 100 years. Frequent fires from adjacent communities should be allowed to enter baygall ecotones; however, awareness of the problems associated with peat fires is important.

Description and Assessment: The baygall community as currently mapped in the park is much more extensive in size when compared to the isolated wetlands showing dense tree canopy in the 1944 aerials. Fire exclusion has also allowed baygall tree species to become established in a wide band along the lake shoreline. From aerial interpretation, the baygall community has expanded from approximately 100 acres in 1944 to 120 acres in the 1970s to the current 170 acres. This expansion has been detrimental to wet flatwoods (both shrubby and cutthroat grass flatwoods) and wet prairie (also known as cutthroat seeps). The 2 larger, more isolated areas of baygall form the headwaters to intermittent streams that flow east down to the lake. Seepage from the adjacent uplands keeps the baygall saturated and is the source of the streams' water. Laurel wilt disease has killed most of the mature swamp bay trees in the baygall. Feral hog damage caused by rooting is a problem in the baygall, allowing invasive exotic plants and weedy species to become established. The park's baygall community is susceptible to invasive exotic plants including climbing fern (*Lygodium microphyllum*), Brazilian pepper (*Schinus terebinthifolius*), Caesar's weed (*Urena lobata*), and carrotwood (*Cupaniopsis anacardioides*). Baygall is important habitat for the Florida black bear (*Ursus americanus floridanus*), signs of which are observed with some frequency at the park.

The active prescribed fire program has reversed the trend of expanding baygall, with the goal of returning coverage to the pre-1944 extent, while expanding the fire-dependent wet flatwoods and wet prairie communities to their former coverage.

In the past, the critically imperiled short-tailed hawk (*Buteo brachyurus*) has attempted to nest in the park's baygall. If nesting is observed, care should be taken to prevent prescribed fires from entering the baygall around the nest tree. Additional vegetation clearing might be required to protect the nest tree.

The baygall is in good condition and would be considered excellent with the removal of feral hogs and invasive exotic plants and more frequent fire around the perimeter and ecotone.

General Management Measures: Monitor and remove invasive exotic plants before they become widely established. Allow prescribed fires from adjacent fire type communities to burn into the baygall ecotone.

Wet Flatwoods (Cutthroat Grass Flatwoods Variant)
Desired Future Condition: Trees will be few or absent. Ground cover will be dense and exceptionally species-rich. Dominant species will be cutthroat grass (*Panicum absissum*), wiregrass, and sedges (*Carex* spp.). The optimum FRI for this community is one to 3 years.

Description and Assessment: Less than 2 acres of cutthroat natural communities remain as small remnants of what had been a larger herbaceous wetlands system of cutthroat seeps (wet prairie) and cutthroat grass flatwoods (wet flatwoods) that over time have been invaded by pines, shrubs, and bays because of a lack of frequent fire. The small acreage and the overgrown condition of the remnant cutthroat grass areas make it difficult to distinguish if they should be considered the "prairie" or "wet flatwoods" variant, so they are being described together, and are mapped as wet flatwoods on the natural community map. In addition to the interpretation of historical aerials (discussed in the baygall section), the large area mapped as Basinger fine sand would support the idea of cutthroat seeps and cutthroat grass flatwoods as more extensive communities than what exists today. In general, the areas of Basinger fine sand have been invaded by shrubs and bays and are currently mapped as baygall. Most of the cutthroat grass is located in 2 areas. Around one-half acre is associated with the seepage stream flowing from the southernmost baygall depression in LJ-12; another acre exists in the northeast section near the lake in management zone LJ-01, which has more pine canopy. Wax myrtle, slash pine, saw palmetto, and other shrubs and hardwoods had become established in the cutthroat seeps that remain as a result of infrequent fires, thus shading out sun-loving herbaceous ground cover. In 2012, the wet flatwoods in LJ-1 burned in conjunction with the adjacent scrub and scrubby flatwoods during the first prescribed fire since the park was acquired. The fire in the wet flatwoods was intense because of heavy fuel loading, a thick shrub layer, and a deep layer of pine duff. Several inches of organic soil (pine duff) were consumed, and in combination with the fire intensity, a post-burn beetle infestation has resulted in the loss of the slash pine canopy. Few individual cutthroat grasses were observed post-burn. The cutthroat community in LJ-12 was mowed with a tree cutter and then burned in 2014. This area has a dense ground cover of cutthroat grass mixed with showy wetland flowers including the yellow milkwort (*Polygala rugelii*) and pale meadowbeauty (*Rhexia mariana*).

Disturbance and damage by feral hogs is occasionally observed in the cutthroat areas, where it can be very problematic - changing the hydrology and species composition as hogs feed on tubers and bulbs. In spite of the small size of this natural community and invasion by shrubs and hardwoods, the cutthroat seep in LJ-12 would be considered in good condition.

General Management Measures: Frequent one- to 3-year FRI prescribed fire will be required to maintain or increase the cutthroat community. As with all the other

natural communities in the park, an aggressive feral hog removal program will continue to benefit the cutthroat seep community. If fire alone does not reduce the shrubs, hardwoods, and slash pines, then mechanical treatment, hand clearing, or girdling and herbicide treatment might be required to reduce shading of the ground cover vegetation. Burning adjacent natural communities, particularly the young, successional baygall, could help to increase the extent of the cutthroat areas and allow them to expand by re-colonizing areas that have been shaded out by bay trees and shrubs. The prescribed fire program will bring the natural communities closer to maintenance conditions.

Sandhill Upland Lake

Desired Future Condition: A sandhill upland lake can be described as a shallow sandy-bottomed lake formed in shallow depressions within sandhill upland communities. Water levels may fluctuate dramatically, including completely drying up only during extreme droughts. Typical vegetation will include emergent, submerged aquatic plants and transitional species along the shoreline. Species include American white water lily (*Nymphaea odorata*), spatterdock (*Nuphar advena*), pickerelweed (*Pontederia cordata*), meadow beauty (*Rhexia* spp.), St. John's wort (*Hypericum spp.*), yellowed-eyed grass (*Xyris* spp.), and bull-tongue arrowhead (*Sagittaria lancifolia*).

Description and Assessment: Lake June-in-Winter is considered a sandhill upland lake; however, water levels in the lake are manipulated through canals and weirs (discussed earlier in the hydrology section). Depending on water levels, the lake's shoreline and areas of emergent vegetation can be exposed. The water quality in the lake meets the Class III surface water quality standard for recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife. The only water quality parameter that was verified as exceeding the U.S. Environmental Protection Agency's acceptable Total Maximum Daily Load (as determined by the state) was mercury in fish (largemouth bass [*Micropterus salmoides*] were sampled [DEP 2012]). In general, fish sampled in Florida waterways tend to have high mercury levels because of airborne pollution, with most originating from outside of the state. When the lake levels are down and more shoreline is exposed, feral hog damage can be extensive along the lake shore. The exotic Cuban bulrush (*Oxycaryum cubense*) forms organic floating rafts along the shoreline and has been treated with herbicides in the past. Elsewhere this species has caused problems in other natural areas. There is a diverse assemblage of emergent vegetation along the shoreline. After a successful hydrilla (*Hydrilla verticillata*) herbicide treatment program in the 1990s, native aquatic vegetation was planted by the Florida Fish and Wildlife Conservation Commission in the lake as cover for juvenile fish. Tapegrass (also known as American eelgrass, *Vallisneria americana*) and Illinois pondweed (*Potamogeton illinoensis*) were planted in enclosures in the lake along the park's shoreline. The enclosures were meant to allow the plantings to become established, and to protect against herbivorous turtles. After several years the enclosures were removed. The plantings were considered a failure by FWC's Aquatic Habitat Restoration and Enhancement Sub-Section, since few plants survived longer than 6 months and the only evidence of any remaining were a few bare stems. Algae, snails, and other herbivorous animals

were thought to have caused the failure. Since the 1999 plantings, Illinois pondweed became established naturally in the lake (Kelle Sullivan pers. comm. 2013).

In 2013, private property owners and boaters on the lake asked the FWC's Invasive Plant Management Section to treat some areas of Illinois pondweed with herbicide to improve recreation. After stakeholder meetings, herbicide treatment of Illinois pondweed in selected areas began in September 2013. The park's lakeshore is not being treated because of its importance to fish, wildlife, and water quality (Sullivan pers. comm. 2013). Also at the request of stakeholders, Asian grass carp were stocked in 2013 and 2014 for aquatic plant management.

Along the park's shoreline, numerous unauthorized wood duck nesting boxes have been erected on steel poles, most within 20 feet of the shore. It is unknown who installed them, but they interrupt the view of a natural shoreline. There are sufficient natural cavities in the park for wood ducks, so removing the nest boxes should be explored.

During periods of lower water levels, there is evidence of off-road vehicle use along the park's shoreline that leaves ruts, uproots emergent vegetation, and allows the unauthorized entrance and use of these vehicles in the park.

There is a cultural site that is recorded in the lake along the park's boundary that will be discussed in more detail in the cultural resource section later in the plan.

The lake along the park's shoreline is considered to be in good to excellent condition depending on the extent of feral hog damage and invasive exotic plants.

General Management Measures: Continue management control of invasive exotic plant species. Continue and increase the removal of feral hogs from the park. Protect the submerged cultural resource site along the park shoreline. Remove wood duck nest boxes if deemed appropriate. Explore the addition of a submerged lands lease to allow for better management and protection of the known archaeological site, emergent vegetation, and important wildlife habitat, to improve the enforcement effort against illegal off-road vehicle access, and to normalize the park boundary, allowing for erosion and accretion of the lake shoreline.

<u>Seepage Stream</u>
Desired Future Condition: A seepage stream can be characterized as a narrow, relatively short perennial or intermittent stream formed by percolating water from adjacent uplands. Water color will be clear to slightly tinted, with a fairly slow flow rate and fairly constant temperature. The bottom substrate is typically sandy, but may include gravel or limestone.

Description and Assessment: There are 2 seepage streams with well-formed channels in the park. Each of these streams has a large baygall wetland (LJ-5B & LJ-6) as its headwater. Flow in these streams is typically perennial, but during drought conditions they can be intermittent. For most of their length, these streams

are heavily shaded by trees and shrubs along their banks. Most of the tree and shrub species listed in the baygall description are along the streams. The water is clear to tannic, the stream bottom is sand with woody debris (submerged logs and tree roots), and there is little to no submerged aquatic vegetation. Because baygall forms the headwaters of these streams, some would classify them as blackwater streams; however, since they are short, narrow, and have scrub running parallel to them along their length, it is presumed that lateral seepage from the adjacent uplands contribute to their flow. The banks and overhanging vegetation along the seepage streams are subject to invasive exotic plant species that tolerate or prefer wet conditions. Brazilian pepper, carrotwood, and Old World climbing fern have been observed and treated along these streams. Areas near these streams that are disturbed by feral hogs and areas where hogs cross creeks are subject to erosion, but overall the streams are in excellent condition.

General Management Measures: Allow prescribed fires to burn to the stream where fire-type vegetative fuels have accumulated that will carry fire. Continue the removal of feral hogs to prevent vegetation damage and erosion. Survey and treat invasive exotic plants to keep them at maintenance levels.

Developed

Desired Future Condition: The developed areas within the park will be managed to minimize their effects on adjacent natural areas. Priority invasive plant species (Florida Exotic Pest Plant Council [FLEPPC] Category I and II species) will be removed from all developed areas. Other management measures include proper stormwater management and development guidelines that are compatible with prescribed fire management in adjacent natural areas. Adequate buffers along the seepage streams to protect water quality and bald eagle nests will also be adopted.

Description and Assessment: Development in the park is currently restricted to 2 areas: the main park entrance, parking, and picnic area that runs from west to east from the southern terminus of Daffodil Street to the lake; and a mowed campfire circle area along the lake in LJ-10A. The picnic area has a gravel parking lot, picnic tables, covered shelter, and a composting toilet. The campfire circle is mowed, but the other improvements, such as the projection screen for interpretive programs, have fallen into disrepair. Year-round access to the campfire circle is not available because of an active bald eagle nest that was first observed in 2012. The nest is within 160 feet of the service road used to access that area, which falls within the FWC eagle nest protection buffer (described in more detail in the Imperiled Species section), resulting in the closure of the campground circle from October 1 to May 15. Feral hog damage occurs at both locations where the grass is mowed. Erosion from the shell (gravel) park drive and parking area towards the lake is also a problem.

General Management Measures: Management concerns for developed areas will be to restrict introduction of plant species not found in the park, to maintain facility appearance and to protect them from fire. During bald eagle nesting season, access to the campfire circle is not available; therefore, the service road needs to be posted and closed from October 1 to May 15. Removal of feral hogs will be

continued. Solutions to the erosion problem in the main use area, parking lot and park drive will be sought and implemented.

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

This park is noteworthy for the large number of designated species on such a small site. Being on the Lake Wales Ridge, some of the rarest of Florida's endemic plants grow here. Most are scrub species that evolved when this region was isolated as an island offshore from the North American continent, during periods when ocean levels were much higher than at present. Seventeen listed plant species have been identified, and others may appear following the additional application of prescribed fire. Plant and animal inventories, monitoring, and surveys at different times of the year will be continued. The federally-protected species are described in detail (biology, life history, population biology, and other species-specific information) in the South Florida Multi-species Recovery Plan (USFWS 1999) and in the Five-year Status Reviews prepared for each species.

Surveys for imperiled scrub plants are conducted in the spring and fall during peak flowering seasons for many species. The rosemary scrub in LJ-13 is frequently monitored because of the numerous imperiled species that occur there. In October 2012, a monitoring survey of known coordinates was conducted for a subset of the listed plants selected by FNAI. These included wedge-leaved button-snakeroot, scrub hypericum, nodding pinweed, Florida gay-feather, paper-like nailwort, Florida jointweed, Small's jointweed, scrub plum, and scrub bluestem. Monitoring is expected to continue and to include all listed species discussed below.

The following listed species have been documented in the park:

Curtiss' milkweed (*Asclepias curtissii*) is endemic to Florida and listed as endangered by the state. This perennial species is occasionally observed in the scrub and scrubby flatwoods at the park. It emerges in early spring, flowers late spring and summer, and then dies back to the rootstock by late fall. It can be easily overlooked when not in flower. While Curtiss' milkweed benefits from small pockets of disturbance, such as from gopher tortoise burrows or even occasional low-impact fireline maintenance (Putz and Minno 1995), seed germination and seedling survival is significantly enhanced by shade from neighboring shrubs (Mondo et al. 2010).

Ashe's savory (*Calamintha ashei*) is listed as threatened in the state. This species occurs in scrub and scrubby flatwoods in distinct clusters with several individuals grouped together. The "*State of the Scrub*" *Report* (Turner et al. 2006) recognizes the state park as one of the 5 most important areas for the conservation of this species.

Wedge-leaved button-snakeroot (*Eryngium cuneifolium*) is listed as federally- and state-endangered and is associated with barren areas (open sand) in rosemary scrub. This species is only known from the southernmost quarter of the Lake Wales Ridge, making it one of the rarest endemic species because of its small area of distribution. The most recent observations (2012) of this species at the park noted a population of 45-50 individuals along 100 feet of the west boundary fence. There were 15-20 individuals just outside of the park on private lands. The location of this population (within 10 feet of the fence) is vulnerable to any herbicide use on the adjacent agricultural lands. Exotic rose natalgrass is also invading and covering the area of the snakeroot population; the rose natalgrass will be carefully hand-pulled, as use of herbicide could accidentally kill the snakeroot. Care will also be taken to protect these plants during mechanical vegetation treatment and fire line maintenance. Burning rosemary scrub at the correct frequency (15 to 30 years) is important for this species. The population of this species at the park was notably absent from the "*State of the Scrub*" report (Turner et al. 2006). However, this species has been documented at the park with an herbarium voucher specimen collected in 2002. The most recent Five-Year Review for this species, conducted in 2010 (USFWS 2010a), includes summaries of the most recent research for the species.

Garberia (*Garberia heterophylla*) is a state-listed and endemic woody shrub that is found scattered in the scrub, scrubby flatwoods, and areas of overgrown scrub (xeric hammock) at the park. Managing xeric communities with fire benefits this species.

Highlands scrub hypericum (*Hypericum cumulicola*) is an endemic perennial herb that is listed as federally- and state-endangered. Most populations are associated with the Lake Wales Ridge, and it is closely associated with barren areas in rosemary scrub. In 2012, it was observed in 3 separate rosemary scrub areas within the park. Burning the rosemary scrub at a 15- to 30-year interval will benefit this species by keeping bare sandy gaps open and allowing for the rosemary to regenerate. The most recent Five-Year Review for this species was conducted in 2008 (USFWS 2008a) and included summaries of the research and life history for the species.

Nodding pinweed (*Lechea cernua*) is a state-listed threatened and endemic perennial herb of the scrub. It is common in the scrub, scrubby flatwoods, and interior service roads (which serve as trails and fire breaks) throughout the park. Prescribed burning of the scrub and scrubby flatwoods will benefit this species by keeping sandy gaps open and preventing it from being shaded out.

Florida gay-feather (scrub blazingstar; *Liatris ohlingerae*) is a long-lived (greater than 9 years) endemic perennial herb with most populations associated with the Lake Wales Ridge. It is federally- and state-listed as endangered. It can be found in several areas of scrub and scrubby flatwoods and along interior service roads at the park. It resprouts after fire, tolerates partial shade and is not closely tied to the barren sand gaps required by many of the Lake Wales Ridge endemic plants. Prescribed burning of scrub and scrubby flatwoods is beneficial to this species.

Plants with buds, flowers, and seeds were observed in the fall of 2012. The 2010 Five-year Review is a good source of information on the species (USFWS 2010b).

Britton's bear-grass (*Nolina brittoniana*) is another long-lived perennial herb that is found in the scrub and scrubby flatwoods in the park. It is federally- and state-listed as endangered. Populations occur in the north end of the park, along the west park boundary, and in the southeastern part of the park. Most are in scrubby flatwoods and oak scrub, including areas where it persists in the shade after the absence of fire. Along the northwest park boundary in 2012, at least 40 percent of new flower stalks showed signs of damage by herbivores, most likely by white-tailed deer, but a few did flower. In addition to herbivory, bear-grass near the west park boundary is threatened by invasive exotic and turf grasses that are spreading into the park from the adjacent roadside. Bahiagrass (*Paspalum notatum*), rose natalgrass, and tanglehead (*Heteropogon contortus*) are forming monocultures in the scrub and scrubby flatwoods. The 2010 Five-year Review is a good source of information on the species (USFWS 2010c).

Cutthroat grass (*Panicum abscissum*) is a clump-forming grass that is state-listed as endangered. Where cutthroat is the dominant ground cover, it forms distinct natural communities that are usually tied to groundwater seepage. It is a wetland species that carries fire and requires frequent fires to persist. Fire exclusion over decades has allowed succession of the park's cutthroat communities to become shrub- and tree-dominated, which has led to a steep decline in cutthroat populations. Currently, 2 areas of cutthroat grass are known at the park, and together they cover less than 2 acres. Frequent (2- to 3-year FRI), early growing season fires result in the best shrub and hardwood tree kill and increased flowering of cutthroat grass. Feral hogs are a threat to cutthroat communities -- their rooting can change hydrology, introduce weeds (Caesar's weed, for example), and uproot clumps of cutthroat vegetation. There is a section in the 1999 USFWS "*South Florida Multi-species Recovery Plan*" on cutthroat grass communities, which includes additional information on this species and the unique natural communities formed where it is the dominant ground cover.

Paper-like nailwort (*Paronychia chartacea*) is a short-lived perennial that is associated with barren sand areas. It is state-listed as threatened, and federally-listed as endangered. It is found at the park in rosemary scrub, oak scrub, and scrubby flatwoods, and is common along interior service roads and fence lines. It benefits from prescribed fires that open up bare sand areas. The 2008 Five-year Review is a good source of information on the species (USFWS 2008b).

Florida jointweed (tufted wireweed; *Polygonella basiramia*) is an endemic, short-lived perennial, barren sand specialist that is listed state and federally as endangered. To thrive, it requires infrequent fires and large open gaps of rosemary scrub. Mosaic burns in the rosemary scrub are preferred, since this species does not resprout after fire, to allow survivors to recolonize through seed dispersal. Park populations can be abundant where there are patches of bare sand in the scrub and along interior sand roads. Invasive exotics and accidental spraying with herbicides

are concerns. The 2010 Five-year Review is a good source of information on the species (USFWS 2010d).

Small's jointweed (sandlace; *Polygonella myriophylla*) is a central ridge endemic, low- and slow-growing, long-lived, woody sub-shrub of barren sand areas. It is state- and federally-listed as endangered. Sandlace is scattered throughout the park in scrub and scrubby flatwoods natural communities. Fire causes mortality, and post-burn recovery from seedlings or clonally from unburned plants is slow. The optimum FRI is unknown for this species, so the FRIs recommended for rosemary scrub, oak scrub, and scrubby flatwoods are suggested, allowing for mosaic burns. Invasive exotic grasses, shading by shrubs and trees, mechanical treatment, too-frequent fire and impacts of vehicles and equipment are concerns. The 2010 Five-year Review is a good source of information on this species (USFWS 2010e).

Scrub plum (*Prunus geniculata*) is an endemic, long-lived shrub of the central ridge that is state- and federally-listed as endangered. To date, only one population has been found in and around the rosemary scrub at the south end of the park. In 2010, a DRP survey of that area found 13 plants. Additional surveys are proposed for the rosemary and oak scrub at the north end of the park burned in November 2012 to determine if additional plants can be found. Scrub plum survives fire and resprouts vigorously after fire but is reported to decline in number of stems, individuals, and in vigor with time since fire. Burning the park's natural communities within the recommended FRI for rosemary and oak scrub and scrubby flatwoods should benefit the species. The invasion of cogongrass into the rosemary scrub near the known population of scrub plum is of great concern. The 2009 Five-year Review is a good source of information on the species (USFWS 2009).

