

LAFAYETTE BLUE SPRINGS STATE PARK

UNIT MANAGEMENT PLAN

APPROVED

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Recreation and Parks
October 14, 2005



Jeb Bush
Governor

Department of Environmental Protection

Marjory Stoneman Douglas Building
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Colleen Castille
Secretary

November 7, 2005

Ms. BryAnne White
Office of Park Planning
Division of Recreation and Parks
3900 Commonwealth Blvd.; M.S. 525
Tallahassee, Florida 32399

Re: Lafayette Blue Springs State Park

Lease # 4501

Dear Ms. White:

On October 14, 2005, the Acquisition and Restoration Council recommended approval of the Lafayette Blue Springs State Park management plan. Therefore, the Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, approved the management plan for the Lafayette Blue Springs State Park. Pursuant to Sections 253.034 and 259.032, Florida Statutes, and Chapter 18-2, Florida Administrative Code this plan's ten-year update will be due on October 14, 2015.

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,

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

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INTRODUCTION

Lafayette Blue Springs State Park is located in Lafayette County (see Vicinity Map) and contains approximately 200 acres. Access to the park is from Blue Springs Road (see Reference Map) via County Road 292. The vicinity map also reflects significant land and water resources existing near the park.

At Lafayette Blue Springs State Park, public outdoor recreation and conservation is the designated single use of the property. The Board of Trustees of the Internal Improvement Trust Fund holds fee simple title to 42 acres of the park. The remaining 158 acres belongs to the Suwannee River Water Management District. There are no legislative or executive directives that constrain the use of this property (see Addendum 1).

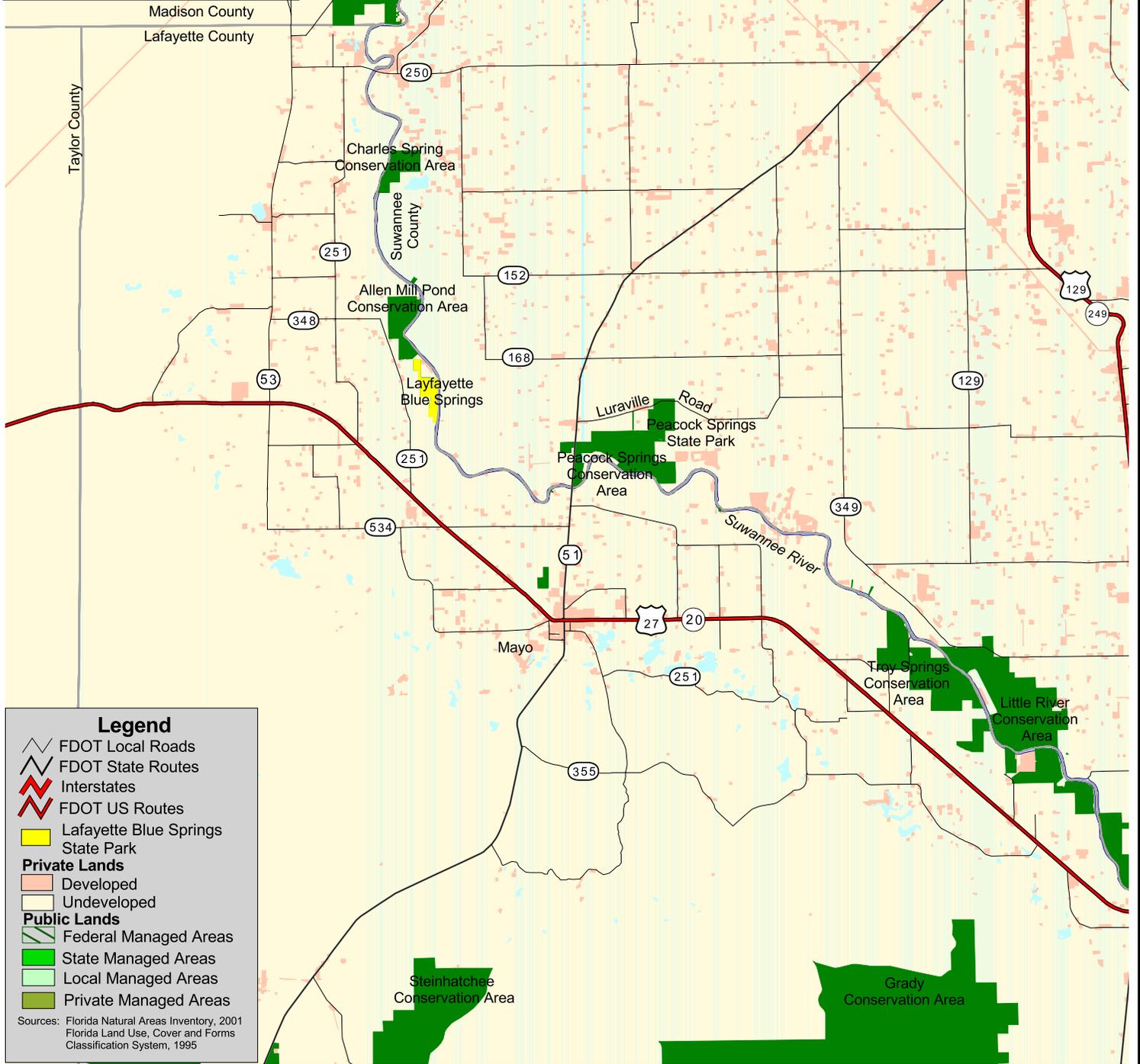
PURPOSE AND SCOPE OF THE PLAN

This plan serves as the basic statement of policy and direction for the management of Lafayette Blue Springs State Park as a unit of Florida's state park system. It identifies the objectives, criteria and standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and intended to be consistent with the State Lands Management Plan. All development and resource alteration encompassed in this plan is subject to the granting of appropriate permits; easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state or federal agencies. This plan is also intended to meet the requirements for beach and shore preservation, as defined in Chapter 161, Florida Statutes and Chapters 62B-33, 62B-36 and 62R-49, Florida Administrative Code.

The plan consists of two interrelated components. Each component corresponds to a particular aspect of the administration of the park. The resource management component provides a detailed inventory and assessment of the natural and cultural resources of the park. Resource management problems and needs are identified, and specific management objectives are established for each resource type. This component provides guidance on the application of such measures as prescribed burning, exotic species removal, and restoration of natural conditions.

The land use component is the recreational resource allocation plan for the unit. Based on considerations such as access, population, and adjacent land uses, an optimum allocation of the physical space of the park is made, locating use areas and proposing types of facilities and volume of use to be provided.

In the development of this plan, the potential of the park to accommodate secondary management purposes ("multiple uses") was analyzed. These secondary purposes were considered within the context of the Division's statutory responsibilities and an analysis of the resource needs and values of the park. This analysis considered the park natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that no secondary purposes could be accommodated in a manner that would not interfere with the primary purpose of resource-based outdoor recreation and conservation. Uses such as, water resource development projects, water supply projects, stormwater management projects, linear facilities and sustainable agriculture and forestry (other than those forest management activities specifically identified in this plan) are not consistent with this plan or the management purposes of the park and should be discouraged.

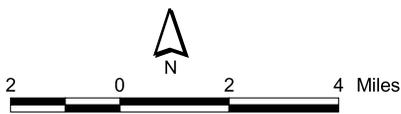


Legend

- FDOT Local Roads
- FDOT State Routes
- Interstates
- FDOT US Routes
- Lafayette Blue Springs State Park
- Private Lands**
- Developed
- Undeveloped
- Public Lands**
- Federal Managed Areas
- State Managed Areas
- Local Managed Areas
- Private Managed Areas

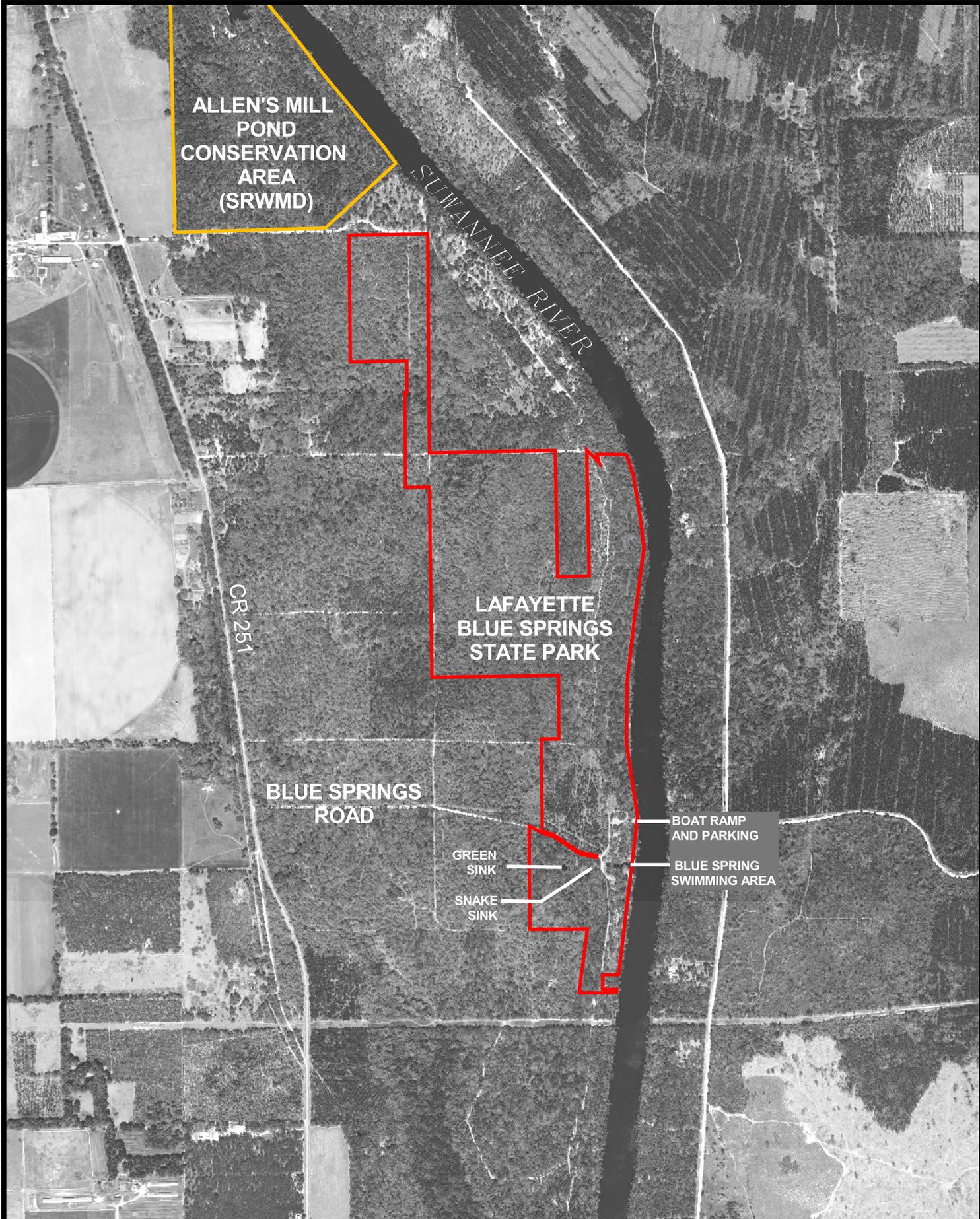
Sources: Florida Natural Areas Inventory, 2001
 Florida Land Use, Cover and Forms Classification System, 1995

**LAFAYETTE BLUE SPRINGS
STATE PARK**



Prepared by:
 Florida Department of Environmental Protection
 Division of Recreation and Parks
 Office of Park Planning

VICINITY MAP



ALLEN'S MILL
POND
CONSERVATION
AREA
(SRWMD)

SUWANNEE RIVER

CR 251

LAFAYETTE
BLUE SPRINGS
STATE PARK

BLUE SPRINGS
ROAD

GREEN
SINK
—
SNAKE
SINK
—

BOAT RAMP
AND PARKING
—
BLUE SPRING
SWIMMING AREA
—

**LAFAYETTE BLUE SPRINGS
STATE PARK**



REFERENCE MAP

PREPARED BY: FL DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RECREATION AND PARKS
OFFICE OF PARK PLANNING

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

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 (Division) is charged with the responsibility of developing and operating Florida's recreation and parks system. These are administered in accordance with the following policy:

It shall be the policy of the Division of Recreation and Parks to promote the state park system for the use, enjoyment, and benefit of the people of Florida and visitors; to acquire typical portions of the original domain of the state which will be accessible to all of the people, and of such character as to emblemize the state's natural values; conserve these natural values for all time; administer the development, use and maintenance of these lands and render such public service in so doing, in such a manner as to enable the people of Florida and visitors to enjoy these values without depleting them; to contribute materially to the development of a strong mental, moral, and physical fiber in the people; to provide for perpetual preservation of historic sites and memorials of statewide significance and interpretation of their history to the people; to contribute to the tourist appeal of Florida.

The Trustees have also granted management authority of certain sovereign submerged lands to the Division under Management Agreement MA 68-086 (as amended January 19, 1988). The management area includes a 400-foot zone from the edge of mean high water where a park boundary borders sovereign submerged lands fronting beaches, bays, estuarine areas, rivers or streams. Where emergent wetland vegetation exists, the zone extends waterward 400 feet beyond the vegetation. The agreement is intended to provide additional protection to resources of the park and nearshore areas and to provide authority to manage activities that could adversely impact public recreational uses.

Many operating procedures are standard system wide and are set by policy. These procedures are outlined in the Division's Operations Manual (OM) that covers such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, camping regulations, resource management, law enforcement, protection, safety and maintenance.

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

Park Goals and Objectives

The following park goals and objectives express the Division's long-term intent in managing the state park. At the beginning of the process to update this management plan, the Division reviewed the goals and objectives of the previous plan to determine if they remain meaningful

and practical and should be included in the updated plan. This process ensures that the goals and objectives for the park remain relevant over time.

Estimates are developed for the funding and staff resources needed to implement the management plan based on these goals, objectives and priority management activities. Funding priorities for all state park management and development activities are reviewed each year as part of the Division's legislative budget process. The Division prepares an annual legislative budget request based on the priorities established for the entire state park system. The Division also aggressively pursues a wide range of other funds and staffing resources, such as grants, volunteers and partnerships with agencies, local governments and the private sector, for supplementing normal legislative appropriations to address unmet needs. The ability of the Division to implement the specific goals, objectives and priority actions identified in this plan will be determined by the availability of funding resources for these purposes.

Natural and Cultural Resources

1. Support efforts to decrease nitrate levels in the groundwater and spring discharge.
 - A. Continue to monitor nitrate levels in the springs, and seek funds to increase monitoring frequency.
 - B. Conduct research to investigate a probable correlation between increasing nitrate levels and adverse impacts observed in the springs.
 - C. Identify the recharge area, or area of groundwater influence, for Lafayette Blue Springs, and determine point and non-point sources of nitrate pollution for the springs.
2. Seek funding or support from cooperating agencies for implementation of automated spring flow monitoring and data collection.
3. Identify and seek to resolve issues relating to outside development and existing park facilities that may negatively affect water resources within the park.
 - A. Maintain viable contacts with water resource managers and permitting agents in the SRWMD. When appropriate, provide technical comments pertaining to the issuance of consumptive water use permits and water preservation rule making which may affect the long-term protection of water resources within the park.
 - B. Assess existing septic systems regularly for operational adequacy. Employ the most advanced wastewater treatment possible in all future development of park facilities.
 - C. Seek to improve existing treatment of runoff, and ensure that future development adequately addresses stormwater treatment for the entire park. Design, build and maintain campsites in such a way as to minimize associated erosion.
 - D. Assess stormwater runoff impacts from the boat ramp and parking area. If tests indicate that stormwater treatment is necessary, seek funds to design a feasible treatment system.
4. Protect spring-run and aquatic cave natural communities, assess their condition and restore them as needed.
 - A. Design and operate visitor use areas to minimize erosion impacts on the springs and spring run.
 - B. Update inventories of aquatic fauna, seeking input from qualified scientists and dive community members.
 - C. Design and implement a regular cave monitoring protocol to assess impacts to the aquatic cave system from park visitors. Establish a spring monitoring team that will provide recommendations to the Division regarding use and management of the Lafayette aquatic cave system. If necessary, take measures to stop and reverse, or mitigate significant impacts.

