

Florida Department of Environmental Protection

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3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

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Secretary

October 24, 2016

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

RE: Ponce de Leon Springs State Park - Lease #2533

Dear Ms. Murray:

On **October 21, 2016**, the Acquisition and Restoration Council recommended approval of the **Ponce de Leon Springs State Park** management plan. Therefore, the Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the **Ponce de Leon Springs State Park** management plan. The next management plan update is due October 21, 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,

A handwritten signature in black ink that reads "Paula L. Allen". The signature is fluid and cursive.

Paula L. Allen
Office of Environmental Services
Division of State Lands
Department of Environmental Protection

Ponce de Leon Springs State Park

APPROVED
Unit Management Plan

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks
October 2016



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INTRODUCTION

Ponce de Leon Springs State Park is located in Holmes and Walton County (see Vicinity Map). Access to the park is from north of Interstate 10, in the town of Ponce de Leon (see Reference Map). The park entrance is located off Holmes County Road 181A, which is accessed from U.S. 90. The Vicinity Map also reflects significant land and water resources existing near the park.

Ponce de Leon Springs State Park was initially acquired on September 4, 1970 with funds from the Land Acquisition Trust Fund (LATF). Currently, the park comprises 386.94 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to the park and on August 17, 1983, the Trustees leased (Lease Number 2533) the property to DRP under a fifty-year lease. The current lease will expire August 16, 2033.

Ponce de Leon Springs 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 Ponce de Leon Springs State Park is to develop, operate and maintain the property for outdoor recreation, park, conservation, historic, and related purposes. The park offers abundant opportunity for nature appreciation and wildlife viewing. Its primary recreational and interpretive activities include swimming in the spring and spring-run stream and hiking along the park's nature trails.

Park Significance

- The park's principal distinctive feature is the Ponce de Leon Spring, itself. The three boils of this second-magnitude spring produce approximately 14 million gallons of crystal clear water daily and yield a 350-foot long spring-run stream with a sandy bottom. At its juncture, the spring's clear waters mix with the tannic waters of Sandy Creek.
- The park protects habitat for four rare species of pitcher plant – parrot, purple, red, and trumpet-leaf. Likewise, the park protects habitat for notable plant species such as flame azalea, mountain laurel, and longleaf pine.
- The park's old growth pinelands are home to the gopher tortoise. A wide range of size and age classes are present, indicating one of the healthiest and locally abundant populations in the central panhandle.

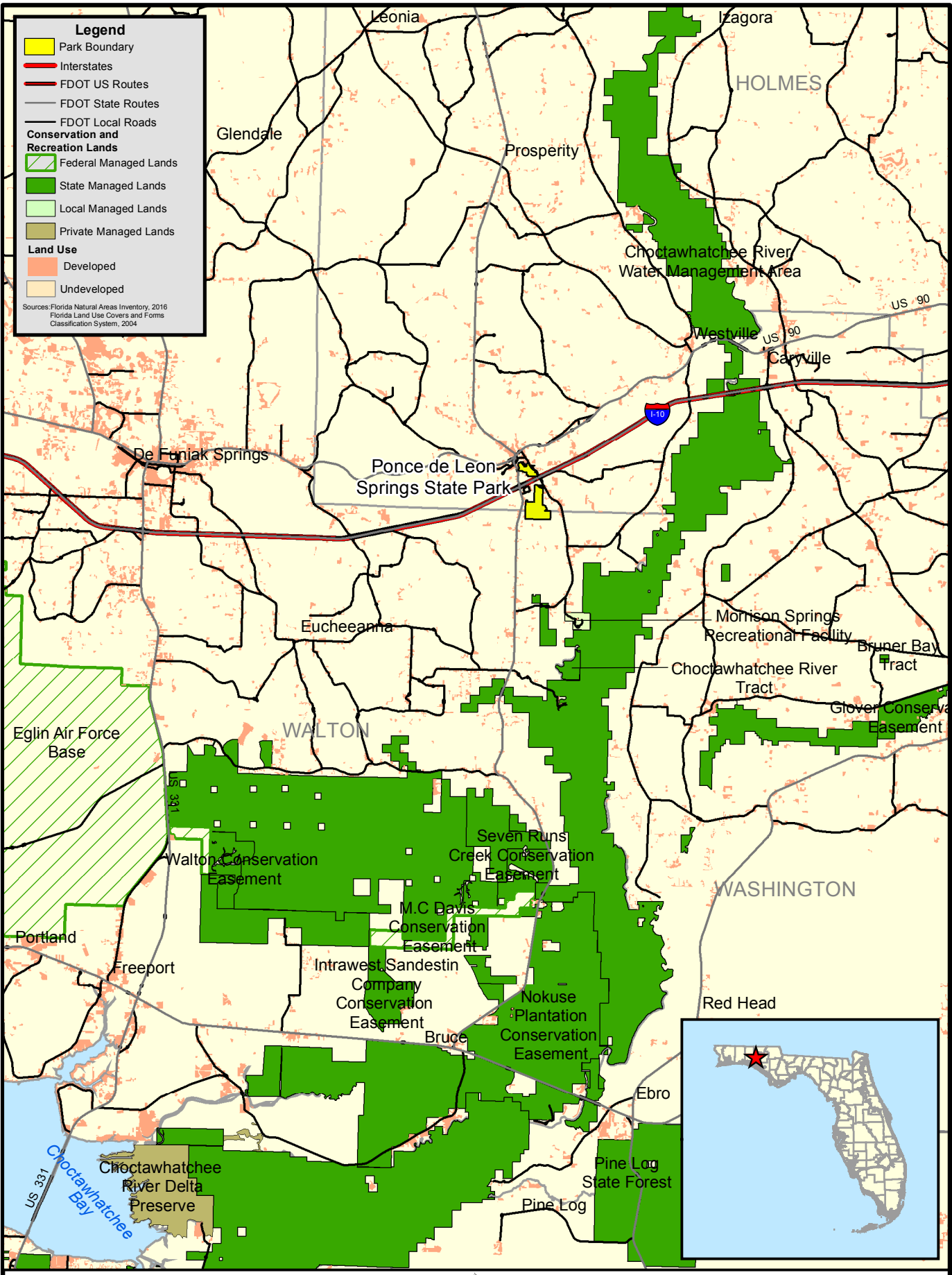
- The park preserves over 40 acres of historic turpentine woodlands, evidenced by cat-faced longleaf pines and the remains of turpentine cups and gutter systems used to collect resin for the once prolific naval stores industry. Use of this area dates from the early 1900s to 1950.
- The park protects and interprets the Holmes Valley Escarpment between Florida's Western Highlands, River Valley, and Coastal Plains provinces, where a topography of rolling hills transitions into floodplain forest and swamp, which follow the flows of Sandy Creek, Mill Creek, and Blue Creek as they connect with the spring-run stream, blackwater stream, Choctawhatchee River, and Gulf of Mexico.

Ponce de Leon Springs State Park is classified as a state recreation area in the DRP's unit classification system. In the management of a state recreation area, major emphasis is placed on maximizing the recreational potential of the unit. However, preservation of the park's natural and cultural resources remains important. Depletion of a resource by any recreational activity is not permitted. In order to realize the park's recreational potential, the development of appropriate park facilities is undertaken with the goal to provide facilities that are accessible, convenient and safe, to support public recreational use or appreciation of the park's natural, aesthetic and educational attributes.

Purpose and Scope of the Plan

This plan serves as the basic statement of policy and direction for the management of Ponce de Leon Springs 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: the 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.



Legend

- Park Boundary
- Interstates
- FDOT US Routes
- FDOT State Routes
- FDOT Local Roads

Conservation and Recreation Lands

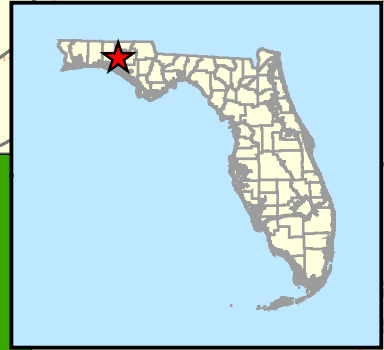
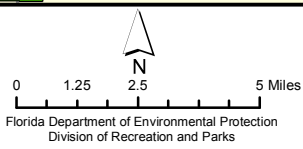
- Federal Managed Lands
- State Managed Lands
- Local Managed Lands
- Private Managed Lands

Land Use

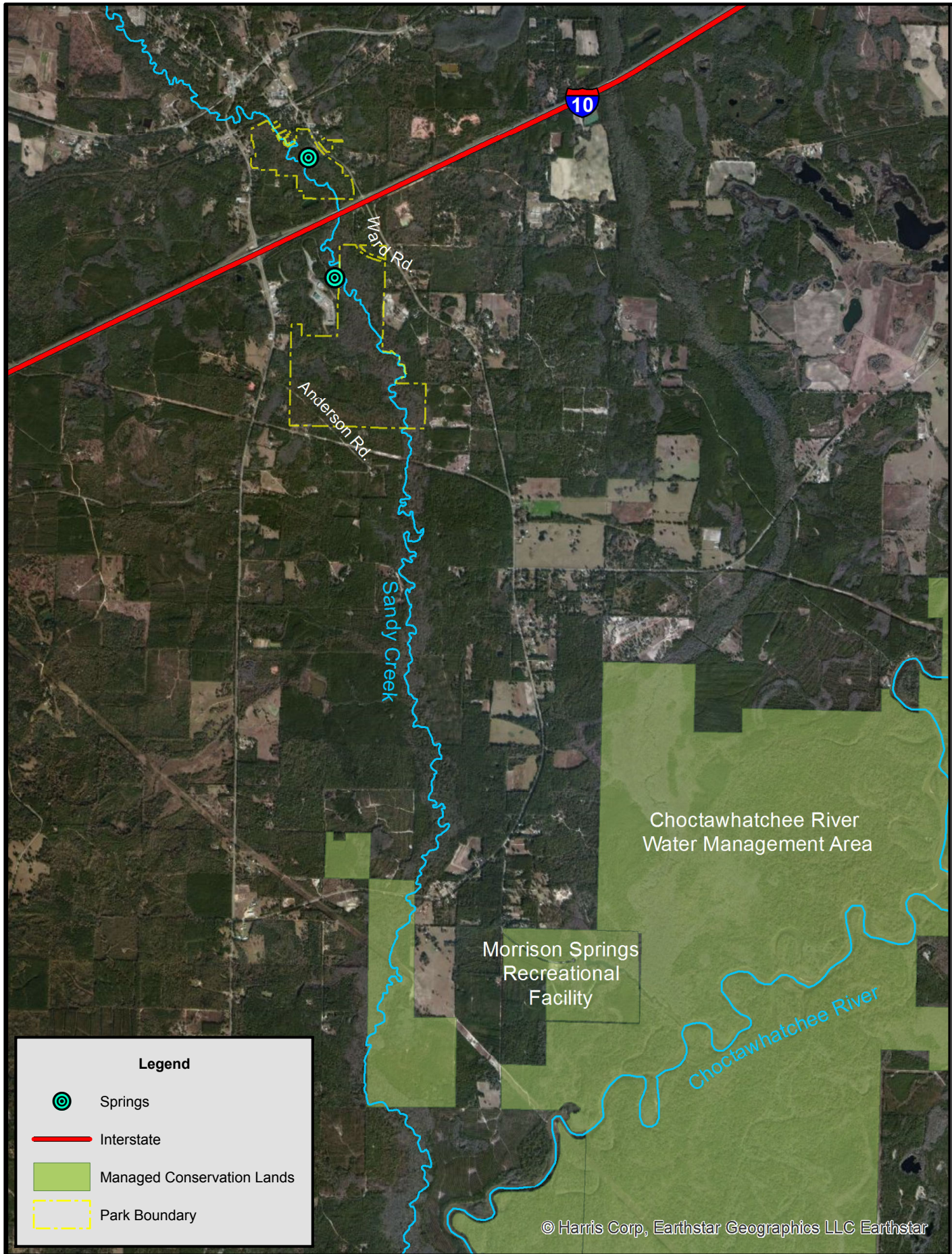
- Developed
- Undeveloped

Sources: Florida Natural Areas Inventory, 2016
Florida Land Use Covers and Forms Classification System, 2004





**PONCE DE LEON
SPRINGS
STATE PARK**



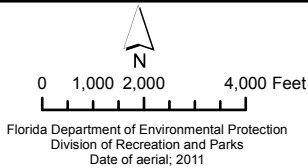
VICINITY MAP



Legend

-  Springs
-  Interstate
-  Managed Conservation Lands
-  Park Boundary

PONCE DE LEON SPRINGS
STATE PARK



REFERENCE MAP

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

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

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

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 DRP's statutory responsibilities and the resource needs and values of the park. This analysis considered the park's natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that use of the park as a gopher tortoise recipient site, apiary, and for collection of fuel wood and hardwood chippings, as well as timber harvesting could be accommodated in a manner that would be compatible and not interfere with the primary purpose of resource-based outdoor recreation and conservation. These compatible secondary management purposes are addressed in the Resource Management Component of the plan. 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 or the management purposes of the park.

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 use of the park as a gopher tortoise recipient site, apiary, and for collection of fuel wood and hardwood chippings, as well as timber harvesting would be appropriate at this park as additional sources of revenue for land management since they are compatible with the park's primary purpose of resource-based outdoor recreation and conservation.

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 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 concessions, 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.

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 Thursday, June 2 and Friday, June 3, 2016, respectively. Meeting notices were published in the Florida Administrative Register, on Wednesday, May 25, 2016, Volume 42, Issue 102, 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

Ponce de Leon Springs 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.

Management Zone	Acreage	Managed with Prescribed Fire
PL-A	5.5	Y
PL-B	52.1	Y
PL-C	49.6	N
PL-D	20.8	Y
PL-E	14.0	Y
PL-F	49.0	Y
PL-G	13.2	Y
PL-H	26.2	Y
PL-I	100.5	N
PL-J	3.87	N
PL-K	42.7	N
PL-L	79.4	N

RESOURCE DESCRIPTION AND ASSESSMENT

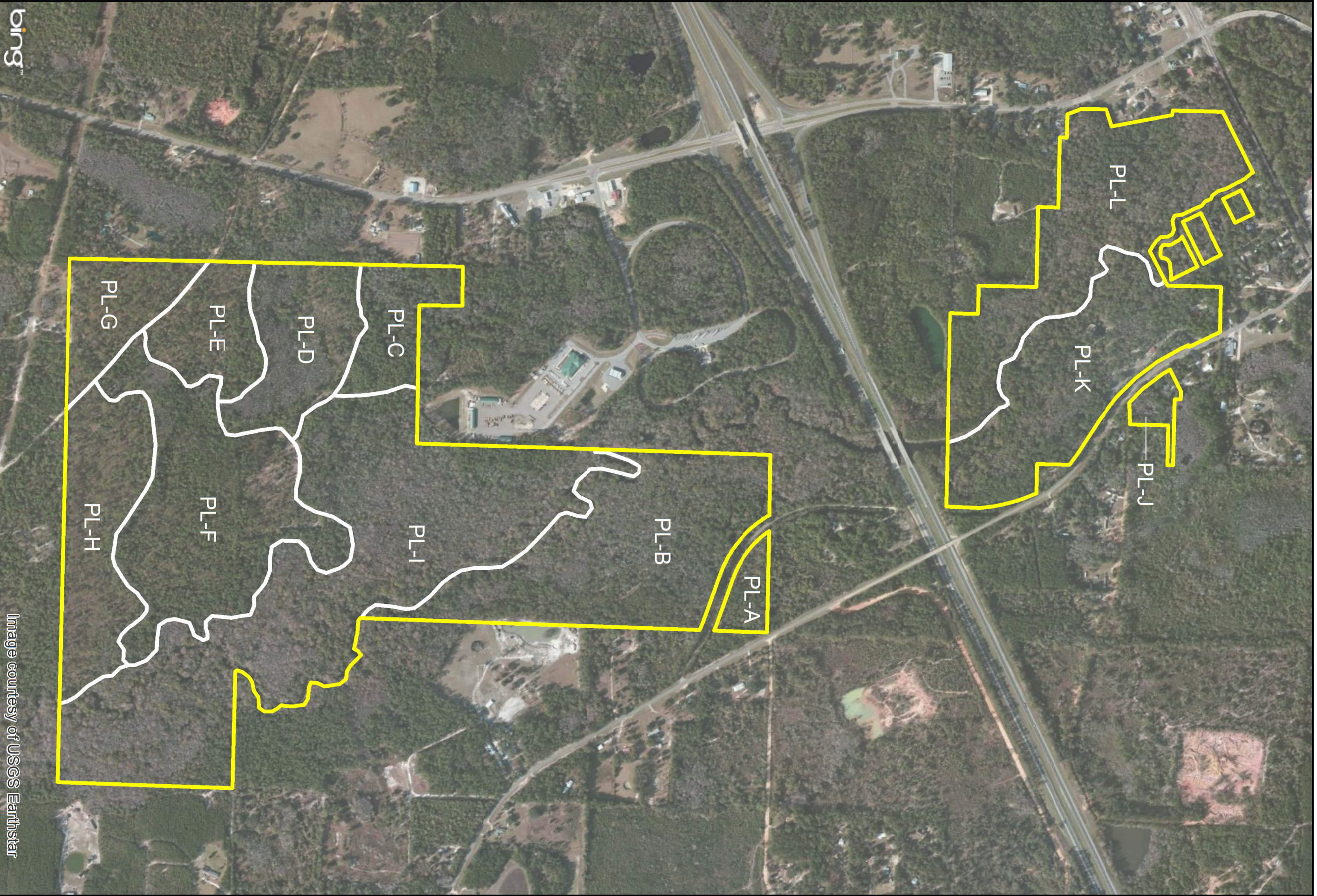
Natural Resources

Topography

The topography of the park is sloping to level interspersed with streams of multiple sizes catching drainage from these slopes. A couple of sinks formed from solution of the underlying limestone are also found in the park. Holmes County is divided roughly into the River Valley Province, which includes floodplains and stream systems of the Choctawhatchee River, and, secondly, the Coastal Lowlands Province. This park falls within the River Valley Province that covers all but the western part of Holmes County. Solution of sinkholes and erosion of uplands has created topography that is lower than the sandy uplands farther south of the Coastal Plains Province. The higher elevations of the sandhills of the Coastal Plains Province to the south results in a north facing slope or escarpment also called the Holmes Valley Escarpment that divides the River Valley Province of the park from the Coastal Plains Province.

Geology

The geologic formations found at the surface of Holmes County include strata ranging in age from the upper Eocene to recent times. The oldest stratum exposed belongs to the Ocala limestone (Jackson Group) and the youngest deposit found is the recent alluvium. Analysis of early strata implies that it was formed in a marine environment with the strand line (or historic shoreline) lying north to west. Not until the Miocene does the non-marine environment make its appearance, and then only in the form of stream and possible delta extensions from the west. These extensions thin rapidly from west to east, and simulate wedges between more typical marine deposits. Following the Oligocene, the strand line in Florida shifted south and east, and Miocene deltaic and marine deposits intermixed. Holmes



PL-L

PL-K

PL-J

PL-A

PL-B

PL-I

PL-C

PL-D

PL-E

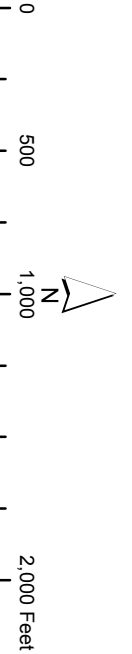
PL-F

PL-G

PL-H

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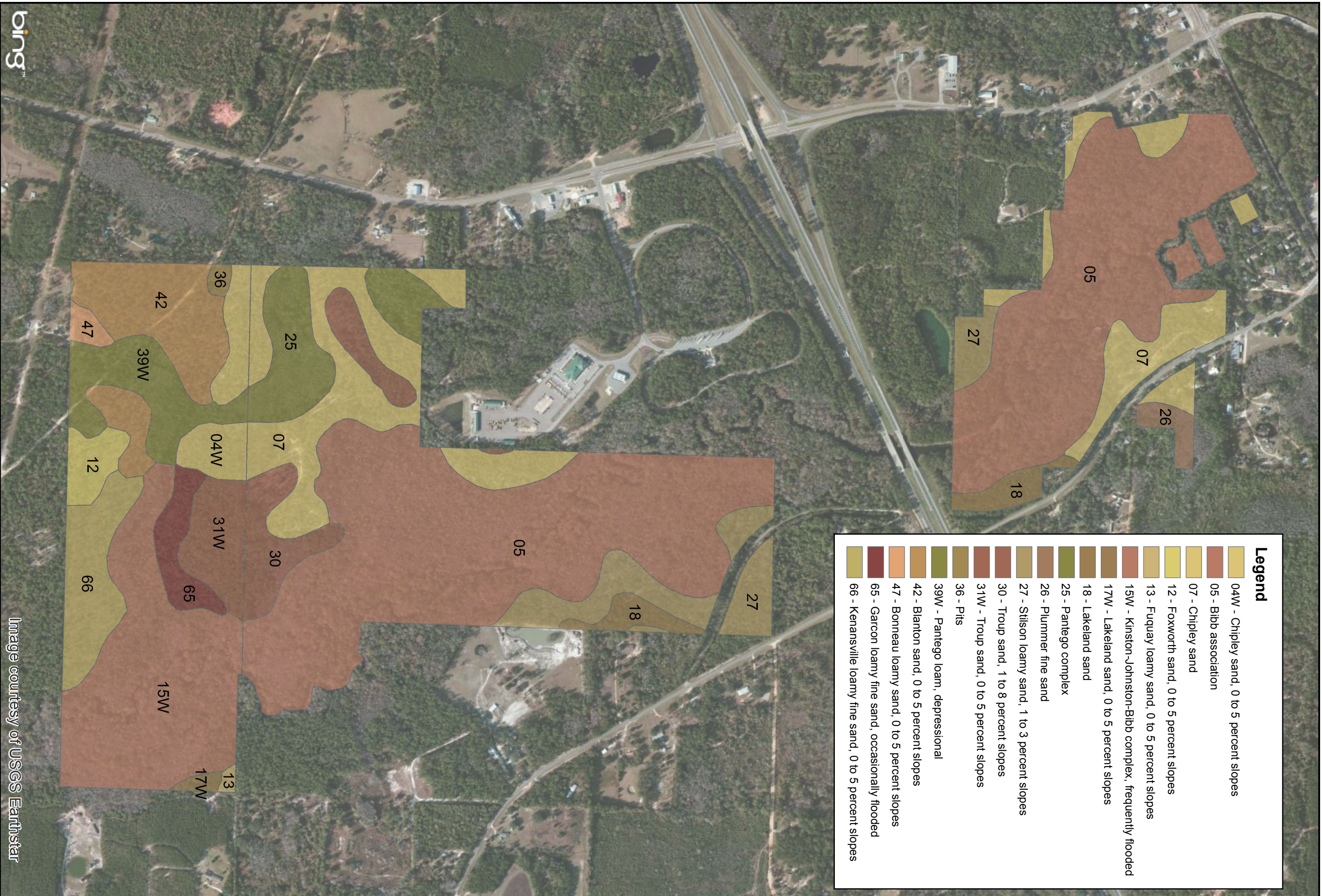
PONCE DE LEON SPRINGS
STATE PARK



Florida Department of Environmental Protection
Division of Recreation and Parks
Date of Aerial: 2010

MANAGEMENT ZONES
MAP

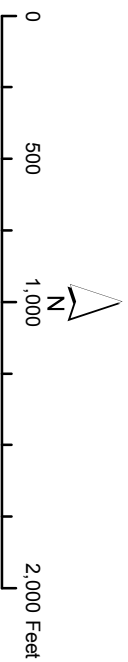
Image courtesy of USGS Earthstar



Legend	
04W - Chipley sand, 0 to 5 percent slopes	04W
05 - Bibb association	05
07 - Chipley sand	07
12 - Foxworth sand, 0 to 5 percent slopes	12
13 - Fuquay loamy sand, 0 to 5 percent slopes	13
15W - Kinston-Johnston-Bibb complex, frequently flooded	15W
17W - Lakeland sand, 0 to 5 percent slopes	17W
18 - Lakeland sand	18
25 - Pantego complex	25
26 - Plummer fine sand	26
27 - Stilson loamy sand, 1 to 3 percent slopes	27
30 - Troup sand, 1 to 8 percent slopes	30
31W - Troup sand, 0 to 5 percent slopes	31W
36 - Pits	36
39W - Pantego loam, depressional	39W
42 - Blanton sand, 0 to 5 percent slopes	42
47 - Bonneau loamy sand, 0 to 5 percent slopes	47
65 - Garcon loamy fine sand, occasionally flooded	65
66 - Kenansville loamy fine sand, 0 to 5 percent slopes	66

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PONCE DE LEON SPRINGS
STATE PARK



Florida Department of Environmental Protection
Division of Recreation and Parks
Date of Aerial: 2010

Image courtesy of USGS Earthstar

SOILS MAP

County lies on the seaward side of the delta creating irregular margins of mixed sediment. Rapidly changing conditions along these irregular margins produced a complicated sequence of sediments. This is especially true of the Choctawhatchee formation. The appearance of abundant gravel and coarse sand characteristic of the terrace deposits indicates a marked change in the sedimentary environment of these counties. Such deposits are characteristic of the Pliocene and Pleistocene in the Florida Gulf Coast Region.