Scrub bluestem (*Schizachyrium niveum*) is an endemic, state-endangered grass of rosemary and oak scrub, where it can be found in barren sand areas. Its presence at the park was confirmed in 2012. Since 2012, several populations have been found at the park with a partial specimen collected from a large but solitary clump.

Showy dawnflower (*Stylisma abdita*) is a small, endemic, morning glory that is state-listed as endangered. This species is easily overlooked when not in flower, but is occasionally observed in areas of barren sand within scrub communities and in and along sand roads. Prescribed fire that keeps open sandy areas, and removal of invasive exotic grasses should benefit this species.

Giant airplant (*Tillandsia utricularia*) and cardinal airplant (*Tillandsia fasciculata var. densispica*) are now considered state-endangered epiphytes due to the exotic Mexican bromeliad weevil (*Metamazius callizona*), whose larvae feed on and kill large airplant species. Biological controls are being researched to manage the exotic weevil. Both airplant species are infrequently observed in trees along the lake, baygall communities, and in isolated hammocks of larger oaks. The scarcity of these species at the park could be due to the weevil.

American alligator (*Alligator mississippiensis*) is listed because of its similarity in appearance to the American crocodile (*Crocodylus acutus*). Alligators are frequently observed in the emergent vegetation in the lake. No special management measures or monitoring are being done for alligators at the park.

Eastern indigo snake (*Drymarchon couperi*) is federally-listed as threatened. Indigo snakes are infrequently observed in the park. They are habitat generalists, and all natural community types are used by these snakes, with individuals observed in the scrub and also along the lake shoreline. Protection of gopher tortoises and their burrows is important for indigo snakes. The biggest threat to this wide-ranging species is roadways in and around the park, since road mortality is a leading cause of this species' decline. Park visitors should also be educated, so they do not deliberately kill indigo and other snakes species protected at the park. Alone, the park is too small in size to sustain a viable long-term population of indigo snakes (min. of 2,500 acres, suggested), so connectivity to natural habitats and other protected conservation lands is important for the species to persist at the park. The 2008 Five-year Review is a good source of information on the species (USFWS 2008c).

Gopher tortoise (*Gopherus polyphemus*) is state-listed as threatened and is a candidate for listing by the USFWS. In 1998 after prescription burns were conducted, 355 gopher tortoise burrows were surveyed in management zones LJ-13, LJ-10B, LJ-14B and LJ-16 in the southernmost part of the park and management zones LJ-3 and LJ-4 in the north-central portion of the park. The density of the burrows was determined to be 1.55 tortoises/hectare (0.53 tortoises/acre) using a conversion factor of 0.614 = Cox Method = of active and inactive burrows (Cox et al. 1987). The methodology currently in use by FWC (FWC 2012), which uses the total of all burrows (including abandoned) and multiplies it by 0.5, would result in 1.5 tortoises/ha (0.61 tortoises/acre). Additional post-burn burrow surveys are to be continued on selected reference zones to monitor gopher tortoise populations in the park. Habitat management with prescribed fire as described in the section on scrub-jays should optimize the carrying capacity of the park's gopher tortoises.

New development at the park will need to follow the FWC permitting guidelines (FWC 2008b), which includes a 25-foot protective buffer around gopher tortoise burrows. Development activities within the 25-foot buffer require a permit from FWC.

Blue-tailed mole skink (*Plestiodon egregious lividus*) and the sand skink (*Plestiodon reynoldsi*) are 2 small fossorial lizards that are federally-listed as threatened (USFWS 2007b). Both have been documented at the park, through research using pitfall traps done by Kyle Ashton, Archbold Biological Station, in 2002 (Ashton 2003). Sand skinks and blue-tailed mole skinks are found in scrub, scrubby flatwoods, and xeric hammock communities. The distinctive trails of burrowing sand skinks are evident on interior sand roads/fire breaks and in barren sand areas in xeric communities at the park. Prescribed fire is the management tool to maintain the xeric habitats these species occupy. To protect the populations of both species

of skinks at the park, heavy equipment use, mechanical treatment, and fire line preparation should be minimized to avoid soil compression and mortality. When conducting prescribed fires, unburned areas can be left as a mosaic of refuges for skinks and other species.

Florida scrub-jay (*Aphelocoma coerulescens*) is a federally threatened species and is the only bird species endemic to the state of Florida (USFWS 2007c). Scrub-jays are habitat specialists that reside in the park's scrub and scrubby flatwoods. Optimal scrub-jay habitat will have a low, open structure with a mosaic of low vegetation, 10 to 50 percent bare sand, and few trees. Managing the oak scrub using optimum habitat measures for scrub-jays is recommended to protect a diversity of other scrub species. These habitat measures are identified in the "*Scrub Management Guidelines for Peninsular Florida: Using the Scrub-Jay as an Umbrella Species*" (FWC 2010). Scrub-jays occupy year-round territories averaging 25 acres, and management of potential scrub-jay habitat can be evaluated at the territory scale. Recommendations include having 70 percent of potential scrub-jay territories in optimal condition and the rest of the potential territories either too short due to recent management or slightly too tall (e.g., 5.5 to 10 feet). Optimal conditions for scrub-jays at the territory scale include: at least 10 percent of the oaks between 4 to 5.5 feet, no more than one acre taller than 5.5 feet, and the remainder either 4 to 5.5 feet or less than 4 feet tall; 10 to 50 percent bare sand open ground; less than one tree greater than 15 feet tall per acre; and a buffer distance to the forest edge, where trees have a density of greater than one per acre. Scrub-jays can tolerate one to 2 pine trees per acre, but less than one tree per acre is optimal. Complete (all-black) burns over extensive acreages can displace scrub-jays. Therefore, it is desirable to create a mosaic of shrub heights either within management units or among adjacent management units to ensure that some patches of oak shrubs remain that are tall enough (e.g., 4 to 5.5 feet) to provide cover, nest sites, and acorns. Until the desired habitat conditions are met at the park, the emphasis should be directed at the most overgrown scrub or areas of scrub that are not being used by jays.

Scrub-jays are being monitored at the park under the Jay Watch Program, which is expected to continue. In 1992-1993, a statewide survey was conducted to estimate the scrub-jay population. During that survey, 9 family groups were identified in the area that is now the park. Jay Watch monitoring results starting in 2002 have shown a population that has fluctuated from 7 to 11 family groups with 29 to 41 individual jays being counted (The Nature Conservancy 2010).

A new statewide assessment was done comparing the scrub-jay population found in the 1992 to 1993 surveys with the results of surveys done in 2009 to 2010 (Boughton and Bowman 2011), reporting a decline of 2 family groups. The assessment also estimated that if 70 percent of the potential scrub and scrubby flatwoods habitats were in optimum condition, the carrying capacity would be 19 family groups. Craig Faulhaber, the FWC's former Florida Scrub-jay Conservation Coordinator, suggested that based on the park's configuration of natural communities, an estimate of 14 to 20 potential family groups is reasonable (pers. comm. 2013).

The greatest threat to the park's scrub-jays is fire exclusion, allowing the scrub habitats to become overgrown and abandoned by the jays. Prescribed burning, reducing the density of pine trees to an average of approximately one per acre, and mechanical treatment (chainsaw) of hardwoods are being conducted to improve habitat for scrub-jays and other fire-dependent scrub species. Even though scrub-jays are an umbrella species, the needs of other critically endangered plant and animal species will be addressed during habitat management and enhancement activities.

Other threats to the park's scrub-jay population are pets wandering from adjacent residential areas, people feeding the jays, and road mortality around sections of the park perimeter.

Since 2012 there has been a focused effort at the park to improve the scrub-jay habitat at the park through mechanical treatment and prescribed fire, with more than 300 acres burned. Trees were mechanically thinned (chainsaw crew) on 380 acres of scrub and scrubby flatwoods to the optimum condition of one per acre (on average), using contractors funded through a Nature Conservancy (TNC) grant and district match, plus acreage cut by volunteers and staff during resource management workdays.

Bald eagle (*Haliaeetus leucocephalus*) is no longer a listed species, having been delisted in 2007 (USFWS 2007a). However, there are still special protection measures for nests that were developed and implemented as part of the delisting process, so eagles are mentioned here. In the fall of 2012, there were 4 known active bald eagle nests at the park (FWC nest ID HI-005, HI-006, HI-932, and HI-933). Nests HI-005/006 have been observed and surveyed for years at the park, with HI-932/933 being first observed in the park in 2012. During the nesting season from October 1 through May 15, activities near the nest are restricted. Following the guidelines established in the Bald Eagle Management Plan (FWC 2008a), there are 2 buffers that are established by the distance from the nest tree. The most restrictive of these is the area within 330 feet of the nest tree -- no activities that disturb the nesting birds are allowed. Land management activities and recreational use are prohibited, with the exception of existing uses that are tolerated by the nesting pair. Observations of the nesting eagles in 2012 suggest that they do not tolerate vehicular or foot traffic within the 330-foot buffer, so service roads and hiking trails that fall within the buffer are closed. The buffer also limits the use of prescribed fire during the nesting season, since prescribed fire is also not allowed within 330 feet of the nest tree. There is also a less-restricted buffer from 330 to 660 feet from the nest tree, where the use of heavy equipment, chainsaws, and other activities is not allowed during nesting. The area covered for each nest by the 330-foot buffer is 7.85 acres, and the 660-foot buffer is 31.4 acres. Burning during the time period of May 16 through September 30 overlaps part of the nesting season of Florida scrub-jays, which is typically March through June. The life history needs of the other listed species at the park may not be met by restricting prescribed fires near nests to periods outside of the nesting season.

Trails that are closed in the park to protect nesting eagles fall under the state eagle rule (Section 68A-16.002, Florida Administrative Code), which states that "On public land, it is unlawful for any person to knowingly enter any area posted as closed for the protection of bald eagles, their nests, or their nest trees, except the staff or authorized agents of the managing public entity for that area, or as authorized."

Prescribed fire preparation, invasive exotic plant treatment, habitat enhancement activities (pine and hardwood reduction) and prescribed fires can only be conducted within 330 feet of the nest tree during the non-nesting season (May 16 through September 30) or if the eagle chicks have fledged and are independent of the nest.

Prior to using prescribed fire around the nest tree, fuels, especially ladder fuels and taller vegetation under the nest tree, should be cleared and removed. The preferred method is by hand clearing, but small equipment that will not cause ground disturbance or stress/kill the nest tree is an option. Larger equipment needs to stay clear of the tree's drip line (area that falls under the tree's canopy) to avoid damaging the tree's roots. Annually, these cleared areas should be maintained to provide some protection from wildfire by reducing the fire's intensity near the tree. Initial vegetation clearing has been completed near the 4 known nest trees. Prescribed fires have been completed in 3 of the 4 management zones with nests.

Nest trees are monitored in September and October to document signs of nesting to help guide resource management activities and public use (trail closures).

Short-tailed hawk (*Buteo brachyurus*) is a rare, small, year-round resident hawk in Florida that has not been listed by the state or USFWS but is considered by FNAI as critically imperiled (S1) in this state. Breeding in the United States is limited to Florida, with an estimate of around 200 nesting pairs. In 2007, a pair of light morph short-tailed hawks attempted nesting in one of the tall trees within a mature baygall community at the park. The Avian Research and Conservation Institute (Gina Kent pers. comm. 2012) reported that 2007 was the only year the nest was monitored as part of a research project; due to lack of funding monitoring was discontinued, and the nest failed in the egg or small chick stage. This species nests in treed wetlands, which includes shorelines of lakes or streams, baygall, and swamps in unaltered landscapes (Meyer 2005). Short-tailed hawks show nesting site fidelity and return to the previous years' nest. Monitoring for nesting activity for short-tailed hawks should be conducted in February and March.

Special land management considerations should include prescribed fire planning so fires are conducted when soils, peat, and duff have enough moisture to prevent ground fires that kill the mature baygall trees (including embedded or perimeter mature slash pine trees). Fuels under and near known nest trees should be inspected, and if needed, additional fire prep might also be required. This preparation includes surveying and treating invasive exotic climbing fern to lessen fire intensity and to prevent growth into the canopy (this fern serves as a "ladder fuel").

Swallow-tailed kite (*Elanoides forficatus*) is listed by FNAI as imperiled (S2) in the state. Kites are regularly observed in the air at the park during the spring and summer nesting season. Roosts or nests have not been observed at the park, but there is a considerable amount of potential nesting habitat at the park. If nests are found, some resource management activities could be modified to protect them, such as reducing the fuels and decreasing fire intensity around nest trees.

Merlin (*Falco columbarius*) is a small, winter resident falcon that is listed by FNAI as imperiled (S2) in the state. Merlin are infrequently observed at the park, and no special resource management or monitoring (other than casual observation documentation) is conducted for this species.

Several listed wading birds are observed along the lake shoreline but are not known to breed at the park. These include the limpkin (*Aramus guarauna*), little blue heron (*Egretta caerulea*), reddish egret (*Egretta rufescens*), white ibis (*Eudocimus albus*) and wood stork (*Mycteria americana*). The little blue heron and reddish egret met the state's species for threatened status listing, so once a management plan is adopted for these 2 species they will be listed as threatened (FWC 2011). The limpkin and white ibis did not meet the threatened listing criteria and will be delisted when management plans are developed for these species. The wood stork is federally-listed as threatened. No special resource management or monitoring is being conducted for these species, but the removal of trash and fishing debris (line, lures, and hooks) along the lake shoreline would benefit these species by reducing the risk of accidental entanglement causing injury or death. Reddish egrets are rarely observed at the park and could be considered an accidental visitor, since most of the population occurs along the coasts. The little blue heron, white ibis and wood stork are frequently observed along the lake, especially when water levels are down and the shoreline is shallow or dry.

Florida sandhill crane (*Grus canadensis pratensis*) is state-listed as threatened. Sandhill cranes and pairs with chicks are occasionally observed along the lake shoreline. There is some potential for cranes to nest in the lake's emergent vegetation along the park, but no nests have been recorded. As mentioned in the wading bird discussion above, the removal of trash and fishing debris (line, lures, and hooks) along the lake's shoreline would benefit these species. In addition, if nesting is observed along the shoreline, prescribed fires should be planned to keep the fire from the nest during nesting season (February to May).

Brown pelican (*Pelecanus occidentalis*) is listed as a species of special concern by the state, but the *2011 Biological Status Report* for the species concluded that this species should be delisted (FWC 2011). Brown pelican is a coastal species that is a rare-to-occasional visitor to the lake. No special monitoring or management is done for pelicans at the park.

Florida mouse (*Podomys floridanus*) is listed as a species of special concern by the state, but the *2011 Biological Status Report* for the species concluded that this species should be delisted (FWC 2011). Florida mice are found in the park's scrub and scrubby flatwoods habitats. The Florida mouse is considered a gopher tortoise

commensal species. A 1997 Florida mouse survey done by FNAI researchers at the park caught a cumulative total of 46 Florida mice in a 16 x 17-meter grid using 136 Sherman live traps with 10-meter spacing between traps over a 4-night period (FNAI 1997). The capture results ranged from 6.9 to 12 Florida mice per 100 trap nights; other research (Layne 1990) reported a mean of 9.9 to 12.7 mice per 100 trap nights in scrub and scrubby flatwoods. Population densities were not calculated for the park. Managing the park's scrub and scrubby flatwoods with prescribed fire using the scrub-jay as an umbrella species should benefit the Florida mouse and the closely-associated gopher tortoise populations.

Florida black bear (*Ursus americanus floridanus*) was delisted as a state-threatened species with the adoption of the Florida Black Bear Management Plan (FWC 2012), but it is still listed as imperiled (S2) by FNAI. Black bears are observed and tracks are found with some frequency at the park. The park has a diversity of natural communities and has areas suitable for winter dens. Bears in the park are considered part of the Glades/Highlands subpopulation, which has an estimated population of approximately 175 individuals (FWC 2012). The home range for bears reported in Florida is in the thousands of acres, so the park is only a small part of an individual bear's home range.

No special resource management measures are being implemented specifically for bears, but keeping the pyric natural communities burned at the recommended fire return interval for saw palmetto berry production and preventing catastrophic fire from burning the mature baygall community should benefit visiting bears. Other measures to benefit bears in the park include providing signage and educational material on living with bears, preventing the illegal harvest of saw palmetto berries, and installing bear-proof trash receptacles to prevent the accidental feeding of bears.

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						
Curtiss' milkweed *Asclepias curtissii*			E		1,2,6	Tier 1, 2
Ashe's savory *Calamintha ashei*		C	T	G3/S3	1,2,6	Tier 1, 2
Wedge-leaved button-snakeroot *Eryngium cuneifolium*		E	E	G1/S1	1,2,6	Tier 1, 2, 3
Garberia *Garberia heterophylla*			T		1,2,6	Tier 1, 2
Highlands scrub hypericum *Hypericum cumulicola*		E	E	G2/S2	1,2,6	Tier 1, 2, 3
Nodding pinweed *Lechea cernua*			T	G3/S3	1,2,6	Tier 1, 2
Florida gay-feather *Liatris ohlingerae*		E	E	G2/S2	1,2,6	Tier 1, 2, 3
Britton's bear-grass *Nolina brittoniana*		E	E	G3/S3	1,2,6	Tier 1, 2, 3
Cutthroat grass *Panicum abscissum*			E	G3/S3	1,2,6 7,14	Tier 1
Paper-like nailwort *Paronychia chartacea*		T	E	G3T3/ S3	1,2,6	Tier 1, 2
Florida jointweed *Polygonella basiramia*		E	E	G3/S3	1,2,6	Tier 1, 2
Small's jointweed *Polygonella myriophylla*		E	E	G3/S3	1,2,6	Tier 1, 2, 3
Scrub plum *Prunus geniculata*		E	E	G3/S3	1,2,6	Tier 1, 2, 3
Scrub bluestem *Schizachyrium niveum*			E	G1G2/ S1S2	1,2,6	Tier 1, 2, 3

Table 2: Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Showy dawnflower, scrub stylisma *Stylisma abdita*			E	G3/S3	1,2,6	Tier 1, 2
Cardinal airplant *Tillandsia fasciculata* var. *densispica*			E		10	Tier 1
Giant airplant *Tillandsia utriculata*			E		10	Tier 1
REPTILES						
American alligator *Alligator mississippiensis*	FT(SA)	T(S/A)		G5/S4	4,13	Tier 1
Eastern indigo snake *Drymarchon couperi*	FT	T		G3/S3	1,13, 14	Tier 1
Gopher tortoise *Gopherus polyphemus*	ST	C		G3/S3	1,2, 13, 14	Tier 1, 2, 3
Blue-tailed mole skink *Plestiodon egregius lividus*	FT	T		G5T2/ S2	1,2,6 14	Tier 1
Sand skink *Plestiodon reynoldsi*	FT	T		G2/S2	1,2,6 14	Tier 1
BIRDS						
Florida sandhill crane *Antigone canadensis pratensis*	ST			G5T2T 3/S2S 3	1,4, 10	Tier 1
Florida scrub-jay *Aphelocoma coerulescens*	FT	T		G2/S2	1,2,6 7,10, 13, 14	Tier 1, 2, 3
Limpkin *Aramus guarauna*	N			G5/S3	4	Tier 1
Short-tailed hawk *Buteo brachyurus*	N			G4G5/ S1	2,10	Tier 1
Crested caracara *Caracara cheriway*	FT	T		G5/S2	1	Tier 1
Little blue heron *Egretta caerulea*	T			S4	4	Tier 1
Reddish egret *Egretta rufescens*	T			G4/S2	4	Tier 1

Table 2: Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Swallow-tailed kite *Elanoides forficatus*	N			G5/S2	1	Tier 1
White ibis *Eudocimus albus*	N			G5/S4	4	Tier 1
Merlin *Falco columbarius*	N			G5/S2	1	Tier 1
Southeastern American kestrel *Falco sparverius paulus*	ST			G5T4/ S3	1,6,7	Tier 1
Wood stork *Mycteria americana*	FT	T		G4/S2	4	Tier 1
Brown pelican *Pelecanus occidentalis*	N			G4/S3	4	Tier 1
MAMMALS						
Florida mouse *Podomys floridanus*	N			G3/S3	1,2,6	Tier 1
Sherman's fox squirrel *Sciurus niger shermani*	SSC			G5T3/ S3		
Florida black bear *Ursus americanus floridanus*	N			G5T2/ S2	1,10, 13	Tier 1

Management Actions:

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

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, or pests or pathogens, not native to Florida and generally are not appropriate in any Florida park setting as they detract from the Service's mission of providing Florida resource-based recreation and conservation. *Invasive* exotic species are able to outcompete, 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 and predatory insects. If left unchecked, invasive exotic plants and animals, as well as exotic pests and pathogens, alter the character, productivity, and conservation values of the natural areas they invade.

The first full survey for exotic plant species at Lake June-in-Winter Scrub Preserve State Park was completed and recorded with DRP's Invasive Exotic Plant Database (IEPD) in May and June of 2010. At that time, 836.56 acres were surveyed, using IEDP's "Broad" method. Old World climbing fern (*Lygodium microphyllum*) and cogongrass (*Imperata cylindrica*) were noted and the average coverage across the park was recorded as roughly one percent. All management zones are to be surveyed at least every 2 years. In 2012, another survey was completed, this time using a more specific method, and the results are summarized in Table 3.