5. Remove invasive exotic plants and animals.
 - A. Identify and map locations and extents of exotic plant and animal infestations.
 - B. Eradicate or control infestations using the most appropriate treatment methods, determined upon consultation with the OM and district biologists.
6. Identify and protect archaeological sites within the park.
 - A. Seek funding for and conduct a phase I archaeological survey of the park.
 - B. Design use areas and improvements so that existing cultural resources are protected and undisturbed.
 - C. Train park staff to implement the DHR compliance review process prior to initiating activities that may affect cultural resources.
7. Improve park species lists.
 - A. Continue to expand the species lists for the park.
 - B. Seek assistance from experts in other agencies and disciplines to identify flora and fauna in the park.
 - C. Seek funding for and conduct rare plant and animal surveys within the park.

Recreational Goals

1. Provide safe, resource-appropriate, quality outdoor recreational opportunities for park visitors.
 - A. Secure adequate funding for the redesign and renovation of park facilities as outlined in this management plan.
 - B. Insure universal accessibility and compliance with the Americans with Disabilities Act during all facility construction and upgrades.
 - C. Design, construct and renovate facilities to ensure harmonious relation with Suwannee river Wilderness Trail operations.
 - D. Establish a management system for open water, cavern and cave scuba diving by mapping open water and underwater diving systems, installing and maintaining internationally accepted open water and underwater signs, lines and marking systems and establishing and maintaining carrying capacities to protect resources and enhance diving experiences.
 - E. Promote the park as a destination for ecotourism groups and tours.
 - F. Review and renovate park signage.
2. Instill in the public an understanding of the principles and forces that shape and maintain natural communities and cultural entities.
 - A. Write a Statement for Interpretation (SFI) to translate and reveal the meaning of natural and cultural resources within the park and their interrelationships with surrounding areas.
 - B. Develop and conduct interpretive programs based upon themes identified in the SFI. Programming may include campfire programs, guided walks, living history demonstrations, talks and recreational skills programs.
 - C. Develop and distribute interpretive publications. Publications may include park brochures, leaflets, booklets, newspaper and magazine articles and radio and television appearances.
 - D. Design and construct interpretive kiosks highlighting cultural resources and special features, water usage themes, including recreational activities and public consumption, Florida's karst geology and spring systems.
 - E. Promote environmental education through Learning in Florida's Environment (L.I.F.E.) programs with regional schools.
 - F. Design and construct an interpretive center to house exhibits that create an ecological awareness and conservation ethic in the mind of the visitor.

Park Administration/Operations

1. Develop and maintain appropriate procedures and practices for effective, efficient management of the park's natural and cultural resources and facilities.
 - A. Secure three Full-Time Equivalent (FTE) positions to meet demands of development and operation of a new, full-service park.
 - B. Secure sufficient, annual allotments of Expense, Other Personnel Services, Fixed Capital Outlay, Outsourcing, Other Capital Outlay and Resale funds.
 - C. Train all staff in the areas of Administration, Maintenance, Protection, Resource Management and Visitor Services.
 - D. Develop a Volunteer Program as an augmentative staff pool.
 - E. Form partnerships and other alternatives to the legislative appropriations process for funding of park operations.
 - F. Monitor activities outside the park that may affect park resources and operations, promoting public awareness of outside influences.
 - G. Establish and maintain an active public relations program highlighting park objectives.
 - H. Form a work group from local, regional, state and national entities to evaluate uses and impacts, and to provide recommendations for action.
 - I. Maintain compliance with local, state and federal safety guidelines by developing and maintaining a Park Protection Plan and providing ongoing safety training programs.
 - J. Support administrative operations using current technology.
2. Provide efficient, coordinated access and programming to ensure a safe, quality workplace, resource protection and visitor experiences.
 - A. Conduct all operations in accordance with the Operations Manual (OM).
 - B. Plan, design, construct and implement facilities to channel visitors while not compromising any resources.
 - C. Schedule park programming, when practicable, so as to include Suwannee River Wilderness Trail activities.
 - D. Implement appropriate Visitor Service Provider operations to augment park services.
 - E. Maintain and produce all facilities and park information materials to adhere to the provisions outlined in the Americans with Disabilities Act and the Florida Americans with Disability Accessibility Implementation Act.
 - F. Conduct routine inspections of all park operations, immediately correct safety discrepancies, regularly clean and maintain facilities and equipment.
 - G. Establish carrying capacities for each recreational use offered.
 - H. Coordinate with recreational user and sport organizations to assist with development, monitoring and education programs to enhance the visitor experience.

Management Coordination

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

The Department of Agriculture and Consumer Services, Division of Forestry (DOF), assists Division staff in the development of wildfire emergency plans and provides the authorization required for prescribed burning. The Florida Fish and Wildlife Conservation Commission (FFWCC), assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within park boundaries. In addition, the FFWCC aids the Division with wildlife management programs, including the development and management of Watchable Wildlife programs. The Department of State, Division of Historical Resources (DHR) assists staff to assure protection of archaeological and historical sites. The Department of Environmental Protection (DEP), Office of Coastal and Aquatic Managed Areas (CAMA) aids

staff in aquatic preserves management programs.

The primary coordination activities for this park are with the Suwannee River Water Management District and staff of the Suwannee River Wilderness Trail for resource management and management of recreation at the park and along the Suwannee River. The Division works directly with water resources staff with both the water management district and with DEP on issues surrounding the protection and improvement of surface and groundwater quality as they affect the spring system within the park. Division staff works directly with staff of the Florida Springs Initiative to coordinate protection activities and identify projects suitable for funding under that program.

Public Participation

The Division provided an opportunity for public input by conducting a public workshop and an advisory group meeting. A public workshop was held on June 7, 2005. The purpose of this meeting was to present this draft management plan to the public. An Advisory Group meeting was held on June 8, 2005. The purpose of this meeting was to provide the Advisory Group members the opportunity to discuss this draft management plan.

Other Designations

Lafayette Blue Springs State Park is not within an Area of Critical State Concern as defined in section 380.05, Florida Statutes and it is not under study for such designation. The park is a component of the Florida Greenways and Trails System.

The Suwannee River, which flows adjacent to the unit, is designated as an Outstanding Florida Water, pursuant to Chapter 62-302 Florida Administrative Code. Surface waters in this unit are also classified as Class III waters by DEP. This unit 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 Division of Recreation and Parks 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. The stated management measures in this plan are consistent with the Department's overall mission in ecosystem management. Cited references are contained in Addendum 2.

The Division's philosophy of resource management is natural systems management. Primary emphasis is on restoring and maintaining, to the degree practicable, the natural processes that shape the structure, function and species composition of Florida's diverse natural communities as they occurred in the original domain. Single species management may be implemented when the recovery or persistence of a species is problematic provided it is compatible with natural systems management.

The management goal of cultural resources is to preserve sites and objects that represent all of Florida's cultural periods as well as significant historic events or persons. This goal may entail 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 is often affected by conditions and occurrences beyond park boundaries. Ecosystem management is implemented through a resource management evaluation program (to assess resource conditions, evaluate management activities and refine management actions), review of local comprehensive plans and review of permit applications for park/ecosystem impacts.

RESOURCE DESCRIPTION AND ASSESSMENT

Natural Resources

Topography

Lafayette Blue Springs State Park is situated in the Gulf Coastal Lowlands geomorphologic region, within the Suwannee River Lowlands, located in the Northern Physiographic Zone and on the Wicomico marine terrace. The Gulf Coastal Lowlands are described as gently sloping terraces that originate in the highlands and extend towards the coast. Limestone is typically at or near the surface throughout most of this region, with sand or sandy clay overlying (Crane 1986).

Elevations within the park, according to U.S. Geological Survey quadrangle maps, range from less than 20 feet above mean sea level (msl) along the Suwannee River to over 50 feet above msl in the central-western area of the property. The park lies completely within the 100-year and the 10-year flood plains, as determined by the Suwannee River Water Management District (SRWMD), for this reach of the Suwannee River.

Topographic relief in the park is most noticeable on the slopes surrounding the springs and sinkholes, and along the secondary flow channel of the river, located behind the primary river bluff. Elevation changes within these features reach as much as 30 feet. Alterations of natural topography within the park are few, and are limited primarily to an abandoned, mounded septic drain field, stormwater swales between the parking area and the headsprings, and roads.

Geology

The stratigraphy in the area of Lafayette Blue Springs has been investigated through geologic cross sections, and is described as a series of geologic layers. In descending order from the surface, these layers include Undifferentiated Sands and Sandy Clays, the Ocala Group Undifferentiated, Dolomite Lithofacies, and Undifferentiated Carbonate Facies (Crane 1986). Each of these strata is described briefly below.

The Undifferentiated Sands and Sandy Clays (SSC) layer ranges in thickness from 0 to 140 feet regionally, and in the area of the springs is often found in a layer 10 feet thick or less above the underlying limestone. This unit is composed of clayey sands and sandy clay, fine to coarse in texture, which range in color from grayish-orange to dark yellowish-orange.

Underlying the surficial SSC unit is the Ocala Group Undifferentiated (OGU), an Eocene deposit composed of three limestone formations of similar character, each distinguished roughly by color and primary faunal components. The limestone formations of the OGU, deposited during the late Eocene, vary from a loose, porous, pale-orange to white colored coquina composed of large foraminifera and shells, to an olive-gray, very porous limestone composed of miliolid foraminifera. Regionally, the OGU unit ranges in thickness from 30 to 200 feet thick, and near Lafayette Blue Springs, it is 30 to 50 feet in thickness.

Below the OGU unit lays the Dolomite Facies (DF) unit, characteristically containing dolomite of various shades of brown and gray, with occasional peat flecks, fossil molds and fragments of mollusks and bryozoans. Also deposited during the Eocene, this unit varies regionally from 25 to 300 feet thick, and near Lafayette Blue Springs, it ranges from 120 to 250 feet thick.

Undifferentiated Carbonate Lithofacies (UCF) is the lowermost geologic unit identified in the reference description for the region. Dolomite, limestone and mixed carbonates, positioned in thin alternating beds deposited during the early Eocene, comprise this unit. The deposits are various shades of gray to yellow, and are variable in texture, ranging from very fine to coarse.

Soils

The Soil Survey of Lafayette County, Florida indicates that two different soil types occur within Lafayette Blue Springs State Park—Garcon - Albany - Meadowbrook complex, and Garcon – Eunola complex (Weatherspoon *et al.* 1998). Descriptions of these soils are provided in [Addendum 3](#).

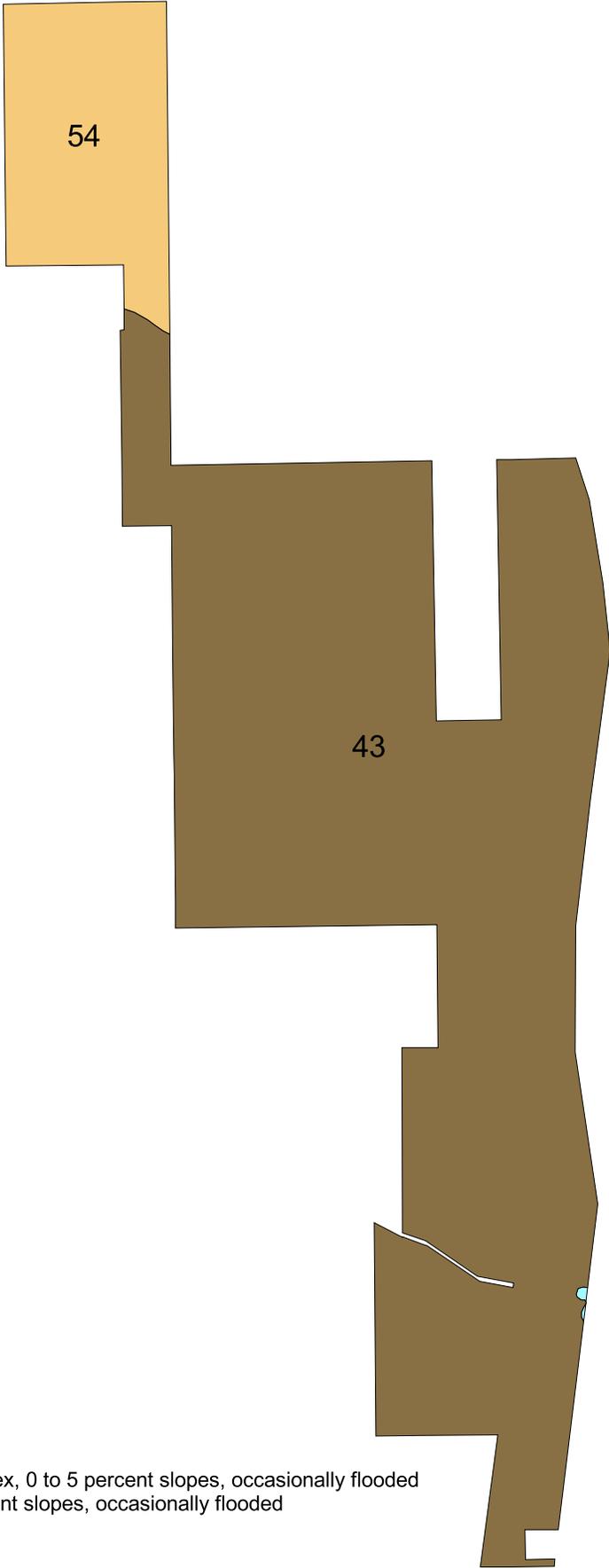
The sandy, well-drained soils along the riverbanks and spring slopes in the park are susceptible to erosion which, while occurring naturally when the river floods, is often accelerated due to the intrusion of heavily used trails. Management activities will follow generally accepted best management practices to prevent additional soil erosion and conserve soil and water resources on site.

Minerals

Although no mining activities are known to have occurred in the park, limestone is extracted in the surrounding region for road base material. Whether mineral deposits of commercial value exist in the park is unknown.

Hydrology

Lafayette Blue Springs State Park lies within the Lower Suwannee River basin. The river basin drains nearly 10,000 square miles in Florida and Georgia. An average flow of 7,100 million



LEGEND

- 43-Garcon-Albany-Meadowbrook complex, 0 to 5 percent slopes, occasionally flooded
- 54-Garcon-Eunola complex, 2 to 5 percent slopes, occasionally flooded
- Water

gallons of water per day (mgd) ultimately discharges from the Suwannee River into the Gulf of Mexico. The Suwannee River is designated an Outstanding Florida Water.

Regionally, the Floridan aquifer is near the surface and unconfined (Florida Geological Survey 1991). Numerous springs and seeps in the exposed limestone of the aquifer discharge into the Suwannee River and augment its flow. During flood stage, however, the cycle may reverse and the springs may act as resurgence points.

Currently, silvicultural or agricultural land uses are prevalent in much of the lower basin of the Suwannee River, although weekend and retirement home sites are increasing in number within the river corridor. Since the Floridan aquifer is regionally unconfined, there is cause for concern; the aquifer can easily be polluted by runoff or by malfunctioning septic or sewage systems.

Lafayette Blue Springs State Park is located between river miles 103 and 104 of the Suwannee River. The SRWMD has calculated the following flood elevations for this section of the river for 2, 10 and 100-year events. All data are expressed as feet above msl.

	Event			
	2-year	10-year	100-year	Flood of Record
River Mile 103	35'	47'	53'	56'
River Mile 104	36'	47'	54'	57'

Since most of the park lies at or below 40 feet msl, it is subject to frequent river flooding, often resulting in inundation of the springs. Based upon historic river elevation data from the USGS Luraville gage, located five miles downstream of the park, the river has reached or exceeded 40 feet above msl in that area 15 times in the past 76 years. This indicates the park has a one in five chance of flooding in any given year (USGS 2004).