Soils

Nineteen distinct soil series are found at Ponce de Leon Springs State Park (see Soils Map) which are part of the Troup-Fuquay general association, with thick layers of sandy soil over a loam substrate. Blackwater streams, springs, and floodplain areas occur largely along Bibb Series soils. These soils are nearly level and poorly drained loamy fluvial deposits. Pineland communities occur largely along Chipley Sand, Troup Sand, and Stilson Loamy Sand. Bog wetlands occur mostly along Pantego Loam. A detailed description of the soil types that occur at the park is contained in Addendum 3. The threat of erosion from the use area due to visitor impact especially along the spring and spring run creek at this park poses a challenge to the conservation of soil resources. Measures that safeguard soil resources such as protection of native vegetation, stormwater runoff facilities and armoring of high-use walkways will help deter erosion as park visitation increases.

Minerals

There are no known minerals of commercial value at Ponce de Leon Springs State Park.

Hydrology

The drainage system of Holmes County is described as a dendritic drainage system (U.S. Soil Survey, 1975). Stream heads forming in the wide bottomland areas gather momentum and merge into larger streams. The Choctawhatchee River flows to the south through the center of Holmes County. Water resources are abundant in Holmes County and wells in sandy soils generally reach water within one hundred feet. In most instances, these are satisfactory for domestic purposes, but in some areas of the county deeper wells are preferred. Valuable waterbeds occur in the basal beds of the Alum Bluff group, and of the Arca zone of the Choctawhatchee formation. Artesian waterbeds are common in the Ocala limestone formations, but only in the deeper valleys of Holmes County are flowing wells found. Ponce de Leon Spring produces approximately less than 12 million gallons of water per day, and is classified as a second magnitude spring system. These flow rates have decreased by almost half since 1942. Water for Ponce de Leon Spring originates from the Floridan Aquifer. The water is clear and has a constant temperature of 68 degrees F. The spring-run is approximately 350 feet in length and flows into Sandy Creek, a blackwater stream. Sandy Creek flows out of the park and into the Choctawhatchee River. The Choctawhatchee River basin drains roughly 3,300 square miles of Northwest Florida. The river carries a relatively high-suspended sediment load

throughout the basin, depositing it into Choctawhatchee Bay. There are no man-made canals on the property but two ditches in PL-B. Historically, Sandy Creek is impacted by the DeFuniak Springs Sewage Treatment Plant but in 1998 it changed to using sprayfields instead of discharging it to Sandy Creek. In 2005, the DEP water monitoring program to determine water body impairment found that water quality parameters of dissolved oxygen, fecal and total coliform, turbidity and unionized ammonia categorize the stream as not impaired.

Another karst feature, Jackson Spring, is a low magnitude spring that exists just outside the park boundary near the I-10 rest area on land managed by the Florida Department of Transportation (FDOT). The Florida Geological Survey reports that the water is cloudy not clear due to run-off from the nearby rest area (Scott et al. Bulletin 66). The Florida Park Service should work with FDOT and FDEP to prevent run-off into the spring and possibly transfer management to DEP. Discharge from the spring runs directly into Sandy Creek on the park.

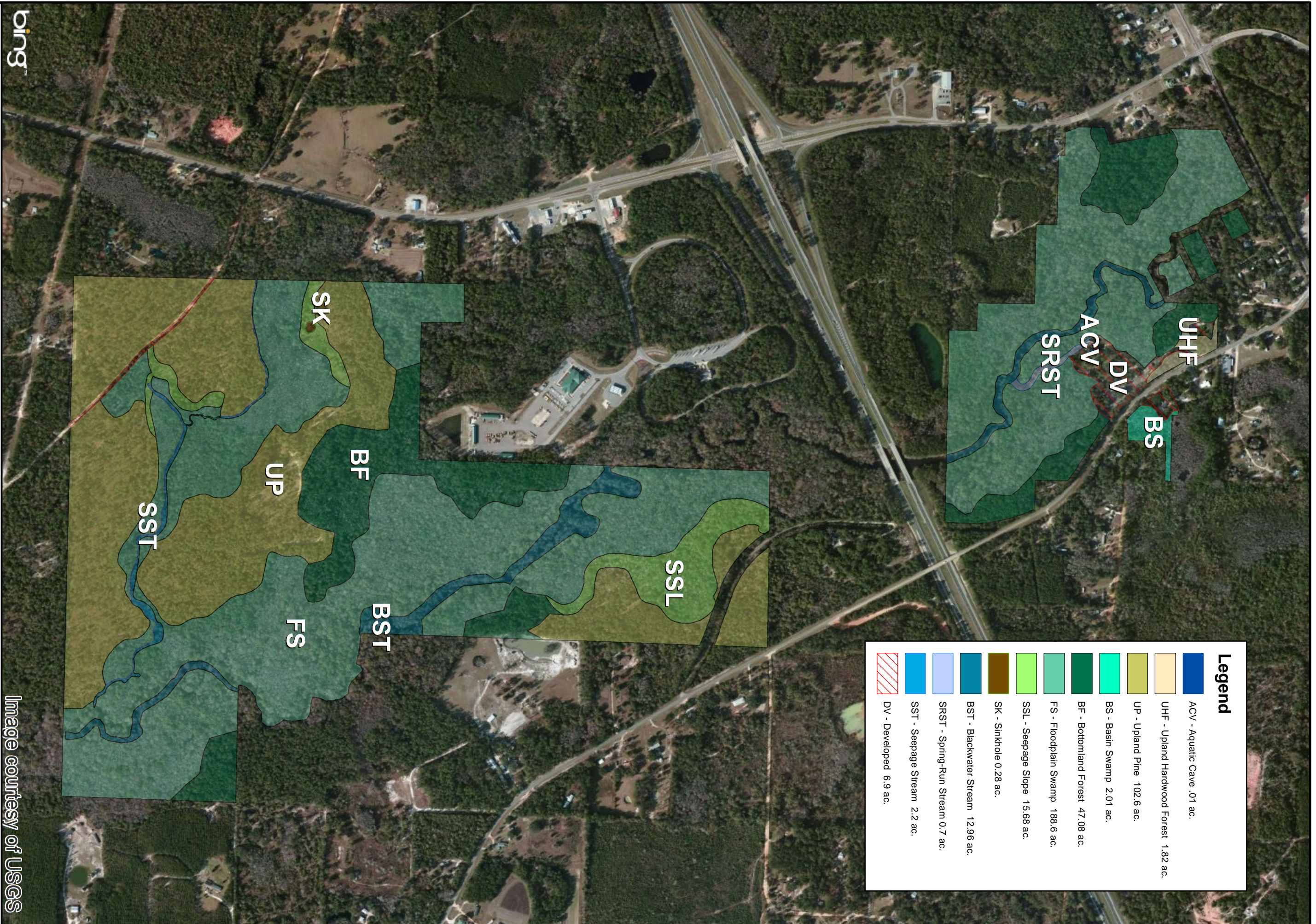
The Ponce de Leon spring vent has been occluded by stormwater erosion in the use area and subsequent sediment build up in the spring. This sediment has been pumped out of the vent three times in the past decade. Fill is brought into the use area to prevent the undermining of structures caused by erosion. The park should investigate designing a stormwater facility to reduce the sediment load into the spring and spring run.

Natural Communities













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

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

When a natural community within a park reaches the desired future condition, it is considered to be in "maintenance condition." Required actions for sustaining a

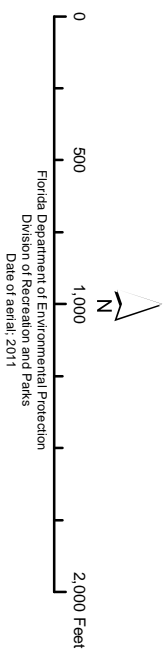


Legend

	ACV - Aquatic Cave .01 ac.
	UHF - Upland Hardwood Forest 1.82 ac.
	UP - Upland Pine 102.6 ac.
	BS - Basin Swamp 2.01 ac.
	BF - Bottomland Forest 47.08 ac.
	FS - Floodplain Swamp 188.6 ac.
	SSL - Seepage Slope 15.68 ac.
	SK - Sinkhole 0.28 ac.
	BST - Blackwater Stream 12.96 ac.
	SRST - Spring-Run Stream 0.7 ac.
	SST - Seepage Stream 2.2 ac.
	DV - Developed 6.9 ac.

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PONCE DE LEON SPRINGS
STATE PARK



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

NATURAL COMMUNITIES MAP

Image courtesy of USGS

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 10 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.

Aquatic Cave

Desired Future Condition: The desired future condition is a cavity formed from the solution of limestone below the ground surface in karst areas. The cavity should remain completely submerged at all times with the flow vent, visible and unclouded. Water flow should remain above the minimum flow set by the Florida Department of Environmental Protection and the Northwest Florida Water Management District (NFWFMD). Water should be clear and cold, demonstrating a steady temperature around 20° Celsius year round. The spring boil area should have a sand or limestone bottom. The spring water and cave system should be free from invasive exotic species, especially hydrilla. The banks of the spring boil area should be anchored with trees mostly bald cypress (*Taxodium distichum*).

Description and Assessment: The aquatic cave at the park, known as Ponce De Leon spring, is in good condition. Water flow from the cave is clear and cold emerging from 3 vents. Water temperature has remained fairly constant from 20.5° C in 1972 and 19.88° C in 2002 (data from NFWFMD). Flow rate has dropped since 1942 from 20.7 ft³/s to 8.83 ft³/s in 2002 to 11.65 ft³/s in 2009 (Scott et al. Bulletin 66; NFWFMD: see Chart 1).

Water quality monitoring from 1995 to 2005 has shown water quality within normal limits for a spring in this area.

Erosion from the use area has allowed sediment to gather at and occlude the main spring vent. The park has pumped the sediment out of the vent three times in the past decade. Algae is present on the bottom and floating in the spring, with bald cypress found on the north edge of the spring. River frog tadpoles (*Rana hecksheri*) are often seen in the spring and spring run during the springtime. The spring is free of invasive exotic plants.

General Management Measures: The park should work the Northwest Florida Water Management District (NFWFMD) to continue water quality and quantity monitoring. Since cave systems are extremely fragile, recreational activities such as cave diving that might introduce hydrilla or damage cave structures should not be allowed. The recreational use area should be re-designed to help reduce erosion into the spring. The vent should be monitored for sediment build-up. When occluded the sediment should be pumped out of the vent opening.

Basin Swamp

Desired Future Condition: Basin swamps are forested basin wetlands that are highly variable in size, shape and species composition. They have an extended hydroperiod typically ranges from 200-300 days. This hydroperiod should not be altered. The dominant tree should be pond cypress (*Taxodium ascendens*). Soils will be typically acidic, nutrient poor peats often overlying a clay lens or other impervious layer.

Description and Assessment: Two basin swamps occur in PL-J. They are dominated by pond cypress with little to no herbaceous species in the groundcover. The basin swamps remain flooded most of the year and appear to pop-off into the adjacent floodplain swamp in PL-K across Hwy 181. The basin swamps are in good condition despite being surrounded by residences.

General Management Measures: The park should try to maintain hydrological regime of the swamps and investigate a supposed connection across Hwy 181. Because it is adjacent to development, the park should ensure that the swamp is not used as a refuse site.

Blackwater Stream

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

Description and Assessment: The blackwater streams at the park are in good condition. Sandy Creek is the largest of the streams in the park. The banks of the Sandy Creek are lined with many species of trees including Catalpa (*Catalpa bignonioides*), black gum, bald cypress, and red maple. The other streams are much smaller and have a closed canopy that shades the water. Chinese tallow (*Sapium sebiferum*) and Japanese climbing fern (*Lygodium japonicum*) can be found along the banks of Sandy Creek. The park has an active control program for these invasive exotic plants so infestation levels are currently low. Although Sandy Creek was considered an impaired water body in 2002, water monitoring by DEP in 2005 has re-categorized Sandy Creek as not impaired (DEP 2012).

General Management Measures: The park should ensure good water quality by preventing erosion into the streams. Channeling, ditching and filling should all be prevented. The park should prevent trampling of vegetation along the stream banks and encourage a well-vegetated bank. Control of invasive exotic plants along the banks should continue.

Bottomland Forest

Desired Future Conditions: Bottomland forest is a fairly low lying, mesic to hydric community prone to periodic flooding. Vegetation should consist of a mature closed canopy of deciduous and evergreen trees. Overstory species should consist of species such as sweetgum (*Liquidambar styraciflua*), blackgum, magnolia (*Magnolia grandiflora*), water oak (*Quercus nigra*), live oak (*Quercus virginiana*), swamp chestnut oak (*Quercus michauxii*), loblolly pine (*Pinus taeda*), and spruce pine (*Pinus glabra*). Red maple (*Acer rubrum*) and bald cypress (*Taxodium distichum*) should also be present. Understory can be open or dense. Understory species should include wax myrtle (*Myrica cerifera*), bluestem palm (*Sabal minor*), horse sugar (*Symplocos tinctoria*) and wild azaleas. Presence of groundcover is variable and may consist of witchgrass (*Dicanthelium* sp.), lilies and various sedges (*Carex* spp.). Hydrology is an important process in this community. The hydrological regime should not be altered.

Description and Assessment: The bottomland forest at the park is in good condition. Mature overstory trees include water oak, black gum, red maple, southern magnolia, loblolly pine and laurel oak. Understory species include horse sugar, bluebeech (*Carpinus caroliniana*), highbush blueberry (*Vaccinium corymbosum*) and American holly (*Ilex opaca*). Herbaceous groundcover species include lilies, witchgrass, partridgeberry (*Mitchella repens*) and bluestem palm. Chinese privet and Japanese climbing fern are invading into the bottomland forest and should be treated.

General Management Measures: The exotic plant species should be controlled and treated by continual searching the natural community for exotics and treating them as necessary. The park should ensure that the hydrology is not altered by ditching, draining or filling.

Floodplain Swamp

Desired Future Condition: Frequently or permanently flooded community in low lying areas along streams and rivers. Soils will consist of a mixture of sand, organics, and alluvial materials. Closed canopy will typically be dominated by bald cypress (*Taxodium distichum*) but commonly includes tulip poplar (*Liriodendron tulipifera*), tupelo species (*Nyssa* spp.) as well as water hickory (*Carya aquatica*), and red maple (*Acer rubrum*). Trees bases are typically buttressed. Understory and groundcover will be covered with herbaceous obligate wetland species.

Description and Assessment: The floodplain swamp is dominated by a closed canopy forest of cypress, water oak, red bay, black gum and red maple. Crayfish towers are evident surrounded by herbaceous vegetation such as jack-in-the pulpit, poison ivy, lizard's tail, royal fern (*Osmunda regalis*), netted chain fern (*Woodwardia areolata*) and broadleaf arrowhead (*Sagittaria latifolia*). Unfortunately, Chinese privet, Japanese climbing fern (*Lygodium japonicum*) and parrot's feather (*Myriophyllum aquaticum*) are also found growing in the floodplain swamp but they are not dominating the community yet. Some trash and debris deposited as flotsam is scattered throughout the floodplain. The floodplain swamp is

in good condition despite some evidence of previous logging and the presence of exotic invasive plant species.

General Management Measures: Control of exotic invasive species in the floodplain swamp is needed. The park should maintain the hydrological regime by preventing ditching, draining and filling in this community. Trash and debris should be removed periodically.

Seepage Slope

Desired Future Condition: Seepage slopes should be an open, low, herbaceous dominated narrow wetland supported by low nutrient and saturated soils that borders small streams on the park. Woody plants may be present but should be less than 1 m and less than 15% of the plant density. Herbaceous plants should be less than 1 m in height. Plant diversity should be very high with carnivorous plants, orchids, lilies and grasses characteristic of bogs being present. Constant seepage should be present and the slope should rarely dry out if ever. Sphagnum moss should be present to help seeds germinate and acidify the soil, keeping nutrients from being available to other plants. Soils should be nutrient poor. Duff should not be present but finely decomposed muck may be present. Soils should not be bedded, drained, or altered. Sphagnum moss should carpet the area but may not be continuous. If not absent, then only few overstory trees should be present. Cypress, bays and black gum may be present in low density. The seepage slope should be able to carry fire on a frequent interval of 2-3 years.

Although fire plays a supporting role in keeping this community intact, the paucity of nutrients available to plants is the primary key to maintaining this community. Hydrology helps to leach nutrients from the soils or keep nutrients from becoming available to more competitive plant species through anoxic conditions.

The fire regime should mimic the regime of neighboring flatwoods or sandhill communities and should be included in the same burn zones with these neighboring communities. Hydrological regime should be intact providing constant seepage to the natural community.

Description and Assessment: The seepage slope community in the park is in good to poor condition depending on location. The small seepage slope in PL-E and PL-F is in very good condition. In 2000 it was dominated and shaded by woody plants such as swamp titi (*Cyrilla racemiflora*) and fetterbush (*Lyonia lucida*) that were 3 m or greater in height (Johnson 2001). A concerted effort by the park over the past decade to reduce the height and cover of titi and other woody shrubs and reintroduce a fire regime has resulted in a fantastic diversity of species response. Yellow trumpets (*Sarracenia flava*), purple pitcher plants (*Sarracenia purpurea*), parrot pitcher plants (*Sarracenia psittacina*), grass pink orchids (*Calopogon spp.*), sandbog deathcamus (*Zigadenus glaberrimus*) and butterworts (*Pinguicula primuliflora*) are now flourishing at this site. Herpetofauna surveys should occur in this community, with an emphasis in documenting the pine barrens tree frog (*Hyla andersonii*) which are often found in this community type. In 2009 the park started working on restoring portions of the seepage slope in PL-B and reintroducing Red

pitcher plant (*Sarracenia rubra*) to the park. These sites are in fair condition but still need further restoration. At one location in PL-B red pitcher plants have established so well that many of them bloomed in 2012. The remainder of the seepage slope community in the park is in poor condition and will require restoration.

General Management Measures: The restored seepage slope community should continue to be burned frequently to maintain open, light and herbaceous conditions. Additional hand clearing may be needed to maintain these communities. The other portion of the seepage slope that is in poor condition should be restored. Refer to the restoration objective in the Resource Management Program section of this plan for more information. Hardwood chipping/biomass reduction may be appropriate in areas with low fire periodicity and dense stands of woody vegetation. Mechanical equipment should be kept out of seepage slopes as they can cause soil rutting and hydrological disruption. Although there is no evidence of impacts to date, exotic animals such as hogs and armadillos that root and disturb the soil should also be controlled as the first sign on feral animal damage in the park. Herbicides should not be used in seepage slopes as the species found there are very sensitive to chemical toxins.

Seepage Stream

Desired Future Condition: The desired future condition of seepage stream is a narrow, relatively short perennial or intermittent stream formed by percolating water from adjacent uplands. Water color should be clear to slightly colored, with a slow flow rate and fairly constant temperature. Bottom substrate should be sandy.

Description and Assessment: Seepage stream winds its way through PL-D and PL-F. Seepage comes from the adjacent upland pine community, and seeps through seepage slope before entering the seepage stream. The seepage stream community is in good condition. Erosion from LD Anderson road along PL-F sends some sediment into the seepage stream.

General Management Measures: The park should work with the county to prevent sediment from LD Anderson road from running into the blackwater stream at PL-F. Refer to the hydrological objective in the Resource Management Program section of this plan for more information. The park should continue to restore adjacent seepage slope and upland pine natural communities as these are linked to the hydrology and water quality of the seepage stream. Channeling, ditching, rutting, and filling should all be prevented.

Sinkhole

Desired Future Condition: Sinkholes are characterized by cylindrical or conical depressions with limestone or sand walls. Sinkholes do not contain standing water for long periods of time as do Sinkhole Lakes. Depending upon the age of the sinkhole, the vegetation of sandy sinkholes may represent a well developed forest including southern magnolia (*Magnolia grandiflora*), sweetgum (*Liquidambar styraciflua*), wax myrtle (*Myrica cerifera*), grape vines (*Vitis* spp.), Virginia creeper (*Parthenocissus quinquefolia*), water oak (*Quercus nigra*) and pignut hickory (*Carya glabra*). Sinkholes with vertical limestone walls may be covered by a variety of

mosses, liverworts, ferns, and small herbs. Sinkholes will generally have a very moist microclimate due to seepage and being buffered by the lower elevation and a tree canopy. Desired future conditions include limiting unnatural erosion and protecting the microclimate from disturbance.

Description and Assessment: There are two very small known sinkholes at the park in PL- D. The diameter of the sinkholes do not exceed 20 feet in diameter. They form a concave hole in the ground where water stands for a variable period annually. Species growing in the sinkhole include diamond-leaf oak (*Quercus laurifolia*), sweetgum and fetterbush. The sinkholes are in good condition with no erosion evident.

General Management Measures: The park should continue to restore the adjacent upland pine forest natural community. This will help establish well rooted herbaceous and woody vegetation to prevent erosion into the sinkhole. Sinkhole vegetation should not be cleared.

Spring-run Stream

Desired Future Condition: The desired future condition is a perennial water course which derives all of its water from limestone artesian openings from the underground aquifer, mainly Ponce de Leon Springs aquatic cave. The waters should be cool, clear, and circumneutral to slightly alkaline. These factors allow for optimal sunlight penetration and minimal environmental fluctuations which promote plant and algae growth. However, the characteristics of the water can change significantly downstream as surface water runoff becomes a greater factor. Areas of high flow will typically have sandy bottoms while organic materials concentrate around fallen trees and limbs and slow moving pools. The bank of the stream should be lined with trees such as bald cypress and sycamore without signs of erosion. No ditching or filling should be present.