Although there were some treatment efforts since the 2010 survey, the overall coverage has increased since the 2010 survey. There are now other species, several with pockets of infestations that directly threaten imperiled plants, as is the case with rose natalgrass infestations where wedge-leaved button-snakeroot occurs. Other invasive exotic plants at the park include shrub verbena (*Lantana camara*), carrotwood (*Cupaniopsis anacarioides*), wild taro (*Colocasia esculenta*), creeping oxeye or wedelia (*Sphagneticola trilobata*), dianella lily (*Dianella ensifolia*), melaleuca (*Melaleuca quinquenervia*), Peruvian primrosewillow (*Ludwigia peruviana*), and African ground orchid (*Oeceoclades maculata*). Some water hyacinth (*Eichhornia crassipes*) has been seen along the lakeshore. The predominant introduction sites are along the property boundaries. All treatment work to date has been done in-house by staff and volunteers. The baygall areas of the park provide some treatment access challenges, but the greatest challenge is removing the invasive plants from within imperiled species populations without causing non-target damage.

Several exotic grasses that are not on the current FLEPPC list are to be addressed as though they are Category I or II invasive species, because not only are they not part of the native diversity, but their expansion is directly threatening the native communities in the park. The most significant of these are bahiagrass and tanglehead. Less significant, but important to include on a "watch" list, is Thalia lovegrass (*Eragrostis atrovirens*). Bahiagrass takes over the open spaces essential to healthy scrub and scrubby flatwoods communities. The tanglehead is already building a strong monoculture along the west boundary and is spreading into the park, mostly along the entrance road and Daffodil Street. This perennial grass is listed as a noxious weed in California, based on that state's Weed Risk Assessment (D. L. Schnabel pers. comm. 2012). To date, little is known about best practices for control of tanglehead; however, studies from countries where its growth is encouraged for forage have found that burning increases seedling recruitment (USDA 1997).

Treatment at the earliest hint of invasion is always the most efficient approach and is more likely to result in eradication of the problem. With the development of better Early Detection and Rapid Response (EDRR) programs on the federal and state levels, invasive exotic species can begin to be identified before they are the management problems that make them FLEPPC Category I and II species. The USDA Animal and Plant Health Inspection Service (APHIS) and the University of Florida's Institute of Food and Agricultural Sciences (IFAS) have become increasingly active in using predictive Weed Risk Assessment tools and provide websites with updates on exotic species newly being considered as threats. Also, Lake June-in-Winter is in Florida's Heartland Cooperative Invasive Species Management Area (CISMA). By working with this group, staff can obtain information on invasive species currently threatening the area. Overall invasive species management should follow a general 1:15 rule, where one hour is spent addressing new potential invaders for every 15 hours spent on work to control Category I and II plants.

Table 3 contains a complete list of known invasive exotic plants in the park, with their known infestation distribution by management zone. Species identified by the Florida Exotic Pest Plant Council (FLEPPC) as Category I and II are indicated (FLEPPC 2015). 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			
Wild taro *Colocasia esculenta*	I	2	Lake shoreline
Carrotwood *Cupaniopsis anacardioides*	I	2	LJ-10A

Table 3: Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
Cogongrass *Imperata cylindrica*	I	3 5	LJ-13, LJ-14B LJ-10A
Lantana, shrub verbena *Lantana camara*	I	2	LJ-02, LJ-10A
Old World climbing fern *Lygodium microphyllum*	I	2 3	LJ-10A, LJ-05B LJ-16
Rose natalgrass *Melinis repens*	I	1 2	LJ-02 LJ-01, LJ-04 LJ-02, LJ-04, LJ-09
Tuberous sword fern *Nephrolepis cordifolia*	I	3	LJ-5, LJ-6, LJ-9
Balsam pear *Momordica charantia*	II	2	LJ-5, LJ-6
Guinea grass *Panicum maximum*	II	2	LJ-06
Torpedograss *Panicum repens*	I	2 3	LJ-02, LJ-10A LJ-01
Napier grass *Pennisetum purpureum*	I	2	LJ-04
Brazilian pepper *Schinus terebinthifolius*	I	3	LJ-16
Tropical soda apple *Solanum viarum*	I	1	LJ-8
West Indian dropseed *Sporobolus indicus* var. *pyramidalis*	I	2	LJ-2, LJ-4, LJ-5, LJ-13
Caesar's weed *Urena lobata*	I	2	LJ-10A

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.

Cover Class Categories:

The IEPD uses cover class midpoint values to calculate the approximate number of infested acres -- the acres actually covered by the invasive plant – within the overall, gross acres surveyed or treated.

0 0% cover (can include inactive or dormant infestation)
1 1% to 5% cover; midpoint of range = 3%
2 6% to 25%; midpoint of range = 15.5%
3 26% to 50%; midpoint of range = 38.0%
4 51% to 75%; midpoint of range = 63.0%
5 76% to 95%; midpoint of range = 85.5%
6 96% to 100%; midpoint of range = 98.0%

Exotic animal species include non-native wildlife species, free-ranging domesticated pets or livestock, and feral animals. Exotic animal species observed at the park include Cuban brown anole (*Norops sagrei*), nine-banded armadillo (*Dasypus novemcinctus*), black rat (*Rattus rattus*), and wild pig (*Sus scrofa*). 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. Of the non-native species known from the park, the one causing the greatest damage is the wild pig (feral hog). An active removal plan is needed to effectively reduce the number of wild pigs.

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, raccoons, and alligators that have been fed by people in and around 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.

Exotic pests and pathogens also pose a threat to natural communities. Laurel wilt is a fatal disease of trees in the laurel family, which includes redbay, swamp bay, and avocado. This disease is an example of an exotic pathogen (a *Raffaelea* species of fungus) introduced by an exotic pest, the redbay ambrosia beetle (*Xyleborus glabratus*). This disease has already infested and killed the swamp bays at Lake June-in-Winter. At this time, management steps are limited to reducing spread by preventing movement of wood, leaving the infected wood in place, and not selling it for firewood where it might be transported to another area. To date, there are no known successful management techniques for stopping the disease in Florida. A research permit has been issued at this park to USDA scientists to evaluate redbay ambrosia beetle attractions through field trapping. This study could lead to more efficient trapping methods to reduce this pest's populations.

As described in the listed species description for the giant and cardinal airplant, the Mexican bromeliad weevil is a threat to 12 native bromeliad species, including the 2 large species identified at the park. Research is being done on potential biological controls for this weevil, using a host-specific parasitoid fly.

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

Special Natural Features

Special natural features of the park include the large area of scrub, pockets of rosemary (bald) scrub and scrubby flatwoods, and all of the imperiled Lake Wales Ridge species associated with it. In addition, the 2.7 miles of natural shoreline is a unique feature on this residentially-developed lake.

Cultural Resources

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

Condition Assessment

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

Level of Significance

Applying the criteria for listing in the National Register of Historic Places involves the use of contexts as well as an evaluation of integrity of the site. A cultural resource's significance derives from its historical, architectural, ethnographic, or archaeological context. Evaluation of cultural resources will result in a designation of NRL (National Register or National Landmark Listed or located in an NR district),

NR (National Register eligible), NE (not evaluated), or NS (not significant) as indicated in the table at the end of this section.

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

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

Prehistoric and Historic Archaeological Sites

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

Description: The Florida Master Site File (FMSF) identifies one archaeological site, 8HG0679 – Beck Site, that may be partially located within the park boundary. This site is located in the NE 1/4 of section 33 and in the near-shore bottom of Lake June-in-Winter. Reconnaissance of the site in 1992 by Anne Reynolds yielded 8 projectile points that were recorded as dating to the Early Archaic, Middle Archaic, and Mississippian periods. Recent review of the site file information by DHR staff found that the description of diagnostic artifacts listed on the FMSF Archaeological Site Form did not match the recorded historic contexts. Specifically, based on the verbal description of artifacts, DHR staff presumed the correct contexts for each of the artifacts listed to be Middle Archaic or just Archaic (stemmed projectile points), Woodland (Jackson points), and Mississippian (Pinellas point). DHR staff alerted the FMSF of this discrepancy in their record, but noted that this correction was based solely on verbal descriptions of the point types rather than having photographs of the artifacts at hand. A better determination of historic context could be made with photographs or the actual artifacts. The site is partially inundated and may contain additional material that would provide more information about prehistory in this region of the state. The description of the site being partially on an exposed beach and partially underwater could mean that the site actually falls outside of the park boundary but within the 400-foot management zone waterward of the park boundary.

Condition Assessment: Searches for the site on July 10, 2012 and November 20, 2012 (after a prescribed fire in the adjacent uplands) were unsuccessful in locating the site. The site file recommendation was to "monitor & conduct testing when lake

levels permit." High water levels may have played a role in not locating the site. As the site was not located, the condition of the site could not be assessed. Because of the site's location along a shoreline, erosion and artifact exposure to looting are potential threats. In June 2013, the University of South Florida Alliance for Integrated Spatial Technologies (AIST) researchers conducted a site visit as part of the development of an archaeological sensitivity predictive model for parks in District 4 and District 5. The AIST researchers were also unable to locate site 8HG0679.

Level of Significance: Lake June-In-Winter does not contain any archaeological sites that have been determined to be eligible for the National Register of Historic Places.

General Management Measures: Continue to survey the location identified in the site file for site 8HG0679, as well as the rest of the park for other potential archaeological sites. When the site is found, conduct a condition assessment and develop specific treatment needs. These treatments refer specifically to sections of the Secretary of the Interior's Standards. The primary treatments for significant archaeological sites are preservation and stabilization. Preservation includes protection from damage from resource management, natural causes, construction, or human damage, including looting. Stabilization techniques include the use of protective vegetation, use of filter cloth or other methods to prevent erosion, removal of large trees, or burial of the site. A recommended treatment will be indicated in the table for each site listed as NRL, NR, or NE. The archaeological sensitivity predictive model for the park developed by AIST identifies 13 percent as high sensitivity, and 39 percent of the park as medium sensitivity, with the remaining area as low sensitivity (Collins et al. 2013).

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: No historic structures are documented at this site.

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: No collections are being kept at this site. However, botanical specimens for the park are kept as a reference collection in the district's herbarium located in the biology office in Osprey, Florida. The herbarium is used to verify species identification, and serves as a permanent record of the imperiled, exotic, and native plant species that have been found in the park. In 2015, the District

Herbarium contained more than 200 herbarium specimens from the park, with duplicate specimens sent to the University of South Florida Herbarium for species identification verification.

Condition Assessment: All herbarium specimens are in good condition and are kept following written standard operating procedures (SOP) for preservation, within herbarium cabinets in a climate controlled building.

General Management Measures: Continue to follow the written SOP for the herbarium and the collection of botanical specimens.

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	Management Zone
8HG0679 Beck site	Early Archaic, Middle Archaic, Transitional (Mississippian)	Archaeological Site	NE or NS	NE	P	LJ-03

Significance:

NRL	National Register listed
NR eligible	National Register
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 Lake June-in-Winter Scrub Preserve State Park. Please refer to the Implementation Schedule and Cost Estimates in the Implementation Component of this plan for a consolidated spreadsheet of the recommended actions, measures of progress, target year for completion and estimated costs to fulfill the management goals and objectives of this park.

While the DRP utilizes the 10-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 10-year management plan is based on conditions that exist at the time the plan is developed, and the annual work provides the flexibility needed to adapt to future conditions as they change during the 10-year management planning cycle. As the park's annual work plans are implemented through the 10-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.

No major hydrological restoration needs are identified for the park. As described earlier in the hydrology section, the water levels in Lake June-in-Winter are outside the control of the park, being manipulated by a weir, under the guidance of an adopted minimum lake level by SWFWMD.

Objective B: Develop and implement an erosion control plan for the improved parking area and adjacent mowed visitor use area.

Action 1 Seek assistance from NRCS, SWFWMD, or others to develop an erosion control plan to address erosion in the developed area of the park.

Action 2 Seek funding to implement recommendations of the erosion control plan (budget request, grants, or other sources).

During heavy rain events the south and east section of the parking area experience erosion and runoff. The erosion and runoff continues east and downhill into the mowed-grass day use area, near the trailhead. The area of concern is less than a quarter acre.

Objective C: Seek assistance from water quality monitoring agencies (local government, DEP, SWFWMD, or others) to gather baseline water quality assessments of the flowing seepage streams and nearby groundwater wells.

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

Action 2 Seek partnerships to assist with unmet water quality monitoring needs specific to the park, specifically groundwater and seepage stream monitoring.

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

Seek a partnership with agencies that regularly conduct water quality monitoring in the area to gather baseline water quality assessments of the seepage stream and groundwater near or in the park. Water quality monitoring was identified as a need in a previous land management reviews for the park. To gather baseline information, the water quality should be monitored monthly for one to 2 years, but preferably longer. Parameters to measure will be determined with the assistance of the monitoring partner, and might include nutrients, pesticides, clarity, and other measures. Any water quality monitoring program should focus on parameters that, if poor, would cause deleterious effects to visitors or the resources of the park.

Natural Communities Management

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

As discussed above, the DRP practices natural systems management. In most cases, this entails returning fire to its natural role in fire-dependent natural communities. Other methods to implement this goal include large-scale restoration projects as well as 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 ecosystems. Prescribed burning increases the abundance and health of many wildlife species. A large number of Florida's imperiled plant and animal species 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 669 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 39-144 acres annually, as identified by the annual burn plan.

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)
Mesic Flatwoods	6	2-4
Scrub - oak dominated	500	5-20
Scrub – rosemary variant	21	15-30
Scrubby Flatwoods	141	8-15
Wet Flatwoods (Cutthroat)	2	1-3
Annual Target Acreage*	39-144	

*Annual Target Acreage Range is based on the fire return interval assigned to each burn zone. Each burn zone may include multiple natural communities.

The park is partitioned into management zones including those designated as burn zones (see Management Zones Table and Map). 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 10-year management plan.

The bulk of the fire-type acres at the park are scrub (oak-dominated scrub, approximately 521 acres), with a fire return interval (FRI) of 5 to 20 years. The fire return interval for the oak scrub will be adjusted and planned to meet the long-term goal to achieve having 70 percent of the acreage as optimum habitat for Florida scrub-jays (the umbrella species for many of the scrub endemic plant and animal species at the park), as described in the natural community and imperiled species sections. Imbedded within the oak-dominated scrub, there are pockets of the rosemary scrub variant. The rosemary scrub is approximately 20 acres in size and has a less frequent FRI of 15 to 30+ years. The longer fire return interval is required to meet the life history needs of Florida rosemary and the federally-listed wedge-leaved button-snakeroot, Highlands scrub hypericum, Small's jointweed, and Florida jointweed. Since the rosemary scrub is imbedded in a matrix of oak-dominated scrub, it will be included with the oak-dominated scrub prescribed fires. The longer fire return interval can be achieved by allowing the rosemary scrub to burn naturally in a mosaic and not intentionally burning all of the vegetation. The discontinuous fuels in rosemary scrub will also help achieve a mosaic burn.

The 141 acres of scrubby flatwoods have a fire return interval of 8 to 15 years. In general, the scrubby flatwoods will initially require restoration burning to reduce the high fuel loads accumulated after years of fire exclusion and/or prescribed burning at a longer interval than the optimum FRI. Restoration burning should be conducted more frequently, at the lower range of the FRI – every 4 to 8 years, for example. After fuels are reduced, maintenance prescribed fires can be conducted, preferably in the early growing season. Growing season burns allow for better hardwood reduction because of the greater likelihood of hardwood mortality. Early growing season burns also more closely replicate the historic lightning season fire regime, when most fires naturally started, and to which the plants and animals are adapted. The scrubby flatwoods will be managed similarly to the scrub, with the percent of optimum scrub-jay habitat used as the benchmark for success of the fire program.

A scrub and scrubby flatwoods management plan should be developed for the property, with the goal of meeting the optimum habitat conditions described in the 2010 FWC and FNAI Scrub Management Guidelines or updates to those guidelines. Burning should be prioritized so that management zones that are overgrown but still occupied by scrub-jays are burned first. Long-term planning of prescribed burning should limit the displacement of scrub-jay family groups by ensuring that not too much scrub is burned at once.

The remaining 8 acres of fire-type natural communities of mesic and wet flatwoods have a more frequent FRI (1 to 4 years) than the scrub. These communities are small pockets within a matrix of scrub (xeric) communities and are unlikely to be intentionally burned separate from the adjacent scrub or scrubby flatwoods. It is recommended to burn these pockets more frequently for the biological diversity of these communities, if safe to do so; i.e.; the adjacent scrub will not carry fire because of fuels or weather parameters, and operationally it can be done without the addition of new fire breaks.

It is anticipated that by getting all of the natural communities in maintenance condition within the recommended FRI, some of the area currently mapped as baygall, as described earlier in the natural community section, is actually one of the fire-dependent natural communities. The natural community maps and prescribed fire-type acreage will be adjusted as needed.

An overall goal of the fire program at the park is to have at least one out of 3 burns conducted in the growing season for each management zone.

Interior fire breaks at this park also serve as park service roads and trails. Except for short sections with needle drop or grass, the fire breaks are mineral (deep sugar sand) and they are approximately 10 feet wide. Maintenance of interior fire breaks by tilling or plowing is only done to sections that need to be refreshed back to mineral soils. Mineral line preparation is minimized to reduce potential harm to sand skinks and other listed species. The north perimeter fire break is a mowed area approximately 40 to 60 feet wide, as is the west boundary line along Daffodil Street. Temporary mowed lines are also used as fire breaks to allow for burning a section of zone, for example, to exclude the section of a zone in the nesting eagle buffer.

In general, prescribed fire preparation should be minimized because of listed species concerns. However, additional preparation is required near eagle nest trees to reduce fuel loading and ladder fuels, and to reduce fire intensity at the nest tree. Care should also be taken to avoid preparatory work near gopher tortoise burrows to protect them from collapsing. Those assigned preparatory work at this park should be familiar with the identification and locations of listed plants.

Because of the potential to take federally-listed species during prescribed burns, the park's fire program has worked closely with TNC during annual fire planning to make sure that steps are taken to minimize the risk to endangered species. Minimizing the amount of fire line preparation, allowing unburned pockets to remain, minimizing foot traffic in the zone interior, keeping vehicles on the perimeter fire breaks, modifying firing techniques, and providing information to the crew during the pre-burn briefing are ways to minimize take.

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/experience, backlog, if burn objectives have been met, 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.

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

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 natural community/habitat improvement activities on 280 acres of scrub and scrubby flatwoods.

Action 1	Reduce pine and oak tree density to one per acre (on average) on 180 acres of scrub.
Action 2	Reduce pine and oak tree density to 2 per acre (on average) on 100 acres of scrubby flatwoods.

Prior to park acquisition, fire exclusion and infrequent fire had left much of the scrub and scrubby flatwoods overgrown and suboptimal when compared to optimum habitat conditions for scrub-jays. To achieve optimum habitat conditions, fire in combination with mechanical treatment is necessary. The density of pines and large oaks has been reduced on 340 acres of scrub and 40 acres of scrubby flatwoods through selective thinning by chainsaw crews. Tree density still needs to be reduced on 180 acres of scrub and 100 acres of scrubby flatwoods. Grant

funding for habitat improvement is one way this work can be completed. Scheduling work days with the assistance of the Lake Wales Ridge Rangers, TNC, and volunteers can also be considered for smaller projects.

Objective C: Conduct natural community/habitat improvement activities on one acre of wet flatwoods (cutthroat variant).

Infrequent fire has resulted in the cutthroat grass communities being shaded out by trees and shrubs. Prescribed fire, mechanical treatment plus pine and hardwood removal are needed to meet the desired future conditions for wet flatwoods, which will consist of a diverse, grass-dominated ground cover with an open canopy. Mowing and fire have improved half of the wet flatwoods community. The remaining acre still needs to have the shrub layer mowed, and trees thinned.

Objective D: Develop a scrub and scrubby flatwoods habitat management plan.

A park-specific, multi-year, scrub and scrubby flatwoods habitat management plan needs to be developed to achieve the goal of maintaining greater than 70 percent of the scrub and scrubby flatwoods in optimum habitat condition. The plan will incorporate prescribed fire recommendations including the sequence for burning management zones. Each management zone will be assessed prior to burning to ensure that enough habitat is available to support scrub-jays and prevent their displacement from the park, and to make sure other listed species have time to recolonize adjacent, recently burned areas. The plan should include recommended actions for each management zone such as invasive exotic plant surveys and treatments, mechanical treatments, documenting imperiled species locations, delineating exclusion zones for herbicides or heavy equipment, and measures to protect bald eagle nest trees.

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

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

During the update of this plan several new imperiled species were documented for the park. Habitat enhancement and post-burn monitoring and surveys, plus incidental observations should result in new occurrence records or the discovery of new populations of within the park.

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

Action 1	Develop a monitoring plan for gopher tortoises using FWC protocols.
Action 2	Implement gopher tortoise surveying.
Action 3	Continue annual Florida scrub-jay survey through participation in the Jay Watch program.
Action 4	Investigate options for additional scrub-jay monitoring at the park.

Two listed animal species at the park will be monitored. The gopher tortoise population has been monitored in the past within selected management zones. Burrow monitoring in 1998 resulted in an estimate of 0.61 gopher tortoises per acre, which can be used as a baseline for future monitoring. A monitoring plan will be developed using established FWC protocols for estimating gopher tortoise populations. A new park-wide survey for gopher tortoises using FWC's updated protocols (e.g. Line Transect Distance Sampling with burrow scoping) for estimating populations in the park will be added to the plan. This will ensure the necessary population viability data is collected. The plan will determine if resource management actions to improve gopher tortoise and other listed species habitat result in changes to the tortoise population.