Lafayette Blue Spring, one of 33 first magnitude springs in Florida, discharges at a rate ranging from 20.4 cubic feet per second (cfs) to 260 cfs—approximately 13 and 168 million gallons per day (mgd) respectively—for the period of record (Scott et al. 2002, Hornsby et al. 1998, Mirti 2004). The headspring pool is approximately 100 feet long, 60 feet wide and 20 feet deep, with sandy substrate overlying a limestone base with frequent outcrops. The headspring discharges from a horizontal opening in the limestone located along the south side of the pool, and from there it flows eastward along the spring run approximately 300 feet to its confluence with the Suwannee River. A unique limestone land bridge, approximately 20 feet wide, spans the spring run just downstream of the main spring pool. Upgradient from the main spring are a series of sinkholes that are hydraulically connected to the main spring. During normal and high spring flows, water can be seen flowing through these features in the direction of the main spring.

Sample discharge data for Lafayette Blue Springs, from the period of record are listed below (Rosenau et al. 1977, Hornsby and Ceryak 1998, Mirti 2004)

Data Source	Date Recorded	Discharge (cfs)
FGS	11/23/73	92.8
SRWMD	07/16/97	84.6
SRWMD	05/11/98	260.0
SRWMD	12/15/99	43.8

Data Source	Date Recorded	Discharge (cfs)
SRWMD	04/06/00	20.4
SRWMD	09/12/01	63.1
SRWMD	06/13/02	33.6
SRWMD	12/16/03	76.4
SRWMD	06/14/04	61.1

Historic nitrate concentration data for Lafayette Blue Springs are sparse. The earliest known water quality analysis was performed in 1980, and since 1995 the SRWMD has monitored water quality in Lafayette Blue Springs sporadically. Since 2001, annual funding from the Florida Springs Initiative has enabled monthly monitoring of water quality. For the period of record, nitrate concentrations in the springs have ranged from 1.17 to 2.99 mg/L. Continued funding of the Springs Initiative will enable scientists to track future changes and determine sources of the elevated nitrogen levels in the groundwater feeding the springs. A subset of the available nitrate concentration data for Lafayette Blue Springs is listed below (Hornsby and Ceryak 1998, Hornsby 2004).

Sample Date	NO₃-N (mg/L)
07/21/80	2.00
09/18/95	1.41
07/22/96	2.12
07/16/97	1.80
08/18/98	2.20
06/09/99	1.92
05/03/00	1.17
07/19/01	1.76
06/13/02	1.56
11/04/03	2.99
06/14/04	2.09

Water quality appears to be declining in many springs of the lower and middle Suwannee River. Because the Floridan aquifer is regionally unconfined, there is cause for concern regarding the effects of surrounding land uses on the quality of water in the springs and river. The FDEP Ambient Monitoring Section of the Division of Water Facilities has a VISA (Very Intense Study Area) located in north-central Lafayette County. This area encompasses 28 square miles, and groundwater samples are taken from 19 wells and 7 springs. Data analyzed from 1990 through 1997 indicate that nitrate levels in the groundwater within the VISA are elevated above background levels elsewhere in the state (Maddox et al. 1998). If groundwater quality in the region continues to decline, expectations are that water quality in the springs will continue to decline as well.

Water resources within the park may also be threatened by large-scale withdrawals from surface water or groundwater systems hydraulically connected to systems within the park. A decade-long drought and increasing consumptive use of groundwater in the region have resulted in a lowered water table and decreased spring flows throughout the Suwannee River basin. Given projected water supply needs for the area, the USGS predicts flows in springs throughout the state, including flows at Lafayette Blue Springs, will continue to decline (Sepulveda 2002). The SRWMD is responsible for issuing water use permits in the region. In doing so, the District must ensure that proposed uses are in the public interest, which includes the conservation of fish and

wildlife habitat and the protection of recreational values. The SRWMD is also responsible for prioritizing and establishing Minimum Flows and Levels (MFLs) for water bodies within its boundaries. Currently, the expected date for establishment of the lower Suwannee River MFL is 2005. Establishment of an MFL for Lafayette Blue Springs is projected for 2008.

Natural Communities

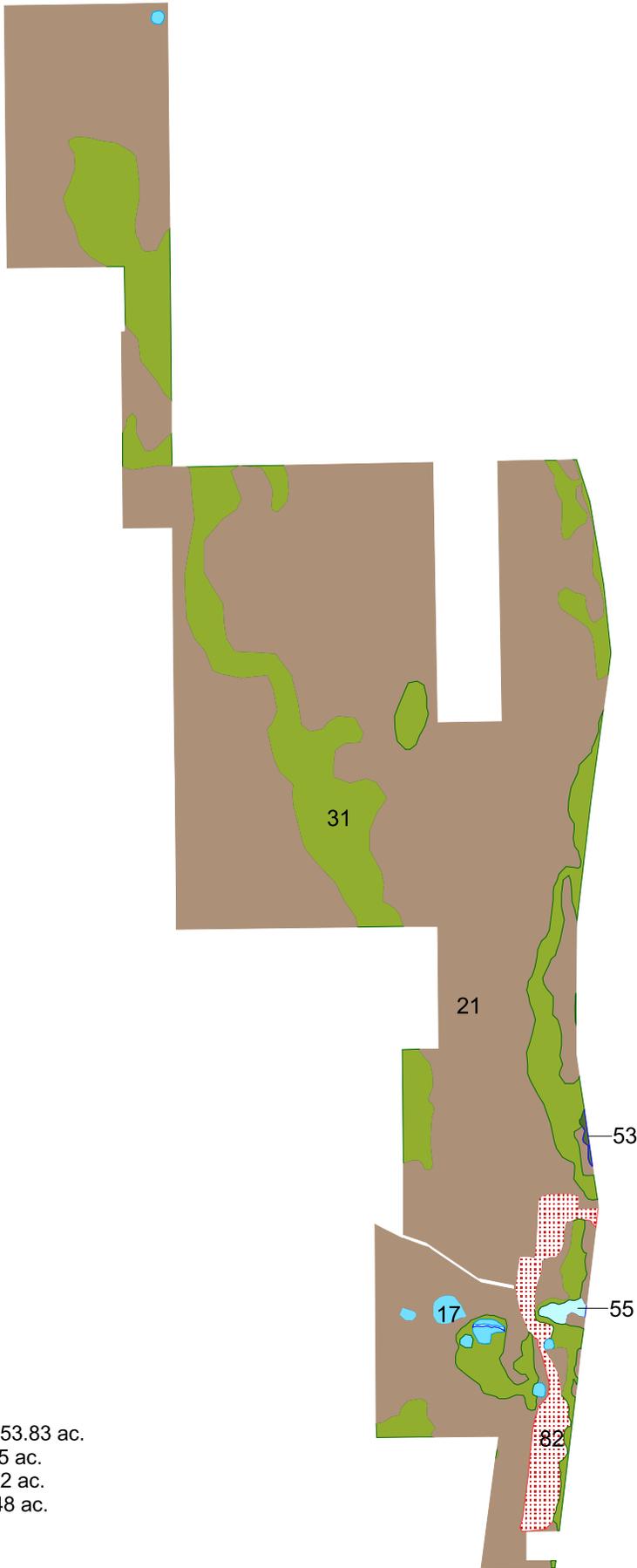
The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors, such as climate, geology, soil, hydrology and fire frequency generally determine the species composition of an area, and that areas which are similar with respect to these factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, 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.

The park contains six distinct natural communities (see Natural Communities Map—aquatic cave not shown) in addition to developed areas. Park specific assessments of the existing natural communities are provided in the narrative below. A list of plants and animals occurring in the unit is contained in Addendum 4.

Sinkhole. Several sinkholes occur within the park. Most of these are located in close proximity to developed areas. Florida mountain-mint (*Pycnanthemum floridanum*), a plant listed by FDACS as threatened, occurs at the upper edge of one of the sinkholes. Several sinkholes are located upgradient of the main spring, and are surface features of the aquatic cave system. Public access to these features should be carefully planned and implemented, so that soil compaction, erosion and plant destruction is avoided. The sinkholes should be monitored for adverse impacts associated with visitor use. If adverse impacts are observed, management measures should be taken to repair impacted areas and prevent additional damage.

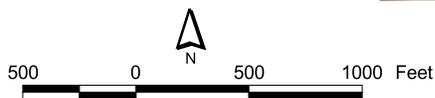
There are a variety of names for the two large sinkholes located immediately west of Lafayette Blue Spring, and no officially sanctioned names exist at this time. For the purposes of this plan and convenience in managing the resource and public activities at the park, the Division has applied the names Snake Sink and Green Sink (see Reference Map) to these features of the park. These names are taken from a copyrighted map printed in "Underwater Speleology," The official newsletter of the cave diving section of the National Speleological Society, Volume 4, Number 5, 1977.

Upland mixed forest. Upland mixed forest is the predominant natural community in the park, probably expanded from its historic extent due to modern-day fire suppression in fire-dependent communities. Evidence of other human influences, including past logging and possibly farming, indicates that the area currently designated upland mixed forest has been highly disturbed over at least several decades. Reestablishment of vegetation in disturbed areas over an extended period, accompanied by fire suppression in these areas, would have favored the predominance of pioneer species such as loblolly pine, water oak and laurel oak. However, some of the upland mixed forest areas at Lafayette Blue Springs likely evolved naturally, particularly at lower elevations near the Suwannee River and in areas near the springs and sinkholes. Another factor contributing to the development of upland mixed forest may have been the fire shadow effect produced by bands of floodplain forest paralleling the river. These bands would have tended to serve as obstacles to the spread of fire from adjacent flatwoods and sandhill areas to isolated patches of fire-dependent forest nearer the Suwannee River.



LEGEND

- 17 - Sinkhole-1.32 ac.
- 21 - Upland Mixed Forest-153.83 ac.
- 31 - Floodplain Forest-39.35 ac.
- 53 - Blackwater Stream-0.12 ac.
- 55 - Spring-Run Stream-0.48 ac.
- 82 - Developed-5.29 ac.



**LAFAYETTE BLUE SPRINGS
STATE PARK**

Prepare by:
Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

**NATURAL COMMUNITIES
MAP**

Florida mountain-mint (*Pycnanthemum floridanum*), a plant listed by FDACS as threatened, occurs in apparently disturbed areas throughout the upland mixed forest community.

The day use areas in the park are classified as developed, although they are established in former upland mixed forest in which much of the natural overstory remains intact.

Floodplain forest. This natural community type occurs in narrow bands roughly paralleling the Suwannee River. Topographic relief determines the community's frequency of inundation, which forms the primary basis for distinguishing between floodplain forest and adjacent natural communities. Historic aerial photography indicates that timbering likely occurred in this natural community at one time, however the affected areas appear to be recovering naturally.

Blackwater stream. The east boundary of the park incorporates just over one mile of the Suwannee River, a blackwater stream. The river frequently floods in this area, and the floodway is very broad, encompassing most of the park. As a result, the entire park is inundated periodically.

Spring-run stream. A short spring run, approximately 300 feet in length, flows from Lafayette Blue Spring to the Suwannee River. The spring run is spanned by a narrow, natural land bridge, just downstream of the spring vent. At normal river levels, the sharp interface between the clear waters of the spring run and the tannin-stained waters of the river is readily apparent at the mouth of the spring run.

Submerged aquatic vegetation (SAV) in the springs and spring run primarily consists of filamentous algae. The shallow nature and relatively small size of the pool and spring run cause them to be particularly susceptible to impacts from visitor use. Continual disturbance of the substrate by foot traffic hinders establishment and persistence of typical spring-run SAV. Instead, opportunistic algae readily colonize denuded areas, encouraged by the elevated nutrient levels in the spring water. The dense covering of algae further hinders establishment of desirable SAV. Frequent inundation of the spring run and spring pool by tannic river water likewise contributes to the dominance of algae over desirable SAV. These patterns of disturbance have been noted in other parks that feature major springs, and the potential for seasonal recovery of SAV is being studied.

Elevated nitrates and declining flows recorded in the discharge of Lafayette Blue Springs since 1980 are definitely a cause for concern. These issues are addressed in the *Hydrology* section of this plan.

Aquatic cave (not mapped). An extensive aquatic cave system associated with Lafayette Blue Springs, known as the Green Sink cave system, is well documented by the local diving community. Over 12,000 feet of cavern passageways have been surveyed. The caves extend west and southwest from the main spring, intercepting surficial karst features such as Green Sink and Snake Sink along the way. The system is described as relatively large and open, averaging 20 feet wide and 10 feet tall, with some "rooms" up to 100 feet wide and 30 feet tall. Tannic river waters have apparently dissolved the limestone within the system, resulting in a lack of the fragile formations that characterize other aquatic caves. Low water clarity in the caves typically contributes to poor visibility conditions, which vary widely with spring flow (Mike Poucher, personal communication).

Divers in the Green Sink system have noted observations of a variety of cave fauna such as

amphipods, isopods, cave crayfish and catfish. The pallid cave crayfish (*Procambarus pallidus*), a species tracked by FNAI, has been specifically documented as occurring within the caves at Lafayette Blue Springs.

Developed. Developed areas within the park include the parking lots, restrooms, campgrounds, picnic areas, support facilities and a staff residence. Most of the developed areas are located in vicinity of the springs.

Designated Species

Designated species are those that are listed by the Florida Natural Areas Inventory (FNAI), U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FFWCC), and the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened or of special concern. Addendum 5 contains a list of the designated species and their designated status for this park. Management measures will be addressed later in this plan.

To date, the only designated plants identified in the park are Florida mountain-mint (*Pycnanthemum floridanum*), listed by FDACS as threatened and royal fern (*Osmunda regalis*), listed by FDACS as commercially exploited. The Florida mountain-mint appears in dense patches within apparently disturbed areas of the park, including within the mowed powerline right-of-way, and along road shoulders. In some instances, the Florida mountain-mint grows in close proximity to Japanese climbing fern (*Lygodium japonicum*). Treatments to control this noxious exotic vine must be performed carefully to avoid inadvertently impacting the mountain-mint.

Pallid cave crayfish (*Procambarus pallidus*), an FNAI-tracked species, is known to occur within the aquatic cave system. Management of diving activities in the caves should consider measures designed to protect the caves from degradation in order to preserve habitat for this and other rare aquatic species that are possibly present.

Comprehensive biological surveys of the aquatic and terrestrial communities are needed in order to determine whether other designated species occur in the park.

Special Natural Features

The first magnitude spring is the dominant natural feature in the park. The natural land bridge that spans the spring run and the aquatic cave system associated with the springs make it unique among other springs in the state. Several sinkholes located upgradient of the main spring, and hydraulically connected to it, provide an exceptional visual example of the relationship between surficial karst features and their associated springs. During normal and high spring flows, water can be seen flowing through these sinks in the direction of the main spring.

Lafayette Blue Springs is associated with an extensive, regional underwater cave network called the Green Sink cave system (see Aquatic Cave description above). The Suwannee River, bordering the eastern edge of the park, is a world-famous natural and cultural resource.

Cultural Resources

Evaluating the condition of cultural resources is accomplished using a three part evaluative scale, expressed as good, fair, and poor. These terms describe the present state of affairs, rather than comparing what exists against the ideal, a newly constructed component. 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 judgment is cause for concern. Poor describe 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 to reestablish physical stability.

The Florida Master Site File (FMSF) lists one recorded site within the park and one significant site in close proximity. LF4, the Blue Springs site, is classified as a prehistoric campsite. SU67, the Luraville Bluff site located across the river in Suwannee County, is an extensive lithic scatter site representing the Weeden Island culture.

Because it contains a first magnitude spring and borders the Suwannee River, which has historically been an important transportation corridor and productive waterway, Lafayette Blue Springs State Park is likely to contain additional important historic and archaeological sites. The park needs a comprehensive cultural resources survey to locate and document new sites and to delineate the extent, and assess the condition, of cultural resources in general.

RESOURCE MANAGEMENT PROGRAM

Special Management Considerations

Timber Management Analysis

Chapters 253 and 259, Florida Statutes, require an assessment of the feasibility of managing timber in land management plans for parcels greater than 1,000 acres if the lead agency determines that timber management is not in conflict with the primary management objectives of the land. The feasibility of harvesting timber at this park during the period covered by this plan was considered in context of the Division'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 early successional communities such as sand pine scrub and coastal strand.

A timber management analysis was not conducted for this park. The total acreage for the unit is below the 1,000-acre threshold established by Florida Statutes. Timber management will be reevaluated during the next revision of this management plan.