Description and Assessment: The spring run stream is in good condition. Water is clear and cold and so far lacks invasive aquatic plant species. Water flow from the spring into the spring run stream is restricted by a weir structure that keeps the pool height of the spring artificially high for recreational swimming. Other than the weir, the stream runs unimpeded about 107 m into Sandy Creek, a tributary of the Choctawhatchee River. Trees shade the water keeping temperatures cool. During high rainfall Sandy Creek may overrun its banks and flood into the spring run creek, forcing it to also overrun its banks. Erosion along the banks of the creek near the main spring and aquatic cave in PL-K in the visitor use area has been caused by recreational use. Some measures have been taken to reduce the erosion along this section of the bank but more measures are needed. Offsite fill is brought into the use area to prevent undermining of structures from erosion. When this fill erodes during rains, it is deposited into the spring run and main spring itself.

General Management Measures: The spring run creek should be managed by maintaining water quality and flow. The park should work to prevent visitor impacts and erosion along the banks of the creek. The park should also address the erosion concerns in the use areas to prevent sedimentation of the spring run. Park staff

should be vigilant about accidental introduction of invasive aquatic plants, especially, hydrilla (*Hydrilla verticillata*). Park policies should be developed to prevent these types of accidental introductions.

Upland Pine

Desired Future Condition: Upland pine at the park is characterized by scattered tree species including longleaf pine (*Pinus palustris*), southern red oak (*Quercus falcata*), and mockernut hickory (*Carya tomentosa*) of various ages, and a diversity of herbaceous and shrubby plants in the groundcover. Some herbaceous and shrubby species should be less than 3 feet in height. Other mature hardwood trees should be scattered throughout, including blackjack oak (*Quercus marilandica*), sand post oak (*Quercus margaretta*), and flowering dogwood (*Cornus florida*). A self-sustaining population of gopher tortoises should be present. In old-growth conditions, oaks and hickories are commonly 150-200 years old. Optimal fire return interval for this community is 1-3 years. Caution should be applied to prevent loss of adjacent managed bog plant species, which may result from annual burns.

Description and Assessment: The upland pine community at the park is in various conditions depending on management zones. The upland pine community in management zones PL-G and PL-H are in very good condition and meet the description for desired future condition. In addition to all the components listed above PL-G and PL-H have older longleaf pines with existing catfaces remaining from when resin was extracted from these trees to produce turpentine. Nails, metal gutters and rectangular collection pots are still visible in these zones, sometimes still attached to the trees. A sample of trees were cored to determine age but none were considered old-growth. Ages of the oldest trees were less than 75 years old.

Gopher tortoises and their burrows are clearly visible in these zones. Both zones have been well-maintained by fire and have been burned 8 times since the re-introduction of fire in 1986. The upland pine community in PL-B, PL-E, PL-D and PL-F are in fair condition. Over the past decade the park has worked to reduce invasive laurel oak (*Quercus hemiphearica*) and reintroduce prescribed fire. These efforts have yielded limited success as the representative groundcover is mostly absent from the area and will not return unless planted. The overstory in PL-B is mostly composed of planted slash pine making it further degraded. PL-E, PL-H and PL-B border seepage slopes with a diversity of wetland and bog species such as pitcher plants (*Sarracenia spp.*), butterworts (*Pinguicula spp.*), and orchids (*Calopogon spp.*). The ability for fire to carry in these zones is important for carrying fire into the adjacent seepage slopes in order to maintain the open conditions needed for seepage slope species. Gopher tortoises are also found in PL-E and PL-F.

Japanese climbing fern has been found in a few spots and has been treated immediately in this natural community. The park has done an excellent job of preventing the spread of exotics in the past, and this effort should be maintained. The small remnant portions of upland pine community in PL-K is slowly succeeding into an upland hardwood forest. Erosion is problematic along L.D. Anderson Road where it borders PL-E, PL-F, PL-G and PL-H. The county continues to scrape the road, leading to erosion and creating a subsidence of the road with high banks.

These banks cut through the park and are eroding the upland pine community from this activity. PL-E has a small borrow pit about 45 feet in diameter where sand was excavated in the past. It has been mapped and is depicted in the USDA Holmes County Soil Survey (1975). Work for the survey was conducted between 1963 and 1971 so the borrow pit must have existed prior to that survey period. Sparse vegetation and longleaf pines have now established in this borrow pit and the park will continue to restore the natural community of the pit to upland pine forest even though much of the substrate has been removed.

General Management Measures: Management of the areas that are in good condition requires continued burning at the appropriate fire return interval ranges. Recommended actions include control of off-site woody vegetation, mitigation of erosion, and treatment of invasive-exotic plants as needed. Selective timber removal and hardwood chipping/biomass fuel reduction may be appropriate in areas where restoration is needed within dense stands of hardwood encroachment. Areas that provide suitable habitat may be considered as recipient sites for gopher tortoises and apiary activities.

Developed

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

Description and Assessment: The developed areas of the park include the ranger station, parking lot, bathhouse, springs visitor use area, ranger residence, and the shop area. These areas have minimal invasive exotic plants. The spring use area is in poor condition as it continually erodes, and off-site fill is continually spread over the area. Sediment from this erosion runs into the spring and spring run thus overburdening the spring vent.

General Management Measures: Erosion should be prevented in the spring use area. An engineered design may be needed to address the erosion running from the use area into the spring. Park staff should continue to monitor the area for invasive exotic species.

Imperiled Species

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

Most of the listed plant species at Ponce de Leon Springs State Park such as pitcher plants, orchids and butterworts occur in the restored seepage slope natural

community. These species were not recorded prior to the restoration of this natural community, but have recovered somewhat from recent restoration efforts. For example, the red pitcher plant was reintroduced to the park in 2010 after multiple efforts to locate it where it was previously recorded. The reintroduced plants came from seed taken from a seepage slope along Bridge Creek, a tributary to Sandy Creek up stream from the park. Since the species was planted in 3 small areas and the plants in two of those areas failed, it is important to expand the existing seepage slope restoration. The plants in the one successful area are robust and have already flowered. Many of these bog species continue to increase in population as restoration efforts expand the suitable habitat. Both appropriate fire and hydrological regimes are important in maintaining these species. Continued restoration of the seepage slope natural community is needed to ensure continuity of these species, as there may be more listed plant species in the unrestored seepage slope areas.

The American Alligator (*Alligator mississippiensis*) and Alligator Snapping Turtles (*Macroclmys temminckii*) are found in the waterways of the park. Educating visitors about the dangers of feeding and purposefully encountering either species, both for the health of visitors and the wildlife, is important in preventing visitor-wildlife conflicts and maintaining these species in good health at the park. The population health of either of these species is unknown at this time due to a lack of information.

Most of the listed birds observed at the park are wading birds that use the waterways of the park. Any wading bird surveys conducted at the park (particularly if nesting rookeries are documented at the park) should follow the Imperiled Wading Bird Species Action Plan (FWC 2013). Maintaining good water quality and preventing disturbance is key to managing these species at the park.

Gopher tortoises have been documented at the park in all areas with the upland pine natural community which mainly includes Management Zones PL-E, PL-G and PL-H. As fire has been introduced and maintained at proper intervals, the population of tortoises has increased at Ponce de Leon. Surveys of gopher tortoise burrows have been done in the past, but an updated survey is needed for this park. Ideally, as the zones are burned, they should also be surveyed for burrows.

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						
Southern butterwort <i>Pinguicula primuliflora</i>			LT		1,4, 10	Tier 1
Yellow crested orchid <i>Platanthera cristata</i>			LT		1, 4, 6, 10	Tier 1
Orange azalea <i>Rhododendron austrinum</i>			LE		2	Tier 1
Parrot pitcher plant <i>Sarracenia psittacina</i>			LT		1, 4, 10	Tier 1
Purple pitcher plant <i>Sarracenia purpurea</i>			LT		1, 4, 10	Tier 1
Red pitcher plant <i>Sarracenia rubra</i>			LT		1, 4, 10	Tier 1
REPTILES						
American Alligator <i>Alligator mississippiensis</i>	FT (S/A)	SAT		S4	4, 10, 13	Tier 1
Gopher tortoise <i>Gopherus polyphemus</i>	LT	C		S3	1,6,10,12,13	Tier 3
Alligator Snapping Turtle <i>Macroclmys temminckii</i>	SSC			S3	4, 10, 13	Tier 1
BIRDS						
Little blue heron <i>Egretta caerulea</i>	LT	N		S4	4	Tier 1
Reddish egret <i>Egretta rufescens</i>	LT	N		S2	4	Tier 1
Tricolor heron <i>Egretta tricolor</i>	LT	N		S4	4	Tier 1
Swallow-tailed Kite <i>Elanoides forficatus</i>	N	N		S2	4	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

Monitoring Level:

- Tier 1. Non-Targeted Observation/Documentation: includes documentation of species presence through casual/passive observation during routine park activities (i.e. not conducting species-specific searches). Documentation may be in the form of Wildlife Observation Forms, or other district specific methods used to communicate observations.
- Tier 2. Targeted Presence/Absence: includes monitoring methods/activities that are specifically intended to document presence/absence of a particular species or suite of species.
- Tier 3. Population Estimate/Index: an approximation of the true population size or population index based on a widely accepted method of sampling.
- Tier 4. Population Census: A complete count of an entire population with demographic analysis, including mortality, reproduction, emigration, and immigration.
- Tier 5. Other: may include habitat assessments for a particular species or suite of species or any other specific methods used as indicators to gather information about a particular species.

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

Exotic and Nuisance Species

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

The most serious infestations of invasive exotic plants at the park are in the northern tract in PL-K. Cogon grass, wisteria, Chinese tallow trees, and Chinese privet were infested at the park a decade ago. Continued treatments have drastically reduced the amount of infestation. Unfortunately, during that time frame Japanese climbing fern started invading the southern portion of the park in PL-A, PL-B, and PL-E. Quick response from park staff has minimized invasion, but ground scouting is required to find and treat new clumps before spreading occurs. The park treated 111.775 acres of exotic plants from 2001 to 2011.

Exotics found in seepage slope areas should be controlled without the use of herbicide if at all possible. Seepage slope species are extremely sensitive to herbicide even if not directly sprayed they may be affected from root grafting and herbicide mobility in the seeping water as previously demonstrated in PL-B. Two other species, pale rattle box (*Crotalaria pallida*) and Parrots feather (*Myriophyllum aquaticum*), are considered exotic but are not listed by Florida Exotic Pest Plant Council and are also found in the park. Pale rattle box is currently being controlled. The main spring at the park, Ponce de Leon Spring, is currently free from invasive, exotic plant infestations. It is important to be vigilant to keep hydrilla (*Hydrilla verticillata*) from invading the spring. Any equipment that has been used in other waterbodies should not be used by park staff in the spring or spring run, including dive equipment and boats.

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

Table 3. Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	FLEPPC Category	Distribution	Management Zone (s)
PLANTS			
Cogon grass <i>Imperata cylindrica</i>	I	2	PL-K
Chinese privet <i>Ligustrum sinense</i>	I	2	PL-A
		2	PL-K
		3	PL-L
Japanese climbing fern <i>Lygodium japonicum</i>	I	2	PL-B, PL-J
		3	PL-E, PL-A
Golden bamboo <i>Phyllostachys aurea</i>	II	1	PL-K
Kudzu <i>Pueraria montana</i>	I	2	PL-L
Chinese tallow <i>Sapium sebiferum</i>	I	2	PL-K
Chinese wisteria <i>Wisteria sinensis</i>	II	2	PL-K

Distribution Categories:

- 0 No current infestation: All known sites have been treated and no plants are currently evident.
- 1 Single plant or clump: One individual plant or one small clump of a single species.
- 2 Scattered plants or clumps: Multiple individual plants or small clumps of a single species scattered within the gross area infested.
- 3 Scattered dense patches: Dense patches of a single species scattered within the gross area infested.
- 4 Dominant cover: Multiple plants or clumps of a single species that occupy a majority of the gross area infested.
- 5 Dense monoculture: Generally, a dense stand of a single dominant species that not only occupies more than a majority of the gross area infested, but also covers/excludes other plants.
- 6 Linearly scattered: Plants or clumps of a single species generally scattered along a linear feature, such as a road, trail, property line, ditch, ridge, slough, etc. within the gross area infested.

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

In some cases, native wildlife may also pose management problems or nuisances within state parks. A nuisance animal is an individual native animal whose presence or activities create special management problems. Examples of animal species from which nuisance cases may arise include raccoons, venomous snakes and alligators

that are in public areas. Nuisance animals are dealt with on a case-by-case basis in accordance with DRP's Nuisance and Exotic Animal Removal Standard.

Armadillos are the main exotic animal found in the park, frequently rooting, which disturbs the soil. Alligators can be a nuisance species if habituated to humans. Education of visitors about the dangers of feeding and harassing alligators is an important component of minimizing human-alligator conflicts at the park. Feral hogs are known on nearby lands. If feral hogs or their resulting rooting are spotted on park property, park staff may start trapping. Feral hogs may severely damage the species-rich seepage slopes that took nearly a decade to restore.

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

Special Natural Features

The main spring and its aquatic cave, known as Ponce de Leon Spring, form a special natural feature at the park. The spring is used as a recreational swimming area. The spring water that flows out of Ponce de Leon Springs comes from the Floridan aquifer. Differential dissolution of layers of limestone beds create holes and tunnels, collectively known as Karst. Where these holes break through to the surface they can either be categorized as sinkholes, caves, or springs. Water flowing out of these surface holes are called springs. Water quality is an important factor for managing springs.

Cultural Resources

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

Condition Assessment

Evaluating the condition of cultural resources is accomplished using a three-part evaluation scale, expressed as good, fair, and poor. These terms describe the

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

Level of Significance

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

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

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

Prehistoric and Historic Archaeological Sites

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

Description: There are 4 sites listed in the Florida Master Site File (FMSF) at Ponce de Leon Springs State Park. A fifth site which was listed on the 2004 UMP is just outside the park boundary. The park's history includes use by Native Americans and early American settlers. The spring and water clearly drew humans to this property to use its resources. Native American lithics and ceramics have been found on-site as have historic or European ceramics and bricks. Numerous cat-face trees with gutters and metal turpentine cups are still found in the park indicating turpentine

activity at the park. The site just adjacent to the park, HO 20 is represented by Santa Rosa-Swift Creek artifacts.

HO 00137- Ponce de Leon Firebreak is a surface scatter site of lithics, prehistoric ceramics, historic or European ceramics, bricks, and glass. The site is in good condition. A firebreak runs through the site but otherwise the site is vegetated and without disturbance.

WL 02604 Turpentine trees- This resource group encompasses a broad area containing numerous slash (*Pinus elliotii*) and longleaf pines (*Pinus palustris*) with cat-faces. Cat-faces are chevron pattern cuts in the cambium of the trees. They were carved into these trees by those working in the turpentine industry to extract pine resin which was then distilled to make turpentine. Numerous trees in PL-E, PL-G and PL-H have cat-faces. On some trees even gutters and metal pots remain hanging. The cat-faces on the trees are in good condition. The site is in good condition as one can get a general idea of what the original landscape looked like during the time period when turpentine extraction took place.

WL 02605 – A linear resource group is located within the southeastern portion of the park, comprised of an old road bed and the remains of a wooden bridge, most likely built to cross a portion of Sandy Creek. A review of the historic plat maps from 1828 and 1829 do not reveal any evidence of a railroad or other linear resource in this area at that time. There are a number of roads in this general area on a 1941 aerial, and because of heavy vegetation it is difficult to see where they are located. It should be noted that a modern road and bridge are located immediately adjacent to this historic resource, emphasizing the need for a crossing at this location. Features at this site consist of the road bed, which measures approximately 275 meters in the length, and the wood pylons used to support the former bridge. Based on the limited historic information concerning this resource group, only a general 20th century date can be assigned to it. Railroad bed and pilings are still evident in the park. This railroad was reportedly used for the timber and turpentine industry in the area and was deconstructed in the 1930s or 1940s. The old switching station for the railroad is located on a private parcel adjacent to the park boundary.

HO 0215 Mill Creek Bridge - This is a newly recorded archaeological site within Ponce de Leon Springs State Park that is located within the extreme northwestern portion of the park. The site is composed of the remains of a wooden bridge that once crossed Mill Creek; various size wood support pylons that still sit in the creek. This bridge does not appear on the 1826 plat map of the area, nor does it appear on any early aerials of the parcel. Based on the limited information concerning this site only a general 20th century date can be assigned to it.

Condition Assessment: Site HO 00137 is in good condition. Since a firebreak extends through the site, heavy disking or plowing for prescribed burn preparation is a threat. Mineral soil is exposed along the firebreak but the surrounding area is vegetated.

The turpentine trees resource group (WL02604) is in good condition. The chevron pattern of catfaces on the trees gradually burn away as the park applies prescribed fire to the surrounding natural community. The gutters and metal resin pots are also degrading from rust and fire. Fire may be a threat to the catfaces, gutters and metal resin pots but because of prescribed fire the site is fairly intact as it would have been during the period of turpentering activity.

The railroad bed (WL02605) is in good condition. The raised bed with a flat top is obvious but vegetated, which prevents erosion. The vegetation is controlled by prescribed burning. The pilings can still be seen in the water at low water levels, and are slowly rotting away. The PDL Road, other feature of WL 2605, is also in good condition. The road itself is hard to distinguish, but the location is highly visible when looking at old wood pylons where a bridge once was. This site will be protected from future damage, and has no serious threats to disturbance. Staff should be cautious if trees are to be cleared near this area, so as not to disrupt the original outline of the road.

The Mill Creek Bridge (HO 0215) is in good condition. The wood pylons from the bridge are still evident, although time and moisture has deteriorated the wood. This site is protected from fire due to the creek, and will be protected from mechanical treatment and future development.

Level of Significance: park-specific information on the level of significance of the park's archaeological sites here, including, but not limited to relevant criteria for evaluation of archaeological sites in the park and their level of significance. This section will provide an explanation of the specific criteria and historic and prehistoric contexts used to evaluate the significance of the archaeological sites in this park.

General Management Measures: All sites should be managed to preserve the sites by preventing looting and monitoring the sites on a regular and cyclic program. The turpentine tree site and the firebreak site may be degraded by prescribed burning. Park managers can reduce this threat by minimizing the amount of ground disturbance along the fire line and to conduct prescribed burns under weather conditions that prevent catfaces from catching fire. Once a catface is on fire, the burn crew should extinguish the tree as soon as conditions are safe, to prevent the loss of individual trees.

Historic Structures

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

Description: There are 10 park structures and one historic district within the park that are recorded in the FMSF. The entrance station (8HO000206) and bathhouse (8HO00207) are of Mediterranean or Spanish style in design. The shop

building/equipment shelter (8HO00208) is designed in the standard Florida Park Service style. There are four picnic structures (8HO00209- 8HO00212) in the visitor use area. These structures represent standard Florida Park Service style. All the above mentioned structures were built in 1974 by Charles Benda and Associates as part of an overall plan for the park. They are currently being used for the purpose for which they were designed.

The Smithgall house (8HO00204) is a craftsman cottage style building built in the 1920s as a residence near the spring vent. It has since been moved to another location and altered. It currently serves as a residence for the park ranger on staff. A frame vernacular building behind the Smithgall House is a garage and shop (8HO00205) for the resident ranger. A weir (8HO00213) at the interface of the spring boil and spring run is currently in good working order and are being used to raise the water level in the spring boil for recreational purposes. The bridge over the spring run stream allows visitors to cross the spring run and connects them to a nature trail. The Ponce de Leon Springs Historic District (8HO00214) includes all the structures listed above.

Condition Assessment: All historic structures listed in the FMSF are in good condition. In effort to maintain these structures, many have been altered or repaired so that they continue to meet the needs of park visitors and staff. The park structures have been maintained and are in very good condition. The pilings of the picnic shelters occasionally are flooded when Sandy Creek overflows its banks. This is not a usual occurrence but under heavy rainfall and tropical storm events, flooding may occur.

General Management Measures: The park's structures will be managed according to the Secretary of the Interior's Standard's for historic buildings. Since all the structures are still being used for the purpose they were created, they will be rehabilitated and maintained.

Collections

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

Description: The park has two basic types of collections; one of surface scatter objects from the 20th century and a second of archival records. The surface scatter collections include objects that were found by park staff during normal duties or by visitors who brought the objects to park staff. These objects include metal turpentine pans, glass bottles, screws, nails, vases and a piece of coal from the railroad. These objects represent 20th century agriculture, recreation and natural resource extraction. The size of the collection is small, composing less than 1 cubic foot of space.

The second collection is composed of less than 1 cubic foot of archival material such as historic photographs, interview notes, articles and other miscellaneous material describing activities at the park.

Condition Assessment: The park's collection is in good condition. Most of the artifacts and all of the archival material is stored in a locked filing cabinet in the park office. The office is climate controlled and pest controlled, making it suitable for storage of this material. The metal turpentine pans are stored in the park's shop. Humidity may continue to contribute to the deterioration of the metal pans.

Level of Significance: The park's artifact collections are significant in linking past activities on the park such as turpentine, recreation and agriculture. The park's archival material is significant in revealing the past uses, histories and structures on the park.

General Management Measures: A Scope of Collection Statement needs to be developed to help inventory and catalog the park collection. The archival portion of the collection is kept in a climate controlled facility with pest control. Staff at the park are Archaeological Resource Monitors (ARM). The remainder of the collections needs to be also stored in a climate controlled facility to prevent further degradation.

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
HO 00137 Ponce de Leon Firebreak	Historic	Archaeological Site	NE	G	P	PL-D
WL 02605 Railroad bed	20 th Century	Archaeological Site	NE	G	P	PL-H, PL-I
WL02604 Turpentine trees	Historic/early 20 th century	Resource Group	NE	G	P	PL-E, PL-G, PL-H
8HO00204R anger residence/ Smithgall House	20 th Century	Historic Structure	NE	G	RH	PL-J
8HO00205 Garage and Shop	20 th Century	Historic Structure	NE	G	RH	PL-J
HO00206 Entrance Station	20 th Century	Historic Structure	NE	G	RH	PL-K
HO00207Bat house	20 th Century	Historic Structure	NE	G	RH	PL-K
HO00208 Shop/Equipment shelter	20 th Century	Historic Structure	NE	G	RH	PL-K
8HO00209 Picnic shelter	20 th Century	Historic Structure	NE	G	RH	PL-K
8HO00210 Picnic shelter	20 th Century	Historic Structure	NE	G	RH	PL-K
8HO00211 Picnic shelter	20 th Century	Historic Structure	NE	G	RH	PL-K
8HO0212	20 th Century	Historic Structure	NE	G	RH	PL-K

Table 4. Cultural Sites Listed in the Florida Master Site File						
Site Name and FMSF #	Culture/Period	Description	Significance	Condition	Treatment	Management Zone
8HO00213 Ponce de Leon Springs Bridge and Weir	20 th Century	Historic structure	NE	G	RH	PL-K
8HO00214 Ponce de Leon Springs Historic District	20 th Century	Resource Group	NE	G	RH	PL-K
8HO00215 Mill Creek Bridge	20 th Century	Archaeological Site	NE	G	P	PL-L

Significance:

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

Condition

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

Recommended Treatment:

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

RESOURCE MANAGEMENT PROGRAM

Management Goals, Objectives and Actions

Measurable objectives and actions have been identified for each of DRP's management goals for Ponce de Leon Springs 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 DRP utilizes the ten-year management plan to serve as the basic statement of policy and future direction for each park, a number of annual work plans provide more specific guidance for DRP staff to accomplish many of the resource management goals and objectives of the park. Where such detailed planning is appropriate to the character and scale of the park's natural resources, annual work plans are developed for prescribed fire management, exotic plant management and imperiled species management. Annual or longer-term work plans are developed for natural community restoration and hydrological restoration. The work plans provide 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, DRP's resource management strategies are systematically evaluated to determine their effectiveness. The process and the information collected is used to refine techniques, methodologies and strategies, and ensures that each park's prescribed management actions are monitored and reported as required by Sections 253.034 and 259.037, Florida Statutes.