The second species to be monitored is the Florida scrub-jay. The population of scrub-jays at the park has been monitored sporadically for approximately 2 decades. The statewide assessment of the scrub-jay population completed in 2009 to 2010 suggest that the carrying capacity for scrub-jays at the park is not being met (Boughton and Bowman 2011). This assessment estimated that if 70 percent of the scrub and scrubby flatwoods is in optimum habitat condition, the estimated carrying capacity for the park would be 19 family groups, or 14 to 20 as suggested by Faulhaber (pers. comm. 2013). In 2014, the park supported 9 to 11 family groups. At a minimum, annual participation in the Jay Watch citizen scientist program should continue, using their established protocols for surveying the number of individual scrub-jays and family groups. The monitoring should document if management actions to improve the scrub and scrubby flatwoods to optimum condition result in increased numbers of scrub-jays at the park. To improve the scrub-jay monitoring program, banding individual jays should be investigated in conjunction with an increase in survey frequency. This could be achieved with the help of volunteers and other partners. Assistance and expertise will be sought from FWC, Archbold Biological Station, and other experts on scrub-jays and habitat management.

Objective C: Continue to monitor and document 7 selected imperiled plant species in the park.

Seven plant species will be monitored at the Tier 3 level (see page 46). These include the wedge-leaved button-snakeroot, Highlands scrub hypericum, Florida gay-feather, Britton's bear-grass, Small's jointweed, scrub plum, and scrub bluestem. These species have been monitored in the past, and will continue to be monitored in the future using existing protocols. Monitoring will include post-burn surveys, seasonal surveys, and surveys of known populations. Assistance will be sought from FNAI, Archbold Biological Station, FDACS, and other experts on listed plant species and their habitat requirements and management.

Objective D: Monitor and document early nesting activities at the known bald eagle nests from mid-September to mid-December, and survey for new nests.

Action 1 Monitor known bald eagle nest in the fall.
Action 2 Survey for new bald eagle nests.

Because of the restrictions around active bald eagle nests, monitoring for nesting activity at each nest should be done early in the nesting cycle so that steps can be taken to limit potential disturbance to the nesting eagles. Management actions to limit disturbance include closing trails, providing signage and interpretive or educational material, and redirecting resource management activities to areas outside of the nesting buffer. New nests, when found, will be mapped and include the 330-foot and 660-foot buffers. Expertise from the FWC bald eagle management program will be consulted relative to resource management and other activities near eagle nests.

Exotic Species Management

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

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

Objective A: Annually treat 5 acres of invasive exotic plant species in the park.

Action 1 Develop annual exotic plant treatment work plan that includes new survey needs and treatment priorities.

Action 2 Implement annual treatment plan by treating a minimum of 5 acres of invasive exotic plant species.

Overall, the total cover of invasive exotic plant species in the park should be less than 5 percent in all management zones. This low coverage (preferably less) should be maintained for the planning period.

As noted earlier in the natural community discussions, invasive exotic plants will be treated and removed as they are found and care must be taken in the use of herbicides to protect listed plants. In some case, hand-pulling will be required near populations of listed species, to protect them from accidental exposure to herbicides.

The average number of acres of invasive exotic plants to be treated annually during this 10-year plan period will depend on the infestation densities and distributions assessed during annual surveys. Annual goals will be set each June based on management zone surveys completed during the year. As the goals are determined, a treatment calendar for the year will be defined, to ensure that the target species are treated when the control work will be most effective; for example, cogongrass is most successfully controlled if treated during the early fall while it is increasing storage in its root system. Because of its diversity of imperiled species and its overall size, Lake June-in-Winter Scrub Preserve State Park should attempt annual surveys for all management zones, although alternate-year surveys would be acceptable. The priority for this objective is high and essentially on an equal level with prescribed fire objectives.

Treatment techniques and schedules will follow the current Best Management Practices as published by FWC and IFAS. Park staff is expected to stay current with the FLEPPC invasive species lists and plant identification, the BMPs for control techniques for the different species (which are usually available through IFAS or through FLEPPC) and the proper training and supervision of volunteers and others on the identification and treatment of invasive plant species. At this time, all known exotic invasive plants in the park can be controlled manually and by using herbicides that do not require special license for applicators. One potential exception to this is tanglehead, for which more research may be needed or test

plots established. Where invasive plants are growing adjacent to listed species, careful hand-pulling is the best technique.

Objective B: Implement control measures on Early Detection/Rapid Response species in addition to those on the FLEPPC Category I and Category II lists.

As part of its exotic invasive plant control efforts, the park will participate in local Early Detection/Rapid Response (EDRR) efforts. EDRR efforts tend to result in eradication of the threat, rather than just provide control of spread. In order to meet this objective, park staff and volunteers will work with the local Heartland CISMA and the Weed Risk Assessment programs being conducted by APHIS and IFAS, to learn what to watch for and for identification information. The park may also be used by these groups for assistance in researching the presence of new exotic invasive species. Treatment techniques and schedules will follow the current Best Management Practices as published by FWC and IFAS. The priority for this objective is Medium. It is important that staff begin implementing EDRR, but even if they did so on a 1:15 work ratio (i.e., work one hour on EDRR species for every 15 hours worked on Category I and II species), staff would implement significant protection for the park.

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

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

Overall, reduce the total impact of feral hogs to less than 3 percent coverage in the park. This low coverage (preferably less) should be maintained for the remainder of the planning period. There are a range of techniques for removing feral hogs, and the most success has been accomplished when a mix of approaches were used, since feral hogs are quick to learn what to avoid. A plan specific to the park needs to be researched and defined to establish a baseline number of hogs at the park and set target removal goals. Progress should be monitored and evaluated annually. Feral hogs have been controlled at the park by contract removals, a practice which will be continued.

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 Lake June-in-Winter Scrub Preserve State Park.

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

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

Objective A: Assess and evaluate one recorded cultural resource in the park.

Only one cultural site has been recorded at the park (8HG0679 – Beck Site). From the description in the Florida Master Site File, it is unclear if this site falls within the current boundary of the park. The description makes it clear that at least part of the site is submerged and in the lake, but during periods of lower lake levels, it can be exposed. Several attempts have been made to relocate the site, but might have been hindered by high lake levels. Erosion and looting were identified as concerns in the site file. If the site falls outside of the park boundary, it is given limited protection within the 400-foot sovereign submerged lands management area. To better protect the site, a state submerged lands lease should be pursued to better manage and protect this cultural site. The site location should be visited at least annually, when lake water levels are down. Assistance should be sought to locate the Beck Site.

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

If additional archaeological sites are located, and as the 8HG0679 - Beck Site is monitored and assessed, the park's data in the FMSF will be updated. Soon after prescribed fires are conducted, burned management zones should be monitored for archaeological sites or resources.

Objective C: Bring one recorded cultural resource into good condition.

Since the 8HG0679 – Beck Site has not been located or monitored by park staff, the sites condition is not known.

Special Management Considerations

Timber Management Analysis

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

A timber 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.

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, DRP works with the local mosquito control district to achieve consensus. By policy of DEP since 1987, aerial adulticiding is not allowed, but larviciding and ground adulticiding (truck spraying in public use areas) is typically allowed. DRP does not authorize new physical alterations of marshes through ditching or water control structures. Mosquito control plans temporarily may be set aside under declared threats to public or animal health, or during a Governor's Emergency Proclamation.

There is no mosquito control plan adopted for Lake June-in-Winter Scrub Preserve State Park.

Additional Considerations

The Trustees have granted management authority of certain sovereign submerged lands to the DRP under Management Agreement MA 68-086 (as amended January 19, 1988). Management of Lake June-in-Winter Scrub Preserve State Park includes certain management activities within the buffer zone of sovereign submerged land along the shoreline of Lake June-in-Winter from the edge of emergent vegetation and extending waterward for 400 feet. The resources within the 400-foot

management zone include the submerged, and sometimes exposed, Beck Archaeological site. Management actions occurring within the buffer zone include patrolling for boats and watercraft too close to the park's shoreline, removal of trash and other debris, public safety activities, and resource inventories and monitoring. In addition, management actions include treatment and control of invasive exotic species like torpedograss, Cuban bulrush, taro, and other species that invade the park's natural communities from the lake.

To allow for better protection of the emergent and submerged vegetation along the park, a submerged lands lease should be pursued to include the shoreline to an area 25 feet beyond the emergent vegetation line (essentially 300 feet east of the shoreline) on the eastern boundary of the park in Lake June-in-Winter. The expansion of the park's boundary would also help manage the placement of structures and other manmade objects along the park shoreline that disrupt the natural shoreline view.

Resource Management Schedule

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

Land Management Review

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

Lake June-in-Winter Scrub Preserve State Park was subject to a land management review on February 27, 2003. The review team made the following determinations:

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

LAND USE COMPONENT

Introduction

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

The general planning and design process begins with an analysis of the natural and cultural resources of the unit, and then proceeds through the creation of a conceptual land use plan that culminates in the actual design and construction of park facilities. Input to the plan is provided by experts in environmental sciences, cultural resources, park operation, and management. 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.

Lake June-in-Winter Scrub Preserve State Park is located within an unincorporated area of Highlands County, 4 miles west of Lake Placid and 12 miles south of Sebring in the south-central part of the state. The park is bounded on the east by Lake June-in-Winter and on the west by the Lake Wales Ridge Wildlife and Environmental Area, residential housing, and agricultural lands (citrus grove). Residential housing also abuts the park on the north and south boundaries. Approximately 210,000 people live within 30 miles of the park (U.S. Census 2010).

The population of Highlands County is diverse in terms of demographic characteristics. According to U.S. Census data (2013), nearly two-fifths of residents in the county identify as black, Hispanic or Latino, or another minority group. Less than half (42%) of residents can be described as youth or seniors (U.S. Census 2013). Highlands County ranked 42nd statewide in per capita personal income at $30,962, below the statewide average of $41,497 (U.S. Bureau of Economic Analysis 2014).

The park is located in Visit Florida's Central Vacation Region, which includes Marion, Lake, Sumter, Seminole, Orange, Polk, Osceola, Highlands, and Hardee counties (Visit Florida 2013). According to the 2013 Florida Visitor Survey, nearly 35 percent of domestic visitors to Florida traveled to this region. Of the estimated 31 million domestic visitors who came to this region in 2013, approximately 88 percent traveled for leisure. Visiting theme/amusement/water parks and shopping were the top activities for those visitors to the region. Summer was the most popular season for visitors, but visitation was generally spread throughout the year. Just under half of visitors traveled by air (49 percent), reporting an average stay of 4.6 nights and spending an average of $170 per person per day (Visit Florida 2013).

There are several publicly-owned, resource-based recreation opportunities within 15 miles of the park. The 1,286-acre Jack Creek tract, owned by the Southwest Florida Water Management District, is located 2.5 miles to the north of the state park. This tract offers 7 miles of hiking trails through Lake Wales Ridge scrub, hardwood hammock, and other natural communities. No parking or other amenities are provided. The Royce Unit, a 2,641-acre parcel of the Lake Wales Ridge Wildlife and Environmental Area, is located approximately 5 miles east of the park on the western shore of 28,000-acre Lake Istokpoga, Florida's fifth largest lake. This property is managed by the Florida Fish and Wildlife Conservation Commission (FWC), and offers hunting, hiking, and wildlife viewing. Lake Istokpoga is designated as a fish management area by the FWC and is well-known for its high-quality fishing opportunities. Two county parks on the shores of Lake Istokpoga, Windy Point Park and Istokpoga Park, provide fishing piers/observation decks, paved trails, hiking trails, boat ramps, paddling launches, and picnic facilities.

Highlands Hammock State Park, located 13 miles north of Lake June-in-Winter Scrub Preserve State Park, features picnicking, camping, hiking, bicycling and equestrian trails, and ample opportunities for nature study and wildlife observation. The Hammock Road Trail, a paved bicycle path paralleling the park entrance road, connects Highlands Hammock State Park's bike trails with another paved trail around nearby Lake Jackson.

The Archbold Biological Station, a non-profit, independent research institution, is open to the public and is located less than 8 miles to the southeast. This research facility is situated within the Lake Wales Ridge scrub and is well-known for its research pertaining to scrub-adapted flora and fauna. The station has an

interpretive trail emphasizing scrub ecology and a 0.5-mile hiking trail where visitors can view the endemic, federally threatened Florida scrub-jay.

Closest to the state park is H. L. Bishop Park, which is managed by Highlands County. It is situated on the north shore of Lake-June-in-Winter, and offers a fishing pier, boat ramp, swimming area, playground, basketball court, picnic facilities, and boardwalks. Lake June Park and Sports Complex, operated by the City of Lake Placid, lies directly across from the state park on Lake June-in-Winter's eastern shore. This facility provides a boat ramp, freshwater beach, and picnic pavilions, as well as baseball, softball, football, and soccer fields.

Existing Use of Adjacent Lands

Adjacent land uses to the west and south of the park are single-family and multi-family residential. South of the park is a neighborhood business district to provide limited retail and serve the needs of the residential area. Portions of the FWC's Lake Wales Ridge Wildlife and Environmental Area (conservation land) border the park to the northwest. Agricultural districts surround the park to the north, south, and west.

The entire eastern boundary of the park abuts the western shore of Lake June-in-Winter. Both public and private boat ramps, and numerous docks and piers, for private and recreational use, are adjacent to the park on Lake June-in-Winter.

Planned Use of Adjacent Lands

Highlands County is a relatively small county (in terms of population) in south-central Florida. While it has not experienced the rapid growth rate of Polk County to the north, its growth has been consistent with the overall population growth in the state. From 1980 to 2010, the population of Highlands County more than doubled. Growth in the area slowed somewhat during the economic downtown of the late 2000s, and business and real estate growth is projected to increase over the time frame of this plan. The surrounding area is expected to grow by approximately 25% by 2040 (BEBR 2012).

Currently, the Highlands County Comprehensive Plan indicates that areas immediately adjacent to the west and north of the park are designated for agriculture uses (AG, 1 – 5 dwelling units/acre). Medium-density residential uses are specified for the northwestern and southern areas (RM, 4 - 8 dwellings/acre). Some conservation lands (CM, 1 dwelling/80 acres) also abut the park on the western boundary. Properties to the south are designated for commercial (B1), agricultural (AG), and medium- to high-density residential uses (RM and RH, up to 9 – 12 dwellings/acre). Future land use and zoning designations to the west of the park are not consistent. Lands previously zoned on the western boundary as medium-density residential are assigned lower density allowances in future land use through an agricultural designation (R3 to AG).

A review of proposed comprehensive plan amendments and proposed developments in Highlands County showed one proposed development in the area which may potentially impact the park (see below). It will be important for DRP staff to participate in the review of all comprehensive plan amendments, proposed zoning changes, and development plans that may impact the park in the future.

Highlands County had previously requested park land for a right-of-way to extend Daffodil Street from its existing terminus at the park entrance to an intersection with Catfish Creek Road at the southwestern corner of the park. After the DRP had opposed the project, the County removed it from the capital improvements program. Highlands County indicated in March 2015 that the road extension project is still valid and was to be included in the Heartland Regional Transportation Planning Organization's Long Range Transportation Plan (LRTP), which was updated in 2016. However, it was not mentioned in the regional 2040 LRTP, and it is not currently included in the Capital Funding Strategy for the County. If the project does move forward, DRP staff will continue to work with the County to identify a solution that minimizes impacts to the park's natural communities and recreational resources.

The Central Florida Regional Planning Council, Highlands County, and the Town of Lake Placid are committed to maintaining balanced, sustainable economic growth (CFRPC 2014a; CFRPC 2014b). Policy provisions in the Highlands County 2030 Comprehensive Plan include environmentally sensitive development, protection of the Lake Wales Ridge, aquifer recharge areas, and the area lakes, which are deemed a major asset (CFRPC 2014a).

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.

Lake June-in-Winter Scrub Preserve State Park is a designated site in the Florida Greenways and Trails System (FGTS). The FGTS incorporates sites,

greenways, and trails into the system that are significant to Florida’s ecology and recreation needs.

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

Lake June-in-Winter Scrub Preserve State Park contains approximately 846 acres of uplands west of Lake Placid. Six natural communities, plus a developed area, are represented in the park’s uplands, providing diverse wildlife habitat and a variety of natural experiences for park visitors. Park land provides significant areas for recreational activities, including hiking, picnicking, nature study, and wildlife viewing.

Water Area

Lake June-in-Winter Scrub Preserve State Park borders its 3,700-acre namesake lake, which is classified as a sandhill upland lake. Lake June-in-Winter is the second largest lake in Highlands County, and it provides outstanding opportunities for freshwater recreation, including fishing, boating, and paddling. The park also contains 2.6 acres of seepage streams. Expanding the hiking opportunities could allow visitors to experience a previously inaccessible section of stream.

Shoreline

The state park features approximately 2.7 miles of shoreline on Lake June-in-Winter, providing scenic views and opportunities for wildlife viewing and nature study. The park has good potential for observation of waterfowl and wading birds such as Florida sandhill crane, limpkin, wood stork, little blue heron, and tricolored heron.

Natural Scenery

As with other protected lands on the Lake Wales Ridge, the park's high-quality scrub community features bright patches of white sand interspersed with stunted oaks, palmettos, and numerous rare plant species adapted to this harsh environment. In stark contrast to the park's scrub, the short Tomoka Trail showcases a lush, tranquil stream and woodland setting, complete with ferns, slow-moving tannic waters, and a rich soundscape of gurgling water and birdsong. The park currently features scenic, although limited, views of Lake June-in-Winter.

Significant Habitat

The park's scrub natural community, one of the best examples in the south-central part of the state, provides important habitat for reptiles like the sand skink, blue-tailed mole skink, and gopher tortoise, plus a variety of bird species such as the threatened Florida scrub-jay. The park's scrubby flatwoods provide nesting sites for multiple pairs of bald eagles. The park's baygall community provides food, water, and shelter for myriad resident and migratory songbirds. These habitats contribute in turn to the park's high-quality wildlife viewing and nature study opportunities. The park also contains several cutthroat grass seeps, a rare, natural community endemic to central Florida. This community requires frequent fire and is predominantly found in Highlands and Polk counties. There are ample opportunities to interpret these significant habitats to visitors, including new kiosk panels, printed and electronic media, and guided tours.

Natural Features

The park is home to a regionally important tract of scrub. This natural community is listed by FNAI as being imperiled in Florida. Continued restoration of this natural community will increase its functionality and importance to scrub-jays and the other species that live there.

Archaeological and Historical Features

The park's only recorded archaeological site (8HG0679, Beck Site), on the near-shore bottom of Lake June-in-Winter, has yet to be relocated due to inundation. Although the site is not accessible, based on the artifacts found there, language could be added to the park's interpretive materials describing use of park lands by prehistoric peoples dating to the Archaic and Mississippian periods. This would give visitors a better understanding of the park's history.

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

Prior to being purchased by the State of Florida, portions of the property were used for cattle grazing and for turpentine production. Near the south boundary, evidence of "cat face" scars on some of the larger pines remain, revealing the turpentine industry's former presence here. Prior to state ownership, hunting took place on this property, as well as unauthorized use of all-terrain vehicles (ATVs).

Future Land Use and Zoning

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

The current future land use designation is Conservation/Management (CM), intended to preserve sensitive vegetative communities and wildlife habitats. The current zoning designation is also Conservation/Management (CM), leading to no expected conflicts between 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.

The day use area is the focus of recreational activities at Lake June-in-Winter Scrub Preserve State Park. Activities include picnicking, hiking, and wildlife viewing. Visitation to the park is consistently low throughout the year, but highest during late fall, winter, and early spring. Lake June-in-Winter Scrub Preserve State Park has been designated by the Florida Fish and Wildlife Conservation Commission as part of the Great Florida Birding and Wildlife Trail.

The park offers interpretive programming to educate the public on the park's resources. An interpretive kiosk at the entrance area and one in the day-use area provides park information and education. Nature walks are offered on occasion, either by volunteers or by park staff based at Highlands Hammock State Park in nearby Sebring.

Lake June-in-Winter Scrub Preserve State Park recorded 2,047 visitors in FY 2014/2015. By DRP estimates, the FY 2014/2015 visitors contributed almost

$236,000 in direct economic impact, the equivalent of adding 4 jobs to the local economy (FDEP 2015).

Other Uses

There are no other uses at this park.

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 Lake June-in-Winter Scrub Preserve State Park, all natural communities, including scrub, scrubby flatwoods, wet flatwoods, mesic flatwoods, baygall, seepage stream, and known imperiled species habitat have been designated as protected zones. However, small areas of mesic and scrubby flatwoods and baygall have been excluded from the protected zones to accommodate development of facilities necessary for park operations and public access. The park's current protected zones are delineated on the Conceptual Land Use Plan.

Existing Facilities

Lake June-in-Winter Scrub Preserve State Park provides a unique opportunity for visitors to experience a natural scrub ecosystem. The park's limited recreational facilities create a wilderness experience just minutes away from the City of Lake Placid (see Base Map).

A small picnic area with a pavilion and composting toilet provides picnicking opportunities, and park visitors may hand-launch a canoe or kayak. A former small group camping area with a fire ring existed near the south end of the park; this camping area is no longer maintained due to low visitor use and to resource management conflicts (bald eagle nesting activity). The camping area is to be removed.

The park's support facilities are not yet developed. For the entrance area, a ranger residence, shop, and fuel storage shed are proposed. An inventory of the park's recreational facilities is included below.

LAKE JUNE-IN-WINTER SCRUB PRESERVE STATE PARK

N

0 500 1,000 2,000 Feet

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

BASE MAP

Recreation Facilities

Entrance Area
Stabilized entrance road
Honor box
Entrance kiosk

Parkwide
Tomoka Trail (0.3-mile loop)
Bobcat and Deer Trail (2.5-mile loop)
Interpretive signs

Day Use Area
Stabilized parking (up to 12 vehicles)
Accessible parking (2 vehicles)
Small picnic shelter
Composting restroom
Information kiosk
Interpretive sign

Support Facilities

Parkwide
Unstabilized roads (7.2 miles)

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. 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 improved activities and programs are also recommended and discussed below.

***Objective A: Maintain the park's current recreational carrying capacity of 224 users per day*.**

The park will continue to provide the current range of recreational day use opportunities. Hiking, picnicking, nature study, and wildlife viewing are popular activities for park patrons.