Additional Considerations

The Division has management authority over a 400-foot zone from the edge of mean high water along the Suwannee River where it passes through or alongside the park. Where emergent wetland vegetation exists, the zone extends waterward 400 feet beyond the vegetation. Within this zone, park staff will enforce Division regulations. All wildlife within this zone, with the exception of fish, is protected from harvest, as stated in the Designated Species section, above. In addition, pre-cut timber harvesting (dead head logging) is prohibited within this zone.

Lafayette Blue Springs State Park contains two natural communities of special concern, the spring-run stream and the aquatic cave system. Both are relatively rare in the state, are sensitive to disturbance and provide essential habitat for designated species. Because the springs and aquatic caves attract visitors from around the world, special attention should be given to protecting these sensitive natural features while providing reasonable public access.

Management Needs and Problems

1. Nitrate levels in the groundwater and spring discharge are elevated.
 - A. Nitrate levels measured in the spring discharge appear to be increasing above historic levels.
 - B. Effects of elevated nitrates are observable in the spring run, however no scientific evidence exists to conclusively link increasing nitrate levels with the adverse impacts observed.
 - C. Sources of the elevated nitrates in the springs remain unidentified.
2. Current spring flow monitoring efforts are limited to sporadic in-stream measurements—there have been only 42 flow measurements since 1980. An automated flow monitoring system would provide consistent flow data on a more frequent basis.
3. Outside development and existing park, facilities may negatively affect water resources within the park.
 - A. Intensive, regional water withdrawals from the Floridan aquifer threaten spring flows and river levels. The USGS predicts an overall reduction in flow from Lafayette Blue Springs by the year 2020, given projected water withdrawal demands (Sepulveda 2002). Minimum flows and levels have not yet been established for the springs or the river, leaving them vulnerable to competition for the limited water resources in the region.
 - B. The existing septic systems within the park are located in flood-prone or geologically sensitive areas, creating a potential threat to water quality in the springs and spring run.
 - C. Stormwater runoff from the day use area and campground does not receive adequate treatment before discharge to the river and springs. The campsites that are located along the edge of the Suwannee River are susceptible to continual erosion and degradation from foot traffic and camping activities.
 - D. Stormwater runoff from the boat ramp and associated parking area contributes to soil erosion and a decrease in water quality in the Suwannee River.
4. Spring-run and aquatic cave natural communities require restoration and protection.
 - A. The spring-run and aquatic cave communities are the most fragile and unique natural areas in the park. The spring run is chronically vulnerable to substantial erosion caused by public use.
 - B. Aquatic fauna inventories, which consist of limited recorded observations and outdated species lists, are inadequate.
 - C. Threats to the aquatic cave community include intentional and unintentional defacing of cave walls, removal of artifacts and fossils, and disturbance of cave biota.
5. Exotic plant infestations occur within developed or disturbed areas of the park, and threaten to encroach into natural areas.
6. Archaeological sites need clear identification and protection.
 - A. A phase I archaeological survey is needed for the park.
 - B. The entire area around the headspring is a zone of high probability for the presence of cultural resources. Erosion in and around the spring pool presents a threat to this potential archaeological site.
 - C. The lack of complete information about cultural site locations may lead to inadvertent disturbance of archaeological sites in the course of park operations and development.
7. Park species lists are incomplete.
 - A. Few data records exist for flora and fauna occurring within the park.

Management Objectives

The resources administered by the Division are divided into two principal categories: natural resources and cultural resources. The Division primary objective in natural resource management is to maintain and restore, to the extent possible, to the conditions that existed before the ecological disruptions caused by man. The objective for managing cultural resources is to protect these resources from human-related and natural threats. This will arrest deterioration and help preserve the cultural resources for future generations to enjoy.

1. Support efforts to decrease nitrate levels in the groundwater and spring discharge.
 - A. Continue to monitor nitrate levels in the springs, and seek funds to increase monitoring frequency.
 - B. Conduct research to investigate a probable correlation between increasing nitrate levels and adverse impacts observed in the springs.
 - C. Identify the recharge area, or area of groundwater influence, for Lafayette Blue Springs, and determine point and non-point sources of nitrate pollution for the springs.
2. Seek funding or support from cooperating agencies for implementation of automated spring flow monitoring and data collection.
3. Identify and seek to resolve issues relating to outside development and existing park facilities that may negatively affect water resources within the park.
 - A. Maintain viable contacts with water resource managers and permitting agents in the SRWMD. When appropriate, provide technical comments pertaining to the issuance of consumptive water use permits and water preservation rule making which may affect the long-term protection of water resources within the park.
 - B. Assess existing septic systems regularly for operational adequacy. Employ the most advanced wastewater treatment possible in all future development of park facilities.
 - C. Seek to improve existing treatment of runoff, and ensure that future development adequately addresses stormwater treatment for the entire park. Design, build and maintain campsites in such a way as to minimize associated erosion.
 - D. Assess stormwater runoff impacts from the boat ramp and parking area. If tests indicate that stormwater treatment is necessary, seek funds to design a feasible treatment system.
4. Protect spring-run and aquatic cave natural communities, assess their condition and restore them as needed.
 - A. Design and operate visitor use areas to minimize erosion impacts on the springs, spring run and sinkholes.
 - B. Update inventories of aquatic fauna, seeking input from qualified scientists and dive community members.
 - C. Design and implement a regular cave monitoring protocol to assess impacts to the aquatic cave system from park visitors. Establish a spring monitoring team that will provide recommendations to the Division regarding use and management of the Lafayette aquatic cave system. If necessary, take measures to stop and reverse, or mitigate significant impacts.
5. Remove invasive exotic plants and animals.
 - A. Identify and map locations and extents of exotic plant and animal infestations.
 - B. Eradicate or control infestations using the most appropriate treatment methods, determined upon consultation with the OM and district biologists.
6. Identify and protect archaeological sites within the park.
 - A. Seek funding for and conduct a phase I archaeological survey of the park.
 - B. Design use areas and improvements so that existing cultural resources are protected and undisturbed.

- C. Train park staff to implement the DHR compliance review process prior to initiating activities that may affect cultural resources.
7. Improve park species lists.
- A. Continue to expand the species lists for the park.
 - B. Seek assistance from experts in other agencies and disciplines to identify flora and fauna in the park.
 - C. Seek funding for and conduct rare plant and animal surveys within the park.

Management Measures for Natural Resources

Hydrology

Historic hydrological data for Lafayette Blue Springs are sparse, consisting of included, sporadic discharge measurements and water quality analyses since 1977. In recent years, the SRWMD has collected discharge data bimonthly and water quality data monthly. With funding from the Governor's 2001 and 2002 Springs Initiatives, discharge and water quality data will continue to be collected regularly through the end of Fiscal Year 2004-05. Sustaining the water quality and discharge monitoring programs in the future will depend upon a continuation of funding. This is a high management priority because long-term management and protection of these resources will require continuous and consistent data collection.

Biological data for the springs, spring run and cave system are remarkably sparse. Although field surveys for spring biota were conducted in 2002 in many first magnitude springs, Lafayette Blue Springs was not included. The species recorded to date are from incidental observations by park staff and visitors.

In order to protect water quality and preserve the natural discharge rates of Lafayette Blue Springs, it will be essential to define the groundwater recharge area of the springs. Once that area has been established, potential sources of aquifer pollution must be identified and proposed land use changes in the region must be scrutinized. Prevention of future water supply and water quality issues at the park may well depend upon the diligence of staff and the public in reviewing activities in the Springs's recharge area that might significantly alter recharge rates or groundwater quality. Potential threats to the park's water resources from land use and development outside the park will increase as the surrounding areas continue to develop. Staff review of permit requests to agencies such as the SRWMD will help in monitoring such threats. District biologists will address any proposed development that may cause adverse impacts to water resources within the park and will make appropriate comments pursuant to Chapter 120, Florida Statutes.

Water quality threats to the springs and spring run from stormwater runoff within the park will be clearly defined and addressed. Currently, runoff from impervious surfaces is captured in swales and shallow ditches and routed both to and away from the springs, spring run and floodplain. The location of cultural resource sites in these areas presents a challenge in designing more effective stormwater treatment systems.

Erosion regularly occurs in the swimming area, along the banks of the springs and spring run, around the sinkholes upgradient of the main spring, and along the upstream and downstream banks of the river. Frequent flooding of these low-lying areas prevents significant growth of desirable bank vegetation. Access steps may help minimize foot traffic on the slopes of the springs and sinkhole. If erosion continues unchecked, the result will be chronic degradation of the spring run. Improving visitor access points to the water and allowing natural vegetation to recover along the shoreline will help to reduce human-induced erosion. DRP staff will continue

to explore and implement measures that minimize erosion and visitor use impacts in high use areas.

Erosion is also a concern in the current RV campground area. The campground was designed and constructed long ago, when little consideration was given to treatment or attenuation of runoff, or compliance with required setbacks from the riverbank. Campsites on the edge of the riverbank, and footpaths from many of the campsites, carry runoff and sediments directly into the river, and promote chronic erosion of the riverbank. The DRP will address the issues of proper attenuation and treatment of runoff from the entire campground site, as well as adequate buffer protection for the riverbank.

Existing septic systems within the park may also adversely affect water quality in the springs' system. Research is underway comparing the effectiveness of standard septic systems and aerobic treatment systems within the karst landscapes that surround springs. Soil porosity, and the conduits and fractures associated with areas of karst geology, suggest that natural connections may exist between subsurface septic systems and the aquatic cave and spring systems. The implications of such connections, if they exist, are obviously negative. Two large septic systems are currently located in extremely close proximity to the springs and conduit system. The DRP will investigate the possible contamination of the springs from these septic systems, and if the systems are found to have detrimental impacts, their removal or upgrading to advanced wastewater treatment, will be a priority.

Prescribed Burning

The objectives of prescribed burning are to create those conditions that are most natural for a particular community, and to maintain ecological diversity within the unit's natural communities. To meet these objectives, the park is partitioned into burn zones, and burn prescriptions are implemented for each zone. The park burn plan is updated annually to meet current conditions. All prescribed burns are conducted with authorization from the Department of Agriculture and Consumer Services, Division of Forestry (DOF). Wildfire suppression activities will be coordinated between the Division and the DOF.

At present, no natural areas in Lafayette Blue Springs State Park are considered fire dependent. While some areas currently mapped as upland mixed forest may have once existed as a type of fire-maintained natural community, no indicative plants seem to have survived. Future surveys, however, may discover patches of fire-dependent vegetation persisting in the park. If that happens, and if prescribed fire appears to be a viable technique for managing those patches, then staff will establish burn zones in appropriate areas of the park and initiate a prescribed burn program.

Designated Species Protection

The welfare of designated species is an important concern of the Division. In many cases, these species will benefit most from proper management of their natural communities. At times, however, additional management measures are needed because of the poor condition of some communities, or because of unusual circumstances that aggravate the particular problems of a species. To avoid duplication of efforts and conserve staff resources, the Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species. Specifically, data collected by the FWC and USFWS as part of their ongoing research and monitoring programs will be reviewed periodically to inform management of decisions that may have an impact on designated species at the park.

Florida mountain-mint and royal fern are the only designated plant species known to occur in the

park. Royal fern occurs in the floodplain forest and will likely require no active management measures. Some patches of Florida mountain-mint occur in close proximity to Japanese climbing fern, an exotic invasive vine that requires active treatment, often with chemical herbicides. Measures to control growth and spread of the climbing fern must be taken with care to avoid inadvertent damage to the rare mountain-mint.

Exotic Species Control

Exotic species are those plants or animals that are not native to Florida, but were introduced because of human-related activities. Exotics have fewer natural enemies and may have a higher survival rate than do native species, as well. They may also harbor diseases or parasites that significantly affect non-resistant native species. Consequently, it is the strategy of the Division to remove invasive exotic species from native natural communities.

Few exotic species have been identified as a significant problem in the park. Invasive exotic plants present include Japanese climbing fern and cogongrass. The Japanese climbing fern grows in sporadic patches throughout developed areas in the park. Cogongrass occurs along the entrance drive on park and adjacent landowners' properties. Because neither species is contained completely within park property, prospects for reinfestation from adjacent lands are high. Effective control of these plants will require mapping the locations of infestation, repeated manual removal and/or chemical treatment, and monitoring of treated areas to assess control status.

Bahiagrass (*Paspalum notatum*) and centipedegrass (*Eremochloa ophiuroides*) also occur throughout the park, especially in developed areas. Control of these grasses in developed areas will not be a priority for the time being, as they provide an important service in stabilizing soils subject to high traffic conditions. However, preventing encroachment of these grasses into natural areas will be a primary focus.

Problem Species

Problem species are defined as native species whose habits create specific management problems or concerns. Occasionally, problem species are also a designated species, such as alligators. The Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species that are considered a threat or problem. No problem species are known to occur within Lafayette Blue Springs State Park.

Management Measures for Cultural Resources

The management of cultural resources is often complicated because these resources are irreplaceable and extremely vulnerable to disturbances. The advice of historical and archaeological experts is required in this effort. Approval from Department of State, Division of Historical Resources (DHR) must be obtained before taking any actions, such as development or site improvements that could affect or disturb the cultural resources on state lands (see DHR Cultural Management Statement).

Actions that require permits or approval from DHR include development, site excavations or surveys, disturbances of sites or structures, disturbances of the substrate, and any other actions that may affect the integrity of the cultural resources. These actions could damage evidence that would someday be useful to researchers attempting to interpret the past.

Because the park has not been subject to a comprehensive archaeological survey, little is known about the location or extent of cultural sites. This lack of adequate information about cultural resources is a management concern. Inadvertent disturbance of cultural sites is probable if

locations and extents of sites remain unknown.

Unfortunately, the area of highest visitor use and greatest development, the headspring, is also potentially one of the more significant archaeological sites in the park. Future development in the headspring area will need to be conducted with the minimum soil disturbance possible, especially in previously undeveloped or undisturbed areas. Likewise, the preservation of cultural resources in the park as a whole will receive a high priority when planning and implementing future enhancement of recreational facilities, and when conducting resource management, interpretation, and protection activities.

Management staff will inspect each identified cultural resource site yearly to monitor changes and to record activities that may affect protection of the site. Notes and incident reports recorded for a site will be stored in the appropriate park resource file.

The park will continue to maintain files pertaining to recorded cultural resources. File organization will follow the guidelines developed by the Bureau of Natural and Cultural Resources. Information pertaining to cultural resources such as photographs, yearly condition assessments and FMSF will be included in these files, which will be considered permanent resource management files and will not be scheduled for disposal.

Research Needs

Natural Resources

Any research or other activity that involves the collection of plant or animal species on park property requires a collecting permit from the Department of Environmental Protection. Additional permits from the Florida Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, or the U.S. Fish and Wildlife Service may also be required.

1. Define the recharge area for Lafayette Blue Springs.
2. Identify sources of nitrate pollution of the springs.
3. Identify connections between karst features located outside the park and conduits and springs found within the park.
4. Determine minimum flows and levels for Lafayette Blue Springs.
5. Complete baseline inventories of flora and fauna in the park, including the springs and cave systems.

Cultural Resources

1. Conduct a phase I archaeological survey of the entire park, and a phase II survey of selected known sites in high-use areas of the park.

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 contained in Addendum 6. Cost estimates for conducting priority management activities are based on the most cost effective methods and recommendations currently available (see Addendum 6).

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 of the Internal Improvement Trust Fund (board) are being managed for the purposes for

which they were acquired and in accordance with a land management plan adopted pursuant to s. 259.032, the board of trustees, acting through the Department of Environmental Protection (department). The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required update of its management plan. Lafayette Blue Springs State Park has not been the subject of a land management review.

LAND USE COMPONENT

INTRODUCTION

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

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

Lafayette Blue Springs State Park is located within Lafayette County about 5 miles northeast of the town of Mayo and 17 miles southwest of Live Oak in the north central part of the state. The populations of Lafayette County and the adjacent Suwannee County have grown 22 percent since 1990, and are projected to grow an additional 25 percent by 2020 (BEBR, University of Florida, 2000). Nearly 214,000 Floridians reside within 50 miles of the park, which includes the cities of Madison, Monticello, Perry, Chiefland, Trenton, Newberry, Branford, Live Oak, Lake City, White Springs and Jasper (Census, 2000).