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

Natural Resource Management

Hydrological Management

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

The natural hydrology of most state parks has been impaired prior to acquisition to one degree or another. Florida's native habitats are precisely adapted to natural drainage patterns and seasonal water level fluctuations, and variations in these factors frequently determine the types of natural communities that occur on a

particular site. Even minor changes to natural hydrology can result in the loss of plant and animal species from a landscape. Restoring state park lands to original natural conditions often depends on returning natural hydrological processes and conditions to the park. This is done primarily by filling or plugging ditches, removing obstructions to surface water "sheet flow," installing culverts or low-water crossings on roads, and installing water control structures to manage water levels.

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

- Action 1 Assess the spring for hydrological impairments.
- Action 2 Assess the ditches in PL-B to determine the extent of hydrological disruption and the cubic feet of fill needed to restore them to existing topographical grade.
- Action 3 Assess the extent of sediment running into the blackwater stream at PL-F from LD Anderson and work with the county if restoration is needed.

Objective B: Design an appropriate stormwater conveyance system to adequately address the erosion issues at the Spring Day Use Area and prevent sedimentation of the spring and spring run stream.

Run-off from rainfall is running through the use area causing severe erosion. The eroded sediment is being deposited in the spring and spring run stream them burdening the water quality and at times obstructing the spring vent. Improvement of the stormwater conveyances in the park, especially above the spring, is a priority need during this next 10-year planning period to prevent both the erosion and sedimentation of the spring and spring run stream, which will mitigate the need for dredging the spring vent in the future.

Objective C: Install a low-water crossing between PL-F and PL-H to allow access for better resource management.

Improved access with a low-water crossing will facilitate the restoration of upland pine forest in PL-F.

Objective D: Continue to work with the Springs Initiative Program and Northwest Florida Water Management District to encourage water quality and quantity monitoring at the Ponce de Leon Spring.

Continued water quality and quantity monitoring is important for understanding and maintaining the character of the spring.

Natural Communities Management

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

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

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

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

Objective A: Within 10 years, have 118 acres of the park maintained within the optimal fire return interval.

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)
Upland Pine Forest	102.65	2-5
Seepage Slope	15.52	2-3
Annual Target Acreage*	25.7-59.09	
*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 ten-year management plan.

The park has two natural communities where fire is an integral process; upland pine forest and seepage slope. Fire in both natural communities helps to maintain community structure and diversity of species. Gopher tortoises found in the upland pine forest rely on fire to maintain a suitable suite of herbaceous and low woody species for forage. Many rare species such as carnivorous plants, orchids and lilies found in seepage slopes need fire in order to reduce woody competition and prevent nutrient accumulation. Since the seepage slopes border upland pine communities, both should be burned together. Burn zones PL-E, PL-F, PL-G and PL-

H have the longest prescribed burn history in the park. Prescribed burning was introduced into these zones between 1986 and 1987. All burns take place in the dormant season due to predictable north winds associated with winter cold fronts. The firebreaks are in good condition and should be continued to be maintained. Annual target burn acreage for the park ranges from 25.7 acres to 59.09 acres. Growing season burns are not likely to be considered at this park since the management zones that need to be burned lie adjacent to and south of I-10, a major smoke sensitive area.

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

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

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

Natural Communities Improvement: Improvements are similar to restoration but on a smaller, less intense scale. This typically includes small-scale vegetative management activities or minor habitat manipulation. No improvement projects have been identified at this park.

Following are the natural community/habitat restoration and maintenance actions recommended to create the desired future conditions in the seepage slope and upland pine forest communities.

Objective B: Conduct habitat/natural community restoration activities on 11 acres of seepage slope community.

Seepage slopes border the blackwater streams on the park. Many areas of seepage slope on the park are in poor condition and in need of restoration. The park should remove the woody plants and trees that have invaded these seepage slopes by hand and reintroduce fire. If plant species do not respond, the seepage slope should be replanted with characteristic species. All augmented species should come from seed sources on site or adjacent properties. Similarly, park staff should monitor the planted *Sarracenia rubra*. If areas become overly shaded, the species will be lost again. Staff should continue to collaborate with Atlanta Botanical Gardens to collect seed, propagate and augment the population as needed. Photo points should be set-up to track restoration progress. Once restored, the seepage slope community will be managed with prescribed fire. Restoring seepage slope communities is the first restoration priority for the park.

Objective C: Conduct habitat/natural community restoration activities on 75 acres of upland pine forest community.

A portion of the upland pine forest in the park is in poor condition, while other areas are in good condition. Upland pine in management zones PL-B, PL-E, PL-D and PL-F should continue to be restored by planting suitable herbaceous groundcover species. Erosion should be assessed and prevented as appropriate along L.D. Anderson Road in PL-E, PL-F, PL-G, and PL-H. The diversity of groundcover species no longer remains and off-site woody shrubs and trees have invaded. The community structure and species composition needs restoration. A restoration plan should be developed and implemented. As part of the restoration plan, selective removal of inappropriate overstory species and hardwood chipping/biomass fuel reduction may be appropriate within dense stands of hardwood encroachment. Areas that provide suitable habitat may be considered as recipient sites for gopher tortoises and apiary activities. Photo points should be set-up to track restoration progress. Once restored the upland pine community will be managed with prescribed fire.

Imperiled Species Management

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

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.

The park should continue to inventory all plants and animals in the park. Park staff should work with district biologists and contract with others to create an organized inventory. An inventory protocol should be developed in coordination with district biologist with a focus on rare plant and herpetofauna species.

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

Gopher tortoise should be surveyed in collaboration with FWC following established protocols and the current Gopher Tortoise Management Plan (FWC 2012). The current recommendations follows a Line Transect Distance Sampling Design (see Smith et al. 2009). This survey should take place once every 5 years. A monitoring protocol for the park should be developed. Maps of located tortoise clusters should also be created detailing the spatial occurrence during each survey. The survey should be conducted with a 2-3 person team.

Objective C: Monitor and document 5 selected imperiled plant species in the park.

The park should monitor Florida flame azalea, yellow crested orchid, red pitcher plant, purple pitcher plant and parrot pitcher plant. The park should document the presence and location of these plants on the park annually. Surveys should be conducted during each species' bloom window to improve detection and efforts to document recruitment should be included. A monitoring protocol for these species needs to be developed.

Exotic Species Management

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

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

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

- Action 1 In order to maintain control of invasive exotic plant species, treat 5 acres per year. These 5 acres include re-treatments of areas that were previously treated.
- Action 2 Monitor areas after treatment to determine the effectiveness of treatment, and use that information to plan any future treatment at that site.

Continuous monitoring of the spring for introduced hydrilla is an extremely important part of early detection. Once detected control measures should be conducted immediately.

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

The park should control armadillos to prevent rooting in sensitive areas. The park should also monitor sensitive areas for signs of feral hogs. If detected, control measures should be implemented immediately.

Objective C: Improve signage for nuisance American Alligators

With a focus on high recreational use areas, improve signage (e.g., locations of signs, language, etc). to increase public awareness of the presence of alligators at the park, educate visitors on the hazards of feeding alligators, safety concerns and additional contact information as needed.

Cultural Resource Management

Cultural Resource Management

Cultural resources are individually unique, and collectively, very challenging for the public land manager whose goal is to preserve and protect them in perpetuity. DRP is implementing the following goals, objectives and actions, as funding becomes available, to preserve the cultural resources found in Ponce de Leon Springs 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. Advice of historical and archaeological experts is required in this effort. Proposed projects

entailing 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, may require review by the FDOS, Division of Historical Resources (DHR). A certified archaeological monitor may make an initial determination. Recommendations may include, but are not limited to concurrence with the project as submitted, pre-testing of the project site by a certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effect. In addition, any demolition or substantial alteration to any historic structure or resource must be submitted to DHR for consultation and DRP must demonstrate that there is no feasible alternative to removal and must provide a strategy for documentation or salvage of the resource. Florida law further requires that DRP consider the reuse of historic buildings in the park in lieu of new construction and must undertake a cost comparison of new development versus rehabilitation of a building before electing to construct a new or replacement building. This comparison must be accomplished with the assistance of DHR.

Objective A: Assess and evaluate 13 of 14 recorded cultural resources in the park.

The park should assess and evaluate the one resource group and all 3 recorded archeological sites in the park. Such assessments should include an examination of each site with a discussion of any threats to the site's condition such as natural erosion; vehicular damage; horse, bicycle or pedestrian damage; looting; construction including damage from firebreak construction; animal damage; plant or root damage or other factors that might cause deterioration of the site. This evaluation should attempt to compare the current condition with previous evaluations using photo points or high resolution scanning or similar techniques. The results of the evaluations will allow staff to prioritize preservation and stabilization projects identified by the assessments/evaluations.

The park should conduct 10 historic structures reports for historic buildings. From these reports the park can identify and prioritize repair, restoration and rehabilitation projects needed for these structures.

The Ponce de Leon Springs Historic District (8HO00214) includes many structures listed above and previous locations of structures that are no longer present. HO 214 is being added to the FMSF at the beginning of this planning period.

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

The park should update the FMSF for all recorded sites, which have changed or been found to have additional features. Any other sites which may be discovered should be added to the FMSF. The park should continue its efforts to take oral histories of the park and the use of it prior to state acquisition. In addition, the bridge that traversed Mill Creek and old route of highway 181 should be researched to determine if they should be recorded in the FMSF. In 2014, the DRP conducted Archaeological Resource Sensitivity Modeling in Florida State Parks. The park has

completed the first stage of this predictive model for determining high, medium and low probability of locating archaeological sites within the park. Using results of the the predictive model, priority areas may then undergo a Level 1 archaeological survey, depending on environmental conditions. The park also needs to develop a Scope of Collections Statement.

Objective C: Bring 13 of 14 recorded cultural resource into good condition.

The park's historic structures are in good condition because of the development and implementation of a cyclical maintenance schedule for each cultural resource. The park should design and implement regular assessment program for 13 recorded cultural resources. The park should continue its preservation of the 10 historic structures in the following priority: the entrance station, the picnic shelters, the bathhouse, the weir and bridge, the Smithgall house, shop/equipment shelter, and garage/shop. By maintaining the structures in the park it will also maintain the integrity of the Ponce de Leon Springs Historic District even though the previous locations of some of the buildings in the historic district remain unknown. The park should continue to maintain 3 archeological sites/linear resource groups in good condition in the following priority: Railroad bed, Turpentine trees, and Ponce firebreak.

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. 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, the DRP works with the local mosquito control district to achieve consensus. By policy of DEP since 1987, aerial adulticiding is not allowed, but larviciding and ground adulticiding (truck spraying in public use areas) is typically allowed. The DRP does not authorize new

physical alterations of marshes through ditching or water control structures. Mosquito control plans temporarily may be set aside under declared threats to public or animal health, or during a Governor's Emergency Proclamation.

The park has adopted mosquito control plan dated 1987. The plan should be updated and revised to take into account the dependence of multiple plant and animal species found at the park that depend on arthropods. Since the park property is topographically heterogeneous and well drained, mosquito densities are not commonly observed to be excessive and are not significantly problematic under normal conditions. Thus, regular monitoring activities are not conducted by the local mosquito control personnel; rather, control activities would be prompted by nuisance complaints or by conditions determined to present a significant mosquito-related risk to human health. Control measures performed would potentially include ground-based adulticiding or larviciding activities, in which case the park manager or designee would be notified.

Additional Considerations

The park should coordinate with FDOT and respective sections of FDEP to implement improved stormwater management to protect the water quality of Jackson Spring.

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

A land management review has not been conducted at Ponce de Leon Springs State Park.

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.

Ponce de Leon Springs State Park in the town of Ponce de Leon about 12 miles east of DeFuniak Springs and 17 miles west of Bonifay in the northwest panhandle part of the state. Ponce de Leon Springs State Park consists of two separate parcels. The north parcel is in Holmes County and has the springhead and recreational facilities. The southern parcel lies in Holmes and Walton counties. Approximately 100,000 people live within 30 miles of the park (U.S. Census 2010).

According to the U.S. Census data (2013), both counties are predominantly white (89%). Approximately 15% of residents in either county identify as black,

Hispanic or Latino, or another minority group. Almost half of residents can be described as youth or seniors in Holmes County (48%) and Walton County (44%) (U.S. Census 2013). Nearly two-thirds of the population is of working age (16 to 65) (U.S. Census Bureau 2013). In 2013, the per capita personal income for Holmes County was \$27,347 and Walton County was \$37,976, lower than the statewide average of \$41,497 (U.S. Bureau of Economic Analysis 2013). The town of Ponce de Leon had just over 400 residents in 2013 (U.S. Census).

There are numerous resource-based recreation opportunities within 30 miles of the preserve. The Choctawhatchee River and Econfina Creek Water Management Areas offer camping, picnicking, boating, fishing, hiking, and wildlife viewing, in addition to a boat and canoe launch. The Florida Fish and Wildlife Conservation Commission (FWC) manages the properties, allowing seasonal hunting on site. Maintained by the Florida Forest Service, Pine Log State Forest provides over 14 miles of hiking trails, including a segment of the Florida National Scenic Trail (FNST), as well as a 12-mile horse trail. The FNST also continues through the Nokuse Plantation, offering a variety of wildlife viewing opportunities. Eglin Air Force Base provides access to 250,000 acres for public recreation. The base allows hunting, fishing, primitive camping, and hiking the FNST. Mountain biking is also offered in the Timberlake Recreation Area.

The park is located in the Central Vacation Region, which includes Bay, Calhoun, Escambia, Franklin, Gulf, Holmes, Jackson, Liberty, Okaloosa, Santa Rosa, Walton, and Washington counties (Visit Florida 2013). According to the 2013 Florida Visitor Survey, approximately 12.5% of domestic visitors to Florida visited this region. Roughly 95% visitors to the region traveled to the Northwest for leisure purposes. The top activities for domestic visitors were beach/waterfront and culinary/dining experience. Summer was the most popular travel season, but visitation was generally spread throughout the year. Most visitors traveled by non-air (95%), reporting an average of 4 nights and spending an average of \$135 per person per day (Visit Florida 2013).

Florida's Statewide Comprehensive Outdoor Recreation Plan (SCORP) indicates that participation rates in this region for freshwater beach activities, saltwater non-boat fishing, freshwater boat fishing, freshwater boat-ramp use, hiking, RV/trailer camping, and hunting are higher than the state average with demand for additional facilities increasing through 2020 (FDEP 2013).

Existing Use of Adjacent Lands

Ponce de Leon Springs State Park consists of two separate parcels. The north parcel is in Holmes County and has the springhead and the recreational facilities. The south parcel lies in both Holmes and Walton counties. U.S. Highway 90 and the town of Ponce de Leon are located about one half mile to the north of the northernmost boundary and Interstate 10 runs between the two parcels. A Department of Transportation rest area off Interstate 10 is

adjacent to the south parcel. The other adjacent land uses in Holmes County are agricultural. Undeveloped private parcels remain throughout the county and near the park.

Planned Use of Adjacent Lands

Holmes and Walton counties have relatively small populations for Florida. In 2014, Walton County had the 41st largest population and Holmes had the 55th largest population in the state. The West Florida Regional Planning Council (WFRPC) reported that a majority of the region's growth is expected in Bay and Walton counties, while Holmes County is anticipating very little growth in the next thirty years. Walton County and Holmes counties are expected to reach 76,000 and 16,000 residents, respectively, by 2040 (BEBR 2012).

The West Florida Comprehensive Economic Development Strategy states that there are plans for future expansion of the Holmes County Airport and construction of an industrial park, dependent on infrastructure improvements. The industrial park is under consideration as an economic generator for the community intended to attract small and large industrial and commercial uses (WFRPC 2012). The proposed site is twenty miles east of Ponce de Leon Springs State Park and fronts Highway 90 and the CSX railroad. The Bay, Gulf, Holmes, and Washington Regional Transportation Partnership (RTP) outlined several planning transportation improvements including widening CR183 and constructing a two-lane road from CR179 to CR177A. Interstate 10 has no improvements planned for this area in the next five years.

Adjacent parcels in Walton County are designated for General Agriculture (GA) future use, allowing small-scale agricultural activities in rural areas. These lots are outside of the utility service boundary and, therefore, are not served by central water or sewer facilities (Walton County 2011). Existing use of adjacent lands in Walton County are zoned for agriculture with small-scale agriculture activities and low-density residential development nearby. A mobile home community is to the west of the park property (Walton County 2015). Surrounding lands in Holmes County are designated as rural residential on the future land use map (Holmes County 2010). A public activities district, representing the post office, lies to the northwest of the north parcel and a mixed use center where the Interstate 10 rest stop is situated (Holmes County 2006).

Property Analysis

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

Recreation Resource Elements

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

Land Area

The majority of public use occurs on the park's north parcel, which consists largely of wetlands with a developed area and thin strip of upland pine forest on the eastern edge. The south parcel, with no facilities or current recreational uses, provides wildlife habitat and preserves a natural buffer along a portion of Sandy Creek. Approximately 60% of the park property is wetland-type extending from Sandy Creek.

Water Area

Ponce de Leon Springs is a second magnitude spring, producing 14 million gallons of water daily. This spring is the focal point for most of the recreational activities in the park. At a constant temperature of 68 degrees, the spring waters provide year-round opportunity for swimming. Sandy Creek, which runs the length of the park, receives the spring's discharge in the north and flows south into the Choctawhatchee River.

Natural Scenery

Scenery across the varied topography throughout the park, ranging from uplands to blackwater streams invites visitors to enjoy wildlife viewing, nature walking, and paddling. Viewsheds from the park's uplands descend into lush bottomland forest and wetland community types. The clear waters of the Ponce de Leon spring surrounded by cypress and hardwood hammock provides a picturesque setting for picnicking and swimming.

Significant Habitat

The park contains nine distinct biological communities providing habitats for diverse wildlife. Two nature trails traverse these community types, providing opportunity for wildlife observation.

Natural Features

The most prominent natural feature of the park is the namesake second magnitude spring with a 35-foot spring-run stream flowing into Sandy Creek, a blackwater stream. Other karst features are also found throughout the park, offering opportunity for interpretation of the park's unique geological character.

Archaeological and Historic Features

There are two known archaeological sites within the park boundary. The site on the north parcel was determined to be associated with the Santa Rosa/Swift

Creek occupation. The other site, on the western edge of the south parcel, is a small artifact scatter of varied ages. Both features contribute to the park's interpretive opportunities.

Assessment of Use

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

Past Uses

The spring run has been operated for recreational use since the 1920s. The property was privately owned and operated until 1970, when it was acquired by the state. The upland pine forest south of Interstate 10 was utilized for turpentine production before acquisition by the state.

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.

In Walton County, the current future land use designation is Conservation, which permits wildlife resource management and passive recreation. The current zoning designation for the entire park in Walton County is also conservation. In Holmes County, land is designated and zoned for recreation and open space. There are no expected conflicts between the future land use or zoning designations and typical state park land uses in Walton or Holmes counties.

Current Recreational Use and Visitor Programs

The recreational uses facilitated at the unit include swimming, picnicking, and nature walking. Visitors swim in the main spring basin, the spring run, and Sandy Creek. Fishing is also permitted in the areas of the spring run and Sandy Creek not designated for swimming. Two nature trails start from the picnic area and ranger-led nature walks are provided upon request. Picnic facilities are located in the open area adjacent to the springhead.

Ponce de Leon Springs State Park recorded 43,916 visitors in FY 2015/2016. By DRP estimates, the FY 2015/2016 visitors contributed \$3,896,100 million in direct economic impact, the equivalent of adding 62 jobs to the local economy (FDEP 2016).

Other Uses

No uses, other than outdoor resource-based recreation and interpretation, are designated 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 Ponce de Leon Springs State Park, the floodplain swamp, basin swamp, blackwater stream, seepage slope, seepage stream, spring-run stream, spring natural communities, and known imperiled species habitat have been designated as protected zones. The park's current protected zone is delineated on the Conceptual Land Use Plan.

Existing Facilities

All existing facilities are located on the north parcel, centered on use of the spring area, popularly enjoyed for picnicking and swimming. Four picnic shelters connected by walkways adjacent to the spring basin provide tables and grills. Scattered picnic tables increase the capacity for picnickers. A bathhouse serves this day use area. A limestone and concrete wall constructed in 1983 defines the swimming area around the spring vents. A weir constructed at the junction of the spring basin and the spring run allows the water level to rise above the natural pool height, providing a larger swimming area. Two connected nature trails with numerous boardwalks across the wetlands extend from the spring swimming area and follow Sandy Creek. The park's south parcel is undeveloped for recreational access.

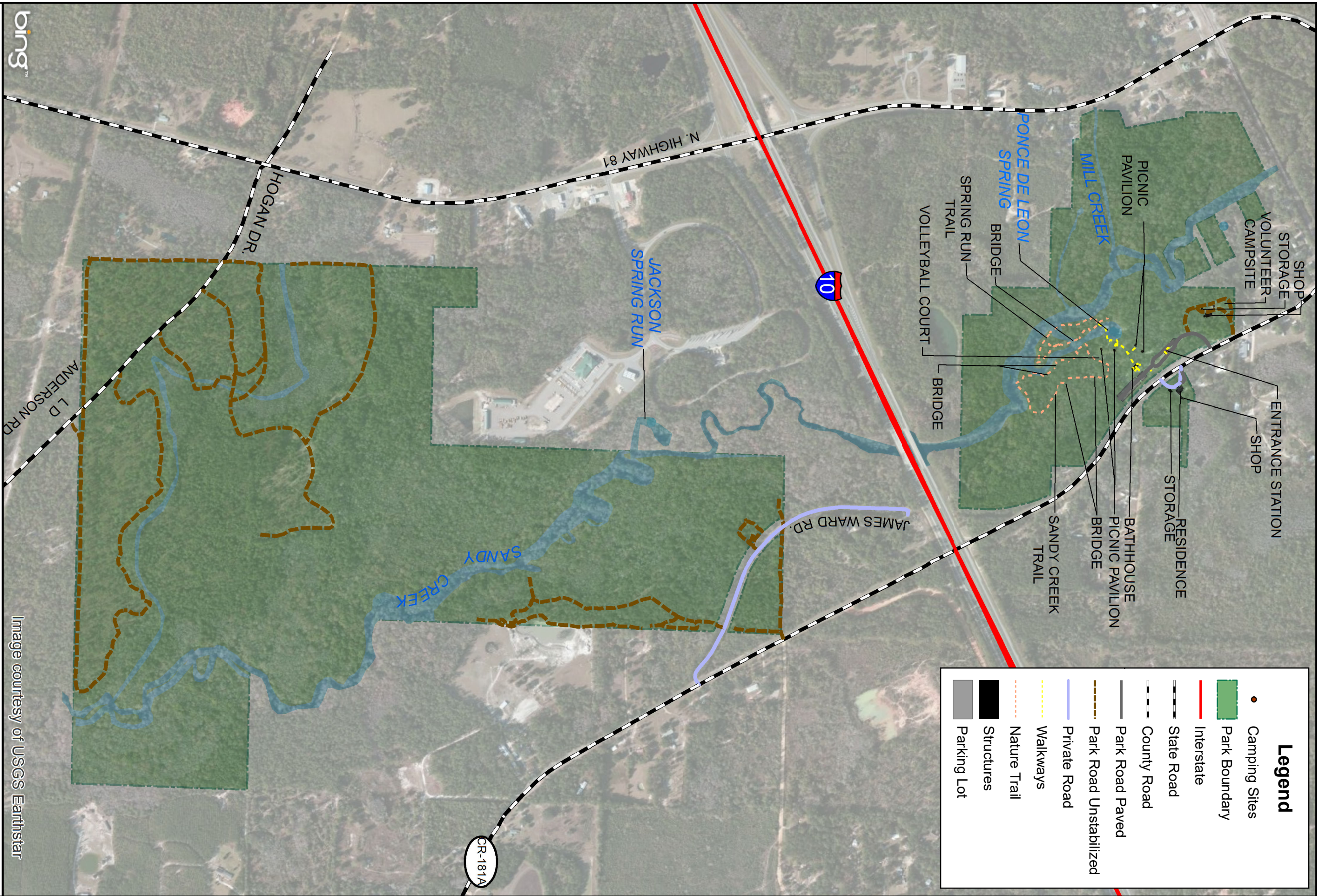
Support facilities include a ranger station, ranger residence, and shop building. The paved parking lot includes 39 standard spaces and two ADA spaces, which are located south of the ranger station. Management roads traverse the interior and boundary lines of both the north and south parcels (see Base Map).