Objective B: Expand the park's recreational carrying capacity by 130 users per day.

Several new opportunities for day use activities at the park will expand the park's carrying capacity. Two new hiking trail loops (0.3 miles and 0.9 miles) take advantage of existing park roads and firebreaks, and the resulting connections create an abundance of new hiking options. A new, universally accessible 8-table picnic shelter also increases capacity for the day use area.

Objective C: Continue to provide the current repertoire of 5 interpretive, educational and recreational programs on a regular basis.

Two in-person, volunteer- or ranger-led nature walks are offered annually at the park, seasonally and upon request of park visitors. Guided walks are designed to inform visitors about the park's history and ecology. The walks provide interpretive and educational information about the park's issues and resources, and provides the public with educational information about scrub preservation and restoration within the park. The Tomoka Trail is a self-guided walk with interpretive signage that educates visitors about the park's ecology, flora, and fauna. An additional interpretive sign in the day use area educates visitors about the use of tree cavities as wildlife habitat. A park brochure with map is available at the entrance kiosk.

Objective D: Develop one new interpretive, educational and recreational program.

The park will develop one new program designed to inform visitors of the need to sustain and enhance the existing habitat conditions within the park. The program will also teach visitors about appropriate wildlife viewing ethics and techniques. Visitor education will be provided in person and through interpretive displays and kiosks at the entrance and the day use areas.

LAKE JUNE-IN-WINTER

Day Use Area
New restrooms
New picnic shelter
Lake overlook
Boardwalk

Proposed Trail

DAFFODIL STREET

Entrance Area
Honor Box
Kiosk

CREWS LAKE

Shop/Residence Area
Flammable Materials Storage

Proposed Trail

CATFISH CREEK ROAD

Legend

- Proposed Facilities
- Proposed Trail
- County Road
- Park Road Unstabilized
- Proposed Development Area
- Existing Hiking Trail
- Park Boundary
- ProtectedZone

LAKE JUNE-IN-WINTER SCRUB PRESERVE STATE PARK

N

0 437.5 875 1,750 Feet

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

CONCEPTUAL LAND USE PLAN

Additional interpretive signage will also identify behaviors that are encouraged in the park, while discouraging perennial problem activities, such as littering and disturbing wildlife. New kiosks at the entrance and in the day use area with information about the park's scrub natural community, flora, and fauna; prescribed fire and other habitat management techniques; wildlife viewing tips and ethics; and a map of the park's trails and roads are proposed. DRP staff will coordinate with public lands and the local community to promote awareness and provide educational opportunities about the park.

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 proposed development concept for the park is two-fold. It includes improvements to existing use areas that will enhance the visitor experience and increase access to recreational opportunities. In addition, new facilities are proposed that will add recreational activities that are compatible with those currently offered at the park.

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

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

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

Objective B: Improve/repair 3 existing facilities and 8.4 miles of trail.

Repair projects for park facilities may be accomplished within the 10-year term of this management plan, if funding is made available. These include the modification of existing park facilities to bring them into compliance with the Americans with Disabilities Act (a top priority for all facilities maintained by the DRP). The following discussion of other recommended improvements and repairs are organized by use area within the park.

Entrance Area
One improvement to the entrance area facilities is proposed that will enhance the visitor experience. A large, interpretive kiosk with a trail map, facilities locations, and other information will provide arriving visitors with an overview of the park's opportunities and amenities.

Day Use Area
Numerous enhancements to the day use area will provide additional facilities and make the area more accessible for visitors. The facilities in this use area should continue to be upgraded to provide better universal access. It is also recommended that an additional, larger picnic pavilion be constructed. The existing composting toilet should be replaced with a small, accessible restroom, and a septic tank would need to be installed. Electrical and water service would need to be extended from the entrance area once the residence and other structures are built. The lower portion of the path to the lake shore should be stabilized with a boardwalk that leads to a new lake overlook. A new, 0.3-mile accessible nature trail will create new hiking opportunities. New interpretive and trailhead kiosks will provide visitors with maps and information about the park's natural history and management activities. No current concession opportunities are envisioned at this time.

Parkwide
New trail markers and interpretive signs are recommended for the park's trail system to assist with wayfinding and to provide information about the park's special natural features and imperiled species. Park boundary signs should be posted along the shoreline.

The park's 7.2 miles of service roads and firebreaks are open to hiking part of the year to all year (eagle nesting activities necessitate seasonal closure of some trail sections). These sandy roads require ongoing maintenance and stabilization. Portions of these roads can be incorporated into the proposed nature trail and primitive hiking trail loops. The proposed 0.9-mile interpretive hiking trail loop would connect the existing Tomoka Trail with the Bobcat and Deer Trail.

Objective C: Construct one new facility.

Shop/Residence Area
Proposed additions to the new shop/residence area will provide safety and support. A ranger residence, shop, and flammable materials storage building are needed to support park operations and would be situated just south of the entrance road. Electrical service is likewise needed and could be provided if a new line was connected to existing service in the adjacent neighborhood. Service should be provided to the proposed facilities in this new area, and a septic tank should also be provided for the residence.

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:

Entrance Area
2-sided interpretive kiosk

Support/Shop Area
Residence
3-bay shop building
Flammable materials storage building
Electrical and water service (4,000 feet)
Septic tank

Parkwide
Interpretive hiking trail loop (0.9 miles)
Wayfinding signage
Stabilized roads and paths
Park boundary signs along lake shore

Day Use Area
Nature trail (0.3 miles)
Boardwalk
Elevated boardwalk
Lake overlook/observation deck
8-table picnic shelter
Picnic tables (8)
Sidewalks to restroom and shelters
Small restroom
Electrical and water service (1,600 feet)
Septic tank
Interpretive kiosk (2)
Trailhead kiosks (2)
Wayfinding signs

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

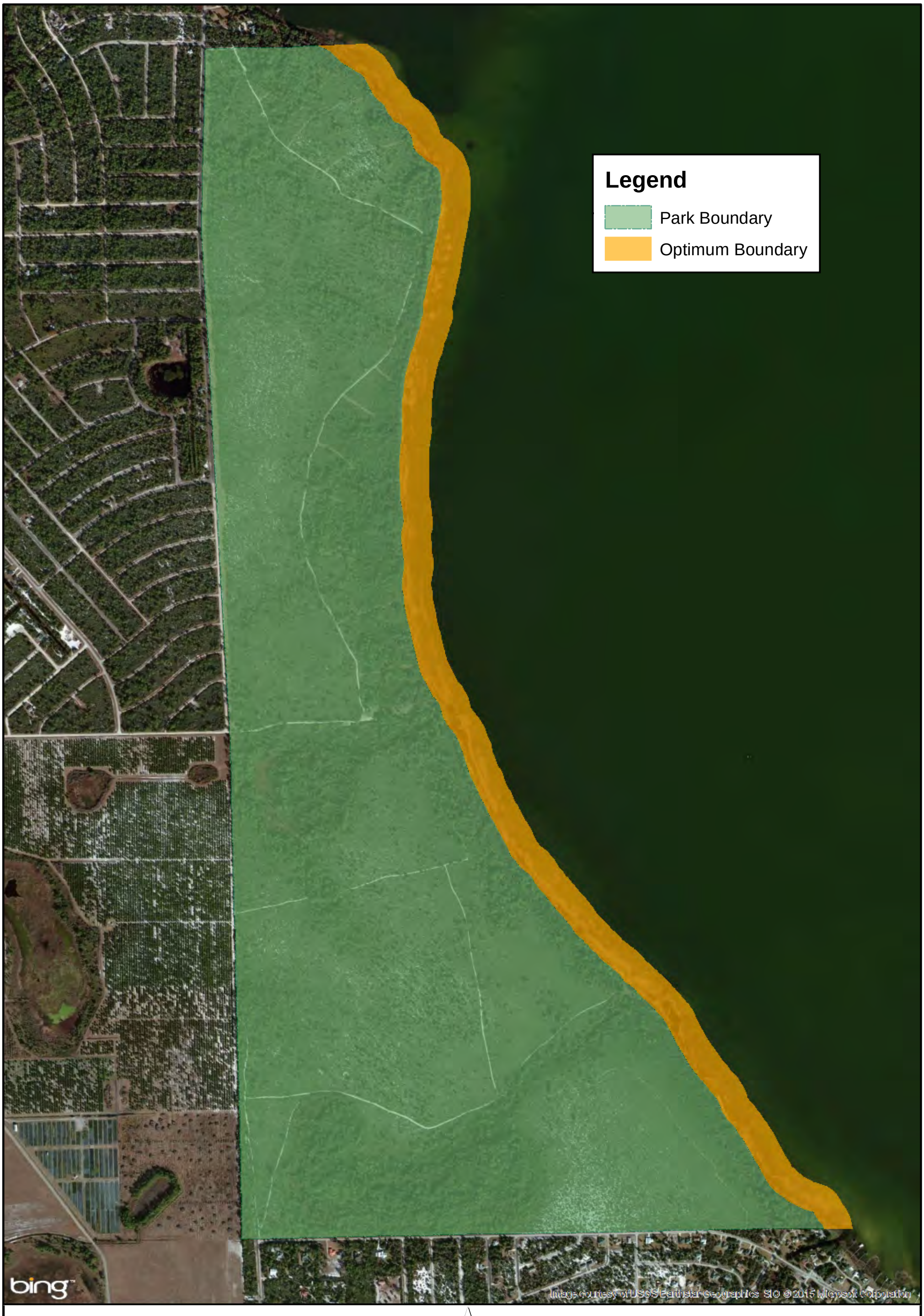
	Existing Capacity*		Proposed Additional Capacity		Future Capacity	
Activity / Facility	**One Time**	**Daily**	**One Time**	**Daily**	**One Time**	**Daily**
Picnicking	16	32	32	64	48	96
Trails						
Nature Trail	12	48	12	48	24	96
Primitive Hiking	72	144	9	18	81	162
TOTAL	**100**	**224**	**53**	**130**	**153**	**354**

*Existing capacity has been revised from approved plan to better follow DRP carrying capacity guidelines.

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



LAKE JUNE-IN-WINTER SCRUB
PRESERVE STATE PARK

N

0 500 1,000 2,000 Feet

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

OPTIMUM BOUNDARY MAP

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.

At this time, no lands are considered surplus to the needs of the park. This plan does recommend, however, that the park boundary on the east side be extended to include an additional 300 feet into Lake June-in-Winter. Extending the park boundary would give the DRP the authority to manage and protect the park's cultural resources, natural communities, shoreline, and listed wading bird species that occur there, in accordance with Chapter 258, Florida Statutes and Chapter 62D-2, Florida Administrative Code, for the purposes of visitor safety and resource protection.

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 10-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 Lake June-in-Winter Scrub Preserve State Park in 2004, significant work has been accomplished and progress made towards meeting the DRP's management objectives for the park. These accomplishments fall within 3 of the 5 general categories that encompass the mission of the park and the DRP.

Natural Resource Management

- 77% of the scrub and 60% of the scrubby flatwoods is within the desired fire return interval, with the remaining scrub to be burned as recently burned scrub recovers to optimum conditions for Florida scrub-jays (scrub - 402 of 522 acres in FRI; scrubby flatwoods – 85 of 141 acres in FRI)
- Scrub and scrubby flatwoods restoration/enhancement – trees taller than 15 feet in the scrub and scrubby flatwoods on 380 acres have been reduced to the number considered optimal for Florida scrub-jay habitat. This was accomplished through a scrub-jay habitat improvement grant, volunteers (including FWC Ridge Rangers), and park staff, with trees cut down to 1-2 per acre
- The park's scrub is considered an exemplary site by FNAI (FNAI 2010)
- Rare scrub plant surveys completed in 2012 and 2014, with population size and location data submitted to FNAI
- Annual participation in the Audubon Jay Watch program

Park Facilities

- Fence line along Catfish Creek Rd. (southern boundary) cleared and old fencing removed, and approximately 1.1 miles of new hog fencing installed
- Accessible parking spaces (2) and sidewalk to the restroom and picnic shelter installed

MANAGEMENT PLAN IMPLEMENTATION

This management plan is written for a time frame of 10 years, as required by Section 253.034 Florida Statutes. The 10-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 5 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 6 may need to be adjusted during the 10-year management planning cycle.

Table 7
Lake June-in-Winter Scrub Preserve State Park Ten-Year Implementation Schedule and Cost Estimates

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	**$106,000**
Objective B	**Expand administrative support as new lands are acquired, new facilities are developed, or as other needs arise.**	Administrative support expanded	C	**$61,000**
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	**$5,000**
Objective B	**Develop and implement an erosion control plan for the improved parking area and adjacent mowed visitor use area.**	Plan developed/implemented	UNF	**$5,000**
Action 1	Seek assistance from NRCS, SWFWMD, or others to develop an erosion control plan to address erosion in the developed area of the park.	Assistance sought for plan	UNF	$1,000
Action 2	Seek funding to implement recommendations of the erosion control plan (budget request, grants, or other sources).	Project implemented	UNF	$4,000
Objective C	**Seek assistance from water quality monitoring agencies (local government, DEP, SWFWMD, or others) to gather baseline water quality assessments of the flowing seepage streams and nearby groundwater wells.**	Assistance sought	UNF	**$10,000**
Action 1	Evaluate existing water quality monitoring programs to determine if they meet the monitoring needs of the park.	Evaluation complete	UNF	$2,500
Action 2	Seek partnerships to assist with unmet water quality monitoring needs specific to the park, specifically groundwater and seepage stream monitoring.	Partnerships sought	UNF	$5,000
Action 3	With monitoring quality monitoring partner, develop a simple report to interpret results of data collection with parameters being measured reported as good or poor.	Report developed	UNF	$2,500

* 2015 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Table 7
Lake June-in-Winter Scrub Preserve State Park Ten-Year Implementation Schedule and Cost Estimates

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 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 669 acres of the park maintained within the optimum fire return interval.**	# Acres within fire return interval target	LT	**$76,000**
Action 1	Develop/update annual burn plan.	Plan updated	C	$16,000
Action 2	Manage fire dependent communities for ecosystem function, structure and processes by burning between 39 - 144 acres annually, as identified by the annual burn plan.	Average # acres burned annually	C	$60,000
Objective B	**Conduct habitat/natural community improvement activities on 280 acres of scrub and scrubby flatwoods communities.**	# Acres improved or with improvements underway	UNF	**$98,000**
Action 1	Reduce pine and oak tree density to one per acre on 180 acres of scrub.	# Acres improved or with improvements underway	UNF	$63,000
Action 2	Reduce pine and oak tree density to 2 per acre on 100 acres of scrubby flatwoods.	# Acres improved or with improvements underway	UNF	$35,000
Objective C	**Conduct natural community/habitat improvement activities on one acre of wet flatwoods (cutthroat variant).**	# Acres improved or with improvements underway	UNF	**$1,000**
Objective D	**Develop a scrub and scrubby flatwoods habitat management plan.**	Plan developed/updated	C	**$5,000**

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.**	List updated	C	**$10,000**
Objective B	**Monitor and document 2 selected imperiled animal species in the park.**	# Species monitored	C	**$120,000**
Action 1	Develop a monitoring plan for gopher tortoises using FWC protocols.	# Protocols developed	ST	$2,000
Action 2	Implement gopher tortoise surveying.	Tortoises monitored	C	$25,000
Action 3	Continue annual Florida scrub-jay survey through participation in the Jay Watch program.	Annual participation	LT	$43,000
Action 4	Investigate options for additional scrub-jay monitoring at the park.	Scrub-jays monitored	UNF	$50,000
Objective C	**Continue to monitor and document 7 selected imperiled plant species in the park.**	# Species monitored	C	**$50,000**
Objective D	**Monitor and document early nesting activities at the known bald eagle nests from mid-September to mid-December, and survey for new nests.**		LT	**$15,000**
Action 1	Monitor known bald eagle nest in the fall.		LT	$7,500
Action 2	Survey for new bald eagle nests.		LT	$7,500

* 2015 Dollars
ST = actions within 2 years
LT = actions within 10 years
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UFN = currently unfunded need

Table 7
Lake June-in-Winter Scrub Preserve State Park Ten-Year Implementation Schedule and Cost Estimates

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 and preventive control.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Annually treat 5 acres of exotic plant species in the park.**	# Acres treated	C	**$41,000**
Action 1	Develop annual exotic plant treatment work plan that includes new survey needs and treatment priorities.	Plan developed/updated	C	$16,000
Action 2	Implement annual treatment plan by treating a minimum of 5 acres of invasive exotic plant species.	Plan implemented	C	$25,000
Objective B	**Implement control measures on Early Detection/Rapid Response species in addition to those on the FLEPPC Category I and Category II lists.**	Control implemented	C	**$10,000**
Objective C	**Implement control measures on one exotic and nuisance animal species in the park.**	# Species for which control measures implemented	C	**$25,000**
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 one recorded cultural resources in the park.**	Documentation complete	LT	**$1,000**
Objective B	**Compile reliable documentation for all recorded historic and archaeological resources.**	Documentation complete	LT	**$1,000**
Objective C	**Bring one recorded cultural resource into good condition.**	# Sites in good condition	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 224 users per day.**	# Recreation/visitor	C	**$53,000**
Objective B	**Expand the park's recreational carrying capacity by 130 users per day.**	# Recreation/visitor	LT	**$31,000**
Objective C	**Continue to provide the current repertoire of five interpretive, educational and recreational programs on a regular basis.**	# Interpretive/education programs	C	**$10,000**
Objective D	**Develop one new interpretive, educational, and recreational program.**	# Interpretive/education programs	ST	**$7,000**

* 2015 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Table 7
Lake June-in-Winter Scrub Preserve State Park Ten-Year Implementation Schedule and Cost Estimates

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 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	**$106,000**
Objective B	**Continue to implement the park's self-evaluation plan to ensure facilities are accessible in accordance with the American with Disabilities Act of 1990.**	Plan implemented	LT	**$0**
Objective C	**Improve and/or repair 3 existing facilites, and 8.4 miles of trail as identified in the Land Use Component.**	# Facilities/Miles of Trail/Miles of Road	UFN	**$990,000**
Objective D	**Construct one new facility as identified in the Land Use Component.**	# Facilities/Miles of Trail/Miles of Road	UFN	**$1,100,000**
Objective E	**Expand maintenance activities as existing facilities are improved and new facilities are developed.**	Facilities maintained	C	**$61,000**

Summary of Estimated Costs

Management Categories		**Total Estimated Manpower and Expense Cost* (10-years)**
Resource Management		**$474,000**
Administration and Support		**$167,000**
Capital Improvements		**$2,090,000**
Recreation Visitor Services		**$4,988,000**
Law Enforcement Activities[1]		**$268,000**
	1Law enforcement activities in Florida State Parks are conducted by the FWC Division of Law Enforcement and by local law enforcement agencies.	

* 2015 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 purchased the initial area of Lake June-in-Winter Scrub Preserve State Park for the use and benefit of the Outdoor Recreational Development Council of the State of Florida.

Sequence of Acquisition:

On November 15, 1995, the Trustees obtained title to an 845.60-acre property that constituted the initial area of Lake June-in-Winter Scrub Preserve State Park. This property was purchased from Patricia Lagoni for a sum of 3,300,000 dollars. The purchase was made under the Conservation and Recreation Lands (CARL) program and was funded through the Preservation 2000 program.

Title Interest:

The Trustees hold fee simple title interest in Lake June-in-Winter Scrub Preserve State Park.

Lease Agreement:

On February 19, 1996, the Trustees conveyed management authority for Lake June-in-Winter Scrub Preserve State Park to the Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP) under Lease No. 4105. This lease is a 50 (fifty)-year-term lease and it will expire on February 18, 2046.

According to Lease No. 4105, the DRP manages Lake June-in-Winter Scrub Preserve State Park for the purpose of preserving, developing, operating, and maintaining the property for outdoor recreational, park, conservation, and related purposes.

Special Conditions on Use:

Lake June-in-Winter Scrub Preserve State Park is designated single-use to provide resource-based public outdoor recreation and other park related uses. Uses such as water resource development projects, water supply projects, storm-water management projects, linear facilities, sustainable agriculture, and forestry (other than those forest management activities specifically identified in this plan) are not consistent with this plan or the management purposes of the park.

Outstanding Reservations:

The DRP's lease from the Trustees stipulates that all the property be used for public outdoor recreation and related purposes. Following is a list of outstanding rights, reservations, and encumbrances that apply to Lake June-in-Winter Scrub Preserve State Park.

Instrument: ..... Lease Agreement (lease No. 4105)
Instrument Holder: ..... Florida Department of General Services

Beginning Date:..... February 19, 1996
Ending Date: ..... February 18, 2046
Outstanding Rights, Uses, Etc.:..... None

Addendum 2—Advisory Group Members and Report

Local Government Officials

The Honorable Jim Brooks, Chair
Commissioner – District 1
Highlands County Board of
County Commissioners

Represented by:
The Honorable Ron Handley
Commissioner – District 3
Highlands County Board of
County Commissioners

Agency Representatives

Morgan Tyrone, Park Manager

Michael Edwards, Senior Forester
Florida Forest Service

Jennifer Myers, Conservation Biologist
Florida Fish and Wildlife Conservation
Commission, Southwest Region

Susie Bishop, Executive Director
Highlands Soil and Water
Conservation District

Tourist Development Council

Don Elwell, Chair
Highlands County Tourism
Development Council

Environmental Representatives

Bob Hummel, President
Highlands County Audubon Society

Hillary Swain, Executive Director
Archbold Biological Station

Represented by:
Kevin Main
Archbold Biological Station

User Groups

David Waldrop, Chair
Florida Trail Association
Heartland Chapter

Ed Murawski, President
Florida Native Plant Society
Heartland Chapter

Citizen Support Organization

Mike Jarvis, President
Friends of Highlands Hammock
State Park

Adjacent Landowner

Bill Masters

The Advisory Group meeting to review the proposed unit management plan (UMP) for Lake June-in-Winter Scrub Preserve State Park was held in the recreation hall at Highlands Hammock State Park on Wednesday, June 29, 2016 at 9:00 AM.