Existing Use of Adjacent Lands

Agriculture is the predominant land use surrounding the state park. A small residential subdivision is located immediately north of the park boundary along the Suwannee River. Publicly owned conservation lands are located along the river at Twin Rivers State Forest, Charles Spring and Allen Mill Pond Conservation Areas to the north, and Peacock Spring State Park, Peacock Slough Conservation Area, Troy Spring State Park and Little River Spring Conservation Area and Wildlife Management Area to the south.

Planned Use of Adjacent Lands

Future land use designations surrounding the park are for continued agricultural land uses, although an increase in changes from agricultural to residential development is noted elsewhere within the Suwannee River Basin, and should be anticipated in the Lafayette County area.

Agricultural uses will serve to provide a buffer for the park and the river from the impacts that may be seen if large areas of surrounding land are developed for residential and related commercial uses.

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

The first magnitude spring and the one-mile section of Suwannee River shoreline are the park's primary recreational resources. Swimming, picnicking and fishing and boat access through the park to the Suwannee River are historic recreational activities at the park and will be continued and enhanced under management as a state park. The exposed karst geology provided by a series of sinkhole springs immediately southwest of the swimming area (Snake Sink and Green Sink) should support interpretive programs that educate visitors about the unique geology of the Suwannee River basin. Upland areas away from the river will provide resources for hiking and nature trails, and the Division is working with the Suwannee River Water Management District to connect recreational opportunities between the state park and adjacent District lands to the north.

Lafayette Blue Springs State Park is designated as a hub within the Suwannee River Wilderness Trail project, a partnership between the Department of Environmental Protection, the Suwannee River Water Management District and local governments and businesses to provide multi-day paddling and upland trails experiences along the Suwannee River. As a hub, the state park will serve to provide overnight lodging and connect the river trail with recreational, interpretive and social opportunities near the park.

Assessment of Use

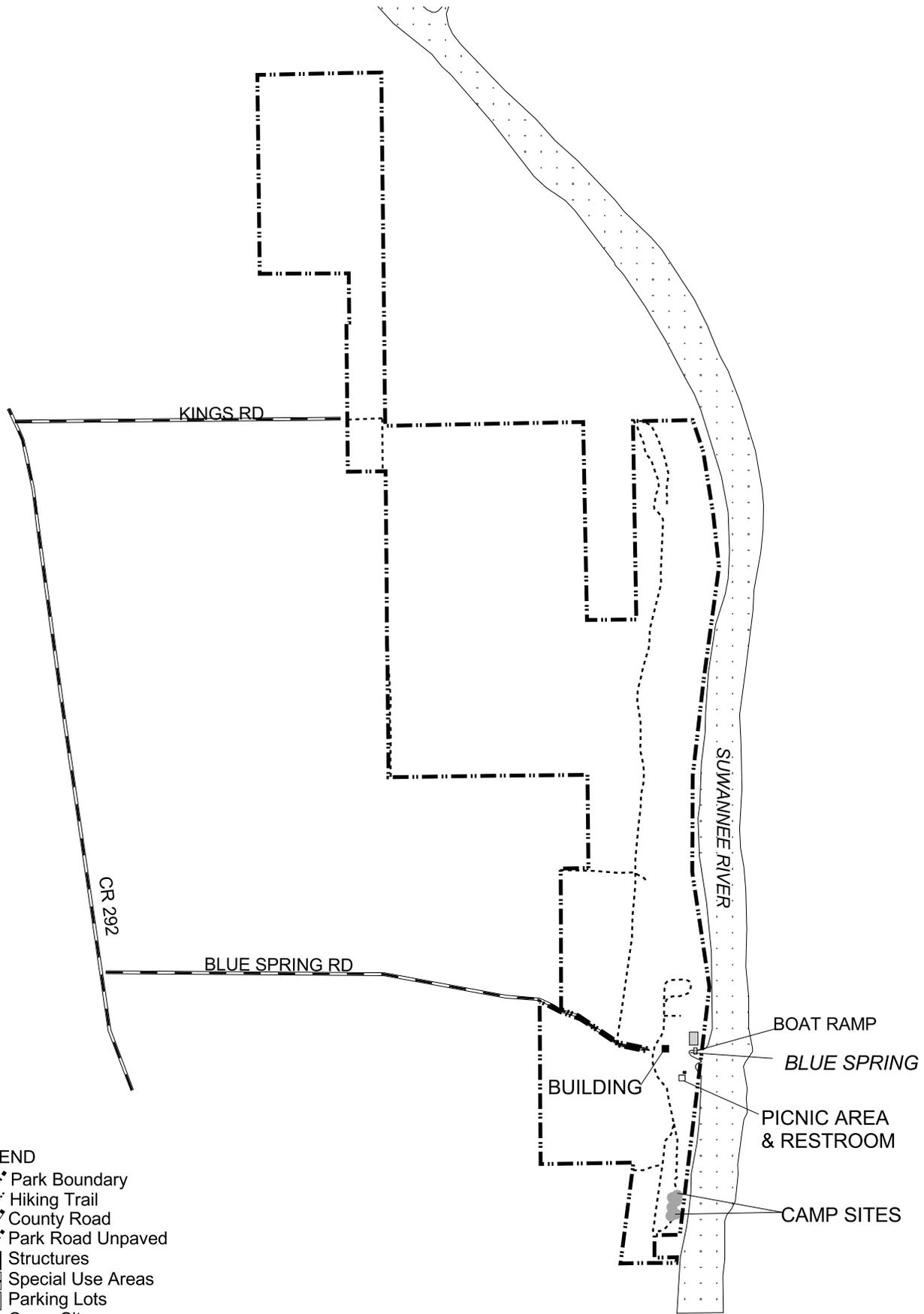
All legal boundaries, structures, facilities, roads and trails existing in the unit are delineated on the base map (see Base Map). Specific uses made of the unit are briefly described in the following sections.

Recreational Uses

Swimming, scuba diving, camping, boating, canoeing/kayaking, shoreline fishing, hiking, picnicking and nature appreciation are the traditional recreational uses of the park property.

Other Uses

Adjacent landowners drive through the park for access to private property when high river levels block their normal route. Land administration research is underway to determine if easements for this use exist.



LEGEND

- Park Boundary
- Hiking Trail
- County Road
- Park Road Unpaved
- Structures
- Special Use Areas
- Parking Lots
- Camp Sites
- Marine Structures
- Water Bodies



**LAFAYETTE BLUE SPRINGS
STATE PARK**

Prepared by:
Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

BASE MAP

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 Lafayette Blue Springs State Park, the floodplain forest, spring run stream and sinkhole natural communities have been designated as protected zones as delineated on the Conceptual Land Use Plan.

Existing Facilities

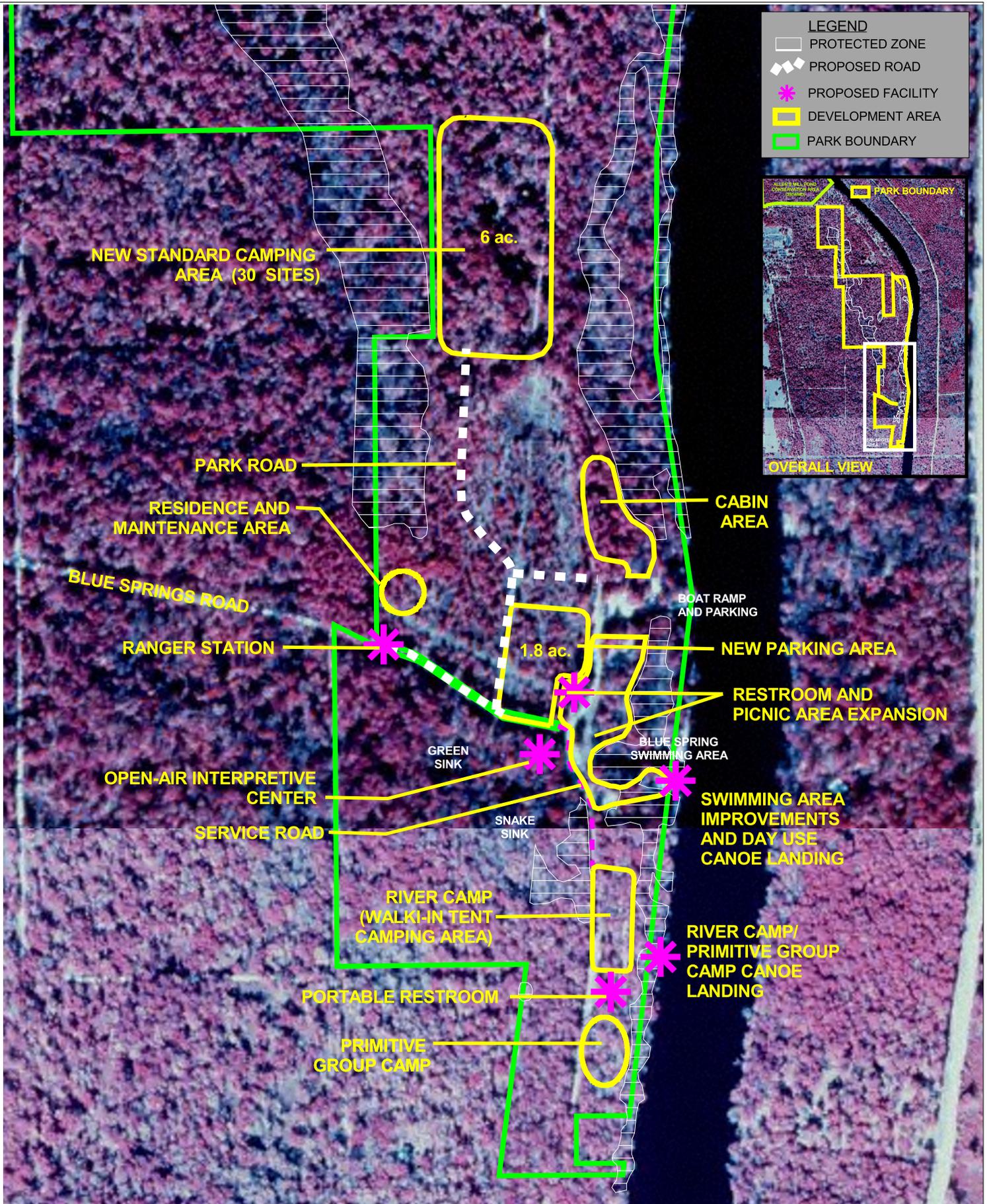
Recreation Facilities. A day use swimming area at the headsprings, a boat ramp and an RV camping area are the facilities developed by Lafayette County on the Trustees land during their tenure as managers. Two picnic shelters and three sets of boardwalk steps and a concrete sidewalk are located around the headspring area. About 24 designated campsites with water and electricity are located a short distance south of the headspring. The boat ramp is located just north of the headspring. These facilities, although serviceable, are in generally poor condition and will need improvement to be brought to state park standards.

Support Facilities. Support facilities include approximately .5 mile of paved park road, 12 boat ramp parking spaces and 26 standard and 2 handicapped automobile parking spaces. A concrete block restroom by the headsprings serves the day use area, and provides showers for campers. An elevated 2-bedroom wood frame residence and a small ticket booth are located on the park road at the headsprings area. Sewage disposal for the public restroom and the residence is through a collection and aerobic treatment/drain field disposal system located just north of the boat ramp. A single-fixture vault privy is located in the middle of the camping area.

CONCEPTUAL LAND USE PLAN

The following narrative represents the current conceptual land use proposal for this park. As new information is provided regarding the environment of the park, cultural resources, recreational use, and as new land is acquired, the conceptual land use plan may be amended to address the new conditions (see Conceptual Land Use Plan). A detailed development plan for the park and a site plan for specific facilities will be developed based on this conceptual land use plan, as funding becomes available.

During the development of the unit management plan, the Division assesses potential impacts of proposed uses on the resources of the property. Uses that could result in unacceptable impacts are not included in the conceptual land use plan. Potential impacts are more thoroughly identified and assessed through the site planning process once funding is available for the development project. At that stage, design elements, such as sewage disposal and stormwater management, and design constraints, such as designated species or cultural site locations, are more thoroughly investigated. Advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Stormwater management systems are designed to minimize impervious surfaces to the greatest extent feasible, and all facilities are designed and constructed using best management practices to avoid impacts and to mitigate those that cannot be avoided. Federal, state and local permit and regulatory requirements are met by the final design of the projects. This includes the design of all new park facilities consistent with the universal access



LAFAYETTE BLUE SPRINGS STATE PARK



CONCEPTUAL LAND USE PLAN

PREPARED BY: FL DEPARTMENT OF ENVIRONMENTAL PROTECTION
 DIVISION OF RECREATION AND PARKS
 OFFICE OF PARK PLANNING

requirements of the Americans with Disabilities Act (ADA). After new facilities are constructed, the park staff monitors conditions to ensure that impacts remain within acceptable levels.

Potential Uses and Proposed Facilities

Park renovations to improve natural resource protection and to enhance nature study, snorkeling, swimming, scuba diving, picnicking, riverbank fishing, canoeing, kayaking, boating, camping and cabin lodging opportunities are the goals of the conceptual plan for the state park. Over time, a complete renovation of the park's facilities will be necessary to raise them to state park standards. The redesign of the park will address the water quality impacts now associated with vehicle parking areas, paved roads and building roofs located very close to the headsprings. New road and parking facilities will incorporate state of the art stormwater management systems and wastewater disposal systems and the park will be managed using best management practices to protect and improve the quality of surface water entering the spring run and the river.

This long-term project should include replacing the swimming area restroom, expanding the picnic area and renovating the existing wood frame picnic shelter. The concrete block shelter located closest to the spring, the concrete block restroom, the existing elevated residence and ticket booth should be demolished. A new picnic shelter and a new restroom should be placed where the elevated residence is located now. The park road and parking area between that location and the headsprings should be removed, and replanted with native trees to provide for an expanded picnic and sunning area above the spring run (see Conceptual Land Use Plan). Swimming area improvements will include a boardwalk to address an erosion problem above the springs, repairs or upgrades of the existing wooden stairways leading to the spring run and provision of universally accessible routes from the parking area to the swimming area. A canoe/kayak and small boat landing area for day use visitors will be designated at the outflow of the spring run.

In the future, the area now used for RV camping will be converted to become a tent camping area for visitors arriving via the Suwannee River (river camp) and a primitive group camp for organized groups arriving both from the river and by vehicle. A canoe landing and stairway should provide access to these facilities from the river. In the short term, this area will continue to serve its traditional use by visitors with smaller recreational vehicles, pop-up and tent campers. The vault privy that serves the area should be replaced with a portable campers' bathhouse connected to a mounded drainfield, similar to the trailer-mounted units provided at other river camps along the Suwannee River Wilderness Trail.

When funding is available, a standard state park camping area for 25 RV and 5 tent sites, a camper's bathhouse and a sewage dump station should be constructed a short distance northwest of the headsprings and north of the proposed new parking area discussed below. When the new camping area is developed, drive-in camping will be discontinued at the existing camping area. At that time, the use as a river camp and primitive group camp described above will be implemented. A service road will remain between the public parking area and the riverside camping area, but public vehicular access will be limited to a few support vehicles needed for group camp activities.

Six cabins are planned for construction just north of the boat ramp as part of the Suwannee River Wilderness Trail. The cabins will be available on a reservation basis to individual paddlers and tour groups on the trail as well as the public who arrive by automobile.

Access to the Suwannee River should be improved by upgrading the boat ramp for safety and convenience at varying water levels. This may include provision of appropriate docking facilities

if they are feasible. Canoe and kayak storage facilities will be provided adjacent to the boat ramp to support the park's function as a destination on the SRWT. In addition, a canoe/kayak landing should be designated near the headspring swimming area to provide a convenient day-use stopping point on the river trail. A buoy line should be installed across the confluence of the spring run with the Suwannee River to prohibit boat access to the swimming area of the park.

An open-air interpretive facility is proposed to be located overlooking Snake Sink. Interpretive graphics should introduce the karst geology of the park and the natural communities, wildlife and cultural resources present on the site. Benches should be provided so that interpretive programs and talks by guest lecturers can be offered for day-use and overnight visitors. Nature trails should provide visitors' access to the natural communities of the park, and connect to trails on adjacent conservation lands. Observation platforms on the trail system should allow viewing and interpretation of the headsprings, the river shoreline and the series of sinkholes that reveal the karst geological features that give rise to Lafayette Blue Springs.