Recreation Facilities

Picnic shelters with grills (4)
Scattered picnic tables
Spring basin retaining wall/access platform
Nature trails (.8 mile)

Support Facilities

Bathhouse
Entrance station
Ranger residence
Shop building
Paved parking (41 spaces)

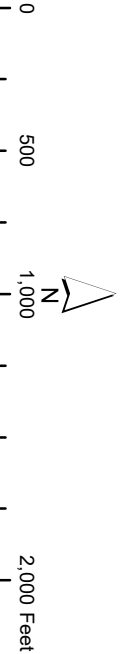


Legend

- Camping Sites
- Park Boundary
- Interstate
- State Road
- County Road
- Park Road Paved
- Park Road Unstabilized
- Private Road
- Walkways
- Nature Trail
- Structures
- Parking Lot

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PONCE DE LEON SPRINGS
STATE PARK



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

Image courtesy of USGS Earthstar

BASE MAP

Conceptual Land Use Plan

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

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

Potential Uses

Public Access and Recreational Opportunities

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

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

Objective: Maintain the park's current recreational carrying capacity of 500 users per day.

The park will continue to offer the current program of resource-based recreational activities, including swimming, picnicking, and natural resource interpretation along the nature trail.

Objective: Expand the park’s recreational carrying capacity by 300 users per day.

Additional facilities and recreational opportunities are proposed that will increase the carrying capacity of the park, including tubing from a proposed access point on Sandy Creek and developing hiking trails in the park’s south parcel. Improvements of existing facilities and access amenities throughout the park will expand recreational opportunities and enhance the quality of the visitor experience. Expansion of recreational opportunity and access improvements are discussed in detail below.

Objective: Continue to provide the current repertoire of 20 interpretive, educational and recreational programs on a regular basis.

Park staff annually conduct a series of 20 interpretive and educational programs at the park, schools, and other public venues. Topics include flora and fauna of the park, karst geology, watershed connectivity, and the cultural history of the park. All interpretive and educational programs are available throughout the year upon request.

Objective: Develop 1 new interpretive, educational and recreational program.

The park offers significant opportunities for interpretation and educational outreach. A guided interpretive walk program along the trails in the south parcel is recommended when the trailhead, designated route, and boardwalks have been developed.

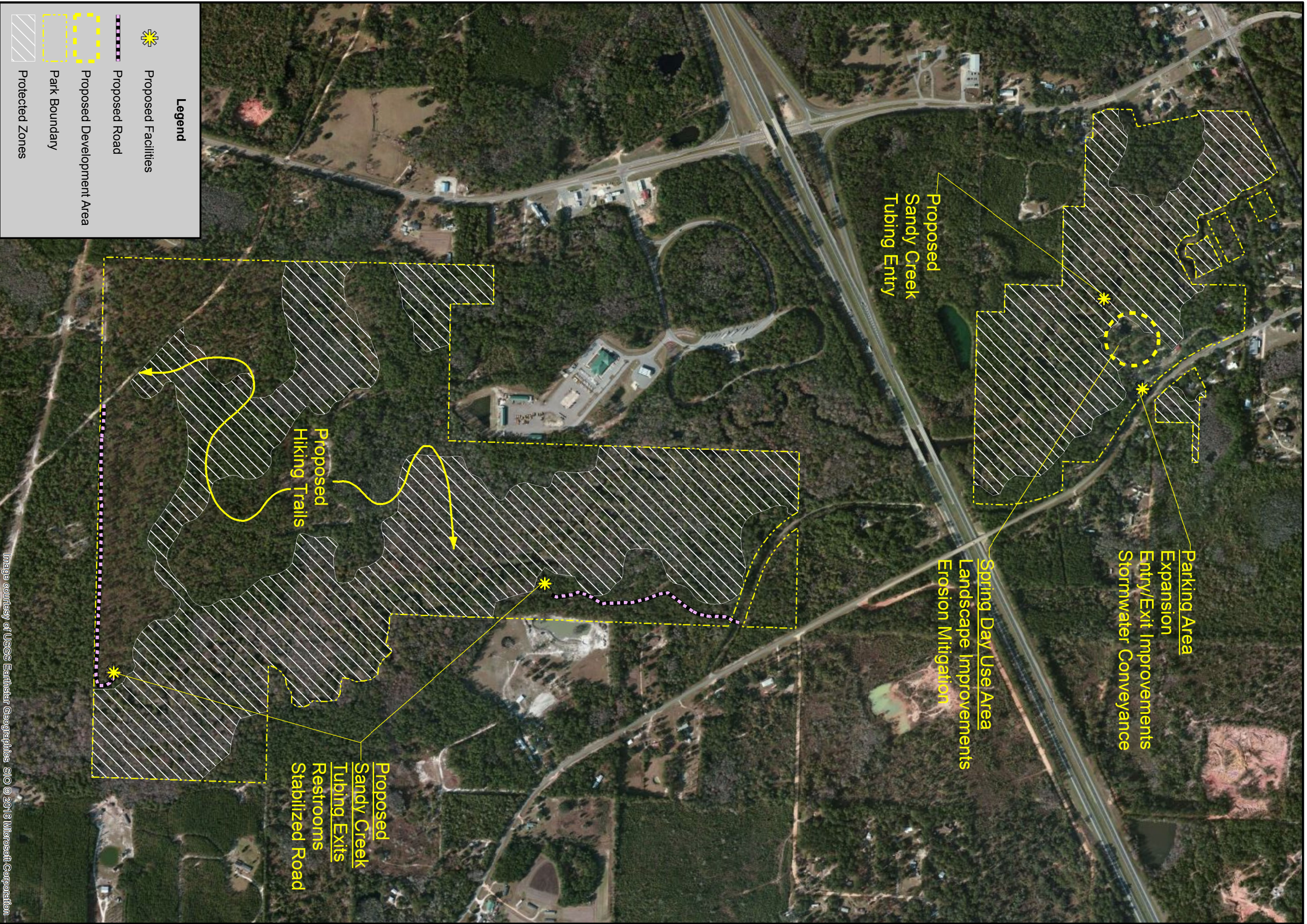
Proposed Facilities

Capital Facilities and Infrastructure

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

The conceptual land use plan for Ponce de Leon Springs State Park proposes to improve parking and access to resource-based recreation within the existing Spring Day Use Area in the park’s north parcel. Improvements will emphasize mitigation of erosion and stormwater runoff to further goals of springshed protection. Additionally, the plan proposes to develop new recreational opportunities in the park’s south parcel.

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



Legend

-  Proposed Facilities
-  Proposed Road
-  Proposed Development Area
-  Park Boundary
-  Protected Zones

Parking Area Expansion Entry/Exit Improvements Stormwater Conveyance

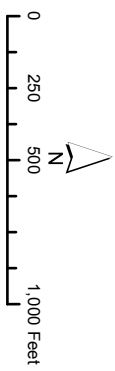
Spring Day Use Area Landscape Improvements Erosion Mitigation

Proposed Sandy Creek Tubing Entry

Proposed Hiking Trails

Proposed Sandy Creek Tubing Exits Restrooms Stabilized Road

PONCE DE LEON SPRINGS STATE PARK



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

CONCEPTUAL LAND USE PLAN

Image courtesy of USGS Earthstar Geographics. SIO © 2010 Microsoft Corporation

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

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

Objective: Improve/repair 2 existing facilities and 0.8 mile of trail.

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

Spring Day Use Area

Erosion is a recurring problem in the day use area of the park. During moderate to heavy rain events, sediment from the top of the spring basin washes into the spring, requiring periodic removal. Sediment significantly affects water clarity in the swimming area and impedes the growth of native aquatic vegetation.

Stormwater sheetflow over the day use area should be mitigated. The construction of a stormwater mitigation landscape may reduce the carrying capacity of the day use area. Design elements may include berms, swales, and semi-permeable walkway surfaces. A hydrology study is recommended to determine the course and volume of stormwater sheetflow that occurs under various conditions and how the water/sediment can be effectively conveyed to avoid continued impacts to the spring. Further evaluation is required before a site plan for the day use area is produced.

North Parcel Trails

Recommended improvements, along the existing trails near Ponce de Leon Spring on the north parcel, include stabilization of eroded segments and added interpretation. Signage and wooden fencing is needed at identified points along the nature trails where visitors often walk off trail to access the banks of the spring run, causing damage to vegetation and erosion.

Parking

During high visitation, the parking lot quickly reaches full capacity. Alternative parking is occasionally found along the unstabilized shoulders of the park road. As a result, traffic congestion and soil erosion occur. Redesign of the parking lot is recommended to increase the number of spaces and facilitate efficient traffic circulation. Improvements should include expansion of the parking area, diagonally drawn parking spaces, redirection of entry and exit, and stormwater retention.

Objective: Construct 4 new facilities, 0.5-mile of road, and 1 mile of trail.

South Parcel Hiking Trails

A loop hiking trail is proposed through the upland pine and bottomland forest of the park's south parcel. Trail development in this scenic area would enhance interpretive opportunities in the park. Boardwalks constructed across the seepage stream are recommended to protect the sensitive wetland community type from erosion or hydrological obstruction. Where gopher tortoise burrows are abundant in upland pine areas, trails should be routed to provide buffers between burrows and foot traffic. Spur trails to scenic or interpretive observation points should be considered, pending completion of restoration projects at identified sites or resource impact and sensitivity assessments (e.g., at pitcher plant marshes). A trailhead parking lot is proposed near the southern boundary of the park adjacent to Anderson Road.

Sandy Creek Tubing Access

Sandy Creek is a steadily flowing navigable stream that would be suitable for seasonal tubing between May 1 and September 30. The starting point of the tubing route is proposed on Sandy Creek, at the confluence of the Ponce de Leon Spring Run and Sandy Creek. Exit points are proposed at both the mid-point and end-point of Sandy Creek within the park's south parcel. Existing park management roads extending from Ward and Anderson roads currently provide access to both proposed exit points, which should be stabilized and made accessible to users of the trail and/or tubing concession vendors. Facilities at the entry and exit points will include floating docks and restrooms. Seasonal tubing access will be closed during periods of low water conditions. Resource impacts due to expanded recreational use on Sandy Creek will be further considered.

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:

Spring Day Use Area

Improvement of landscape
Mitigation of erosion

North Parcel Trails

Stabilization of eroded trail segments
Protective fencing
Interpretive signage

Parking Area

Expansion of paved parking area
Improvement of park entry and exit
Development of stormwater conveyance

South Parcel

Development of hiking trail (1 mile)
Boardwalk (800 feet)
Development of tubing access (2.5 miles)

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

Activity/Facility	Existing Capacity*		Proposed Additional Capacity		Estimated Recreational Capacity	
	One Time	Daily	One Time	Daily	One Time	Daily
Spring Day Use Area						
Swimming	44	88			44	88
Picnicking	176	352			176	352
Trail	15	60			15	60
South Parcel						
Tubing			100	200	100	200
Hiking			25	100	25	100
TOTAL	235	500	125	300	360	800

*Existing capacity revised from approved plan according to DRP guidelines.

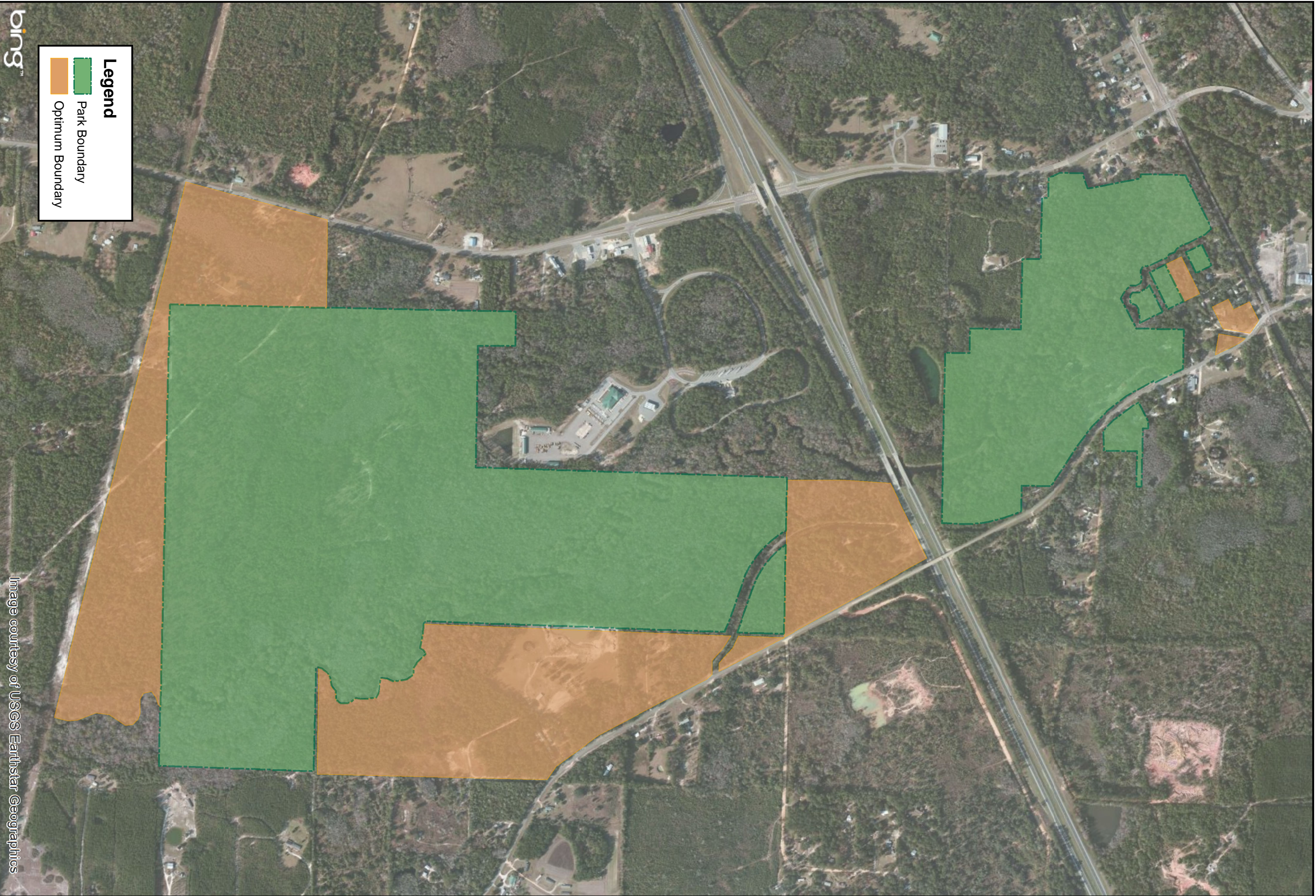
Optimum Boundary

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 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.

The park optimum boundary includes properties adjacent to both the north and south parcels. Five parcels, sized between 0.1 and 1.5 acres, are located adjacent to the park's north boundary, adjacent to the park entrance, which are of management interest to Ponce de Leon Springs State Park. Management of these parcels would provide opportunity for natural landscape improvement and buffering. Parcels south and west of the park boundary are significant for the upland habitat and stands of longleaf pine. The addition of these parcels would facilitate natural resource management activities at the park. The 23-acre parcel between the park and Interstate 10, south of the interstate, contains a mix of upland and wetland bordering Sandy Creek. With the proposed expansion of recreational uses to the south parcel, management of this area would expand recreational opportunities, provide access control, and establish a connection between the north and south parcels of the park. Jackson Spring and the contiguous spring run should additionally be considered for the park's optimum boundary. Jackson Spring is adjacent to the west boundary of the park's south parcel and flows into Sandy Creek. It is currently owned by the Department of Transportation, but is not managed for spring or watershed protection. Management as part of Ponce de Leon Springs State Park would promote resource protection and potentially increase recreational opportunity in the park. At this time, no lands are considered surplus to the needs of the park.



Legend

- Park Boundary
- Optimum Boundary



Image courtesy of USGS Earthstar Geographics



PONCE DE LEON SPRINGS
STATE PARK

OPTIMUM BOUNDARY MAP

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

IMPLEMENTATION COMPONENT

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

MANAGEMENT PROGRESS

Since the approval of the last management plan for Ponce De Leon Springs State Park in 2004, significant work has been accomplished and progress made towards meeting DRP's management objectives for the park. These accomplishments fall within four of the five general categories that encompass the mission of the park and DRP.

Park Administration and Operations

- The volunteer program has contributed approximately 22,000 hours of assistance in the areas of facility repair, visitor services, and resource management, including exotic-invasive plant removal and prescribed burning between January 2004 and December 2015.
- Park staff has continued to work with adjacent landowners to protect ground water recharge areas from potential pollution.
- The Park Ranger position was upgraded to Park Service Specialist in response to increased visitation and the need to fulfill greater management responsibilities.
- Park staff has provided the necessary administrative support in order to ensure a high quality and safe visitor experience.

Resource Management

Natural Resources

- Since January 1, 2004, a total of 500 acres have been burned across 8 of the park's management zones, including backlog and maintenance burns. These zones are burned on a 2-year cycle. Through December 31, 2015 all management zones are up to date with no backlogs.
- Hardwoods that had overtaken through succession in a total of 100 acres and 4 management zones were mechanically removed.
- Added a low water crossing to gain access to landlocked management zones for purposes of prescribed burning and exotic-invasive plant removal.
- Approximately 3 miles of fire lines have been improved or established.

- Trumpet pitcher plants were re-established in four management zones and maintained where the species once existed but had been lost to low fire frequency.

Cultural Resources

- The ongoing process of compiling historical information was continued through interviews and research of land uses prior to acquisition by the Florida Park Service.

Recreation and Visitor Services

- Park staff annually conducted approximately 20 interpretive programs at the park, regional schools, and other public venues. These programs consist of topics on the flora and fauna of the park, karst geology, and the cultural history of the park.
- The park was added as a listed site on the Great Florida Birding Trail.
- Upgrades have been made to campsites for volunteers that reside in the park.

Park Facilities

- Improved trail system along with the addition of new bridges to help stabilize trails from frequent flooding from nearby Sandy Creek.
- Improvements to the ranger station to make it more customer-friendly.
- There have been many improvements to walkways and other facilities for enhanced park access.

MANAGEMENT PLAN IMPLEMENTATION

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

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

natural and cultural resources, and changes in statewide land management issues, priorities and policies.

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

Table 7
Ponce de Leon Springs State Park Ten-Year Implementation Schedule and Cost Estimates
 Sheet 1 of 5

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.	C	\$380,000	
Objective B	Expand administrative support as new lands are acquired, new facilities are developed, or as other needs arise.	C	\$280,000	
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.	LT	\$9,000	
	Action 1 Assess the spring for hydrological impairments.	LT	\$4,000	
	Action 2 Assess the ditches in PL-B to determine the extent of hydrological disruption and the cubic feet of fill needed to restore them to existing topographical grade.	LT	\$5,000	
Objective B	Design an appropriate stormwater conveyance system to adequately address the erosion issues at the Spring Day Use Area and prevent sedimentation of the spring and spring run stream.	UFN	\$100,000	
Objective C	Install a low-water crossing between PL-F and PL-H to allow access for better resource management.	LT	\$8,000	
Objective D	Continue to work with the Springs Initiative Program and the Northwest Florida Water Management District to encourage them to conduct water quality and quantity monitoring at the Ponce de Leon Spring.	LT	\$2,000	

* 2016 Dollars

ST = actions within 2 years

LT = actions within 10 years

C = long term or short term actions that are continuous or cyclical

UFN = currently unfunded need

Table 7
Ponce de Leon Springs State Park Ten-Year Implementation Schedule and Cost Estimates
Sheet 2 of 5

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.

		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Goal III: Restore and maintain the natural communities/habitats of the park.				
Objective A	Within 10 years have 118 acres of the park maintained within optimal fire return interval.	# Acres within fire return interval target	LT	\$35,000
	Action 1 Develop/update annual burn plan.	Plan updated	C	\$1,000
	Action 2 Manage fire dependent communities for ecosystem function, structure and processes by burning between 25.7 - 59.09 acres annually, as identified by the annual burn plan.	Average # acres burned annually	C	\$34,000
Objective B	Conduct habitat/natural community restoration activities on 75 acres of upland pine forest community.	# Acres restored or with restoration underway	LT	\$117,000
	Action 1 Develop/update site specific restoration plan	Plan developed/updated	ST	\$2,000
	Action 2 Implement restoration plan	# Acres with restoration underway	LT	\$115,000
Goal IV: Maintain, improve or restore imperiled species populations and habitats in the park.				
		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Update baseline imperiled species occurrence inventory lists for plants and animals, as needed.	List updated	C	\$500
Objective B	Monitor and document 1 selected imperiled animal species in the park.	# Species monitored	C	\$11,000
	Action 1 Develop monitoring protocols for 1 selected imperiled animal species - gopher tortoise.	# Protocols developed	ST	\$1,000
	Action 2 Implement monitoring protocols for 1 imperiled animal species - gopher tortoise.	# Species monitored	C	\$10,000
Objective C	Monitor and document 5 selected imperiled plant species in the park.	# Species monitored	C	\$11,000
	Action 1 Develop monitoring protocols for 5 selected imperiled plant species, including Florida flame azalea, yellow trumpet pitcher plant, red pitcher plant, purple pitcher plant and parrot pitcher plant.	# Protocols developed	ST	\$1,000
	Action 2 Implement monitoring protocols for 5, including those listed in Action 1 above, including Florida flame azalea, yellow trumpet pitcher plant, red pitcher plant, purple pitcher plant and parrot pitcher plant.	# Species monitored	C	\$10,000

* 2016 Dollars

ST = actions within 2 years

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Table 7
Ponce de Leon Springs State Park Ten-Year Implementation Schedule and Cost Estimates
Sheet 3 of 5

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.