Kevin Main represented the Archbold Biological Station for Hillary Swain. Commissioner Ron Handley represented the Highlands County Board of County Commissioners for BOCC Chairman James Brooks. Advisory Group members Susie Bishop, Bill Masters and Don Elwell were unable to attend. All other Advisory Group members were in attendance. Attending Division of Recreation and Parks (DRP) staff members were Valinda Subic, Charles Brown, Chris Becker, Sine Murray, Jason Mahon, and Mark Kiser.

Mr. Kiser began the meeting by explaining the purpose of the Advisory Group and reviewing the meeting agenda. He provided a brief overview of the DRP's planning process and summarized public comments received during the previous evening's public workshop. Mr. Kiser then asked each member of the Advisory Group to express his or her comments on the draft plan.

Summary of Advisory Group Comments

Kevin Main (Archbold Biological Station) commented that the management technique known as roller chopping was not optimal for managing scrub habitat, and suggested this particular technique be removed from the plan. Chris indicated that the plan calls for minimizing mechanical treatment, but he agreed that language regarding roller chopping can be removed from the plan. Kevin stated the park is part of an important wildlife corridor, and is especially important for Florida scrub-jays. He commented that scrub-jay populations near the park in the Placid Lakes and Leisure Lakes subdivisions are rapidly decreasing. He pointed out that new trails in the park would be welcomed by the public; trails are one of the most requested amenities. Kevin also voiced concerns about the proposed Daffodil Street extension along the western boundary of the park, indicating that a new right-of-way would jeopardize certain listed plant species, particularly wedge-leaved button-snakeroot growing along the fence line.

Jennifer Myers (Florida Fish and Wildlife Conservation Commission) also voiced concerns about roller chopping as a management technique for scrub habitat, and its prominence in the plan. She indicated it is not as effective for scrub, and could be detrimental to listed species such as the blue-tailed mole skink. She stated that the listed species descriptions in the plan were good overall; in particular, she cited the population viability information provided for the indigo snake and the carrying capacity information provided for the Florida scrub-jay. She did suggest that additional information about the population viability for the park's gopher tortoises could be added to the plan. She also stated that according to FWC guidelines for scrub habitat management, the objective is to reduce mature pines and oaks to 1 per acre. The plan needs clarification regarding: a) the actual tree sizes (DBH) to be retained, and b) the number of trees per acre is actually an average of 1 per acre (trees might be clumped). She mentioned that a reference is made to monitoring

rare plants at the Tier 3 level, and that this information could be made easier to find. Jennifer stated that the overall plan is good, particularly the community restoration information, and it's good that not all of the scrub-jay habitat is burned at the same time.

Michael Edwards (Florida Forest Service) stated that even though the plan does not have or need a timber assessment, there could be potential for thinning or salvage operations. Despite the small harvest potential, there could be a habitat improvement benefit. He understands the need to be careful with herbicides at this park, given the number of rare plants present. He stated that the Florida Forest Service (FFS) is available to help with prescribed burning if needed, and FFS mitigation specialists can help with fuel reduction along the park boundary. Michael commented that it's important for the Heartland Cooperative Invasive Species Management Area (CISMA) to be continued, for its role in controlling the spread of invasive plants, and for public outreach/education of local landowners.

Ed Murawski (Florida Native Plant Society, Heartland Chapter) commented that the park is an amazing place, with numerous rare plants. The draft plan is robust, and a good one particularly in terms of monitoring invasive plants. He recommended follow-up monitoring around any construction areas to guard against invasive plant establishment. He stated that while it is important that the park's rare plant communities are mapped, he cautioned against sharing specific locations of rare plants with the public. He also stated the need to be careful with mechanical treatments around rare plants. He acknowledged the difficulties in dealing with natal grass removal. Ed forwarded copies of the draft plan to other Florida Native Plant Society chapter members for potential comments. He inquired about databases for rare and invasive plants, and also asked how monitoring was being accomplished. Chris Becker replied that information is mapped and shared with the Florida Natural Areas Inventory at the management zone level. Chris mentioned that new populations are being discovered as burns progress, indicating that seed sources are often still viable despite lack of fire.

David Waldrop (Florida National Scenic Trail, Heartland Chapter) likes that new trails and kiosks are being added, and wants to make sure that trails are well-marked. He especially likes 7- to 10-mile loops. The FNST's Heartland Chapter is available to help with trail maintenance if needed (the chapter has 200 members). He commented that most of the chapter's focus is on Highlands, Polk, and DeSoto counties; chapter-led organized hikes have taken place at Highlands Hammock State Park, but not Lake June-in-Winter Scrub Preserve State Park at present.

Bob Hummel (Highlands County Audubon Society) stated that the Tomoka Trail is nice, but currently needs work (ask FNST Heartland Chapter volunteers if needed). He found the trail overgrown and thought hikers might get lost. He stated that fire protection along Daffodil St. (west boundary) is important, especially during burns if winds are blowing from the east. He recommends that the viewing structure be situated over the water, have a canopy or roof, and allow unobstructed views north, east, and south across the lake. He felt mapping endangered plant locations was

important, and labels/signs/markers should be provided as appropriate. Chris Becker commented that labeling endangered plants would likely not be a problem due to low visitation at the park, labeled photos of rare scrub plants can be put on the proposed kiosks instead; this would enhance the park's interpretive efforts. Bob asked if grills would be added to the day use area; Mark stated the draft UMP does not provide for any (none had been requested). Bob commented that the park should continue making good habitat for birds a priority, and would like to see benches added along the trails for hikers. He recommended that the existing wood duck boxes (installed without permission) along the lakeshore not be removed if ducks are using them. He stated that protecting the park's Florida scrub-jays was important to the county's population. He asked about the youth camp's removal, and Chris Becker stated that the camp received infrequent use due to several factors: an active bald eagle nest near the camp necessitated closure of the immediate area for extended periods, and temperatures and biting insect levels were not ideal when the area reopened each year following conclusion of the eagles' nesting season. Chris mentioned that another factor in the decision is that no park staff are available in the event of an emergency. Valinda Subic commented that nearby Highlands Hammock State Park already has excellent camping opportunities, and thus camping is not needed at Lake June-in-Winter Scrub Preserve SP.

Ron Handley (County Commissioner, District 3) commented that the volunteer fire department would like to have road access somewhere nearby, west of the park, although not necessarily on Daffodil St. (where a street extension along the park's southwest boundary has been proposed in the past), to decrease transit time around the park.

Mike Jarvis (Friends of Highlands Hammock State Park) commented that the CSO's function is to raise money to support the park, and most of the funds go to Highlands Hammock, since Lake June has no CSO of its own. How to fund improvements at Lake June is the issue, and it's important for all of the park's supporters to work together (involve Archbold Biological Station, for example). Partnerships to purchase necessary equipment is one option. Mike stated that a gatekeeper and full-time ranger are needed, as some visitors are not paying the entrance fee at the honor station. Lake access is important to visitors, and improvements could help jump start a revenue stream. Recently, the CSO threw a dinner for 100 Highlands Hammock SP volunteers; some type of event like this could potentially help the park.

Morgan Tyrone (Park Manager) stated that the park is a jewel for what it is, as the scrub habitat it protects is important. Compared to the 2005 plan, the scale of the draft plan is much more appropriate – the level of development matches the management objectives and preserve status. The proposed staff residence is quite important in terms of fire issues and emergencies. Due to the park's unique habitat and designation as a Preserve and the health in which it is those natural communities are in, this makes additional recreational development both impractical and contradictory (other than trail improvements).

Summary of Written Comments

Bill Masters (private landowner) provided written comments via email. A copy of his comments is attached. He indicated that he meets park visitors while opening and closing the gate, and that "most of the guests are asking for more hiking trails as most of them seem to be bird watchers." He stated that "they wanted more access along the lakeshore as there are many types of birds along that area." He also mentioned that visitors would like "more trails that extend to the west and south end of the park." He also remarked that "there is no information posted on the procedure of how to use the blue fee envelopes" at the honor pay station at the entrance. Lastly, he stated that the park "recently built a very nice information billboard center, but it has been empty for at least six weeks since built."

Staff Recommendations

Suggestions received from the Advisory Group meeting resulted in the following modifications to the draft management plan:

- Language regarding roller chopping as a management technique for scrub habitat will be removed from the plan.
- A survey for gopher tortoises using FWC's new protocols for estimating populations in the park will be added to the plan. This will ensure the necessary population viability data is collected.
- Language will be added to the resource management component to clarify the actual tree sizes to be retained in the scrub natural community (mature pines and oaks more than 15 feet tall), and that the average number of trees retained is actually one to 2 per acre (trees may be clumped).

Additional revisions were made throughout the document to address editorial corrections and consistency of spellings and notations.

With these modifications, DRP staff recommends approval of the proposed management plan for Lake June-in-Winter Scrub Preserve State Park.

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.

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Addendum 4—Soil Descriptions

2 - St. Lucie sand, 0-8% Slopes - This nearly level to moderately sloping, excessively drained soil is on high ridges and knolls in the ridge part of the county. The mapped areas are irregular in shape and range from 5 to more than 50 acres. The slopes are smooth to convex.

Typically, the surface layer is gray sand about 4 inches thick. The underlying material to a depth of 80 inches or more is white sand.

Included with this soil in mapping are small areas of Archbold, Astatula, Duette, Orsino, and Paola soils. In most areas, the included soils make up 10 to 20 percent of the map unit.

The available water capacity of this St. Lucie soil is very low. The permeability is very rapid. Depth to the water table is more than 80 inches.

Most of the acreage of this soil is in natural vegetation. Some areas have been cleared for citrus crops. The natural vegetation consists of rosemary, sand pine, Chapman oak, myrtle oak, and a few scrub hickories. The understory consists of scattered saw palmetto and prickly pear cactus.

This St. Lucie soil has very severe limitations for cultivated crops. Intensive management, including irrigation, is required if this soil is cultivated. Droughtiness and rapid leaching of plant nutrients reduce potential yields of adapted crops.

Citrus trees are moderately suited to this soil. A properly designed irrigation system is needed to ensure optimum yields and survival of the trees.

Pasture and hay crops are not suited to this soil. Droughtiness and the available water capacity are the limiting factors.

The potential of this soil for production of pine trees is low. Equipment use limitations and seeding mortality are the main management problems. Sand pine is the preferred tree for planting.

The potential of this soil for the production of desirable range plants is very low. The plant community consists of dense woody plants, which are not used by livestock. No appreciable forage is on this soil. This soil is in the Sand Pine Scrub range site.

This soil has slight limitations for most urban uses. If the soil is used for lawns and gardens, it must be irrigated. It has severe limitations for recreational development because the surface layer is too sandy. This limitation can be overcome by stabilizing the surface layer or by adding suitable topsoil.

This St. Lucie soil is in capability subclass VIIs.

10 - Myakka Fine Sand - This nearly level, poorly drained soil is in low, broad, flatwood areas in the county. The mapped areas are irregular in shape and range from 10 to 200 acres. The slopes are smooth and range from zero to 2 percent.

Typically, the surface layer is black find sand about 4 inches thick. The subsurface layer, to a depth of 24 inches, is light gray and light brownish gray sand. The subsoil to a depth of about 80 inches is black and dark brown sand.

Included with this soil in mapping are small areas of Basinger, Immokalee, Placid, Satellite, Smyrna, and Valkaria soils. In most areas, the included soils make up 10 to 35 percent of the map unit.

The available water capacity of this Myakka soil is very low. The permeability is moderate. The water table is at a depth of less than 12 inches during the summer rainy season. Generally, it is at a depth of 12 to 40 inches during the rest of the year. During extended dry periods, the water table recedes to a depth of more than 40 inches. Also, this soil can have a perched water table because of the permeability of the subsoil.

A large part of the acreage of this soil has been cleared for improved pasture and vegetable crops and, in more recent years, has been used for citrus crops. Significant acreage remains in natural vegetation that consists mainly of slash pine, south Florida slash pine, longleaf pine, fetterbush, gallberry, running oak, wax myrtle, and saw palmetto. Pineland threeawn is the dominant grass; but depending on range condition, there are significant amounts of creeping bluestem, lopsided indiangrass, chalky bluestem, and other grasses.

This Myakka soil has severe limitations for cultivated crops because of wetness and the sandy texture. With proper management and use of conservation practices, however, this soil is well suited to a variety of vegetable crops. A properly designed water control system will remove excess surface water during rainy periods and provide irrigation during dry periods. Proper management should include bedding in rows, regular applications of lime and fertilizer, and planting of soil-improving crops to protect the soil from erosion.

Citrus trees are moderately well suited to this soil if a properly designed water control system is established and maintained. This system should be designed to maintain the water table at an effective depth. Trees should be planted in bedded rows. Irrigation should be available during dry periods. Regular applications of lime and fertilizer are needed.

The potential of this soil for production of pasture and hay crops is moderate. Pangolagrass, bahiagrass, and white clover are best suited to this soil. A water control system should be used to remove excess surface water after heavy rainfall. Regular applications of lime and fertilizer are needed. Grazing should be controlled to prevent weakening of plants.

The potential of this soil for production of pine trees is moderate. Equipment use limitations and seedling mortality are concerns in management. Slash and south Florida slash pines are the preferred trees for planting.

The potential of this soil for the production of range plants is moderate. This soil has the potential for producing significant amounts of creeping bluestem, chalky bluestem, and indiangrass. Grazing should be controlled to maintain plant vigor. Grazing time and number of cattle per acre are major considerations in a good range management plan. This soil is in the South Florida Flatwoods range site.

This soil has severe limitations for most urban uses because of wetness. The limitations for septic tank absorption fields can be overcome by backfilling and mounding to maintain the system above the seasonal high water table. For recreational development, this soil also has severe limitations because of

wetness; but with proper drainage to remove excess surface water, most of the limitations can be overcome.

This Myakka soil is in capability subclass IVw.

12 - Basinger Fine Sand - This nearly level, poorly drained soil is on the low flatwoods and in sloughs and poorly defined drainageways. The mapped areas are irregular in shape and range from 10 to 50 acres or more. The slopes are smooth and range from zero to 2 percent.

Typically, the surface layer is dark gray fine sand about 6 inches thick. The subsurface layer, to a depth of about 21 inches, is light gray and light brownish gray fine sand. The subsoil, to a depth of 52 inches, is brown fine sand. The upper part of the substratum, to a depth of 62 inches, is light brownish gray fine sand. The lower part to a depth of 80 inches is grayish brown loamy fine sand.

Included with this soil in mapping are small areas of Felda, Immokalee, Myakka, Placid, and Valkaria soils. In some places are soils that are similar to Basinger soil, but the subsoil is not as brown as that in Basinger soil. In most areas, the included soils make up 10 to 25 percent of the map unit.

The available water capacity of this Basinger soil is low. The permeability is rapid. The water table is within 12 inches of the surface for 2 to 5 months during the summer rainy season. Generally, it is between depths of 12 and 40 inches for 6 month or more but may recede to a lower depth during extended dry periods.

Most of the acreage of this soil remains in natural vegetation. Large areas have been cleared for improved pasture and vegetable crops. The natural vegetation consists of slash pine, south Florida slash pine, gallberry, pineland threeawn, cutthroat grass, maidencane, bluestem, St. Johnswort, and cordgrass.

This Basinger soil has very severe limitations for cultivated crops because of wetness. This limitation can be partly overcome if a properly designed water control system is established and maintained to remove excess surface water during wet periods and to provide irrigation during dry periods. Lime or fertilizer should be added according to the need of the crops.

This soil is poorly suited to citrus trees; however, if a properly designed water control system is installed, citrus is suitable. Controlling the depth of the water table is vital to the success of growing citrus. Citrus should be planted in bedded rows, and irrigations should be maintained between rows.

The potential of this soil for production of improved pasture grasses and hay corps is moderate. Pangolagrass, bahiagrass, and white clover are best adapted to this soil if well managed. A water control system to remove excess surface water after heavy rainfall is needed to ensure good yields. Fertilizer is needed on a regular basis. For pasture purposes, grazing should be controlled to maintain plant vigor.

The potential of this soil for production of pine trees is moderate. Seedling mortality is the main concern in management because of wetness. Slash and south Florida pines are the preferred trees for planting.

The potential of this soil for the production of range plants is moderately high. This soil has the potential for producing high amounts of blue maidencane, chalky bluestem, and bluejoint panicums. To maintain the range, a good range management plan should include such considerations as grazing time and number of cows per acre. This soil is in the Slough range site.

This soil has severe limitations for urban uses because of wetness. Limitations for septic tank absorption fields can be overcome by mounding and backfilling to maintain the system above the seasonal high water table. This soil also has severe limitations for recreational development because of wetness and the sandy texture. Providing a drainage system to remove excess surface water and adding suitable topsoil or resurfacing the area will overcome this limitation.

The Basinger soil is in capability subclass IVw.

14 - Satellite Sand - This nearly level, somewhat poorly drained soil is on slightly elevated ridges on the flatwoods and on the lower ridges in the ridge part of the county. The mapped areas are irregular in shape and range from 10 to more than 100 acres. The slopes are generally smooth to convex and range from zero to 2 percent.

Typically, the surface layer is dark gray sand about 4 inches thick. The underlying material to a depth of 80 inches is white fine sand that has brown mottles in the upper part of the horizon.

Included with this soil in mapping are small areas of Archbold, Basinger, Daytona, Duette, Immokalee, Myakka, and Pomello soils. In most areas, the included soils make up 10 to 20 percent of the map unit.

The available water capacity of this Satellite soil is very low. The permeability is very rapid. The water table is at a depth of 12 to 40 inches for 2 to 6 months.

Most of the acreage of this soil is in natural vegetation, but some areas have been cleared for pasture and citrus crops. The natural vegetation consists of slash pine, south Florida slash pine, longleaf pine, myrtle oak, Chapman oak, and sand live oak. The understory consists of saw palmetto and pineland threeawn.

This Satellite soil has very severe limitations for cultivated crops. A water control system is needed to remove excess water in wet periods and provide irrigation during the dry periods. Soil-improving practices should be used, and regular applications of lime and fertilizer are needed if the soil is used for cultivated crops.

Citrus trees are moderately suited to this soil. A drainage system is needed to remove excess during the rainy season and supply supplemental irrigation during the dry part of the year.

The potential of this soil for production of pasture and hay crops is moderate. Pangolagrass and bahiagrass are best adapted to this soil. Regular applications of lime and fertilizer are needed. Grazing should be controlled to maintain healthy plants for maximum production.

The potential of this soil for production of pine trees is low. Seedling mortality is the main management problem. Slash, south Florida slash, and longleaf pines are the preferred trees for planting.

The potential of this soil for the production of range plants is very low. The plant community consists of a woody understory, which is seldom grazed. This soil is sin the Sand Pine Scrub range site.

This Satellite soil has severe limitations for most urban uses because the seasonal high water table is between depths of 15 and 40 inches. The limitations are severe for recreational development because the soil is too sandy. By adding suitable topsoil or stabilizing the surface, this limitation can be minimized.

This Satellite soil is in capability subclass VIs.

21 - Hontoon Muck - This nearly level very poorly drained, organic soil is in the marshes and swampy areas. Most mapped areas range from 5 to 50 acres, but a few areas range from 100 to more than 500 acres. These areas are irregular in shape. The slopes are smooth to concave and range from zero to 1 percent.

Typically, the upper part of the organic surface layer is dark reddish brown muck 15 inches thick. Below this layer, to a depth of 65 inches, is black muck. The upper part of the underlying material, to a depth of 73 inches, is black mucky sand. The lower part to a depth of more than 80 inches is dark gray sand.

Included with this soil in mapping are small areas of Basinger, Placid, and Samsula soils. In most areas, the included soils make up 10 to 20 percent of the map unit.

The available water capacity of this Hontoon soil is very high. The permeability is rapid. Under natural conditions, this soil has a water table at or above the surface except during extended dry periods.

Many areas of this soil have been cleared and drained for improved pasture, vegetable crops, and caladium plants and bulbs, a specialty crop. In a few of the larger areas, the muck is being commercially mined. Some areas remain in natural vegetation of sweetbay, blackgum, and other water-tolerant trees. The understory consists of fern, maidencane, sawgrass, and pickerelweed.

This Hontoon soil has very severe limitations for cultivated crops; however, if the soil is drained, a variety of crops are adapted. A properly designed and maintained water control system is required. Fertilizer should be applied according to the need of the crops, and lime should be added to these very acid soils to maintain high quality and obtain maximum yields.

With adequate drainage, hay and pasture crops have very high production potential. Pangolagrass, white clover, and bahiagrass are best adapted to this soil. The water control system should maintain the water table near the surface to prevent excess oxidation and subsidence of the organic material. Lime is needed on this soil, and fertilizer that is high in potash and trace

elements should also be applied because these are generally deficient in organic soils.

This soil is not suited to citrus or pine tree production.

The potential of this soil for the production of desirable range plants is high. This soil has the potential for producing significant amounts of maidencane and cutgrass. These marshes produce high quality forage during droughts and during the winter when other areas do not produce a great amount of forage. Management of this native rangeland should include consideration of the number of cattle that use the site for a specific period of time. This soil is in the Freshwater Marshes and Ponds range site.

This soil has severe limitations for urban and recreational uses because of the high water table and the very low bearing strength of the muck. Major reclamation is needed before this soil can be used for urban development.

This Hontoon soil is in capability subclass IIIw.

28 - Archbold Sand, 0-5% Slopes - This nearly level to gently sloping, moderately well drained soil is on moderately high ridges in the ridge part of the county. The mapped areas are irregular in shape and range from 15 to 75 acres. The slopes are smooth to convex.