The Division is consulting with representatives of the cave diving recreation community regarding the quality of the cave system beneath the state park, its need for protection and its potential to provide managed cave diving recreation. If cave diving is determined to be appropriate for this park, access may be provided by way of a set of terraced steps entering Green Sink (above Snake Sink in the southwestern corner of the park).

Additional parking is needed to accommodate the visitation to this park. Overflow parking conditions was the norm on summer weekends under previous management due to the limited area available for parking (28 spaces). A new parking area for up to 60 vehicles is proposed for location just west of the proposed picnic area restroom and shelter. Removal of existing pavement and planting with native tree and shrubs in the expanded picnic area should be included in the project.

Two staff residences, a maintenance shop, equipment storage building and flammable storage building should be provided in the proposed residence/maintenance area located near the western park boundary. A ranger station should be constructed on the park drive at the park boundary to provide visitor contact and administration support for the day use and overnight facilities proposed for the park. With the development of these facilities, the Division will request Lafayette County to abandon the portion of the county-maintained road to the east of the ranger station so that the right of way can be included in the park's development area.

Following is a summary of the new facilities needs discussed in this component:

Recreation Facilities

Cabins (6)	Boat ramp improvements
Standard RV camping area w/tent sites (30 sites and bathhouse)	Medium picnic shelters (2)
River Camp (12 to 15 tent sites)	Playground
Primitive group camp	Interpretive area
Canoe/kayak launch, storage and access steps	Trails (2 mi.)
	Overlooks (3)
	Fish cleaning tables (2)

Support Facilities

Accessible walkways (600 l.f.)	3-bay Equip. shed
Medium Picnic Area Restroom	Flammable storage bldg.
3-bay Shop	Residences (2)

Ranger station
Paved parking (60 cars)

Road (0.3 mi.)
Utilities

Facilities Development

Preliminary cost estimates for the following list of proposed facilities are provided in Addendum 6. These cost estimates are based on the most cost-effective construction standards available at this time. The preliminary estimates are provided to assist the Division in budgeting future park improvements, and may be revised as more information is collected through the planning and design processes.

Existing Use and Optimum 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 1).

The optimum 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 1.

Table 1—Existing Use and Optimum Carrying Capacity

Activity/Facility	Existing Capacity		Proposed Additional Capacity		Estimated Optimum Capacity	
	One Time	Daily	One Time	Daily	One Time	Daily
Trails						
Nature trail	0	0	20	40	20	40
Picnicking/Swimming	225	450			225	450
Scuba Diving*						
Fishing						
Shoreline	10	20			10	20
Boating						
Canoeing/kayaking*			30	60	30	60
Boating	48	96			48	96
Camping						
Standard RV and tent	192	192	48	48	240	240
River Camp			48	48	48	48
Primitive group			60	60	60	60
Cabins			36	36	36	36
TOTAL	475	758	242	292	717	1,050

***Note:** additional study will determine an appropriate carrying capacity for scuba diving activities and the recreational use of the river shoreline, the swimming area and the picnic area will be monitored over the next several seasons. Adjustments to the park's carrying capacity may be necessary as the park staff learns more about visitor use patterns and impacts on the recreational and natural resource values of the park.

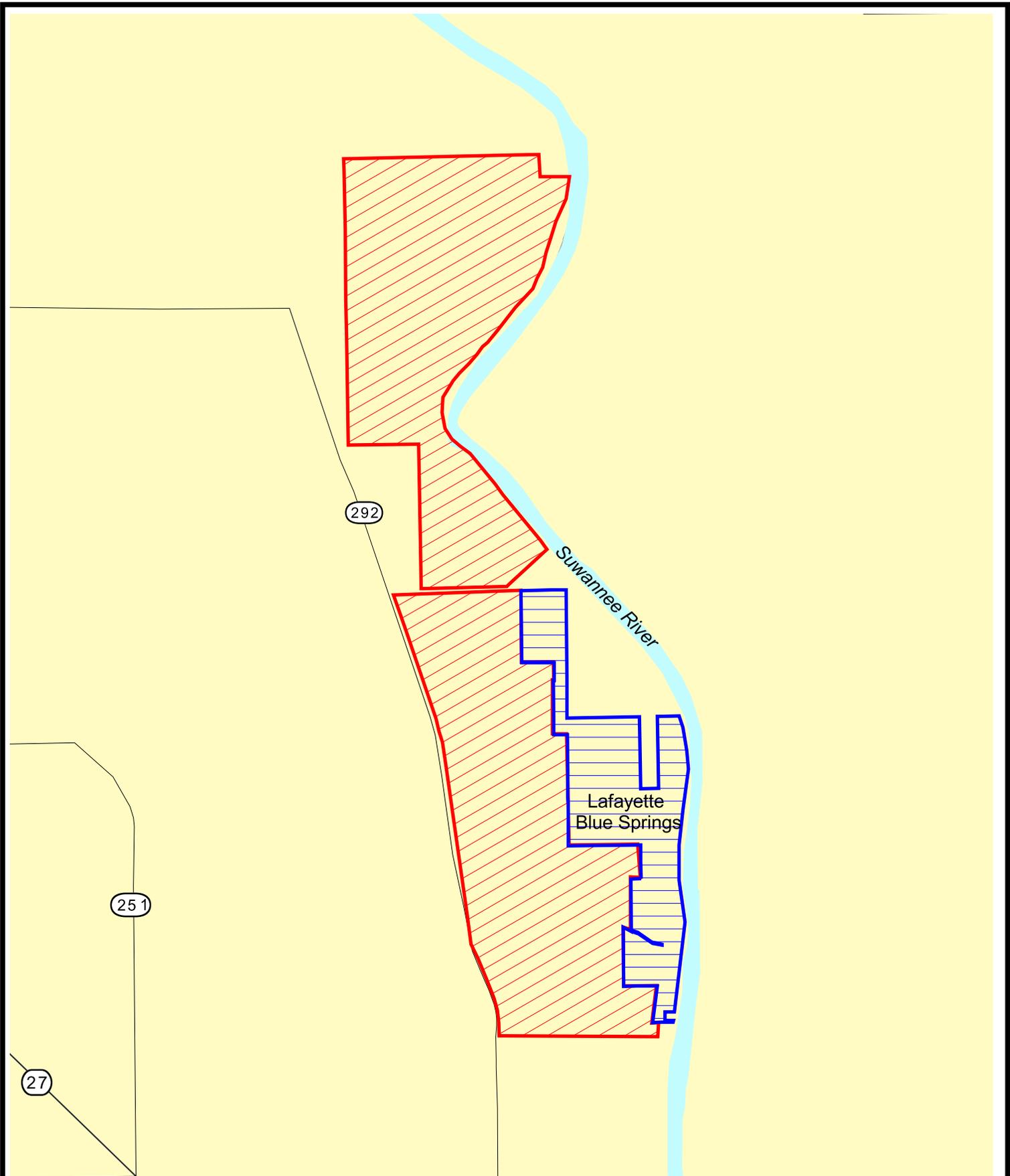
Optimum Boundary

As additional needs are identified through park use, development, research, and as adjacent land uses change on private properties, modification of the unit's optimum boundary may occur for the enhancement of natural and cultural resources, recreational values and management efficiency.

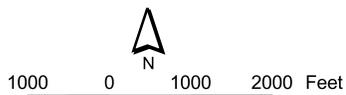
Identification of lands on the optimum boundary map is solely for planning purposes and not for regulatory purposes. A property's identification on the optimum boundary map is not for use by any party or other government body to reduce or restrict the lawful right of private landowners. Identification on the map does not empower or require any government entity to impose additional or more restrictive environmental land use or zoning regulations. Identification is not to be used as the basis for permit denial or the imposition of permit conditions.

The optimum boundary map reflects lands identified for direct management by the Division as part of the park. These parcels may include public as well as privately owned lands that improve the continuity of existing park lands, provide additional natural and cultural resource protection, and/or allow for future expansion of recreational activities. At this time, no lands are considered surplus to the needs of the park.

Recommended additions to Lafayette Blue Springs State Park include the SRWMD Allen's Mill Pond Conservation Area and the boundary of the Florida Springs Initiative Lafayette Blue Springs CARL Project. The CARL project, if acquired, will provide additional protection to the spring watershed from future development. Both proposed additions will provide additional land base for resource based outdoor recreation.



LAFAYETTE BLUE SPRINGS
STATE PARK



Prepared by:
Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

- LEGEND
-  Park Boundary
 -  Optimum Boundary

OPTIMUM BOUNDARY MAP

Addendum 1—Acquisition History

Lafayette Blue Springs State Park

Acquisition History

Purpose of Acquisition

The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Trustees) acquired Lafayette Blue Springs State Park to manage the property in such a way as to protect and restore the natural and cultural values of the property and provide the greatest benefit to the citizens of the state.

Sequence of Acquisition

On February 8, 1977, the Trustees acquired a 42-acre property in Lafayette County, which has now become Lafayette Blue Springs State Park. The Trustees purchased this property from Russell Benedict and Florence Heintz Benedict for \$75,000. The purchase was funded under LWCF/FRDAP. Since the 1977 initial purchase, the Trustees have not acquired any new property.

Lease Agreements

On April 13, 1984, the Trustees leased Lafayette Blue Springs Park to Lafayette County under Lease No. 3220 for a period fifty (50) years. The county relinquished its leasehold interest in the park on February 23, 2004. On June 1, 2005, the Trustees leased Lafayette Blue Springs State Park to the Division of Recreation and Parks (Division) under lease No. 4501. This lease is for a period of 50 years, and it will expire on May 31, 2055.

Title Interest

The Trustees hold fee simple title to Lafayette Blue Springs State Park.

Special Conditions on Use

Lafayette Blue 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, 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.

Outstanding Reservations

Following is a listing of outstanding rights, reservations and encumbrances that apply to Lafayette Blue Springs State Park.

Instrument: Warranty Deed
Instrument Holder: Russell and Florence Benedict
Beginning Date: February 8, 1977
Ending Date: Forever
Outstanding Rights, Uses, Etc.: The deed is subject to easements and conveyances of record for road rights of way and to reservation of one-half of all oil, gas and mineral rights to R. L. Henderson, Trustees and Carolyn G. Henderson.

Lafayette Blue Springs State Park
Acquisition History

Lafayette Blue Springs State Park

Advisory Group Members List

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Lafayette County Board of
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Mayo, Florida 32066

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Lafayette Blue Springs State Park
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Mr. Terry Demott
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Suwannee River Water Management District
Governing Board
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Mr. W.C. Hart
Lafayette County Soil and Water
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Four Rivers Audubon
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Silent Otters Paddling Club
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Susan Moody, President
Canoe Country Homeowners Association
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Dekle Beach
Perry, Florida 32348

Lafayette Blue Springs State Park
Advisory Group Members List

Lafayette Blue Springs State Park

Advisory Group Staff Report

The Advisory Group appointed to review the proposed land management plan for Lafayette Blue Springs State Park was held at the Lafayette County Community Center in Mayo, Florida on June 8, 2005. Mr. Terry Demott represented Mr. Houder (Suwannee River Water Management District). Mr. Ellis (Division of Forestry) was not able to attend. All other appointed Advisory Group members were present. Mr. Louis Shiver, member of the Suwannee River Water Management District Board of Governors attended the meeting, as did Mr. Spessard Putnal, Lafayette County Public Works Director, Mr. Jerry Metzger, an adjacent landowner and Mr. Ron McMillan, a recreational diver. Attending staff were Park Manager Sherry McGowan, Assistant Park Manager Angel Rodriquez, Mebane Ogden, Susie Hetrick, Sam Cole and Lew Scruggs.

Mr. Scruggs began the meeting by explaining the purpose of the advisory group, the meeting agenda and follow-up review process. He also provided a brief overview of the Division's planning process and summarized public comments received during the previous evening's public workshop. He then asked each member of the advisory group for his or her comments on the draft management plan.

Summary Of Advisory Group Comments

Commissioner Hamlin said that he is very pleased with the creation of the new state park and the progress being made toward reopening the park for the current summer season. He indicated his approval of the draft management plan.

Mr. Hart also expressed approval of the park and the results of the planning process. He noted that the major land use in the park's vicinity is agriculture, and said that those landowners are supportive of the park and will work to avoid conflicts with the goals of the park management.

Mr. Pike asked about the extent of the road network on the property. Staff explained that a paved road connects the developed headsprings area with CR 292, and that a paved road running parallel to the river is recommended for removal. A new road parallel to the river but several hundred feet further to the west is proposed to provide access to a new camping area. Other than these public roadways, only a few service roads/jeep trails exist on the property. Mr. Pike inquired as to the ratio of the proposed development area to the total area of the park. Staff replied that approximately 15 acres are proposed for development or redevelopment, out of a total of approximately 200 acres of land, or less than 1 percent of the park.

Ms. Scoville asked how the carrying capacity for canoeing and kayaking could be enforced. Staff explained that enforcement by park staff would occur when the carrying capacity numbers were being exceeded frequently and overcrowded conditions or resource impacts were resulting. It is expected that the carrying capacity numbers will be approached only on peak use days, such as holiday weekends. It was noted that managing boating and swimming recreation at Lafayette Blue Springs State Park would also require some scheduling coordination for group events with outfitters and other users of the Suwannee River Wilderness Trail. Ms. Scoville asked if a canoe concession would be provided at the park. Staff replied that it would be considered if there appeared to be a demand for the service from the park visitors. She asked if recreational trails would be provided at the park, and staff answered that interpretive trails, short nature trails and

Lafayette Blue Springs State Park

Advisory Group Staff Report

hiking trails will be provided.

Ms. Moody said that landowners in the Canoe Country community are pleased that the property is going to be managed as a state park. She asked if some barrier to trespass from the park onto adjacent private property would be installed. Staff explained that fencing park boundaries is a standard policy, but that fence installation would depend on the availability for funds and may not occur right away. Staff predicted that few park users would have incentive to exit the park onto the adjacent private property, since the public uses are being directed away from that boundary. Ms. Moody explained that residents in the community are occasionally cut off from their property during river flood conditions, and that they are working to improve their access road, but do not have the necessary funds at this time. She asked if the residents would be able to continue using the park road for their emergency access during flood conditions. Staff agreed that the best solution would be for the homeowners to develop an all weather access road, and said that the Division will work with the homeowners association on a temporary emergency access arrangement in the interim.

Mr. Sedmera asked if the state and the water management district own mineral rights beneath their respective properties. Mr. Demott responded affirmative for the SRWMD land. Division staff has asked the Division of State Lands, and are awaiting an answer regarding the Trustees-owned portion of the park. Mr. Sedmera said he is pleased to see the Division's natural systems and whole communities' management philosophy expressed in the draft plan. He noted that there might be conflicts in the future with prescribed fire management as more residential development occurs around the park. He asked if Lafayette County residents are in favor of the change, and was answered in the affirmative.

Mr. Demott said that the SRWMD is supportive of the Division's efforts, and finds the draft management plan to be appropriate. He noted that the District is interested in discussions with the Division about adding the Allen's Mill Pond Conservation Area to the park.

Mr. Shiver said that the District Board is somewhat impatient with the slow progress of the Lafayette Blue Springs project and other joint DEP/SRWMD projects related to the Suwannee River Wilderness Trail. He noted that promised completion schedules have not been met in the past. He requested that the Division make every effort to implement the management plan for the new state park in a timely manner.

Mr. Shiver discussed statements in the plan that "unnatural" algae growth in the springs is an indicator of degraded water quality, and statements that seem to target agriculture as a main cause of elevated nitrate levels in spring discharges. He explained that the SRWMD and the agriculture businesses in the Suwannee River Basin have made good progress in developing farming methods that reduce water quality impacts. He asked that Division staff insure that the discussion in the management plan is based on established scientific facts and does not make assumptions about agricultural impacts that are not proven. Mr. Shiver also noted that local residents have several different names for the springs on the property, and it may be best to drop the names being used in the plan to avoid confusion and future disagreements.