		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Goal V: Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.				
Objective A	Annually treat 5 acres of exotic plant species in the park.	# Acres treated	C	\$18,000
Action 1	In order to maintain control of invasive exotic plant species, treat 5 acres per year, including re-treatments of areas previously treated.	Plan developed/updated	C	\$15,000
Action 2	Monitor areas after treatment to determine the effectiveness of treatment, and use that information to plan any future treatment at that site.	Plan implemented		\$3,000
Objective B	Implement control measures on 1 exotic and nuisance animal species in the park.	# Species for which control measures implemented	C	\$500
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 13 of 14 recorded cultural resources in the park.	Documentation complete	LT	\$22,000
Action 1	Complete 3 assessments/evaluations of archaeological sites. Prioritize preservation and stabilization projects.	Assessments complete	LT	\$15,000
Action 2	Complete 10 historic structures reports for historic buildings and cultural landscape. Prioritize stabilization, restoration and rehabilitation projects.	Reports and priority lists completed	LT	\$7,000
Objective B	Compile reliable documentation for all recorded historic and archaeological sites.	Documentation complete	LT	\$4,000
Action 1	Ensure all known sites are recorded or updated in the Florida Master Site File.	# Sites recorded or updated	ST	\$500
Action 2	Develop and adopt a Scope of Collections Statement.	Document completed	ST	\$3,500
Objective C	Bring 13 of 14 recorded cultural resources into good condition.	# Sites in good condition	LT	\$35,000
Action 1	Design and implement regular monitoring programs for 12 recorded cultural sites.	# Sites monitored	C	\$5,000
Action 2	Create and implement a cyclical maintenance program for each cultural resource.	Programs implemented	C	\$30,000

* 2016 Dollars

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C = long term or short term actions that are continuous or cyclical

UFN = currently unfunded need

Table 7
Ponce de Leon Springs State Park Ten-Year Implementation Schedule and Cost Estimates
Sheet 4 of 5

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 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 500 users per day.	C	\$270,000	
Objective B	Expand the park's recreational carrying capacity by 300 users per day.	LT	\$175,000	
Objective C	Continue to provide the current repertoire of 20 interpretive, educational and recreational programs on a regular basis.	C	\$35,000	
Objective D	Develop 1 new interpretive, educational and recreational program.	LT	\$7,000	
Goal VIII : Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.				
	Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)	
Objective A	Maintain all public and support facilities in the park.	C	\$300,000	
Objective B	Continue to implement the park's transition plan to ensure facilities are accessible in accordance with the American with Disabilities Act of 1990.	LT	\$45,000	
Objective C	Improve and/or repair 2 existing facilities and 0.8 miles of trail as identified in the Land Use Component.	LT	\$200,000	
Objective D	Construct 4 new facilities, 0.5-mile of road and 1 mile of trail as identified in the Land Use Component.	LT	\$220,000	
Objective E	Expand maintenance activities as existing facilities are improved and new facilities are developed.	C	\$190,000	

* 2016 Dollars

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C = long term or short term actions that are continuous or cyclical

UFN = currently unfunded need

Table 7
Ponce de Leon Springs State Park Ten-Year Implementation Schedule and Cost Estimates
Sheet 5 of 5

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

Summary of Estimated Costs

Management Categories	Total Estimated Manpower and Expense Cost* (10-years)
Resource Management	\$373,000
Administration and Support	\$267,000
Capital Improvements	\$955,000
Recreation Visitor Services	\$487,000
Law Enforcement Activities	Note: Law enforcement activities in Florida State Parks are conducted by the FWC Division of Law Enforcement and by local law enforcement agencies.

* 2016 Dollars

ST = actions within 2 years

LT = actions within 10 years

C = long term or short term actions that are continuous or cyclical

UFN = currently unfunded need

Addendum 1—Acquisition History

Ponce de Leon Springs State Park 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 Ponce de Leon Springs State Park for the use and benefit of the Outdoor Recreational Development Council of the State of Florida.

Sequence of Acquisition:

On September 4, 1970, the Florida Board of Trustees of the Internal Improvement Trust Fund ("Trustees") obtained title to approximately 34-acre property that later became Ponce de Leon Springs State Park. The property was purchased from L. H. Hughes and Ludie Glenn Hughes for \$3,500. This purchase was funded under the Land Acquisition Trust Fund ("LATF") program.

Since the 1970 initial purchase of the 34-acre property, the Trustees has acquired several parcels through purchases using LATF funds and through a donation and added the newly purchased parcels to Ponce de Leon Springs State Park. The present area of the park is about 387 acres.

Title Interest:

The Board of Trustees holds fee simple title to Ponce de Leon Springs State Park.

Lease Agreement:

On June 8, 1971, the Trustees leased Ponce de Leon State Park to the State of Florida Department of Natural Resources, predecessor in interest to the State of Florida Department of Environmental Protection for use and benefit of the Division of Recreation of Parks ("DRP"). The Trustees leased this property to DRP under Lease No. 2533 for a term of ninety-nine (99) years. On August 17, 1983, the Trustees amended Lease No. 2533 to change the term of the lease to fifty (50) years commencing on the execution date of the amendment, which was August 17, 1983.

According to Lease No. 2533, DRP manages Ponce de Leon Springs State Park for the purpose of preserving, developing, improving, operating, maintaining and otherwise managing said lands for public outdoor recreational, park, conservation and related purposes.

Special Conditions on Use:

Ponce de Leon Springs State Park is designated single-use to provide resource-based public outdoor recreation and other park related uses. Uses such as water resource development projects, water supply projects, storm-water management projects, and linear facilities and sustainable agriculture and forestry are not consistent with the purposes for which DRP manages Ponce de Leon Springs State Park.

Outstanding Reservations:

There are no known outstanding deed reservations and encumbrances which apply to Ponce de Leon Springs State Park.

Addendum 2—Advisory Group Members and Report

**Ponce de Leon Springs State Park
Advisory Group Members**

**Local Government
Representatives**

The Honorable Bobby Sasnett
Holmes County Board of
County Commissioners

The Honorable Bill Chapman
Walton County Board of
County Commissioners

Agency Representatives

Jacob Strickland, Manager
Ponce de Leon Springs State Park

Billy Sermons, Regional Biologist
Northwest Florida Region
Florida Fish and Wildlife
Conservation Commission

Doug Longshore, Regional Forester
North Florida Region
Florida Forest Service

Joe Franklin, Chair
Holmes Creek Soil and Water
Conservation District

Cathy Johnson, Chair
Choctawhatchee River Soil and
Water Conservation District

**Environmental and
Conservation Representatives**

Alan Knothe, President
Choctawhatchee Audubon Society

Ina Crawford, President
Sweetbay Chapter
Florida Native Plant Society

**Tourism and Economic
Development Representatives**

Julia Bullington, Council
Coordinator
Holmes County Tourist
Development Council

Jason Cutshaw, Director of
Administration
Walton County Tourist
Development Council

**Recreational and Educational
User Representatives**

Eric Lewis, Trail Coordinator
Panhandle Chapter
Florida Trail Association

Eddie Dixon, Superintendent
Holmes County Schools

Adjacent Landowners

Thomas Green, residential property
owner

Ponce de Leon Springs State Park

Advisory Group Meeting Report

The advisory group meeting to review the proposed unit management plan (UMP) for Ponce de Leon Springs State Park was held in the town of Ponce de Leon in the Old Gymnasium Building on Friday, June 3, 2016 at 9:00 AM.

Commissioner Bobby Sasnett represented the Holmes County Board of County Commissioners. Commissioner Bill Chapman and Melinda Wickham represented the Walton County Board of County Commissioners. Jason Love represented Doug Longshore for the Florida Forest Service. Joe Franklin, Alan Knothe, and Eddie Dixon were not in attendance. Diana Pepe submitted written comments for the Florida Fish and Wildlife Conservation Commission (FWC) in advance of the meeting. Mellody Hughes submitted written comments in advance of the meeting, representing Cathy Johnson of the Choctawhatchee River Soil and Water Conservation District. Thomas Green had no comments and attended the public hearing. All other appointed advisory group members were present.

Attending Division of Recreation and Parks (DRP) staff members were Raya Pruner, Jacob Strickland, Fred Provost, Martha Robinson, and Daniel Alsentzer.

Mr. Alsentzer 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 public hearing as well as the written comments received from members not in attendance. Mr. Alsentzer then asked each member of the advisory group to express his or her comments on the draft plan. After all comments were shared, Mr. Alsentzer described next steps for drafting the plan and the meeting was adjourned.

Summary of Advisory Group Comments

Commissioner Bill Chapman (Walton County Board of County Commissioners, District 1) stated that he has visited the park many times and understands the value of the park for the community. Commissioner Chapman noted the family-friendly character of the state park. He noted some impediments to universal access around the main spring basin and along the adjacent pathways, including trip and fall hazards. He encouraged stabilized or otherwise improved access to the spring. He recommended construction of additional pavilions, as the existing pavilions are often occupied. He compared the park to Morrison Spring, which is managed by Walton County. He discussed paddling access on Sandy Creek and the Choctawhatchee River. He commented that Morrison Spring participates in the Blue Way Trail Program, which may be applicable to Ponce de Leon Springs State Park. He inquired about creek-to-river access and noted observations of sand build-up along the waterways in the region, making them difficult to navigate. Commissioner Chapman further commented that Walton County's new Turkey Creek Park near Niceville is environmentally similar to Ponce de Leon Springs, providing a potential example for water access and related recreational opportunities.

Melinda Wickham (Aide to Sara Comander, Walton County Board of County Commissioners Chair) emphasized the importance of exotic-invasive species

Ponce de Leon Springs State Park

Advisory Group Meeting Report

exclusion in the park and especially in the spring. She noted the risk of contamination by way of watersports gear, such as scuba diving equipment. She recommended that the park remain closed to scuba, stating that the spring would be an impractical dive site as it is too shallow. She inquired whether the limestone formations in spring basin are safely passable for free divers. She also inquired about the DRP's policy on dredging excess sediment from the spring. She inquired whether specific plans for the proposed landscape improvements have been developed and recommended a bedding of water-oak leaves, as this has effectively offset erosion at Morrison Spring. Ms. Wickham encouraged the DRP to maintain a visible presence of staff at the park to assist with preserving a family-friendly environment. She inquired whether the DRP would consider constructing an additional park entrance/exit on the south end of the park's north parcel. Ms. Wickham observed that tourism in Walton County is on the rise and inquired whether visitation trends in the park are increasing proportionately. She recognized the potential need for parking lot redesign or expansion. Ms. Wickham stated that there may be limitations to future management or visitor programs based on staffing needs. She noted that the park may occasionally harvest timber from upland pine areas for the purposes of restoration and inquired how timber is extracted from the park. Ms. Wickham noted the importance of natural predators for mosquito control such as fish and bats and identified the presence of these species as an interpretive opportunity. Last, Ms. Wickham noted that unit management plans for state parks identify 50-year lease terms and inquired about the procedure for lease renewals.

Commissioner Bobby Sasnett (Holmes County Board of County Commissioners, District 1/Vice Chairman) remarked on the positive changes and improvements to the park, both recent and proposed. He stated that he has a long history of visiting and appreciating the park. He recognized the significant contribution to the Holmes County community. Commissioner Sasnett that stated all key points had been addressed in the plan and by the advisory group discussion. He affirmed that Holmes County funds a mosquito control program in the vicinity of the park. Commissioner Sasnett supported additional signage and community wayfinding to help visitors find the park.

Jason Cutshaw (Walton County Tourist Development Council) commended the management of the park. He concurred with the park's potential receipt of offsite gopher tortoises. Mr. Cutshaw inquired whether the park faces visitor accessibility issues, particularly during periods of high visitation. Mr. Cutshaw stated that access improvements can blend with landscape design for reducing erosion. He inquired whether the park's existing facilities support the trend of increasing visitation. He inquired whether more detail is available on the proposed parking and access/egress improvements. Mr. Cutshaw noted that the park is an asset for both Walton and Holmes counties and inquired whether the volume of visitation at this park generates significant tourism revenue for the Holmes County economy.

Ponce de Leon Springs State Park

Advisory Group Meeting Report

Jason Love (Florida Forest Service) discussed the burn intervals prescribed in the plan's resource management component. Mr. Love recommended intervals of one to three years versus two to five years, where burn impacts to bog plant species would not occur. He urged the DRP to consider an emergency and disaster contingency under the timber management analysis for fallen timber. He encouraged the park to engage in more ambitious exotic-invasive species removal as the entirety of the park's acreage could potentially be treated annually. Mr. Love recommended updates to the arthropod control plan, emphasizing the local and parkwide significance of mosquito control.

Julia Bullington (Holmes County Tourist Development Council) commended the park for its upkeep, appearance, and programming. She stated that she often recommends Ponce de Leon Springs State Park to tourists and consistently receives positive feedback. She inquired about the process for identifying parcels in the optimum boundary and encouraged the DRP to seriously consider the potential acquisitions that are identified in the optimum boundary. Additionally, Ms. Bullington identified a parcel that she recommended adding to the optimum boundary on the north boundary of the park, near the entrance and railroad tracks, that calls for beautification and improved visibility of the park. Ms. Bullington further inquired as to how DRP budget is allocated and inquired about the park's standing in prioritization. She recommended updated photography of the park's landscape and also producing videos to promote the park. She recommended guided botanical tours of the park, especially during the off season, as this would be beneficial to the park's publicity, revenue, and overall quality and diversity of interpretive programming.

Eric Lewis (Florida Trail Association, Panhandle Chapter) inquired about swimming safety and whether lifeguards are on duty during high visitation. He inquired about the hiking trail proposals and specific sites within the park where additional or extended hiking trails may be considered. Mr. Lewis affirmed that boardwalks may be needed to traverse low-lying terrain.

Ina Crawford (Florida Native Plant Society, Sweetbay Chapter) recommended two to three-year fire return intervals for the park's upland pine communities. She inquired whether overgrowth of titi along the watershed and on the seepage slopes is problematic. She stated that the park's natural communities and population of imperiled carnivorous plant species makes the park significant statewide and accordingly should be a candidate for the FNPS state conference. Ms. Crawford commented that more guided tours could be programmed at the park to appreciate the carnivorous and other imperiled plant species present in the park. She noted the importance of native milkweed and monarch butterflies in this environment. Ms. Crawford elaborated on ways to develop a botanical tour of the park, including having volunteer guides with biological expertise and potentially using drones to provide film footage of inaccessible sites.

Ponce de Leon Springs State Park

Advisory Group Meeting Report

Summary of Written Comments

Diana Pepe (Florida Fish and Wildlife Conservation Commission (FWC)) recommended revising the imperiled species status for little blue heron to state species of special concern. She also noted that the Florida black bear is no longer listed by FWC and should be removed from the park's imperiled species list. Ms. Pepe recommend adding language regarding the protection of tortoise burrows during construction of proposed new trails, specifying that if any burrows occur within 25 feet of a planned trail, the FWC Regional Gopher Tortoise Conservation Biologist will provide guidance. Ms. Pepe advised keeping in mind the pine barrens tree frog (*Hyla andersonii*) during animal inventory updates. She explained that although the species is recommended for removal from the state list of imperiled species, it is of local interest because, in Florida, it occurs only in Santa Rosa, Okaloosa, Walton, and Holmes counties. She noted that this amphibian species could potentially occur in the park's seepage slope habitat.

Mellody Hughes (Choctawhatchee River Soil and Water Conservation District) reviewed the draft management plan and stated that she found all aspects of the resource management and land use components to be sound. She affirmed that the Choctawhatchee River Soil and Water Conservation District is in agreement with the proposed future planning of Ponce de Leon Springs State Park.

Staff Recommendations

- An action statement was added to the hydrological objectives to plan for assessment of sedimentation in the blackwater stream.
- Language in the Arthropod Control Plan was updated to describe current best management practices.
- Parcels located adjacent to the park entrance will be further considered for addition to the optimum boundary.
- The imperiled species listing for little blue heron has been revised to *Threatened* from *Species of Special Concern*. The Florida black bear has been removed from the imperiled species list. Reference to the pine barrens tree frog will be added to the seepage slope description.
- Language was added to the Land Use Component to note potential impacts to gopher tortoise burrows in the upland pine areas of the south parcel where hiking trails are proposed.

Additional revisions were made throughout the document to address editorial corrections, consistency of spelling and notations, and other minor corrections.

Ponce de Leon Springs State Park

Advisory Group Meeting Report

Notes on Composition of the Advisory Group

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

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

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

Addendum 3—References Cited

Ponce de Leon Springs State Park References Cited

- Florida Department of Environmental Protection. 2012. Biology assessment information from SBIO. WBID 178.
- Florida Department of Environmental Protection. 2013. *Outdoor Recreation in Florida 2013*. Tallahassee, Florida.
- Florida Department of Environmental Protection. 2014. *Florida State Park System Economic Impact Assessment for Fiscal Year 2014/2015*. Tallahassee, Florida.
- Holmes County. 2006. Land Development Code. Holmes County, Florida.
- Holmes County. 2010. Holmes County Florida Future Land Use Map. Holmes County, Florida.
- Johnson, E.D. 2001. Pitcher plants and their habitats in the Florida State Park System; Resource conditions, trends and management needs. Resource Management Evaluation. Division of Recreation and Parks, Florida Department of Environmental Protection, Tallahassee, Florida.
- Northwest Florida Water Management District (NFWFMD), 2012. Water quantity and quality data from Status Monitoring Project, Choctawhatchee River Basin Florida Aquifer Spring Inventory, and Surface Water Temporal Variability Monitoring Network.
- Scott, Thomas M., Means, Guy H., Meegan, Rebecca P., Means, Ryan C., Upchurch, Sam B., Copeland, R.E., Jones, James, Roberts, Tina and Willet, Alan. Springs of Florida, Bulletin No. 66.
- U.S. Census Bureau. 2013. *State and County Quickfacts*. <http://quickfacts.census.gov/qfd/index.html>, 2014.
- U.S. Department of Agriculture, Soil Conservation Service in cooperation with University of Florida Agricultural Experiment Stations, 1975. Soil Survey of Holmes County, Florida, U.S.D.A., Washington D.C. 20250.
- U.S. Department of Agriculture, Soil Conservation Service in cooperation with University of Florida Agricultural Experiment Stations, 1989. Soil Survey of Walton County, Florida, U.S.D.A., Washington D.C. 20250.
- Vernon, R.O. 1942. Geology of Holmes and Washington Counties, Florida; Geological Bulletin No. 21, State of Florida Department of Conservation, The State Geological Survey, Tallahassee, Florida.
- West Florida Regional Planning Council (WFRPC). 2012. West Florida Comprehensive Economic Development Strategy 2013-2018. Pensacola, Florida.

Addendum 4—Soil Descriptions

Ponce de Leon Springs State Park Soils Descriptions

05 - Bibb Association and 15- Kinston-Johnston-Bibb complex

The Bibb series consists of nearly level, poorly drained soils that formed in loamy fluvial deposits. These soils are in old stream channels, sloughs, and depressions on floodplains along streams.

In a representative profile the surface layer is sandy loam that is very dark gray in the upper part and grades to dark gray in the lower part. It is about 10 inches thick. The underlying material extends to a depth of 60 inches. The upper 24 inches of this material is gray sandy loam that has few yellowish-brown and light brownish-gray mottles. The lower 16 inches is gray sandy loam that has few light-gray mottles.

The available water capacity is high in the surface layer and moderate in the underlying material. Permeability is moderate throughout. Natural fertility is moderate. These soils are frequently flooded for a short duration and are subject to scouring and uneven deposition of overwash. A few areas that have poor drainage outlets are frequently ponded.

Bibb association (Bb) - This association of nearly level soils occurs on floodplains of streams that are subject to 7-to 30-day periods of stream overflow. The water table is at a depth of less than 15 inches for 6 to 12 months each year. Some areas are covered with shallow water for 3 to 9 months in most years.

The composition of this mapping unit is more variable and the areas are generally much larger than those of most other units in the county. Mapping has been controlled well enough, however, for the anticipated uses of the soils.

Poorly drained Bibb soils make up about 40 percent of the association. About 25 percent is better drained soils that are in positions slightly above those of the Bibb soils. These better drained soils have a sandy clay loam subsoil that has thin lenses of coarser textured soils material. The remaining 35 percent is made up of several minor soils. Among these are very poorly drained and poorly drained soils that are sandy to a depth of more than 60 inches; very poorly drained soils that have a subsoil of stratified sand, sandy loam, and sandy clay loam; and soils in sloughs that have a fine-textured subsoil and are covered with shallow water most of time. Small areas of Pansy and Plummer soils occur near the borders of some areas. None of these minor soils make up more than 10 percent of any area mapped as the association.

This association occurs in areas where detailed investigation is limited by wetness and dense vegetation, and precise identification of the soils is not feasible, because the potential for intensive use is low. The soils are not suited to any cultivated crops, because of excessive wetness and hazard of flooding by stream overflow. Drainage is not feasible.

Ponce de Leon Springs State Park Soils Descriptions

04- Chipley sand, 0 to 5 percent slopes and 07-Chipley sand

The Chipley series consists of nearly level to gently sloping, moderately well-drained soils that are formed in thick beds of sandy marine deposits. These soils are on low ridges around small streams.

In a representative profile the surface layer is a dark gray to grayish-brown sand about 7 inches thick. The underlying material extends to a depth of 90 inches. In sequence from the top, it is 23 inches of light yellowish-brown sand; 12 inches of light yellowish-brown sand that has light-gray, very pale brown, and strong-brown mottles; and 48 inches of mottled light yellowish-brown, light-gray, brown, and red sand.

The available water capacity is low throughout. Permeability is rapid throughout. Natural fertility is low.

Chipley sand (Cc) - This is a moderately well-drained soil on low ridges adjacent to small streams. It has slopes of 0 to 5 percent. The water table is generally at a depth of 40 to 60 inches, but it rises to a depth of 20 to 40 inches for 2 to 6 months in most years.

Included with this soil in mapping are a few small areas of Albany sand, Stilson loamy sand, Lakeland sand, and Troup sand. Also included are a few small areas of Pansey loamy sand and Ardilla loamy sand that are indicated on the soil map by wet-spot symbols, and a few areas of a Chipley sand that has slopes of 5 to 8 percent.

12- Foxworth sand, 0-5 percent slopes.

The Foxworth series consists of very deep, moderately well to somewhat excessively drained, rapid to very rapid permeable soils on broad uplands and side slopes. They formed in sandy marine or eolian sediments. The water table fluctuates between depths of 48 to 72 inches below the soil surface for 1 to 3 months during most years and 30 to 48 inches for less than 30 cumulative days in some years. Moderately well drained in Florida and moderately well to somewhat excessively drained in other states. Permeability is rapid or very rapid.

Foxworth sand is classified as thermic, coated typic quartzipsamments. Thickness of sand exceeds 80 inches. Reaction ranges from very strongly acid to slightly acid throughout. The A or Ap horizon has hue of 7.5YR to 2.5Y, value of 3 to 5, chroma of 1 to 4. Texture is sand, fine sand, or coarse sand. The upper part of the C horizon has hue of 7.5YR to 2.5Y, value of 5 to 8, chroma of 3 to 8. Splotches or pockets of uncoated sand grains range from few to many but are not indicative of wetness. Texture is sand, fine sand, or coarse sand. The lower part of the C horizon has hue of 7.5YR or 10YR, value of 5 to 8, chroma of 3 to 6. Redoximorphic features in shades of brown, yellow, gray, and red range from few to many. Depth to redoximorphic features is commonly 45 to 60 inches but ranges from 40 to 72 inches. Few to many uncoated sand grains are in these horizons. Texture is sand, fine sand, or

Ponce de Leon Springs State Park Soils Descriptions

coarse sand. The Cg horizon has hue of 10YR or 2.5Y, value of 5 to 8, chroma of 1 to 2. Masses of iron accumulation in shades of brown, red, and yellow range from few to many. Few to many uncoated sand grains are in these horizons. Texture is sand, fine sand, or coarse sand.

Most areas are in woodland or planted slash pine. Some areas have been cleared and planted to crops or improved pasture grasses. The natural vegetation consists of slash pine, longleaf pine, live oak, post oak, bluejack oak, laurel oak, red oak, water oak, huckleberry, dogwood, and pineland threeawn.