Typically, the surface layer is gray sand about 4 inches thick. The underlying material to a depth of 80 inches or more is white sand.

Included with this soil in mapping are small areas of Duette, Orsino, Paola, Pomello, St. Lucie, and Satellite soils. In most areas, the included soils make up 10 to 15 percent of the map unit.

The available water capacity of this Archbold soil is very low. The permeability is very rapid. The water table is at a depth of 40 to 60 inches during the summer rainy season. It recedes to a lower depth during the rest of the year.

Most areas of this soil remain in native scrub forests. Small areas have been cleared for citrus crops and improved pasture. The natural vegetation consists of sand pine, south Florida slash pine, Chapman oak, myrtle oak, and sand live oak. The understory consists of saw palmetto and scattered pineland threeawn.

Without irrigation, this Archbold soil has very severe limitations for cultivated crops. Droughtiness and rapid leaching of plant nutrients reduce the potential yields.

Citrus trees are moderately well suited to this soil if a good irrigation system is installed and maintained. To maximize yields, management practices should include proper cover between rows and timely applications of lime and fertilizer because of rapid leaching.

The potential of this soil for production of improved pasture grasses and hay crops is low. Fertilizer and lime are needed. Grazing should be controlled to maintain plant vigor.

The potential of this soil for production of pine trees is low. Equipment use and seedling mortality are the main concerns in management. Sand, slash, south Florida slash, and longleaf pines are the preferred trees for planting.

The potential of this soil for the production of range plants is very low. The plant community consists of a dense woody understory, which is seldom grazed by cattle. The dominate forage is pineland threeawn. This soil is in the Sand Pine Scrub range site.

This soil has moderate limitations for most urban and recreational uses because of the sandy texture and also because the seasonal high water table is between depths of 40 and 60 inches. For the most part, these limitations are easily overcome by special designs and soil reclamation, such as surfacing with suitable topsoil in conjunction with continued maintenance.

This Archbold soil is in capability subclass VIs.

99 - Water

Addendum 5—Plant and Animal List

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

MYCOTES

(a few unidentified species)

BRYOPHYTES

(a few unidentified species)

PTERIDOPHYTES

Toothed midsorus fern ..... *Blechnum serrulatum*
Long strap fern..... *Campyloneurum phyllitidis*
Creeping bramble fern ..... *Hypolepis repens*
Old World climbing fern ..... *Lygodium microphyllum*
Cinnamon fern..... *Osmunda cinnamomea*
Golden polypody ..... *Phlebodium aureum*
Resurrection fern..... *Pleopeltis polypodioides var. michauxiana*
Lacy bracken ..... *Pteridium aquilinum var. caudatum*
Tailed bracken ..... *Pteridium aquilinum var. pseudocaudatum*
Sand spikemoss..... *Selaginella arenicola*

GYMNOSPERMS

Sand Pine ..... *Pinus clausa*
South Florida slash pine..... *Pinus elliottii* var. *densa*

ANGIOSPERMS

MONOCOTS

Shortspike bluestem..... *Andropogon brachystachyus*
Florida bluestem ..... *Andropogon floridanus*
Longbeard bluestem..... *Andropogon longiberbis*
Splitbeard bluestem ..... *Andropogon ternarius*
Broomsedge bluestem ..... *Andropogon virginicus*
Broomsedge bluestem ..... *Andropogon virginicus* var. *decipiens*
Chalky bluestem ..... *Andropogon virginicus* var. *glaucus*
Corkscrew threeawn..... *Aristida gyrans*
Bottlebrush threeawn ..... *Aristida spiciformis*
Capillary hairsedge..... *Bulbostylis ciliatifolia*
Florida scrub roseling ..... *Callisia ornata*
Wild taro..... *Colocasia esculenta**
Erect dayflower..... *Commelina erecta*
Pinebarren flatsedge..... *Cyperus retrorsus*
Cypress witchgrass ..... *Dicanthelium ensifolium*

*** Non-native Species**

Lake June-In-Winter Scrub Preserve State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Hemlock witchgrass	*Dicanthelium portoricense*	
Water hyacinth	*Eichhornia crassipes*	
Thalia lovegrass	*Eragrostis atrovirens*	
Toothpetal false reinorchid	*Habenaria floribunda*	
Tanglehead	*Heteropogon contortus**	
Sweet tanglehead	*Heteropogon melanocarpus**	
Fringed yellow stargrass	*Hypoxis juncea*	
Cogongrass	*Imperata cylindrica**	
Grassleaf rush	*Juncus marginatus*	
Rose natal-grass	*Melinis repens**	
Britton's beargrass	*Nolina brittoniana*	SC, SCF
African ground orchid	*Oeceoclades maculata**	
Cutthroatgrass	*Panicum abscissum*	WF
Beaked panicum	*Panicum anceps*	
Maidencane	*Panicum hemitomon*	
Bahiagrass	*Paspalum notatum**	
Thin paspalum	*Paspalum setaceum*	
Water-lettuce	*Pistia stratiotes*	
Pickerel weed	*Pontederia cordata*	
Bunched beaksedge	*Rhynchospora cephalantha*	
Fascicled beaksedge	*Rhynchospora fascicularis*	
Sandyfield beaksedge	*Rhynchospora megalocarpa*	
Southern beaksedge	*Rhynchospora microcarpa*	
Fragrant beaksedge	*Rhynchospora odorata*	
Scrub palmetto	*Sabal etonia*	
Cabbage palm	*Sabal palmetto*	
Narrow plumegrass	*Saccharum baldwinii*	
Pinescrub bluestem	*Schizachyrium niveum*	SC, SCF
Crimson bluestem	*Schizachyrium sanguineum*	
Little bluestem	*Schizachyrium scoparium*	
Cuban bulrush	*Scirpus cubensis**	
Saw palmetto	*Serenoa repens*	
Knotroot foxtail	*Setaria parviflora*	
Jeweled blue-eyed grass	*Sisyrinchium xerophyllum*	
Earleaf greenbrier	*Smilax auriculata*	
Laurel greenbrier	*Smilax laurifolia*	
Yellow indiangrass	*Sorghastrum nutans*	
Lopsided indiangrass	*Sorghastrum secundum*	
Smutgrass	*Sporobolus indicus* *	
Cardinal airplant	*Tillandsia fasciculata* var. *densispica*	SCF, BG
Ballmoss	*Tillandsia recurvata*	
Southern needleleaf	*Tillandsia setacea*	
Spanish moss	*Tillandsia usneoides*	
Giant airplant	*Tillandsia utriculata*	SCF, BG
Longleaf spiderwort	*Tradescantia roseolens*	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Carolina yellow-eyed grass	*Xyris caroliniana*	
Elliott's yellow-eyed grass	*Xyris elliottii*	
Fringed yellow-eyed grass	*Xyris fimbriata*	
Adam's needle	*Yucca filamentosa*	
DICOTS		
Seminole false foxglove	*Agalinis filifolia*	
Curtiss' milkweed	*Asclepias curtissii*	SC, SCF
Bigflower pawpaw	*Asimina obovata*	
Netted pawpaw	*Asimina reticulata*	
Coastalplain honeycomb-head	*Balduina angustifolia*	
Tarflower	*Bejaria racemosa*	
Smallfruit beggarticks	*Bidens mitis*	
Ashe's calamint	*Calamintha ashei*	SC, SCF
American beautyberry	*Callicarpa americana*	
Scrub wild olive	*Cartrema floridana*	
Scrub hickory	*Carya floridana*	
Florida rosemary	*Ceratiola ericoides*	
Partridge pea	*Chamaecrista fasciculata*	
Florida Alicia	*Chapmannia floridana*	
Tread-softly	*Cnidoscolus stimulosus*	
Rabbitbells	*Crotolaria rotundifolia*	
Carrotwood	*Cupaniopsis anacardioides**	
Feay's prairieclover	*Dalea feayi*	
Dianella lily; Cerulean flaxlily	*Dianella ensifolia**	
Persimmon	*Diospyros virginiana*	
Tall elephantsfoot	*Elephantopus elatus*	
Florida tasselflower	*Emilia fosbergii**	
Wedgeleaf eryngo	*Eryngium cuneifolium*	SC
Dog-fennel	*Eupatorium capillifolium*	
Strangler fig	*Ficus aurea*	
Elliott's milkpea	*Galactia elliottii*	
Eastern milkpea	*Galactia regularis*	
Narrowleaf purple everlasting	*Gamochaeta falcata*	
Pennsylvania everlasting	*Gamochaeta pensylvanica*	
Garberia	*Garberia heterophylla*	SC, SCF
Dwarf huckleberry	*Gaylussacia dumosa*	
Blue huckleberry	*Gaylussacia frondosa* var. *tomentosa*	
Loblolly-bay	*Gordonia lasianthus*	
Rough hedge-hyssop	*Gratiola hispida*	
Florida scrub frostweed	*Helianthemum nashii*	
Coastal plain hawkweed	*Hieracium megacephalon*	
Roundpod St. John's-wort	*Hypericum cistifolium*	
Highlands scrub hypericum	*Hypericum cumulicola*	SC
Atlantic St. John's-wort	*Hypericum tenuifolium*	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Carolina holly	*Ilex ambigua*	
Dahoon holly	*Ilex cassine*	
Gallberry	*Ilex glabra*	
Scrub holly	*Ilex opaca* var. *arenicola*	
Virginia-willow	*Itea virginica*	
Shrub verbena	*Lantana camara*	
Nodding pinweed	*Lechea cernua*	SC, SCF
Deckert's pinweed	*Lechea deckertii*	
Grassleaf blazing-star	*Liatris graminifolia*	
Scrub blazing-star	*Liatris ohlingerae*	SC, SCF
Shortleaf blazing-star	*Liatris tenuifolia* var. *quadriflora*	
Gopher apple	*Licania michauxii*	
Canada toadflax	*Linaria canadensis*	
Apalachicola toadflax	*Linaria floridana*	
Mexican primrosewillow	*Ludwigia octovalvis*	
Peruvian primrosewillow	*Ludwigia peruviana**	
Rose-rush	*Lygodesmia aphylla*	
Rusty staggerbush	*Lyonia ferruginea*	
Coastalplain staggerbush	*Lyonia fruticosa*	
Maleberry	*Lyonia ligustrina* var. *foliosiflora*	
Fetterbush	*Lyonia lucida*	
Sweetbay	*Magnolia virginiana*	
Melaleuca	*Melaleuca quinquenervia**	
Florida sensitive brier	*Mimosa quadrivalvis* var. *floridana*	
Indian pipe	*Monotropa uniflora*	
Wax myrtle	*Myrica cerifera*	
Pricklypear	*Opuntia humifusa*	
Feay's palafox	*Palafoxia feayi*	
Clustered pellitory-of-the-wall	*Parietaria praetermissa*	
American nailwort	*Paronychia americana*	
Paper nailwort	*Paronychia chartacea*	SC, SCF
Silk bay	*Persea borbonia* var. *humilis*	
Swamp bay	*Persea palustris*	
American pokeweed	*Phytolacca americana*	
Narrowleaf goldenaster	*Pityopsis graminifolia*	
Slenderleaf clammyweed	*Polanisia tenuifolia*	
Racemed milkwort	*Polygala polygama*	
Yellow milkwort	*Polygala rugelii*	
Florida jointweed	*Polygonella basiramia*	SC
Small's jointweed	*Polygonella myriophylla*	SC
October flower	*Polygonella polygama*	
Large-flower jointweed	*Polygonella robusta*	
Dotted smartweed	*Polygonum punctatum*	
Rustweed	*Polypremum procumbens*	
Scrub palm	*Prunus geniculata*	SC

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Sweet everlasting	*Pseudognaphalium obtusifolium*	
Blackroot	*Pterocaulon pycnostachyum*	
Mock bishopsweed	*Ptilimnium capillaceum*	
Chapman's oak	*Quercus chapmanii*	
Sand live oak	*Quercus geminata*	
Scrub oak	*Quercus inopina*	
Dwarf live oak	*Quercus minima*	
Myrtle oak	*Quercus myrtifolia*	
Water oak	*Quercus nigra*	
Live oak	*Quercus virginiana*	
Pale meadowbeauty	*Rhexia mariana*	
Nash's meadowbeauty	*Rhexia nashii*	
Swamp azalea	*Rhododendron viscosum*	
Winged sumac	*Rhus copallinum*	
Sawtooth blackberry	*Rubus pensilvanicus*	
Southern dewberry	*Rubus trivialis*	
Elderberry	*Sambucus nigra*	
Brazilian pepper	*Schinus terebinthifolius**	
Sweetbroom; licorice-weed	*Scoparia dulcis*	
Piedmont black senna	*Seymeria pectinata*	
Scrub-buckthorn	*Sideroxylon tenax*	
Chapman's goldenrod	*Solidago odora* var. *chapmanii*	
Creeping oxeye	*Sphagneticola trilobata**	
Pineland scalypink	*Stipulicida setacea*	
Showy dawnflower	*Stylisma abdita*	SC
Forked bluecurls	*Trichostema dichotomum*	
Caesarweed	*Urena lobata**	
Little floating bladderwort	*Utricularia radiata*	
Sparkleberry	*Vaccinium arboretum*	
Highbush blueberry	*Vaccinium corymbosum*	
Darrow's blueberry	*Vaccinium darrowii*	
Shiny blueberry	*Vaccinium myrsinites*	
Deerberry	*Vaccinium stamineum*	
Muscadine; fox grape	*Vitis rotundifolia*	
Hog-plum; tallowwood	*Ximenia americana*	

*** Non-native Species**

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

FISHES

Bluegill	*Lepomis macrochirus*	SULK
Red-eared sunfish	*Lepomis microlophus*	SULK
Largemouth bass	*Micropterus salmoides*	SULK

AMPHIBIANS

Frogs and Toads

Florida cricket frog	*Acris gryllus dorsalis*	BG
Southern toad	*Anaxyrus terrestris*	SCF, DV
Eastern narrow-mouthed toad	*Gastrophryne carolinensis*	DV
Pig frog	*Lithobates grylio*	SULK
Florida leopard frog	*Lithobates s. sphenocephalus*	BG, SULK, SST

REPTILES

Crocodilians

American alligator	*Alligator mississippiensis*	SULK

Turtles and tortoises

Gopher tortoise	*Gopherus polyphemus*	MF, SCF, SC
Peninsula cooter	*Pseudemys peninsularis*	SULK
Florida softshell turtle	*Apalone ferox*	SULK

Lizards

Green anole	*Anolis carolinensis*	MTC
Six-lined racerunner	*Aspiodoscelis s. sexlineata*	MF, SCF, SC
Brown anole	*Norops sagrei**	MTC
Blue-tailed mole skink	*Plestiodon egregious lividus*	SC, SCF
Southeastern five-lined skink	*Plestiodon inexpectatus*	MTC
Sand skink	*P. reynoldsi*	SC, SCF
Florida scrub lizard	*Sceloporus woodi*	SC
Ground skink	*Scincella lateralis*	MF, SC, SCF

Snakes

Southern ringneck snake	*Diadophis punctatus punctatus*	MTC
Eastern indigo snake	*Drymarchon couperi*	MF, SC, SCF
Eastern coachwhip	*Masticophis flagellum flagellum*	MF, SC, SCF
Peninsula crowned snake	*Tantilla relicta relicta*	MF, SCF
Peninsula (Florida) ribbon snake	*Thamnophis sauritus sackenii*	MTC

*** Non-native Species**

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

BIRDS

Ducks
Wood duck ..... *Aix sponsa* ..... OF, SULK
Mottled duck ..... *Anas fulvigula* ..... SULK
Black-bellied whistling-duck..... *Dendrocygna autumnalis* ..... SULK

Loons
Common loon ..... *Gavia immer* ..... SULK

Grebes
Horned grebe ..... *Podiceps auritus* ..... SULK
Pied-billed grebe ..... *Podilymbus podiceps* ..... SULK

Pheasants, Turkeys, and Quail
Northern bobwhite ..... *Colinus virginianus* ..... MF, SCF
Wild turkey ..... *Meleagris gallopavo* ..... MF, SCF

Pelicans
Eastern brown pelican ..... *Pelecanus occidentalis carolinensis* ..... OF, SULK

Cormorants
Double-crested cormorant ..... *Phalacrocorax auritus* ..... OF, SULK

Darters
Anhinga ..... *Anhinga anhinga* ..... OF, SULK

Bitterns and Herons
Great egret ..... *Ardea alba* ..... DV, SULK
Great blue heron ..... *Ardea herodias* ..... SULK
Green heron ..... *Butorides virescens* ..... SULK
Little blue heron ..... *Egretta caerulea* ..... SULK
Reddish egret ..... *Egretta rufescens* ..... SULK
Snowy egret ..... *Egretta thula* ..... SULK
Tricolored Heron ..... *Egretta tricolor* ..... SULK

Storks
Wood stork ..... *Mycteria americana* ..... SULK

Ibises and Spoonbills
White ibis ..... *Eudocimus albus* ..... MTC

Vultures
Turkey vulture ..... *Cathartes aura* ..... MTC
Black vulture ..... *Coragyps altratus* ..... MTC

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Ospreys		
Osprey	*Pandion haliaetus*	OF, SULK
Hawks, Eagles, and Kites		
Cooper's hawk	*Accipiter cooperii*	MTC
Sharp-shinned hawk	*Accipiter striatus*	MTC
Short-tailed hawk	*Buteo brachyurus*	BG
Red-tailed hawk	*Buteo jamaicensis*	MTC
Red-shouldered hawk	*Buteo lineatus*	MTC
Northern harrier	*Circus cyaneus*	OF
Swallow-tailed kite	*Elanoides forficatus*	OF
Bald eagle	*Haliaeetus leucocephalus*	OF, SULK
Rails and Coots		
Common gallinule	*Gallinula chloropus*	SULK
Purple gallinule	*Porphyrula martinica*	SULK
Limpkins		
Limpkin	*Aramus guarana*	SULK
Cranes		
Sandhill crane	*Grus canadensis*	OF
Plovers		
Killdeer	*Charadrius vociferus*	SULK
Snipes and Sandpipers		
Wilson's snipe	*Gallinago delicata*	SULK
Gulls and Terns		
Ring-billed gull	*Larus delawarensis*	SULK
Bonaparte's gull	*Larus philadelphia*	SULK
Forster's tern	*Sterna forsteri*	SULK
Doves		
Common ground-dove	*Columbina passserina*	MF, SC, SCF
White-winged dove	*Zenaida asiatica*	MTC
Mourning dove	*Zenaida macroura*	MTC
Owls		
Great horned owl	*Bubo virginianus*	MTC
Eastern screech-owl	*Megascops asio*	MTC
Barred owl	*Strix varia*	MTC
Nightjars		
Chuck-will's-widow	*Caprimulgus carolinensis*	MF, SCF

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Whip-poor-will	*Caprimulgus vociferus*	MF, SCF
Common nighthawk	*Chordeiles minor*	MF, SCF
Swifts		
Chimney swift	*Chaetura pelagica*	OF
Kingfishers		
Belted kingfisher	*Megaceryle alcyon*	SULK
Woodpeckers		
Northern flicker	*Colaptes auratus*	MF, SCF
Pileated woodpecker	*Dryocopus pileatus*	MF, SCF, BG
Red-bellied woodpecker	*Melanerpes carolinus*	MTC
Red-headed woodpecker	*Melanerpes erythrocephalus*	MF, SCF
Downy woodpecker	*Picoides pubescens*	MTC
Hairy woodpecker	*Picoides villosus*	BG, MF, SCF, DV
Yellow-bellied sapsucker	*Sphyrapicus varius*	BG, SCF, DV
Falcons		
Caracara	*Caracara cheriway*	OF
Merlin	*Falco columbarius*	OF
American kestrel	*Falco sparverius*	MF, SC, SCF
Flycatchers and Kingbirds		
Great-crested flycatcher	*Myiarchus crinitus*	MF, SCF
Eastern phoebe	*Sayornis phoebe*	MTC
Shrikes		
Loggerhead shrike	*Lanius ludovicianus*	DV, SC
Vireos		
White-eyed vireo	*Vireo griseus*	MTC
Blue-headed vireo	*Vireo solitarius*	MF, SCF, BG
Jays and Crows		
Florida scrub-jay	*Aphelocoma coerulescens*	SC, SCF
American crow	*Corvus brachyrhynchos*	MTC
Fish crow	*Corvus ossifragus*	OF
Blue jay	*Cyanocitta cristata*	MTC
Swallows and Martins		
Purple martin	*Progne subis*	OF
Northern rough-winged swallow	*Stelgidopteryx serripennis*	OF
Tree swallow	*Tachycineta bicolor*	OF

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Chickadees and Titmice		
Tufted titmouse	*Baeolophus bicolor*	BG, MF, SCF
Carolina chickadee	*Poecile carolinensis*	BG, MF, SCF
Nuthatches		
Brown-headed nuthatch	*Sitta pusilla*	MF, SCF
Wrens		
Carolina wren	*Thryothorus ludovicianus*	MTC
House wren	*Troglodytes aedon*	MF, SC
Gnatcatchers		
Blue-gray gnatcatcher	*Polioptila caerulea*	MTC
Kinglets		
Ruby-crowned kinglet	*Regulus calendula*	MTC
Thrushes		
Eastern bluebird	*Sialia sialis*	MF, SCF
American robin	*Turdus migratorius*	MF, SC, SCF
Mimic Thrushes		
Gray catbird	*Dumetella carolinensis*	MTC
Northern mockingbird	*Mimus polyglottos*	MTC
Brown thrasher	*Toxostoma rufum*	MTC
Waxwings		
Cedar waxwing	*Bombycilla cedrorum*	MF, SCF
Warblers		
Common yellowthroat	*Geothlypis trichas*	MF, SCF
Orange-crowned warbler	*Oreothlypis celata*	BG, SCF
Northern Waterthrush	*Parkesia noveboracensis*	BG, SST
Ovenbird	*Seiurus aurocapilla*	MF, SCF
Northern parula	*Setophaga americana*	MTC
Yellow-rumped warbler	*Setophaga coronata*	MTC
Prairie warbler	*Setophaga discolor*	MF, SC, SCF
Yellow-throated warbler	*Setophaga dominica*	MF, SCF
Palm warbler	*Setophagaa palmarum*	MF, SC, SCF
Pine warbler	*Setophaga pinus*	MF, SC, SCF
Sparrows		
Savannah sparrow	*Passerculus sandwichensis*	MTC
Eastern towhee	*Pipilo erythrophthalmus*	MF, SCF, SC
Chipping sparrow	*Spizella passerina*	MF, SCF

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Cardinals and Allies		
Northern cardinal	*Cardinalis cardinalis*	MTC
Summer tanager	*Piranga rubra*	MTC
Blackbirds and Orioles		
Red-winged blackbird	*Agelaius phoeniceus*	MTC
Boat-tailed grackle	*Quiscalus major*	SULK
Common grackle	*Quiscalus quiscula*	MTC
Finches		
House finch	*Haemorhous mexicanus**	DV
American goldfinch	*Spinus tristis*	MTC
MAMMALS		
Armadillos		
Nine-banded armadillo	*Dasypus novemcinctus*	MTC
Rabbits		
Eastern cottontail	*Sylvilagus floridanus*	MTC
Rodents		
Cotton mouse	*Peromyscus gossypinus gossypinus*	SC, SCF
Oldfield mouse	*Peromyscus polionotus*	SC, SCF
Florida mouse	*Podomys floridanus*	SC, SCF
Black rat	*Rattus rattus**	MTC
Eastern gray squirrel	*Sciurus carolinensis*	MTC
Carnivores		
Coyote	*Canis latrans*	MTC
Bobcat	*Felis rufus*	MTC
River otter	*Lutra canadensis*	SULK
Raccoon	*Procyon lotor*	MTC
Gray fox	*Urocyon cinereoargenteus*	MTC
Florida black bear	*Ursus americanus floridanus*	MTC
Ungulates		
White-tailed deer	*Odocoileus virginianus*	MTC
Wild pig	*Sus scrofa**	MTC

*** Non-native Species**

TERRESTRIAL

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

PALUSTRINE

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

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

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

C. Statutory Authority

Statutory Authority and more in depth information can be found at:
http://www.flheritage.com/preservation/compliance/guidelines.cfm

D. Management Implementation

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

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

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

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

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at: http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf.