Mr. McMillan asked when recreational diving would be provided at the park. Staff replied that the Park and District Managers will set up a meeting with the dive community to discuss diving recreation at the park, and should be able to open the cavern system to diving when the park

Lafayette Blue Springs State Park

Advisory Group Staff Report

opens on July 1, or shortly thereafter.

Mr. Metzger stated that the state parks seem to be well run and attractive, and that this park will be a plus for the residents of Lafayette County.

Staff Recommendation

Staff recommends the following changes to the draft management plan:

Resource Management Component

Revise the discussion of water quality indicators and impacts in the springs system as discussed above.

Land Use Component

Revise the recommended carrying capacity for canoeing and kayaking from 20 persons at one time to 30 persons at one time. This is partly in response to Ms. Scovill's question, but also based on staff observations at the park since the meeting was held, indicating that paddling groups of 30 persons may be a common event along this stretch of the Suwannee River. Discussion will be added under the carrying capacity heading to say that the recreational use of the river shoreline, the swimming area and the picnic area will be monitored over the next several seasons.

Adjustments to the park's carrying capacity may be necessary as the park staff learns more about visitor use patterns and impacts on the recreational and natural resource values of the park. As always, the Division's management will seek to maximize the recreational opportunities provided at the park, while eliminating or minimizing physical impacts to the park's resources from those recreational uses.

With these revisions, staff recommends approval of the draft management plan for Lafayette Blue Springs State Park.

Lafayette Blue Springs State Park
Advisory Group Staff Report

Addendum 2—References Cited

Lafayette Blue Springs State Park

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Addendum 3—Soils Descriptions

Lafayette Blue Springs State Park

Soils Descriptions

(43) Garcon-Albany-Meadowbrook complex, 0 to 5 percent slopes, occasionally flooded –

The nearly level to gently sloping, somewhat poorly drained soils are on terraces, and the very poorly drained soils are in depressional areas of flood plains along the Suwannee River. Some areas are isolated by meandering stream channels. The mapped areas are irregular in shape and range from about 20 to more than 150 acres in size. The slope is nearly smooth to convex.

Typically, the surface layer of the Garcon soil is dark gray fine sand about 7 inches thick. The subsurface layer is fine sand, and it extends to a depth of 26 inches. The upper 12 inches is brown, and the lower 7 inches is very pale brown. The subsoil is sandy clay loam and sandy loam to a depth of 51 inches. The upper 14 inches is brownish yellow sandy clay loam, and the lower 11 inches is light brownish gray sandy loam. Below this to a depth of 60 inches is white loamy fine sand. The next 20 inches is white fine sand to a depth of 80 inches or more.

Typically, the surface layer of the Albany soil is very dark gray fine sand about 4 inches thick. The subsurface layer is fine sand to a depth of 63 inches. The upper 10 inches is yellowish brown, the next 9 inches is brown, the next 4 inches is light brownish gray, and the lower 36 inches is light gray. The subsoil is sandy clay loam, and it extends to a depth of 80 inches. It is light gray to a depth of 65 inches and is mottled yellowish brown, pale brown, and light gray to a depth of 80 inches.

Typically, the surface layer of the Meadowbrook soil is black fine sand about 6 inches thick. The subsurface layer is fine sand, and it extends to a depth of 45 inches. The upper 8 inches is dark gray, and the lower 31 inches is light gray. The subsoil is grayish brown sandy clay loam to a depth of 63 inches and grayish brown sandy loam to a depth of 80 inches or more.

In 80 percent of areas mapped as Garcon-Albany-Meadowbrook complex, 0 to 5 percent slopes, occasionally flooded, Garcon, Albany, Meadowbrook, and similar soils make up 80 to 100 percent of the map unit. Generally, the mapped areas are about 65 percent Garcon and similar soils, 20 percent Albany and similar soils, and 15 percent Meadowbrook and similar soils. Garcon and Albany soils are in the higher areas, and Meadowbrook soils are in the depressions. The Meadowbrook soil is on slopes that are less than 2 percent. The components of this map unit are so intricately intermingled that it was not practical to map them separately. The proportions and patterns of Garcon, Albany, and Meadowbrook soils and similar soils are relatively consistent in most delineations of the map unit.

Soils that have dissimilar characteristics make up about 0 to 20 percent of the map unit. In 0 to 20 percent of the mapped areas, the dissimilar soils make up more than 20 percent of the unit. The dissimilar soils included in mapping are small areas of Blanton, Leon, Mandarin, and Ortega soils. Individual areas of inclusions are smaller than 5 acres in size. Mandarin and Leon soils have an organic-coated subsoil at a depth of 20 to 30 inches. Leon soils are also poorly drained and are on low parts of the landform. Blanton-Mandarin, and Ortega soils are moderately well drained and are on the higher parts of the landform.

A seasonal high water table is at a depth of 18 to 36 inches in the Garcon soils and at a depth of 12 to 30 inches in the Albany soil for 1 to 3 months during wet periods in most years. It recedes to a depth of more than 30 inches during dry periods. A seasonal high water table is above the

Lafayette Blue Springs State Park

Soils Descriptions

surface of the Meadowbrook soil for 6 to 9 months during wet periods in most years. It recedes to a depth of more than 12 inches during dry periods. Flooding occurs in areas of the Garcon and Albany soils several times during a 10-year span. The duration and extent of flooding are variable, and they are directly related to the intensity and frequency of rainfall. The flooding occurs for less than 7 days in areas of the Garcon and Albany soils and for a few weeks to several months in areas of the Meadowbrook, depression, soil. The excess water ponds in the lowest areas of the Meadowbrook soil. The available water capacity is low in the Garcon, Albany, and Meadowbrook soils. Permeability is moderate in the Garcon soil and moderately slow to moderate in the Albany and Meadowbrook soils.

(54) Garcon-Eunola complex, 2 to 5 percent slopes, occasionally flooded – The nearly level, somewhat poorly drained and moderately well drained soils are on terraces along the Suwannee River. Some areas are isolated by meandering stream channels. The mapped areas are irregular in shape and range from about 20 to more than 150 acres in size. The slope is nearly smooth to convex.

Typically, the surface layer of the Garcon soil is dark gray fine sand about 6 inches thick. The subsurface layer is fine sand, and it extends to a depth of 23 inches. The upper 10 inches is brown, and the lower 7 inches is very pale brown. The subsoil is sandy clay loam and sandy loam to a depth of 58 inches. The upper 15 inches is brownish yellow sandy clay loam, and the lower 20 inches is light brownish gray sandy loam. Below this to a depth is white fine sand to a depth of 80 inches or more.

Typically, the surface layer of the Eunola soil is very dark grayish brown fine sand about 6 inches thick. The subsurface layer is pale brown fine sand to a depth of 15 inches. The subsoil is sandy clay loam and sandy loam to a depth of 55 inches. The upper part is yellowish red, the next part is strong brown, and the lower part is yellowish red sandy loam. The underlying material is very pale brown fine sand to a depth of 80 inches or more.

In 80 percent of areas mapped as Garcon-Eunola complex, 2 to 5 percent slopes, occasionally flooded, Garcon and Eunola soils and similar soils make up 80 to 100 percent of the map unit. Generally, the mapped areas are about 65 percent Garcon and similar soils and 30 percent Eunola and similar soils. The components of this map unit are so intricately intermingled that it was not practical to map them separately. The proportions and patterns of Garcon and Eunola soils and similar soils are relatively consistent in most delineations of the map unit.

Soils that have dissimilar characteristics make up about 0 to 20 percent of the map unit. In 0 to 20 percent of the mapped areas, the dissimilar soils make up more than 20 percent of the unit. The dissimilar soils included in mapping are small areas of Blanton, Mandarin, and Ortega soils. Individual areas of inclusions are small than 5 acres in size. Mandarin soils have an organic-coated subsoil at a depth of 20 to 30 inches. Blanton and Ortega soils are moderately well drained and are on the higher parts of the landscape. Blanton soils have a sandy epipedon at a depth of 40 to 80 inches, and Ortega soils are sandy to a depth of 80 inches or more.

A seasonal high water table is at a depth of 18 to 36 inches in the Garcon soil and at a depth of 18 to 30 inches in the Eunola soil for 1 to 3 months during wet periods in most years. It recedes

Lafayette Blue Springs State Park

Soils Descriptions

to a depth of more than 30 inches during dry periods. Flooding occurs in areas of the Garcon and Eunola soils several times during a 10-year span. The duration and extent of flooding are variable, and they are directly related to the intensity and frequency of rainfall. The flooding occurs for less than 7 days in areas of the Garcon and Eunola soils. The available water capacity is low in both of these soils. Permeability is moderate.

Lafayette Blue Springs State Park

Soils Descriptions

Addendum 4—Plant And Animal List

Lafayette Blue Springs State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
PTERIDOPHYTES		
Ebony spleenwort	<i>Asplenium platyneuron</i>	
Japanese climbing fern *	<i>Lygodium japonicum</i>	
Royal fern	<i>Osmunda regalis</i>	31
Resurrection fern	<i>Polypodium polypodioides</i>	
Bracken fern	<i>Pteridium aquilinum</i>	
GYMNOSPERMS		
Red cedar	<i>Juniperus virginiana</i>	
Slash pine	<i>Pinus elliottii</i>	
Loblolly pine	<i>Pinus taeda</i>	
Pond-cypress	<i>Taxodium ascendens</i>	
Bald-cypress	<i>Taxodium distichum</i>	
ANGIOSPERMS		
Monocots		
Andropogon	<i>Andropogon</i> sp.	
Longleaf chasmanthium	<i>Chasmanthium laxum</i> var. <i>sessiliflorum</i>	
Flatsedge	<i>Cyperus</i> spp.	
Baldwin's flatsedge	<i>Cyperus croceus</i>	
Manyspike flatsedge	<i>Cyperus polystachyos</i>	
Pinebarren flatsedge	<i>Cyperus retrorsus</i>	
Witchgrass	<i>Dicanthelium</i> spp.	
Variable witchgrass	<i>Dichanthelium commutatum</i>	
Barnyardgrass *	<i>Echinochloa crusgalli</i>	
Common waterhyacinth *	<i>Eichhornia crassipes</i>	
Centipedegrass *	<i>Eremochloa ophiuroides</i>	
Umbrellasedge	<i>Fuirena</i> sp.	
Cogongrass *	<i>Imperata cylindrica</i>	
Woodgrass	<i>Oplismenus hirtellus</i>	
Panicum	<i>Panicum</i> sp.	
Beaked panicum	<i>Panicum anceps</i>	
Bahiagrass *	<i>Paspalum notatum</i>	
Thin paspalum	<i>Paspalum setaceum</i>	
Cabbage palm	<i>Sabal palmetto</i>	
Saw palmetto	<i>Serenoa repens</i>	
Yellow bristlegrass	<i>Setaria parviflora</i>	
Earleaf greenbrier	<i>Smilax auriculata</i>	
Saw greenbrier	<i>Smilax bona-nox</i>	
Saw-brier	<i>Smilax glauca</i>	

* Non-native Species

Lafayette Blue Springs State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Smutgrass *	<i>Sporobolus indicus</i> var. <i>indicus</i>	
Spanish moss	<i>Tillandsia usneoides</i>	
Tridens	<i>Tridens</i> sp.	
Adam's needle	<i>Yucca filamentosa</i>	
Dicots		
Red maple	<i>Acer rubrum</i>	
False foxglove	<i>Agalinis</i> sp.	
Common ragweed	<i>Ambrosia artemisiifolia</i>	
False indigo	<i>Amorpha fruticosa</i>	
Pepper vine	<i>Ampelopsis arborea</i>	
Wax begonia *	<i>Begonia cucullata</i>	
River birch	<i>Betula nigra</i>	
Common beggarticks	<i>Bidens alba</i> var. <i>radiata</i>	
Cross vine	<i>Bignonia capreolata</i>	
False nettle	<i>Boehmeria cylindrica</i>	
American beautyberry	<i>Callicarpa americana</i>	
Trumpet vine	<i>Campsis radicans</i>	
Mockernut hickory	<i>Carya alba</i>	
Water hickory	<i>Carya aquatica</i>	
Pignut hickory	<i>Carya glabra</i>	
Sugarberry	<i>Celtis laevigata</i>	
Spurred butterfly pea	<i>Centrosema virginianum</i>	
Redbud	<i>Cercis canadensis</i>	
Sensitive pea	<i>Chamaecrista nictitans</i>	
White fringetree	<i>Chionanthus virginicus</i>	
Virginsbower	<i>Clematis virginiana</i>	
Blue mistflower	<i>Conoclinium coelestinum</i>	
Dwarf Canadian horseweed	<i>Conyza canadensis</i> var. <i>pusilla</i>	
Roughleaf dogwood	<i>Cornus asperifolia</i>	
Flowering dogwood	<i>Cornus florida</i>	
Parsley hawthorn	<i>Crataegus marshallii</i>	
Green hawthorn	<i>Crataegus viridis</i>	
Rabbitbells	<i>Crotalaria rotundifolia</i>	
Mint	<i>Dicerandra</i> sp.	
Carolina ponysfoot	<i>Dichondra caroliniensis</i>	
Poor joe	<i>Diodia teres</i>	
Virginia buttonweed	<i>Diodia virginiana</i>	
Common persimmon	<i>Diospyros virginiana</i>	
False daisy	<i>Eclipta prostrata</i>	
Tall elephantsfoot	<i>Elephantopus elatus</i>	
American burnweed	<i>Erechtites hieracifolia</i>	
Dogfennel	<i>Eupatorium capillifolium</i>	

* Non-native Species

Lafayette Blue Springs State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Water locust	<i>Gleditsia aquatica</i>	
Camphorweed	<i>Heterotheca subaxillaris</i>	
Comfortroot	<i>Hibiscus aculeatus</i>	
Pennywort	<i>Hydrocotyle</i> sp.	
Manyflower Marshpennywort	<i>Hydrocotyle umbellata</i>	
St. Andrew's-cross	<i>Hypericum hypericoides</i>	
Tropical bushmint *	<i>Hyptis mutabilis</i>	
Possumhaw	<i>Ilex decidua</i>	
American holly	<i>Ilex opaca</i>	
Yaupon	<i>Ilex vomitoria</i>	
Morningglory	<i>Ipomoea</i> sp.	
Virginia willow	<i>Itea virginica</i>	
Sweetgum	<i>Liquidambar styraciflua</i>	
Coral honeysuckle	<i>Lonicera sempervirens</i>	
Creeping primrosewillow	<i>Ludwigia repens</i>	
Wingleaf primrosewillow	<i>Ludwigia decurrens</i>	
Snow squarestem	<i>Melanthera nivea</i>	
Partridgeberry	<i>Mitchella repens</i>	
Swamp hornpod	<i>Mitreola sessilifolia</i>	
Red mulberry	<i>Morus rubra</i>	
Wax myrtle	<i>Myrica cerifera</i>	
Swamp tupelo	<i>Nyssa sylvatica</i> var. <i>biflora</i>	
Blackgum	<i>Nyssa sylvatica</i> var. <i>sylvatica</i>	
Virginia creeper	<i>Parthenocissus quinquefolia</i>	
Red bay	<i>Persea borbonia</i>	
Turkey tanglefoot fogfruit	<i>Phyla nodiflora</i>	
Leafflower	<i>Phyllanthus</i> spp.	
American pokeweed	<i>Phytolacca americana</i>	
Camphorweed	<i>Pluchea camphorata</i>	
Rustweed	<i>Polypremum procumbens</i>	
Flatwoods plum	<i>Prunus umbellata</i>	
Florida mountainmint	<i>Pycnanthemum floridanum</i>	21, 82
Sand live oak	<i>Quercus geminata</i>	
Overcup oak	<i>Quercus lyrata</i>	
Sand post oak	<i>Quercus margaretta</i>	
Water oak	<i>Quercus nigra</i>	
Virginia live oak	<i>Quercus virginiana</i>	
Winged sumac	<i>Rhus copallinum</i>	
Tropical Mexican clover *	<i>Richardia brasiliensis</i>	
Southern dewberry	<i>Rubus trivialis</i>	
Lyreleaf sage	<i>Salvia lyrata</i>	
Pineland pimpernel	<i>Samolus valerandi</i> ssp. <i>parviflorus</i>	
Skullcap	<i>Scutellaria</i> sp.	