13- Fuquay

Fuquay soils are loamy, kaolinitic, thermic Arenic Plinthic Kandiodults well drained deep to very deep soils perched above the plinthic layer briefly during wet periods or at lower elevations it has an apparent water table. Permeability is moderate in upper part, slow in lower part. Depth to top of Argillic horizon is 50 to 100 centimeters (about 20 to 40 inches). Depth to base of Argillic horizon is 150 to more than 200 centimeters (about 60 to more than 78 inches). Depth to Bedrock is greater than 200 centimeters (about 78 inches). Depth to Seasonal High Water Table is 100 to 150 centimeters or more (about 40 to 60 inches or more), January to March. Thickness of the sandy surface and subsurface layers is 50 to 100 centimeters (about 20 to 40 inches). Content and size of rock fragments is 0 to 35 percent, by volume, in the A, E, and BE horizons and 0 to 15 percent throughout the lower profile; mostly rounded nodules of ironstone.

Organic matter content of soil contains 0.5 to 2.0 percent in the A horizon and less than 0.5 in E, B, and C horizons. Cation Exchange Capacity is 2 to 10 milliequivalents per 100 grams of soil in the A horizon; 1 to 4 in E and B horizons; and 2 to 5 in the C horizon. Soils are extremely acid to moderately acid, except where limed.

Diagnostic horizons and soil characteristics recognized in this pedon are:
Ochric epipedon--the zone from the surface of the soil to 86 centimeters (Ap and E horizons)

Kandic horizon--the zone between 86 to 244 centimeters has low activity clay in more than 50 percent of the upper 100 centimeters of the horizon (Bt, Bt, and Btv horizons)

Argillic horizon--the zone from 86 to 244 centimeters (Bt, Bt, and Btv horizons)

Plinthite--more than 5 percent plinthite nodules in the zone from 127 to 244 centimeters (Btv horizons)

This soil type is used as cropland for cultivating tobacco, cotton, corn, soybeans, and small grains. It can also be used for silviculture planted with loblolly pine, longleaf pine, and slash pine, with some hardwoods. Understory

Ponce de Leon Springs State Park Soils Descriptions

plants including American holly, flowering dogwood, persimmon, and greenbrier.

17- Lakeland sand, 0-5 percent slopes and

18-Lakeland sand

The Lakeland series consists of nearly level to gently sloping, excessively drained soils that formed in thick beds of sandy marine deposits along the Choctawhatchee River.

In a representative profile the surface layer is grayish-brown sand about 4 inches thick. The underlying material extends to a depth of 84 inches. In sequence from the top, this material is 5 inches of yellowish-brown sand; 35 inches of yellowish-brown sand that has few faint mottles; 13 inches brownish-yellow sand that has few pale-brown mottles; and 27 inches of very pale brown sand that has few light yellowish-brown, yellowish-brown, and pale-brown mottles.

Available water capacity is very low to low throughout. Permeability is rapid throughout. Natural fertility is low. Representative profile of Lakeland sand, approximately 3.0 miles north of Ponce de Leon and 0.75 mile east of State Highway No. 81 on the south side of the good motor road in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ section 9 T. 4N R. 17W.

Lakeland sand is an excessively drained soil. It has slopes of 0 to 5 percent. The water table is at a depth of more than 84 inches.

Included with this soil in mapping are a few small areas of Troup sand, Bonifay sand, Fuquay loamy sand, Chipley sand, and Lucy loamy sand. Also included are some areas of Lakeland soils that have a surface layer of fine sand.

25- Pantego complex and

39-Pantego loam, depressional

The Pantego series consists of nearly level, very poorly drained soils that formed in loamy marine deposits. These soils are in depressed areas that are swampy or ponded.

In a representative profile, the surface layer is black loamy fine sand in the upper 8 inches and very dark gray loamy fine sand in the lower 5 inches. The subsoil extends to a depth of 62 inches. The upper 5 inches of the subsoil is gray sandy clay loam; the next 18 inches is gray sandy clay loam that has few brownish-yellow, strong-brown, and light-gray mottles; and the lower 26 inches is gray sandy clay loam that has common brownish-yellow and strong-brown mottles.

The available water capacity is low to a depth of about 13 inches and moderate below this depth. Permeability is moderately rapid to a depth of about 13 inches and moderate below this depth. Natural fertility is low. These soils receive drainage water from surrounding areas and have poor outlets; they are often ponded or swampy.

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Pantego complex (Pp) - This complex is in low wet places. Water is ponded on the surface for much of the year in many places. The water table is within a depth of 15 inches, even in dry periods.

The composition of this mapping unit is more variable and the areas are generally much larger than those of most other units in the county. Mapping has been controlled well enough, however, for the anticipated uses of the soils.

About 70 percent of the complex is nearly level Pantego soils. About half of the remaining 30 percent is Ardilla, Pansey, and Plummer soils; 10 percent is soils that have a thin, black surface layer and a gray or light-gray subsoil; and 5 percent is soils that have a dark-colored surface layer, more than 20 inches thick, and a grayish-brown sandy clay loam subsoil. All of these soils occur in such intricate patterns that it is not practical to map them separately. The proportion and composition of each mapped area are variable.

26- Plummer fine sand

The Plummer series consists of nearly level, poorly drained soils that formed in thick beds of Sandy marine deposits. These soils are in depressed areas and drainageways.

In a representative profile the surface layer is very dark gray fine sand about 6 inches thick. The subsurface layer is dark-gray, gray, and light-gray fine sand about 38 inches thick. The subsoil is light-gray fine sandy loam that extends to a depth of 65 inches.

The available water capacity is low to a depth of about 44 inches and moderate below this depth. Permeability is rapid to a depth of about 44 inches and moderate below this depth. Natural fertility is low.

Plummer fine sand (Pm) - This is a nearly level, poorly drained soil. It is in drainageways and depressions. A water table is within a depth of 0 to 15 inches for 6 to 12 months in most years. In some places water frequently accumulates and forms shallow ponds for 6 months or more.

Included with this soil in mapping are a few small areas of Pansey loamy sand and Ardilla loamy sand. Also included are a few small areas of soils that have a thick, black surface layer; soils that lack a fine-textured layer within a depth of 80 inches; and soils that have sandy surface and subsurface layers with a combined thickness of less than 40 inches. Other inclusions are some areas of Plummer soils that have a surface layer of loamy fine sand.

27- Stilson loamy sand, 1 to 3 percent slopes

The Stilson series consists of nearly level to gently sloping, moderately well-drained soils that formed in thick beds of loamy marine deposits. These soils are on broad, low ridges between small streams and along drainageways.

Ponce de Leon Springs State Park Soils Descriptions

In a representative profile the surface layer is dark grayish-brown loamy sand about 5 inches thick. The subsurface layer, about 20 inches thick is light yellowish-brown loamy sand that has few, faint, very pale brown mottles. The subsoil extends to a depth of 68 inches. In sequence from the top, it is 4 inches of brownish-yellow sandy loam; 16 inches of brownish-yellow sandy clay loam that has yellowish-brown, light-gray, strong-brown, reddish-brown, and red mottles; and 23 inches of sandy clay loam mottles in shades of red, brown, yellow, gray, and white.

The available water capacity is low to a depth of about 25 inches and moderate below this depth. Permeability is rapid to a depth of 25 inches and moderate below this depth. Natural fertility is low.

Stilson loamy sand, 1 to 3 percent slopes (St.A.) - This is a moderately well-drained soil on broad low ridges between small streams and along drainageways. The water table is at a depth of 30 to 40 inches for 1 to 2 months during wet seasons in most years.

Included with this soil in mapping are a few small areas of Fuquay loamy sand, Leefield loamy sand, Albany sand, and Chipley sand. Also included are a few small areas of Ardilla loamy sand and Pansey loamy sand that are generally indicated on the detailed soil map by a wet-spot symbol. Other inclusions are some areas of Stilson soils that have a surface layer of sand.

30- Troup sand, 1-8 percent slopes and

31- Troup sand, 0-5 percent slopes

The Troup series consists of nearly level to sloping, well-drained soils that formed in thick beds of sandy and loamy marine deposits. These soils are on broad ridges and long side slopes.

In a representative profile the surface layer is dark grayish-brown sand about 5 inches thick. The subsurface layer is sand about 40 inches thick. The upper 6 inches of this layer is pale brown, and the lower 34 inches is yellowish-brown. The next layer is yellowish-red sand 13 inches thick. The subsoil begins at a depth of about 58 inches and extends to a depth of 83 inches. The upper 8 inches of the subsoil is red sandy loam that has few reddish-yellow streaks. Below this, the subsoil is red sandy clay loam that has few yellowish-brown mottles.

The available water capacity is low to a depth of 58 inches and moderate below this depth. Permeability is rapid to a depth of 58 inches and moderate below this depth. Natural fertility is low.

Troup sand, 1 to 8 percent slopes (TrC) - This is a well-drained soil on broad ridges and long side slopes. The water table is at a depth of more than 83 inches.

Included with this soil in mapping are a few small areas of Lakeland sand, Lucy loamy sand, Bonifay sand, and Fuquay loamy sand. Also included are a

Ponce de Leon Springs State Park Soils Descriptions

few small areas of Albany sand and Ardilla loamy sand that are indicated on the soil map by a wet-spot symbol. Other inclusions are a few areas of slightly eroded to moderately eroded soils.

36- Pits

This non-soil, miscellaneous map unit is used for areas of sand and gravel mining operations that were active during the field survey of the area. Most of these areas are located within areas of glacial fluvial deposits of stratified sands and gravel. This map unit ranges in size of less than a few acres to over 200 acres, the pits range from 5 to over 50 feet deep in some areas. The pits have steep side and a level to hummocky floors.

Permeability is rapid to very rapid throughout, some areas may be compacted due to vehicular traffic and have reduced permeability rates. Soil pH is variable, often moderately acid to very strongly acid. Depth to bedrock is typically, greater than 60 inches. Seasonal high water table is variable depending on the depth of excavation. In some situations the gravel is mined down to or just above the water table.

These areas are typically mined to within a few feet of the water table or until unsuitable material is encountered. Areas of this map unit typically consist of the unweathered geologic deposits, stockpiles of topsoil, sand to boulder size fragments, intermittent and perennial water bodies, and heavy machinery. Also included are areas of undisturbed Hinckley, Windsor, and Merrimac soils and areas of Udipsamments and Udorthents.

The pits generally support little or no vegetation, although some of the older ones support scattered shrubs and grasses. Pits that have been abandoned for several years and are now vegetated are usually mapped as Udorthents or Udipsamments map units.

Generally, this unit is poorly suited to farm uses, woodland, and residential development. Onsite investigation is needed to determine the suitability of the pits for specific uses and the limitations affecting those uses.

Some areas of Pits, sand and gravel, are suitable for residential and recreation development. Onsite investigation is needed for any proposed use. If these areas are used as sites for septic tank absorption fields, ground water pollution is a hazard.

42- Blanton sand, 0 to 5 percent slopes

The Blanton series consists of very deep, somewhat excessively drained to moderately well drained, moderately to slowly permeable soils on uplands and stream terraces in the Coastal Plain. Soils are loamy, siliceous, semiactive, thermic Grossarenic Paleudults. They formed in sandy and loamy marine or eolian deposits.

Solum thickness ranges from 60 to more than 80 inches. Content of gravel-sized fragments, dominantly quartz and ironstone pebbles, is less than 10

Addendum 5—Plant and Animal List

Ponce de Leon Spring State Park

Plants

Primary Habitat Codes

Common Name	Scientific Name	(for designated species)
Box-elder	<i>Acer negundo</i>	
Red Maple	<i>Acer rubrum</i>	
Sugar Maple	<i>Acer saccharum</i>	
Red Buckeye	<i>Aesculus pavia</i>	
Gerardia	<i>Agalinis purpurea</i>	
Common Ragweed	<i>Ambrosia artemisiifolia</i>	
Service Berry	<i>Amelanchier arborea</i>	
Broomsedge	<i>Andropogon virginicus</i>	
Mohr's Threawn	<i>Aristida mohrii</i>	
Wiregrass	<i>Aristida stricta</i>	
Red Chokeberry	<i>Aronia arbutifolia</i>	
Milkweed	<i>Asclepias longifolia</i>	
Pawpaw	<i>Asimina triloba</i>	
Yellow Foxglove	<i>Aureolaria flava</i>	
Salt Bush	<i>Baccharis halimifolia</i>	
Yellow Buttons	<i>Balduina angustifolia</i>	
White Wild Indigo	<i>Baptisia alba</i>	
Gopherweed, False Indigo	<i>Baptisia lanceolata</i>	
Greeneyes	<i>Berlandiera pumila</i>	
Pale Grass-pink	<i>Calopogon pallidus</i>	
Beautyberry	<i>Callicarpa americana</i>	
Deer's Tongue	<i>Carphephorus odoratissimus</i>	
Pignut Hickory	<i>Carya glabra</i>	
Mockernut Hickory	<i>Carya tomentosa</i>	

* Non-native Species

Ponce de Leon Spring State Park

Plants

Primary Habitat Codes

Common Name	Scientific Name	(for designated species)
Partridge-pea	<i>Cassia fasciculata</i>	
Wild Sensitive Plant	<i>Cassia nictitans</i>	
Butterfly-pea	<i>Centrosema virginianum</i>	
Buttonbush	<i>Cephalanthus occidentalis</i>	
Spikegrass	<i>Chasmanthium sessiliflorum</i>	
Fringe Tree	<i>Chionanthus virginicus</i>	
Sweet Pepperbush	<i>Clethra alnifolia</i>	
Black Titi	<i>Cliftonia monophylla</i>	
Tread Softly	<i>Cnidoscolus stimulosus</i>	
Flowering Dogwood	<i>Cornus florida</i>	
May Haw	<i>Crataegus aestivalis</i>	
Rattle-box	<i>Crotalaria pallida*</i>	
Rabbit-bells	<i>Crotalaria rotundifolia</i>	
Croton	<i>Croton glandulosus</i>	
Gulf Croton	<i>Croton punctatus</i>	
Dodder	<i>Cuscuta pentagona</i>	
Cyperus	<i>Cyperus lecontei</i>	
Sedge	<i>Cyperus retrofractus</i>	
Cyperus	<i>Cyperus retrorsus</i>	
Titi	<i>Cyrilla racemiflora</i>	
Buttonweed	<i>Diodia virginiana</i>	
Persimmon	<i>Diospyros virginiana</i>	
Pink Sundew	<i>Drosera capillaris</i>	
Elephant's-foot	<i>Elephantopus tomentosus</i>	

* Non-native Species

Ponce de Leon Spring State Park

Plants

Primary Habitat Codes

Common Name	Scientific Name	(for designated species)
Southern Fleabane	<i>Erigeron quercifolius</i>	
Button Snakeroot	<i>Eryngium yuccifolium</i>	
Cherokee Bean	<i>Erythrina herbacea</i>	
Dog Fennel	<i>Eupatorium leptophyllum</i>	
Boneset	<i>Eupatorium perfoliatum</i>	
Spurge	<i>Euphorbia floridana</i>	
Goldenrod	<i>Euthamia minor</i>	
Euthamia	<i>Euthamia tenuifolia</i>	
Creeping Morning-glory	<i>Evolvulus sericeus</i>	
American Beech	<i>Fagus grandifolia</i>	
Fimbristylis	<i>Fimbristylis caroliniana</i>	
Umbrellagrass	<i>Fuirena scirpoidea</i>	
Hat pins, pipewort	<i>Eriocaulon spp.</i>	
Milk-pea	<i>Galactia microphylla</i>	
Milk-pea	<i>Galactia volubilis</i>	
Sunflower	<i>Galium pilosum</i>	
Dwarf huckleberry	<i>Gaylussacia dumosa</i>	
Yellow Jessamine	<i>Gelsemium sempervirens</i>	
Gratiola	<i>Gratiola hispida</i>	
Silverbells	<i>Halesia diptera</i>	
Witch Hazel	<i>Hamamelis virginiana</i>	
Sunflower	<i>Helianthus radula</i>	
Camphor Weed	<i>Heterotheca subaxillaris</i>	
Hydrocotyle	<i>Hydrocotyle bonariensis</i>	

* Non-native Species

Ponce de Leon Spring State Park

Plants

Primary Habitat Codes

Common Name	Scientific Name	(for designated species)
St. John's-wort	<i>Hypericum cistifolium</i>	
St. Peter's-wort	<i>Hypericum crux-andreae</i>	
Sandweed	<i>Hypericum fasciculatum</i>	
Pineweed	<i>Hypericum gentianoides</i>	
St. Andrew's-Cross	<i>Hypericum hypericoides</i>	
Carolina Holly	<i>Ilex ambigua</i>	
Gallberry	<i>Ilex glabra</i>	
Myrtle-leaf Holly	<i>Ilex myrtifolia</i>	
American holly	<i>Ilex opaca</i>	
Yaupon	<i>Ilex vomitoria</i>	
Cogon grass	<i>Imperata cylindrica</i> *	
Southern Red Cedar	<i>Juniperus silicicola</i>	
Mountain Laurel	<i>Kalmia latifolia</i>	33
Bog buttons	<i>Lachnocaulon spp.</i>	
Peppergrass	<i>Lepidium virginicum</i>	
Fetterbush	<i>Leucothoe racemosa</i>	
Blazing Star	<i>Liatris tenuifolia</i>	
Gopher Apple	<i>Licania michauxii</i>	
Chinse privet	<i>Ligustrum sinense</i> *	
Sweetgum	<i>Liquidambar styraciflua</i>	
Yellow Poplar	<i>Liriodendron tulipifera</i>	
Ludwigia	<i>Ludwigia alata</i>	
Primrose Willow	<i>Ludwigia octovalvis</i>	
Japanese climbing fern	<i>Lygodium japonicum</i> *	

* Non-native Species

Ponce de Leon Spring State Park

Plants

Primary Habitat Codes

Common Name	Scientific Name	(for designated species)
Staggerbush	<i>Lyonia ferruginea</i>	
Fetterbush	<i>Lyonia lucida</i>	
Southern Magnolia	<i>Magnolia grandiflora</i>	
Sweetbay	<i>Magnolia virginiana</i>	
Crab Apple	<i>Malus angustifolia</i>	
White Sweet-clover	<i>Melilotus alba</i>	
Twin Berry	<i>Mitchella repens</i>	
Spotted Beebalm	<i>Monarda punctata</i>	
Wax Myrtle	<i>Myrica cerifera</i>	
Parrots feather	<i>Myriophyllum aquaticum</i> *	
White Water-lily	<i>Nymphaea odorata</i>	
Blackgum	<i>Nyssa biflora</i>	
Tupelo	<i>Nyssa sylvatica</i>	
Wild Olive	<i>Osmanthus americanus</i>	
Cinnamon Fern	<i>Osmunda cinnamomea</i>	
Royal Fern	<i>Osmunda regalis</i>	
Violet Wood-sorrel	<i>Oxalis violacea</i>	
Sourwood	<i>Oxydendron arboreum</i>	
Switchgrass	<i>Panicum virgatum</i>	
Whitlow-wort	<i>Paronychia erecta</i>	
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	
Knotgrass	<i>Paspalum distichum</i>	
Vaseygrass	<i>Paspalum urvillei</i>	
Yellow Passionflower	<i>Passiflora lutea</i>	

* Non-native Species

Ponce de Leon Spring State Park

Plants

Primary Habitat Codes

Common Name	Scientific Name	(for designated species)
Redbay	<i>Persea borbonia</i>	
Swamp Bay	<i>Persea palustris</i>	
Florida Phlox	<i>Phlox floridana</i>	
Golden bamboo	<i>Phyllostachys aurea</i> *	
Pokeweed	<i>Phytolacca americana</i>	
Southern butterwort	<i>Pinguicula primuliflora</i>	
Slash Pine	<i>Pinus elliotii</i>	
Longleaf Pine	<i>Pinus palustris</i>	
Loblolly Pine	<i>Pinus taeda</i>	
Golden Aster	<i>Pityopsis graminifolia</i>	
Milkwort	<i>Polygala brevifolia</i>	
Milkwort	<i>Polygala grandiflora</i>	
Milkwort	<i>Polygala incarnata</i>	
Candyroot	<i>Polygala nana</i>	
Wireweed	<i>Polygonella gracilis</i>	
Resurrection Fern	<i>Polypodium polypodioides</i>	
Crested yellow orchid	<i>Platanthera cristata</i>	
Proserpinaca	<i>Proserpinaca pectinata</i>	
Cherry Laurel	<i>Prunus caroliniana</i>	
Black Cherry	<i>Prunus serotina</i>	
Bracken fern	<i>Pteridium aquilinum</i>	
Blackroot	<i>Pterocaulon pycnostachyum</i>	
Kudzu	<i>Pueraria Montana</i> *	
White Oak	<i>Quercus alba</i>	

* Non-native Species

Ponce de Leon Spring State Park

Plants

Primary Habitat Codes

Common Name	Scientific Name	(for designated species)
Chapman Oak	<i>Quercus chapmanii</i>	
Southern Red Oak	<i>Quercus falcata</i>	
Laurel Oak	<i>Quercus hemisphaerica</i>	
Blue-jack Oak	<i>Quercus incana</i>	
Turkey Oak	<i>Quercus laevis</i>	
Sand-post Oak	<i>Quercus margaretta</i>	
Blackjack oak	<i>Quercus marilandica</i>	
Basket oak	<i>Quercus michauxii</i>	
Myrtle Oak	<i>Quercus myrtifolia</i>	
Water Oak	<i>Quercus nigra</i>	
Running Oak	<i>Quercus pumila</i>	
Live Oak	<i>Quercus virginiana</i>	
Meadow Beauty	<i>Rhexia cubensis</i>	
Florida Flame Azalea	<i>Rhododendron austrinum</i>	BLF
Winged Sumac	<i>Rhus copallina</i>	
Sand Blackberry	<i>Rubus cuneifolius</i>	
Dewberry	<i>Rubus trivialis</i>	
Black-eyed Susan	<i>Rudbeckia hirta</i>	
Sourdock	<i>Rumex hastatulus</i>	
Bluestem	<i>Sabal minor</i>	
Cabbage Palm	<i>Sabal palmetto</i>	
Broadleaf arrowhead	<i>Sagittaria latifolia</i>	
Coastal Plain Willow	<i>Salix caroliniana</i>	
Chinese tallow tree	<i>Sapium sebiferum*</i>	

* Non-native Species

Ponce de Leon Spring State Park

Plants

Primary Habitat Codes

Common Name	Scientific Name	(for designated species)
Yellow pitcher-plant	<i>Sarracenia flava</i>	
Parrot pitcher-plant	<i>Sarracenia psittacina</i>	SSL
Purple pitcher-plant	<i>Sarracenia purpurea</i>	SSL
Red pitcherplant	<i>Sarracenia rubra</i>	SSL
Sassafras	<i>Sassafras albidum</i>	
Skullcap	<i>Scutellaria glabriuscula</i>	
Saw-palmetto	<i>Serenoa repens</i>	
Greenbrier	<i>Smilax auriculata</i>	
Catbrier	<i>Smilax bona-nox</i>	
Bamboo-vine	<i>Smilax laurifolia</i>	
Wild Sarsaparilla	<i>Smilax pumila</i>	
Greenbrier	<i>Smilax rotundifolia</i>	
Jackson-brier	<i>Smilax smallii</i>	
Hogbrier	<i>Smilax tamnoides</i>	
Goldenrod	<i>Solidago chapmanii</i>	
Goldenrod	<i>Solidago nemoralis</i>	
Goldenrod	<i>Solidago tortifolia</i>	
Queen's Delight	<i>Stillingia sylvatica</i>	
Spanish Moss	<i>Tillandsia usneoides</i>	
Poison oak	<i>Toxicodendron pubescens</i>	
Poison Ivy	<i>Toxicodendron radicans</i>	
Arrowgrass	<i>Triglochin striata</i>	
Common Cattail	<i>Typha latifolia</i>	
Bladderwort	<i>Utricularia biflora</i>	