* * *

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

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

Phone: (850) 245-6425

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

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

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

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

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

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

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

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

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

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

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

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

Addendum 8—Land Management Review

Land Management Review of Lake June-in-Winter Scrub State Park Highlands County (Lease No. 4105): February 27, 2003

Prepared by Division of State Lands Staff

William Howell, OMC Manager
Ginny Morris, Administrative Assistant

For
Lake June in Winter State Park Review Team

Final: May 28, 2003

Land Manager:	DRP
Area:	845 Acres
County:	Highlands County
Mgmt. Plan Revised:	11/06/1997
Mgmt. Plan Update Due:	11/06/2002

Management Review Team Members

Agency Represented	Team member Appointed	Team member In attendance
DEP/DRP	Sally Braem	Sally Braem
DEP South Florida District	Calvin Alvarez	Mark Charneski
DACS/DOF	Bill Korn	Bill Korn
FWCC	Victor Echaves	Kevin Main
Soil and Water Conservation	Don Bates	
County Commission	Vicky Pontius	Carl Smith
Conservation Organization	Adam Peterson	Adam Peterson
Private Land Manager	Alec Fulford	Carl Weekley
Observer (SWFWMD)	William VanGelder	William VanGelder

Process for Implementing Regional Management Review Teams

Legislative Intent and Guidance:

Chapter 259.036, F. S. was enacted in 1997 to determine whether conservation, preservation, and recreation lands owned by the state Board of Trustees of the Internal Improvement Trust Fund (Board) are being managed properly. It directs the Department of Environmental Protection (DEP) to establish land management review teams to evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions, and archaeological features. The teams also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan. If a land management plan has not been adopted, the review shall consider the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices are in compliance with the management policy statement and management prospectus for that property. If the land management review team determines that reviewed lands are not being managed for the purposes for which they were acquired or in compliance with the adopted land management plan, management policy statement, or management prospectus, DEP shall provide the review findings to the Board, and the managing agency must report to the Board its reasons for managing the lands as it has. A report of the review findings are given to the managing agency under review, the Acquisition and Restoration Council, and to the Division of State Lands. Also, DEP shall report the annual review findings of its land management review teams to the Board no later than the second board meeting in October of each year.

Review Site

The management review of Lake June in Winter State Park considered approximately 845 acres in Highlands County that are managed by the Division of Recreation and Parks. The team evaluated the extent to which current management actions are sufficient, whether the land is being managed for the purpose for which it was acquired, and whether actual management practices, including public access, are in compliance with the management plan. The DRP revised the management plan on November 6, 1997, and the management plan update was due on November 6, 2002.

Review Team Determination

Is the land being managed for the purpose for which it was acquired?

After completing the checklist, team members were asked to answer "yes" or "no" to this question. All team members agreed that Lake June in Winter State Park is being managed for the purpose for which it was acquired.

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

After completing the checklist, team members were asked to answer "yes" or "no" to this question. All team members agreed that actual management practices, including public access, were in compliance with the management plan for this site.

Commendations to the Managing Agency

1. The team commends the DRP for their partnering efforts with the Archbold Biological Station and with other specialists, to augment efforts collecting information on listed species, to accomplish resource management objectives. (Vote: 7+, 0-)

Exceptional Management Actions

The following items received high scores on the review team checklist (see attachment 1), which indicates that management actions exceeded expectations

Exceptional management actions

- Management and protection the baygall communities.
- Protection and preservation of listed plants and animals.
- Excellent survey of, and protection and preservation of cultural resources.
- Frequency of prescribed fire is excellent.
- Excellent management of issues related to expanding development adjacent to the park.
- Exceptional recreational opportunities and environmental education programs.

Recommendations and Checklist Findings

The management plan must include responses to the recommendations and checklist items that are identified below.

Recommendations

The following recommendations resulted from a discussion and vote of review team members.

1. **The team recommends that the natural communities need to be remapped based on rare plant species. Specifically, rosemary balds should be specifically identified as a separate natural community requiring different management than other scrub communities. (VOTE: 7+, 0 -)**

Manager's Response: Disagree. Natural community maps in UMP follow the FNAI classification which does not distinguish "rosemary balds". However, the matter of special management for rosemary can be considered in the park planning process and, if deemed appropriate, addressed in the next updated UMP.

2. **The team recommends that DRP further evaluate the need for a swimming area involving a beach, considering the sensitivity of this area, and the safety issues. (VOTE: 7+, 0-)**

Manager's Response: Agree. DRP will evaluate the need for the swimming area, as well as all of the resource management, land use, and operational recommendations for the park in the next updated UMP.

3. **The team recommends that the management plan should identify clearly the recreation and resource management goals and objectives. (VOTE: 7+, 0 -)**

Manager's Response: Agree. The natural, cultural, recreational, and operational goals and objectives are developed during the park planning process and will be included in the UMP.

4. **The team recommends that the burn and resource management goals, including scrub jay objectives, be specified by natural community type in the management plan. (VOTE: 7+, 0 -)**

Manager's Response: Disagree. Community-specific burn goals and species-specific management goals for each community are regularly reviewed and such details should not be included in the UMP. District and park managers and biologists in consultation with others determine the specific resource management action that is necessary. Decisions on the use of prescribed fire as a tool for Florida scrub-jay management are made in consultation with a Florida scrub-jay expert at Archbold Biological Station.

5. **The team recommends that, due to the rarity of the rosemary bald natural community and its pristine condition, that any road hardening improvements through this community, would be detrimental to this community, and should be reconsidered. (VOTE: 7+, 0 -)**

Manager's Response: Disagree. The road mentioned here leads to a youth camp. Soft sand makes access difficult. Therefore the road may need to be stabilized. We will consider any potential impacts on this species when establishing plans for stabilizing the access road. We do not plan to use any materials in this project that would have any noticeable impacts on the adjacent "rosemary balds."

6. **The team recommends that a biologist position be located at the Highlands Hammock Park site because of the environmental significance of the scrub sites, and their associated high concentration of listed species. (VOTE: 7+, 0 -)**

Manager's Response: Agree. A biologist would be very useful at this park and the other parks that are managed in association with it. Although position is needed, no new staff can be assigned to this or any park unit unless the new positions are approved and funded by the Legislature.

Checklist findings

The following items received low scores on the review team checklist (see Attachment 1), which indicates that management actions, in the field, were insufficient (f) or that the issue was not sufficiently addressed in the management plan (p). These items need to be further addressed in the management plan update.

1. Expanded discussion in the management plan of the rosemary scrub, mesic flatwoods, scrubby flatwoods, and seepage slope communities. (p).
Manager's Response: Agree in part. See the response to Recommendation #1 above concerning "rosemary balds". We believe the existing discussions of the other three communities are adequate.

2. Expanded discussion in the management plan of listed animals and plants (p).
Manager's Response: Disagree. We have reviewed the discussion and believe it is sufficient.

3. Discussion in the management plan of the need to burn more of the park and the appropriate heat intensity of the burns. (p).
Manager's Response: Disagree. See the response to Recommendation #4 above.

4. Expansion of the discussion in the management plan of invasive plants.(p).
Manager's Response: Disagree. The invasive plants are identified and the importance of removing them is clearly stated. The existing discussion is deemed adequate.

5. Discussion in the management plan of need for culverts and soil erosion control.(p,f).
Manager's Response: Agree. Erosion problems in the parking lot will be addressed in the next updated UMP.

6. Expanded discussion in the management plan of the need for additional interpretive kiosks. (p).
Manager's Response: Agree. The next updated UMP will address the need for kiosks and an interpretive plan.

7. Expanded discussion in the management plan of the need for more law enforcement at this site. (p,f).
Manager's Response: Agree. Law enforcement problems and needs will be addressed in the next updated UMP.

8. Discussion in the management plan of the need for ground water quantity and surface water quality and quantity monitoring. (p,f).
Manager's Response: Agree. The unit planning process considers the potential need for monitoring waters and those confirmed will be addressed in the next updated UMP.

9. Expansion of the discussion in the management plan of impacts from adjacent development including houses, orange groves and the possible extension of Dapha road. (f).
Manager's Response: Agree in part. The extension of Daffodil Road should be discussed in the next updated UMP.

10. Discussion in the management plan of inholding/addition needs for this site.(p).

Manager's Response: Disagree. There are no inholdings, and virtually no future opportunity for the park to be expanded.

11. Discussion in the management plan of the need for additional sanitary facilities. (f).
Manager's Response: Agree. The need for park facilities, including sanitary facilities, is regularly considered during the park planning process and addressed as needed in the next updated UMP.

12. Discussion in the management plan of the need for additional buildings, equipment, staff and funding. (f).
Manager's Response: Agree. The need for staff, structures, facilities, and funding is considered during the park planning process and the supported needs are included in the UMP. Although additional staff is needed at this park, no new staff can be assigned to this or any park unit unless the new positions are approved and funded by the Legislature or reassigned from other units. Additional staff is needed by many of our parks which is why we regularly seek positions, volunteers, and partners to help us overcome staff deficiencies. The construction of proposed new structures and facilities is dependent upon budgetary priorities of DRP and DEP and legislature funding.

Team Member's Comments

Natural Communities: protection and maintenance: (I.A)

- Mesic Flatwoods are in need of prescribed fire. Good application of fire on several scrub sites. Management plan requires better definition in community map. Rosemary areas need to be mapped and monitored separate from remaining scrub. More effort needed to survey seepage areas and other sensitive sites.
- Scrub/Rosemary and baygall exotics Boston fern/erosion issues/storm water from roadway entering slopes – need to walk each slope to headwater and map and control exotics, and storm water from residential areas.
- Need to burn more rosemary scrub, SF too.
- Plan not specific enough. Fire return intervals and specific management actions, maps and figures not sufficient. Detail! Overall management excellent.

Listed Species: protection and preservation: (I.B)

- Management plan doesn't address specific population conditions and management treatments required for each of the major listed species. Great work collecting survey data on listed plants and gopher tortoise. Scrub jays are also receiving some survey work.
- Burn more.
- Again, not specific. Needs detail of management actions – burn program is showing good results.

Cultural Resources: (II.A; II.B)

- Quail cove site information lists the wrong STR. Should be removed altogether as it's off site.
- Not much to identify or protect. Ensure future development does a thorough survey for artifacts.

Prescribed Fire (Natural Community Maintenance): (III.A)

- Management plan should provide greater detail on prescribed fire objectives, return intervals, quality indices and treatments for each of the natural communities.
- Plan does not have written schedule of burning outlined for each community.
- Burn more.
- Plan lacks detail. Could be more aggressive, burns done show great results.

Non-native Invasive and Problem Species: (III.D)

- Taro, Boston fern, and other exotics present are not covered in the management plan. Hogs don't appear to be a bad problem. Exotics need to be mapped. Some aquatics have been treated.
- Need active hog trapping program outlined in program. Some new exotic plants discovered but not addressed in plants.
- Survey bay heads annually for climbing fern. Keep an eye on feral cats, treat Boston fern and climbing fern.
- Specific actions for plants? (Not in plan)
- Better monitoring and inventory of these.

Hydrologic/Geologic Function: (III.E)

- Soil erosion/runoff from limerock road to parking/lakeside picnic area needs to be corrected. Culvert may be needed at woods road crossing of ditches near beehives. None of the water quality/quantity testing of seepage streams, etc identified in the plan have been accomplished.
- Roads/culverts – erosion noted at entrance road and ditch off of road possibly leading to seepage slope – Ground Water Monitoring – nothing specified or done. Orange groves could contaminate site. Recommend ground water wells.
- Fix erosion by parking area. Surface water monitoring not required for proper management (my opinion). Ground water monitoring not required for proper management (my opinion).

Resource Protection: (III.F)

- Gate on south end busted off hinges when.
- Fencing and gates in disrepair. Law enforcement presence not provided. Main sign vandalized and gate removed routinely.

Adjacent Property Concerns: (III.G)

- No control of exotics evident. Pesticides and fertilizer from orange grove may adversely affect scrub jays.
- Keep an eye on county plans to put a road down west side.

Exceptional Management Actions:

- Restored burn cycle to ecosystem.
- Good job on exotics, prescribed burning and initial surveys for listed species.
- Rx fire program good overall. Could be more aggressive but is on the right track.
- Cooperation with Archbold and Ridge rangers.

Areas of Insufficient Management:

- Management plan: needs to include better maps, lists of plants, fire plan, exotics.
- Swimming access: rear dock vs. beach
- Sanitary facility: need toilet at camp
- Waste disposal – need garbage cans at camp

- Burn more.
- Management plan (including burn plan): needs to be more specific with explicit goals and timelines.
- Better identification/monitoring of rare species.

Recommendations for Improving Management of this Site:

- Suggest a more formal work plan with objectives regarding strategies for managing scrub jays. This must include Archbold staff, as they appear to have a large role in directing the program.
- Recommend that parking area design, posts, erosion, etc be evaluated and modified to provide an aesthetic experience, to limit vehicle trespass, and prevent runoff.
- Swimming access should be reconsidered or dock used instead of bringing in fill for beach. Install better gates, fencing, and parking and better marked trails. Install groundwater-monitoring wells near orange groves. Connect to city (water sewer) to provide sanitary needs for shower/bathrooms.
- Burn more (did I say this before).
- Reconsider creation of sand beach, dock extending into lake would be an alternative.
- An updated plan with specific management actions listed ie, fire return intervals, exotics plan including treatments. Remap natural communities – designate sand pine scrub as rosemary scrub and scrub as scrubby flatwoods and change management objectives accordingly. Develop/institute monitoring – plant, community. Exotics and fire response.
- Shed and residence.

Attachment I

PLAN REVIEW		1	2	3	4	5	6	7		Average
Mesic Flatwoods	I.A.1		1	0	1	0	0	1		0.50
Scrubby Flatwoods	I.A.2	0	1	0	1	0	0	0		0.29
Scrubby Flatwoods	I.A.3	0	1	0	1	0	0	1		0.43
Baygall	I.A.4	1	1	0	1	0	0	1		0.57
Seepage Slope	I.A.5	0	1	0	1	0	0	1		0.43
Animals	I.B.1	0	1	0	1	0	1	0		0.43
Plants	I.B.2	0	1	0	1	0	1	0		0.43
Survey	II.A	0		0	1	1	1	1		0.67
Protection and Preservation	II.B	1	1	0	1	1	1	1		0.86
Area Being Burned	III.A.1	0	1	0	1	0	0	1		0.43
Frequency	III.A.2	0	1	1	1	0	0	1		0.57
Quality	III.A.3	0		0	1	0	0	1		0.33
Animals	III.D.1	1	1	0	1	0	1	1		0.71
Plants	III.D.2	0	1	0	1	0	0	1		0.43
Roads/Culverts	III.E.1a	0	1	0		0	0	1		0.33
Soil Erosion	III.E.1b	0				0	0			0.00
Ground water quantity	III.E.2b			0		0	0			0.00
Surface water quality	III.E.3a	1	0	0		0	0	1		0.33
Surface water quantity	III.E.3b	1		0		0	0	1		0.40
Boundary survey	III.F.1	1	1	1	1	1	0	1		0.86
Gates & fencing	III.F.2		1	0	1	1	0			0.60
Signage	III.F.3	0	1	0	1	1	0			0.50
Law enforcement presence	III.F.4	0	1	0	1	1	0			0.50
Expanding Development	III.G.1a	1	1	0		0	0			0.40
Orange Groves	III.G.1b	0	0	0		0	0			0.00
Extention of Dapha Road	III.G.1c	0	0		1		0			0.25
Inholdings/additions	III.G.2	1		0	1		0			0.50
Roads	IV.1a	1	1	1	1	1	0	1		0.86
Parking	IV.1b	0	1	1	1	1	0	0		0.57
Water Access	IV.1c	1		1	1	1	0	1		0.83
Recreational opportunities	IV.2	1	1	1	1	1	0			0.83
Interpretive facilities and signs	IV.3		1	0	1	1	0			0.60
Environmental education/outreach	IV.4		1	0	1	1	0			0.60
Hiking	VI.A.2	1	1	1	1	1	1	1		1.00
Picnic	VI.A.3	1	1	1	1	1	1	1		1.00
Nature Studies	VI.A.4	1	1	1	1	1	1	1		1.00
Swimming	VI.B.1	1	1	1	1	1	1			1.00
Fishing	VI.B.2	1	1	1	1	1	1			1.00
Canoeing/Kayaking	VI.B.3	1	1	1	1	1	1			1.00
Group Camping	VI.B.4	1	1	1	1	1	1			1.00

FIELD REVIEW		1	2	3	4	5	6	7		Average
Mesic Flatwoods	I.A.1	3	2	4	4	x	x	4		3.40
Scrubby Flatwoods	I.A.2	4	4	4	1	3	5	3		3.43
Scrubby Flatwoods	I.A.3	4	3	4	2	3	3	4		3.29
Baygall	I.A.4	4	3	2	3	5	4	5		3.71
Seepage Slope	I.A.5	3	3	2	3	1	3	3		2.57
Animals	I.B.1	4	2	4	2	4	5	4		3.57
Plants	I.B.2	5	4	4	2	3	5	4		3.86
Survey	II.A	3	x	3	3	5	3	4		3.50
Protection and Preservation	II.B	3	x	3	3	5	3	4		3.50
Area Being Burned	III.A.1	3	3	3	1	4	2	4		2.86
Frequency	III.A.2	3	3	4	3	5	3	4		3.57
Quality	III.A.3	4	3	2	5	5	5	4		4.00
Animals	III.D.1	3	4	2	3	5	3			3.33
Plants	III.D.2	3	4	2	1	5	3			3.00
Roads/Culverts	III.E.1a	2	3	2	1	3	3	4		2.57
Soil Erosion	III.E.1b	2	2			3	3			2.50
Ground water quantity	III.E.2b	3	x	1	5	x	x			3.00
Surface water quality	III.E.3a	2	1		5	3	3	1		2.50
Surface water quantity	III.E.3b	2	1		5	x	3	1		2.40
Boundary survey	III.F.1	4	3	4	5	5	5	5		4.43
Gates & fencing	III.F.2	3	1	2	3	5	4	4		3.14
Signage	III.F.3	3	3	3	3	5	4			3.50
Law enforcement presence	III.F.4	3	1	1	3	4	3			2.50
Expanding Development	III.G.1a	3		4		5	3			3.75
Orange Groves	III.G.1b	3		2		5	3			3.25
Extention of Dapha Road	III.G.1c	3			2		3			2.67
Inholdings/additions	III.G.2	3		2	3		3	5		3.20
Roads	IV.1a	3	3	2	3	3	5			3.17
Parking	IV.1b	2		2	3	3	5			3.00
Water Access	IV.1c	2	2	2	3	3	5			2.83
Recreational opportunities	IV.2	3	3	2	3	5	5			3.50
Interpretive facilities and signs	IV.3	3	3	2	3	3	3			2.83
Environmental education/outreach	IV.4	4	4	3	3	4	4			3.67
Waste Disposal	V.1a	3	3	2	3	5	3			3.17
Sanitary Facilities	V.1b	2	1	1	3	5	1			2.17
Buildings	V.2a	2	1	3	1		1			1.60
Equipment	V.2b	2	3	3	1		1			2.00
Staff	V.3	2	1	2	1	4	1			1.83
Funding	V.4	2	1	2	1	4	1			1.83