* Non-native Species

Ponce de Leon Spring State Park

Plants

Primary Habitat Codes

Common Name	Scientific Name	(for designated species)
Sparkleberry	<i>Vaccinium arboreum</i>	
Highbush Blueberry	<i>Vaccinium corymbosum</i>	
Blueberry	<i>Vaccinium darrowii</i>	
Ironweed	<i>Vernonia gigantea</i>	
Violet	<i>Viola affinis</i>	
Summer Grape	<i>Vitis aestivalis</i>	
Scuppernong	<i>Vitis rotundifolia</i>	
Chinese wisteria	<i>Wisteria sinensis</i> *	
Netted chain fern	<i>Woodwardia areolata</i>	
Spanish Bayonet	<i>Yucca aloifolia</i>	
Sandbog deathcamus	<i>Zigadenus galberrimus</i>	

* Non-native Species

Ponce de Leon Spring State Park

Animals

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

North American beaver	<i>Castor canadensis</i>	FS, BST, SST, SRST
Nine-banded armadillo	<i>Dasypus novemcinctus</i> *	BLF, FS, UPF
Virginia opossum	<i>Didelphis virginiana</i>	All Types
Big brown bat	<i>Eptesicus fuscus</i>	FS, DV
Bobcat	<i>Felis rufus</i>	Many types
Southern flying squirrel	<i>Glaucomys volans</i>	FS, BLF, UP
North American river otter	<i>Lontra canadensis</i>	SSL, BST, SRST, ACV
House mouse	<i>Mus musculus</i> *	DV
Southeastern bat	<i>Myotis austroriparius</i>	FS
White-tailed deer	<i>Odocoileus virginianus</i>	All types
Cotton mouse	<i>Peromyscus gossypinus</i>	UP, DV
Golden mouse	<i>Peromyscus nuttalli</i>	UP, DV
Raccoon	<i>Procyon lotor</i>	Many types
Eastern mole	<i>Scalopus aquaticus</i>	UP
Gray squirrel	<i>Sciurus carolinensis</i>	BLF, UP
Hispid cotton rat	<i>Sigmodon hispidus</i>	UP
Eastern cottontail	<i>Sylvilagus floridanus</i>	Many types
Marsh rabbit	<i>Sylvilagus palustris</i>	FS, BLF
Gray fox	<i>Urocyon cinereoargenteus</i>	Many types
Red fox	<i>Vulpes vulpes</i> *	Many types

AMPHIBIANS

Florida cricket frog	<i>Acris gryllus dorsalis</i>	FS, BLF, SSL,
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* Non-native Species

Ponce de Leon Spring State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Oak toad	<i>Anaxyrus quercicus</i>	BLF, UP
Southern toad	<i>Anaxyrus terrestris</i>	BLF, SSL
Southern dusky salamander	<i>Desmognathus auriculatus</i>	FS, BLF, BST, SST, SRT
Green tree frog	<i>Hyla cinerea</i>	FS, BLF, BST, SST, SRT
Southern leopard frog	<i>Lithobates sphenoccephalus</i>	FS, BLF, BST, SST, SRT
Slimy salamander	<i>Plethodon glutinosus</i>	FS, BLF, BST, SST, SRT
Southern spring peeper	<i>Pseudacris crucifer bartramiana</i>	FS, BLF, BST, SST, SRT
Southern chorus frog	<i>Pseudacris nigrita</i>	FS, BLF, BST, SST, SRT
Pig frog	<i>Rana grylio</i>	FS, BLF, BST, SST, SRT
River frog	<i>Rana hecksheri</i>	FS, BLF, BST, SST, SRT

REPTILES

Eastern cottonmouth	<i>Agkistrodon piscivorus</i>	BST, SST, SRT
American alligator	<i>Alligator mississippiensis</i>	BST, SST, SRT
Green anole	<i>Anolis carolinensis</i>	Many types
Six-lined racerunner	<i>Aspidoscelis sexlineata</i>	Many types
Southern black racer	<i>Coluber constrictor priapus</i>	Many types
Eastern diamondback rattlesnake	<i>Crotalus adamanteus</i>	UP
Common snapping turtle	<i>Chelydra serpentina</i>	BST, SST, SRT
Southern ringneck snake	<i>Diadophis punctatus</i>	BLF, FS
Gopher tortoise	<i>Gopherus polyphemus</i>	UP
Eastern hognose snake	<i>Heterodon platyrhinos</i>	Many types

Ponce de Leon Spring State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Eastern kingsnake	<i>Lampropeltis getula</i>	Many types
Scarlet kingsnake	<i>Lampropeltis triangulum</i>	Many types
Alligator snapping turtle	<i>Macrochelys temminckii</i>	BST, SST, SRT
Eastern coachwhip	<i>Masticophis flagellum flagellum</i>	UP
Eastern coral snake	<i>Micrurus fulvius</i>	UP
Banded water snake	<i>Nerodia fasciata</i>	BST, SST, SRT
Eastern glass lizard	<i>Ophisaurus ventralis</i>	UP
Corn snake	<i>Pantherophis guttatus</i>	Many types
Southeastern five-lined skink	<i>Plestiodon inexpectatus</i>	UP
Broad-headed skink	<i>Plestiodon laticeps</i>	Many types
Florida cooter	<i>Pseudomys florida</i>	BST, SST, SRT
Ground skink	<i>Scincella lateralis</i>	Many types
Southern fence lizard	<i>Scleroporos undulatus undulatus</i>	UP
Dusky pygmy rattlesnake	<i>Sistrurus miliarius barbouri</i>	UP
Gulf coast box turtle	<i>Terrapene carolina major</i>	BLF
Eastern ribbon snake	<i>Thamnophis sauritus sauritus</i>	Many types
Eastern garter snake	<i>Thamnophis sirtalis</i>	Many types

BIRDS

Anhingas (Anhingidae)

Anhinga	<i>Anhinga anhinga</i>	ACV, FS
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Herons (Ardeidae)

Great egret	<i>Ardea alba</i>	ACV, FS, BST, SST, SRST
Great blue heron	<i>Ardea herodias</i>	ACV, FS, BST, SST, SRST

* Non-native Species

Ponce de Leon Spring State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Cattle egret	<i>Bubulcus ibis</i>	ACV, FS, BST, SST, SRST
Green heron	<i>Butorides virescens</i>	ACV, FS, BST, SST, SRST
Little blue heron	<i>Egretta caerulea</i>	ACV, FS, BST, SST, SRST
Reddish egret	<i>Egretta rufescens</i>	ACV, FS, BST, SST, SRST
Snowy egret	<i>Egretta thula</i>	ACV, FS, BST, SST, SRST
Tricolored heron	<i>Egretta tricolor</i>	ACV, FS, BST, SST, SRST
Black-crowned night heron	<i>Nycticorax nycticorax</i>	ACV, FS, BST, SST, SRST

Swans, Geese and Ducks (Anatidae)

Wood duck	<i>Aix sponsa</i>	ACV, BST, SST, SRST
Mallard	<i>Anas platyrhynchos</i>	ACV, BST, SST, SRST

New World Vultures (Cathartidae)

Turkey vulture	<i>Cathartes aura</i>	Many types
Black vulture	<i>Coryagyps atratus</i>	Many types

Kites, hawks and eagles (Accipitridae)

Cooper's hawk	<i>Accipiter cooperii</i>	Many types
Sharp-shinned hawk	<i>Accipiter striatus</i>	Many types
Red-tailed hawk	<i>Buteo jamaicensis</i>	Many types
Red-shouldered hawk	<i>Buteo lineatus</i>	Many types
Broad winged hawk	<i>Buteo platypterus</i>	Many types
Northern harrier	<i>Circus cyaneus</i>	Many types
Swallow tailed kite	<i>Elanoides forficatus</i>	Many types

Ponce de Leon Spring State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Bald eagle	<i>Haliaeetus leucocephalus</i>	Fly over
Osprey	<i>Pandion haliaetus</i>	Many types
<i>Falcons and Caracara (Falconidae)</i>		
Merlin	<i>Falco columbarius</i>	Many types
American kestrel	<i>Falco sparverius</i>	Many types
<i>Quail and Turkey (Phasianidae)</i>		
Northern bobwhite	<i>Colinus virginianus</i>	Many types
Wild turkey	<i>Meleagris gallopavo</i>	Many types
<i>Pigeons and Doves (Columbidae)</i>		
Rock dove	<i>Columba livia</i>	Many types
Common ground-dove	<i>Columbina passerina</i>	Many types
Mourning dove	<i>Zenaida macroura</i>	Many types
<i>Cuckoos (Cuculidae)</i>		
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Many types
Black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>	Many types
<i>Owls (Tytonidae and Strigidae)</i>		
Great horned owl	<i>Bubo virginianus</i>	Many types
Eastern screech-owl	<i>Megascops asio</i>	Many types

Ponce de Leon Spring State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Barred owl	<i>Strix varia</i>	Many types
Nightjars (Caprimulgidae)		
Chuck-will's-widow	<i>Antrostomus carolinensis</i>	Many types
Whip-poor-will	<i>Caprimulgus vociferus</i>	Many types
Common nighthawk	<i>Chordeiles minor</i>	Many types
Woodpeckers (Picidae)		
Northern flicker	<i>Colaptes auratus</i>	Many types
Pileated woodpecker	<i>Hylatomus pileatus</i>	Many types
Red-bellied woodpecker	<i>Melanerpes carolinus</i>	Many types
Red headed woodpecker	<i>Melanerpes erythrocephalus</i>	BLF, UP
Downy woodpecker	<i>Picoides pubescens</i>	BLF, UP
Hairy woodpecker	<i>Leuconotopicus villosus</i>	BLF, UP
Yellow-bellied sapsucker	<i>Sphyrapicus varius</i>	Many types
Flycatchers (Tyrannidae)		
Eastern wood peewee	<i>Contopus virens</i>	Many types
Acadian flycatcher	<i>Empidonax virescens</i>	Many types
Great crested flycatcher	<i>Myiarchus crinitus</i>	Many types
Eastern phoebe	<i>Sayornis phoebe</i>	Many types
Eastern kingbird	<i>Tyrannus tyrannus</i>	Many types
Swallows (Hirundinae)		
Tree swallow	<i>Tachycineta bicolor</i>	Many types

* Non-native Species

Ponce de Leon Spring State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Barn swallow	<i>Hirundo rustica</i>	UP, DV
Purple martin	<i>Progne subis</i>	Many types
Jays and Crows (Corvidae)		
Fish crow	<i>Corvus ossifragus</i>	Many types
American crow	<i>Corvus brachyrhynchos</i>	Many types
Blue jay	<i>Cyanocitta cristata</i>	Many types
Wrens (Troglodytidae)		
Carolina wren	<i>Thryothorus ludovicianus</i>	Many types
House wren	<i>Troglodytes aedon</i>	Many types
Shrikes (Laniidae)		
Loggerhead shrike	<i>Lanius ludovicianus</i>	Many types
Mockingbirds and thrashers (Mimidae)		
Gray catbird	<i>Dumetella carolinensis</i>	Many types
Northern mockingbird	<i>Mimus polyglottos</i>	Many types
Brown thrasher	<i>Toxostoma rufum</i>	Many types
Thrushes (Muscicapidae)		
Hermit thrush	<i>Catharus guttatus</i>	Many types
Wood thrush	<i>Hylocichla mustelina</i>	Many types
Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>	Many types

* Non-native Species

Ponce de Leon Spring State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Ruby crowned kinglet	<i>Regulus calendula</i>	Many types
Golden crowned kinglet	<i>Regulus satrapa</i>	Many types
Eastern bluebird	<i>Sialia sialis</i>	Many types
American robin	<i>Turdus migratorius</i>	Many types
Starlings (Sturnidae)		
European starling	<i>Sturnus vulgaris</i>	Many types
Vireos (Vireonidae)		
Yellow-throated vireo	<i>Vireo flavifrons</i>	Many types
White-eyed vireo	<i>Vireo griseus</i>	Many types
Red-eyed vireo	<i>Vireo olivaceus</i>	Many types
Nuthatches (Certhiidae)		
Red-breasted nuthatch	<i>Sitta canadensis</i>	Many types
Brown-headed nuthatch	<i>Sitta pusilla</i>	Many types
Warblers and sparrows (Emberizidae)		
Red-winged blackbird	<i>Agelaius phoeniceus</i>	Many types
Cedar waxwing	<i>Bombycilla cedrorum</i>	Many types
Northern cardinal	<i>Cardinalis cardinalis</i>	Many types
types		
Common yellowthroat	<i>Geothlypis trichas</i>	Many types
Orchard oriole	<i>Icterus spurius</i>	Many types
Dark-eyed junco	<i>Junco hyemalis</i>	Many types

* Non-native Species

Ponce de Leon Spring State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Swamp sparrow	<i>Melospiza georgiana</i>	Many types
Brown-headed cowbird	<i>Molothrus ater</i>	Many types
Black and White warbler	<i>Mniotilta varia</i>	Many types
Bachman's sparrow	<i>Peucaea aestivalis</i>	UP
Prothonotary warbler	<i>Prothonotaria citrea</i>	Many types
House sparrow	<i>Passer domesticus</i>	Many types
Savanna sparrow	<i>Passerculus sandwichensis</i>	Many types
Scarlet tanager	<i>Piranga olivacea</i>	Many types
Eastern towhee	<i>Pipilo erythrophthalmus</i>	Many types
Boat-tailed grackle	<i>Quiscalus major</i>	Many types
Common grackle	<i>Quiscalus quiscula</i>	Many types
Ovenbird	<i>Seiurus aurocapillus</i>	Many types
Northern parula	<i>Setophaga americana</i>	Many types
Hooded warbler	<i>Setophaga citrina</i>	Many types
Yellow-rumped Warbler	<i>Setophaga coronata</i>	Many types
Prairie warbler	<i>Setophaga discolor</i>	Many types
Palm warbler	<i>Setophaga palmarum</i>	Many types
Pine warbler	<i>Setophaga pinus</i>	Many types
Yellow warbler	<i>Setophaga petechia</i>	Many
American redstart	<i>Setophaga ruticilla</i>	Many types
Chipping sparrow	<i>Spizella passerina</i>	Many types
Field sparrow	<i>Spizella pusilla</i>	Many types
Eastern meadowlark	<i>Sturnella magna</i>	Many types
White-throated sparrow	<i>Zonotrichia albicollis</i>	Many types

* Non-native Species

Ponce de Leon Spring State Park

Animals

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (for all species)
<i>Finches (Fringillidae)</i>		
American goldfinch	<i>Spinus tristis</i>	Many types

Habitat Codes

TERRESTRIAL

1. Beach Dune
2. Bluff
3. Coastal Berm
4. Coastal Rock Barren
5. Coastal Strand
6. Dry Prairie
7. Maritime Hammock
8. Mesic Flatwoods
9. Coastal Grasslands
10. Pine Rockland
11. Prairie Hammock
12. Rockland Hammock
13. Sandhill
14. Scrub
15. Scrubby Flatwoods
16. Shell Mound
17. Sinkhole
18. Slope Forest
19. Upland Glade
20. Upland Hardwood Forest
21. Upland Mixed Forest
22. Upland Pine Forest
23. Xeric Hammock

PALUSTRINE

24. Basin Marsh
25. Basin Swamp

26. Baygall
27. Bog
28. Bottomland Forest
29. Depression Marsh
30. Dome
31. Floodplain Forest
32. Floodplain Marsh
33. Floodplain Swamp
34. Freshwater Tidal Swamp
35. Hydric Hammock
36. Marl Prairie
37. Seepage Slope
38. Slough
39. Strand Swamp
40. Swale
41. Wet Flatwoods
42. Wet Prairie

LACUSTRINE

43. Clastic Upland Lake
44. Coastal Dune Lake
45. Coastal Rockland Lake
46. Flatwood/Prairie Lake
47. Marsh Lake

Habitat Codes

LACUSTRINE—Continued

- 48. River Floodplain Lake
- 49. Sandhill Upland Lake
- 50. Sinkhole Lake
- 51. Swamp Lake

RIVERINE

- 52. Alluvial Stream
- 53. Blackwater Stream
- 54. Seepage Stream
- 55. Spring-Run Stream

ESTUARINE

- 56. Estuarine Composite Substrate
- 57. Estuarine Consolidated Substrate
- 58. Estuarine Coral Reef
- 59. Estuarine Grass Bed
- 60. Estuarine Mollusk Reef
- 61. Estuarine Octocoral Bed
- 62. Estuarine Sponge Bed
- 63. Estuarine Tidal Marsh
- 64. Estuarine Tidal Swamp
- 65. Estuarine Unconsolidated Substrate
- 66. Estuarine Worm Reef

MARINE

- 67. Marine Algal Bed
- 68. Marine Composite Substrate
- 69. Marine Consolidated Substrate
- 70. Marine Coral Reef
- 71. Marine Grass Bed
- 72. Marine Mollusk Reef
- 73. Marine Octocoral Bed
- 74. Marine Sponge Bed
- 75. Marine Tidal Marsh
- 76. Marine Tidal Swamp
- 77. Marine Unconsolidated Substrate
- 78. Marine Worm Reef

SUBTERRANEAN

- 79. Aquatic Cave
- 80. Terrestrial Cave

MISCELLANEOUS

- 81. Ruderal
- 82. Developed
- MTC** Many Types Of Communities
- OF** Overflying

Addendum 6—Imperiled Species Ranking Definitions

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.

FNAL 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)

Imperiled Species Ranking Definitions

- 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.

Imperiled Species Ranking Definitions

- 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.

Imperiled Species Ranking Definitions

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.

Ponce de Leon Springs State Park Soils Descriptions

percent, by volume, in all horizons except the A and E horizons which may have as much as 35 percent, by volume. Reaction ranges from very strongly acid to moderately acid throughout except where the surface has been limed. Depth to the Bt horizon is commonly 50 to 70 inches but ranges from 40 to 80 inches. Redoximorphic features that indicate wetness occur at depths of between 30 and 72 inches.

Diagnostic horizons and features recognized in this pedon are:
Ochric epipedon - the zone from the surface of the to a depth of 52 inches (Ap, E1, and E2 horizons).

Argillic horizon - the zone from 52 to 80 inches (Bt1, Bt2, and Btg horizons).

Many areas are cleared and used for cropland, truck crops, improved pasture, and hayland. Natural vegetation consists of slash and longleaf pine, red, bluejack, and live oak with an understory of chinkapin, highland fern, huckleberry, and pineland threeawn, bluestem, panicum, and tickclover.

47- Bonneau loamy sand, 0-5 percent slopes

Bonneau soils are on nearly level to strongly sloping low ridges of the Coastal Plain. The Bonneau series consists of very deep, well and somewhat excessively drained, moderately permeable soils that formed in loamy marine and fluvial sediments. Runoff is slow and permeability moderate. On the sloping areas of these soils, wetness is the result of lateral seepage instead of an apparent high water table. Bonneau soils are loamy, siliceous, subactive, thermic Arenic Paleudults.

Solum thickness ranges from 60 to more than 80 inches. The soil is extremely acid to slightly acid in the A and E horizons and extremely acid to moderately acid in the Bt horizon. Content of silt in the particle-size control section is less than 30 percent. Some pedons have a few plinthite nodules in the lower part of the Bt horizon. Redoximorphic features in shades of gray, brown, red, or yellow are in most pedons. The Btg horizon is sandy loam, fine sandy loam, sandy clay loam, or sandy clay.

Diagnostic horizons and features recognized in the pedon are:

Ochric epipedon - the zone from the surface of the soil to 22 inches (A, E1, and E2 horizons)

Argillic horizon - the zone from 22 to 74 inches (Bt1, Bt2, Bt3, and Bt4 horizons)

Arenic feature-sandy texture from the surface of the soil to a depth of 22 inches (A, E1, and E2 horizons)

Most areas are cleared and used for agricultural purposes such as growing corn, soybeans, small grain, pasture grasses, and tobacco. Forested areas consist typically of mixed hardwood and pine, including longleaf and loblolly

Ponce de Leon Springs State Park Soils Descriptions

pine, white, red, turkey, and post oak, dogwood, and hickory.

65- Garcon loamy fine sand, occasionally flooded

The Garcon series consists of very deep, somewhat poorly drained, moderately permeable soils on river terraces and in the broad flats of the lower Coastal Plain. They formed in sandy and loamy marine sediments. Slopes range from 0 to 5 percent. They are somewhat poorly drained and occasionally flooded. The seasonal high water table ranges from 18 to 36 inches below the surface for 4 to 6 months during most years. Some areas are subject to flooding. Permeability is rapid in the A and E horizons and moderate in the B and C horizons.

Garcon loamy fine sand is classified as loamy, siliceous, active, thermic Aquic Arenic Hapludults. Solum thickness ranges from 45 to 60 inches. Reaction ranges from extremely acid to strongly acid throughout except where the surface has been limed. The silt content is less than 20 percent. Diagnostic horizons and features recognized in this pedon are:

Ochric epipedon--the zone from 0 to 29 inches. (A, E1, E2 horizons)

Argillic horizon--the zone from 29 to 40 inches. (Bt1, Bt2 horizons)

Garcon soils are used mostly for pasture and woodland. Dominant vegetation consists of slash and longleaf pine, live oak, laurel oak, water oak, sweetgum and an understory of saw palmetto, pineland threeawn (wiregrass), inkberry (gallberry), and grassleaf golden aster.

66- Kenansville loamy fine sand, 0 to 5 percent slopes

The Kenansville series consists of well drained, nearly level to gently sloping soils on Coastal Plain uplands and stream terraces. They formed in Coastal Plain and stream terrace sediments. Kenansville soils generally are on the smoother parts of the landscape between the higher, sandier ridges and the lower wet areas. Slope gradients are commonly 0 to 4 percent with a full range up to 10 percent. Runoff is slow and permeability moderately rapid. A seasonal water table is below 4.0 feet for the wet substratum phase. Kenansville loamy fine sand is classified as loamy, siliceous, subactive, thermic Arenic Hapludults.

Solum thickness ranges from 40 to 60 inches. The soil ranges from very strongly through moderately acid in all horizons, unless limed.

Diagnostic horizons and features recognized in this pedon are:

Ochric epipedon - the zone from the surface to a depth of 24 inches (the Ap and E horizons)

Arenic feature - the zone with sandy textures from the surface to 24 inches (the Ap and E horizons)

Ponce de Leon Springs State Park Soils Descriptions

Argillic horizon - the zone from a depth of 24 to 42 inches (the Bt and BC horizons)

Most areas are cleared and used for crops. Tobacco, corn, cotton, peanuts, and soybeans are the principal crops. Forested areas are in mixed hardwoods and pine. Native trees include oaks, hickory, dogwoods, and longleaf and loblolly pine.

Addendum 7—Cultural Information

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (revised March 2013)

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.

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (revised March 2013)

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

Eligibility Criteria for National Register of Historic Places

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

Eligibility Criteria for National Register of Historic Places

- e) a reconstructed building, when it is accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and no other building or structure with the same association has survived; or a property primarily commemorative in intent, if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
- f) a property achieving significance within the past 50 years, if it is of exceptional importance.

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

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

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

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

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