* Non-native Species

Lafayette Blue Springs State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Gulf sebastiana	<i>Sebastiania fruticosa</i>	
Indian hemp	<i>Sida rhombifolia</i>	
American black nightshade	<i>Solanum americanum</i>	
Canada goldenrod	<i>Solidago canadensis</i> var. <i>scabra</i>	
Chapman's goldenrod	<i>Solidago odora</i>	
Coastalplain dawnflower	<i>Stylisma patens</i>	
American snowbell	<i>Styrax americanus</i>	
Common sweetleaf	<i>Symplocos tinctoria</i>	
Eastern poison ivy	<i>Toxicodendron radicans</i>	
American elm	<i>Ulmus americana</i>	
Sparkleberry	<i>Vaccinium arboreum</i>	
Highbush blueberry	<i>Vaccinium corymbosum</i>	
Darrow's blueberry	<i>Vaccinium darrowii</i>	
Tall ironweed	<i>Vernonia angustifolia</i>	
Giant ironweed	<i>Vernonia gigantea</i>	
Possumhaw	<i>Viburnum nudum</i>	
Walter's viburnum	<i>Viburnum obovatum</i>	
Wandering cowpea *	<i>Vigna speciosa</i>	
Common blue violet	<i>Viola sororia</i>	
Summer grape	<i>Vitis aestivalis</i>	
Florida grape	<i>Vitis cinerea</i> var. <i>floridana</i>	
Muscadine	<i>Vitis rotundifolia</i>	
American wisteria	<i>Wisteria frutescens</i>	

* Non-native Species

Lafayette Blue Springs State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
ARTHROPODS		
Pallid cave crayfish	<i>Procambarus pallidus</i>	79
INSECTS		
Luna Moth	<i>Actias luna</i>	21
Velvet Ant	<i>Dasymutilla</i> sp.	21
Fire ant *	<i>Solenopsis saevissima</i>	82
FISH		
Striped mullet	<i>Mugil cephalus</i>	53, 55
Suwannee bass	<i>Micropterus notius</i>	53, 55
AMPHIBIANS		
Southern leopard frog	<i>Rana sphenoccephala</i>	31
Southern toad	<i>Bufo terrestris</i>	21
REPTILES		
Turtles		
Suwannee cooter	<i>Pseudemys concinna suwanniensis</i>	55
Lizards		
Ground skink	<i>Scincella lateralis</i>	21
Carolina anole	<i>Anolis carolinensis</i>	21
BIRDS		
Hawks, Eagles and Kites		
Red-shouldered Hawk	<i>Buteo lineatus</i>	21, 31
Vultures		
Turkey Vulture	<i>Cathartes aura</i>	OF
Doves		
Mourning Dove	<i>Zenaida macroura</i>	MTC
Common Ground-Dove	<i>Columbina passerina</i>	82
Swifts		
Chimney Swift	<i>Chaetura pelagica</i>	OF

* Non-native Species

Lafayette Blue Springs State Park

Animals

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (for all species)
Woodpeckers		
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	21
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	21
Downy Woodpecker	<i>Picoides pubescens</i>	21
Northern Flicker	<i>Colaptes auratus</i>	21, 82
Pileated Woodpecker	<i>Dryocopus pileatus</i>	21
Flycatchers		
Acadian Flycatcher	<i>Empidonax vireescens</i>	21
Eastern Phoebe	<i>Sayornis phoebe</i>	21, 82
Vireos		
White-eyed Vireo	<i>Vireo griseus</i>	21, 82
Blue-headed Vireo	<i>Vireo solitarius</i>	21
Jays and Crows		
Blue Jay	<i>Cyanocitta cristata</i>	MTC
American Crow	<i>Corvus brachyrhynchos</i>	MTC
Titmice, Chickadees		
Carolina Chickadee	<i>Poecile carolinensis</i>	21
Tufted Titmouse	<i>Baeolophus bicolor</i>	21
Wrens		
Carolina Wren	<i>Thryothorus ludovicianus</i>	MTC
House Wren	<i>Troglodytes aedon</i>	21, 82
Kinglets, etc.		
Ruby-crowned Kinglet	<i>Regulus calendula</i>	21, 82
Blue-gray Gnatcatcher	<i>Poliioptila caerulea</i>	21
Thrushes		
Hermit Thrush	<i>Catharus guttatus</i>	21
American Robin	<i>Turdus migratorius</i>	MTC
Mimic Thrushes		
Northern Mockingbird	<i>Mimus polyglottos</i>	MTC
Waxwings		
Cedar waxwing	<i>Bombycilla cedrorum</i>	21

Lafayette Blue Springs State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Warblers		
Northern Parula	<i>Parula americana</i>	21, 31
Yellow-throated Warbler	<i>Dendroica dominica</i>	21
Pine Warbler	<i>Dendroica pinus</i>	21
Black-and-white Warbler	<i>Mniotilta varia</i>	21
Cardinals, Grosbeaks, and Buntings		
Northern Cardinal	<i>Cardinalis cardinalis</i>	MTC
Sparrows, etc.		
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	21
MAMMALS		
Rodents		
Beaver	<i>Castor canadensis</i>	53
Gray squirrel	<i>Sciurus carolinensis</i>	MTC

Natural Community 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
Coastal Rockland Lake

Lacustrine--Continued

- 45** Flatwood/Prairie Lake
- 47** Marsh Lake
- 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 5—Designated Species List

Rank Explanations For FNAI Global Rank, FNAI State Rank, Federal Status And State Status

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 Game and Freshwater Fish Commission (animals), and the Florida Department of Agriculture and Consumer Services (plants), respectively.

FNAI GLOBAL RANK DEFINITIONS

- G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made 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 and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
- G4 = apparently secure globally (may be rare in parts of range)
- G5 = demonstrably secure globally
- GH = of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
- GX = believed to be extinct throughout range
- GXC = extirpated from the wild but still known from captivity or cultivation
- G#? = tentative rank (e.g., G2?)
- G#G# = range of rank; insufficient data to assign specific global rank (e.g., G2G3)
- G#T# = rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)
- G#Q = rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
- G#T#Q = same as above, but validity as subspecies or variety is questioned.
- GU = due to lack of information, no rank or range can be assigned (e.g., GUT2).
- G? = not yet ranked (temporary)
- S1 = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
- S2 = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
- S3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
- S4 = apparently secure in Florida (may be rare in parts of range)
- S5 = demonstrably secure in Florida
- SH = of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
- SX = believed to be extinct throughout range
- SA = accidental in Florida, i.e., not part of the established biota
- SE = an exotic species established in Florida may be native elsewhere in North America
- SN = regularly occurring, but widely and unreliably distributed; sites for conservation hard to determine
- SU = due to lack of information, no rank or range can be assigned (e.g., SUT2).
- S? = not yet ranked (temporary)
- N = Not currently listed, nor currently being considered for listing, by state or federal agencies.

LEGAL STATUS

FEDERAL (Listed by the U. S. Fish and Wildlife Service - USFWS)

- LE = Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.
- PE = Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.
- LT = Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.
- PT = Proposed for listing as Threatened Species.
- C = Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.
- E(S/A) = Endangered due to similarity of appearance.
- T(S/A) = Threatened due to similarity of appearance.

STATE

Animals (Listed by the Florida Fish and Wildlife Conservation Commission - FFWCC)

- LE = Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.
- LT = Listed as Threatened Species by the FFWCC. 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 as a consequence is destined or very likely to become an endangered species within the foreseeable future.
- LS = Listed as Species of Special Concern by the FFWCC. 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 which, in the foreseeable future, may result in its becoming a threatened species.

Plants (Listed by the Florida Department of Agriculture and Consumer Services - FDACS)

- LE = Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973, as amended.
- LT = Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered.

Lafayette Blue Springs State Park

Designated Species

Plants

Common Name/ <i>Scientific Name</i>	FDA	<u>Designated Species Status</u>	
		USFWS	FNAI
Royal fern <i>Osmunda regalis</i> var. <i>spectabilis</i>	CE		
Florida mountainmint <i>Pycnanthemum floridanum</i>	LT		

Lafayette Blue Springs State Park

Designated Species

Animals

Common Name/ <i>Scientific Name</i>	<u>Designated Species Status</u>		
	FFWCC	USFWS	FNAI
ARTHROPODS			
Pallid cave crayfish <i>Procambarus pallidus</i>			G2G3, S2S3
FISH			
Suwannee bass <i>Micropterus notius</i>	LS		G2G3, S2S3
REPTILES			
Suwannee cooter <i>Pseudemys concinna suwanniensis</i>	LS		G5T3, S3

Addendum 6—Priority Schedule And Cost Estimates

Lafayette Blue Springs State Park
Priority Schedule And Cost Estimates

Estimates are developed for the funding and staff resources needed to implement the management plan based on goals, objectives and priority management activities. Funding priorities for all state park management and development activities are reviewed each year as part of the Division's legislative budget process. The Division prepares an annual legislative budget request based on the priorities established for the entire state park system. The Division also aggressively pursues a wide range of other funds and staffing resources, such as grants, volunteers, and partnerships with agencies, local governments and the private sector for supplementing normal legislative appropriations to address unmet needs. The ability of the Division to implement the specific goals, objectives and priority actions identified in this plan will be determined by the availability of funding resources for these purposes.

1. Continue to monitor nitrate levels in the spring monthly. 0-10 years. Estimated Cost: \$70,000.
2. Identify the recharge area, or area of groundwater influence, for Lafayette Blue Spring, and determine point and non-point sources of nitrate pollution for the spring. 0-5 years. Estimated Cost: \$50,000.
3. Implement automated spring flow monitoring and data collection. 0-10 years. Estimated cost (based upon current USGS contractual costs with SRWMD): \$300,000.
4. Conduct a Phase I archaeological survey of the park. 0-2 years. Estimated Cost: \$25,000.
5. Conduct rare plant and animal surveys within the park. 0-2 years. Estimated Cost: \$15,000.
6. Develop and construct interpretive kiosks highlighting cultural resources and special features. 0-5 years. Estimated Cost: \$6,000.
7. Implement an exotics control program within the park. Conduct follow-up treatments of exotics subsequent to initial treatments. Continue to monitor the park for new infestations of exotic plants and animals. Map and treat infestations as needed. 0-10 years. Includes equipment and staff. Estimated Cost: \$10,000.

TOTAL ESTIMATED COST:

\$ 476,000.

Lafayette Blue Springs State Park
Priority Schedule And Cost Estimates

Capital Improvements **Estimated Cost**

Recreation Facilities

Boat Ramp.....	34,500.00
Cabin Area	990,000.00
Camping Area	600,000.00
Picnic And Swimming Area	349,250.00
River Camp/Primitive Group Camp.....	363,000.00
Snake Sink Interpretive Area.....	30,000.00

Support Facilities

Ranger Station.....	150,000.00
Residence/Maintenance Area.....	695,000.00
Parking Area	120,000.00
Road Improvements	57,000.00
Trails	113,620.00
Utilities.....	<u>200,000.00</u>

Total (Including Contingency) \$4,442,844.00

Addendum 7—Additional Information

FNAI Descriptions

DHR Cultural Management Statement

Descriptions Of Natural Communities Developed By FNAI

This summary presents the hierarchical classification and brief descriptions of 82 Natural Communities developed by Florida Natural Areas Inventory and identified as collectively constituting the original, natural biological associations of Florida.

A Natural Community is defined as a distinct and recurring assemblage of populations of plants, animals, fungi and microorganisms naturally associated with each other and their physical environment. For more complete descriptions, see Guide to the Natural Communities of Florida, available from Florida Department of Natural Resources.

The levels of the hierarchy are:

Natural Community Category - defined by hydrology and vegetation.

Natural Community Groups - defined by landform, substrate, and vegetation.

Natural Community Type - defined by landform and substrate; soil moisture condition; climate; fire; and characteristic vegetation.

TERRESTRIAL COMMUNITIES

XERIC UPLANDS
COASTAL UPLANDS
MESIC UPLANDS
ROCKLANDS
MESIC FLATLANDS

PALUSTRINE COMMUNITIES

WET FLATLANDS
SEEPAGE WETLANDS
FLOODPLAIN WETLANDS
BASIN WETLANDS

LACUSTRINE COMMUNITIES

RIVERINE COMMUNITIES

SUBTERRANEAN COMMUNITIES

MARINE/ESTUARINE COMMUNITIES

Definitions of Terms Used in Natural Community Descriptions

TERRESTRIAL - Upland habitats dominated by plants which are not adapted to anaerobic soil conditions imposed by saturation or inundation for more than 10% of the growing season.

XERIC UPLANDS - very dry, deep, well-drained hills of sand with xeric-adapted vegetation.

Sandhill - upland with deep sand substrate; xeric; temperate; frequent fire (2-5 years); longleaf pine and/or turkey oak with wiregrass understory.

Scrub - old dune with deep fine sand substrate; xeric; temperate or subtropical; occasional or rare fire (20 - 80 years); sand pine and/or scrub oaks and/or rosemary and lichens.

Xeric Hammock - upland with deep sand substrate; xeric-mesic; temperate or subtropical; rare or no fire; live oak and/or sand live oak and/or laurel oak and/or other oaks, sparkleberry, saw palmetto.

COASTAL UPLANDS - substrate and vegetation influenced primarily by such coastal (maritime) processes as erosion, deposition, salt spray, and storms.

Beach Dune - active coastal dune with sand substrate; xeric; temperate or subtropical; occasional or rare fire; sea oats and/or mixed salt-spray tolerant grasses and herbs.

Coastal Berm - old bar or storm debris with sand/shell substrate; xeric-mesic; subtropical or temperate; rare or no fire; buttonwood, mangroves, and/or mixed halophytic herbs and/or shrubs and trees.

Coastal Grassland - coastal flatland with sand substrate; xeric-mesic; subtropical or temperate;

Descriptions Of Natural Communities Developed By FNAI

occasional fire; grasses, herbs, and shrubs with or without slash pine and/or cabbage palm.

Coastal Rock Barren - flatland with exposed limestone substrate; xeric; subtropical; no fire; algae, mixed halophytic herbs and grasses, and/or cacti and stunted shrubs and trees.

Coastal Strand - stabilized coastal dune with sand substrate; xeric; subtropical or temperate; occasional or rare fire; dense saw palmetto and/or seagrape and/or mixed stunted shrubs, yucca, and cacti.

Maritime Hammock - stabilized coastal dune with sand substrate; xeric-mesic; subtropical or temperate; rare or no fire; mixed hardwoods and/or live oak.

Shell Mound - Indian midden with shell substrate; xeric-mesic; subtropical or temperate; rare or no fire; mixed hardwoods.

MESIC UPLANDS - dry to moist hills of sand with varying amounts of clay, silt or organic material; diverse mixture of broadleaved and needleleaved temperate woody species.

Bluff - steep slope with rock, sand, and/or clay substrate; hydric-xeric; temperate; sparse grasses, herbs and shrubs.

Slope Forest - steep slope on bluff or in sheltered ravine; sand/clay substrate; mesic-hydric; temperate; rare or no fire; magnolia, beech, spruce pine, Shumard oak, Florida maple, mixed hardwoods.

Upland Glade - upland with calcareous rock and/or clay substrate; hydric-xeric; temperate; sparse mixed grasses and herbs with occasional stunted trees and shrubs, e.g., eastern red cedar.

Upland Hardwood Forest - upland with sand/clay and/or calcareous substrate; mesic; temperate; rare or no fire; spruce pine, magnolia, beech, pignut hickory, white oak, and mixed hardwoods.

Upland Mixed Forest - upland with sand/clay substrate; mesic; temperate; rare or no fire; loblolly pine and/or shortleaf pine and/or laurel oak and/or magnolia and spruce pine and/or mixed hardwoods.

Upland Pine Forest - upland with sand/clay substrate; mesic-xeric; temperate; frequent or occasional fire; longleaf pine and/or loblolly pine and/or shortleaf pine, southern red oak, wiregrass.

ROCKLANDS - low, generally flat limestone outcrops with tropical vegetation; or limestone exposed through karst activities with tropical or temperate vegetation.

Pine Rockland - flatland with exposed limestone substrate; mesic-xeric; subtropical; frequent fire; south Florida slash pine, palms and/or hardwoods, and mixed grasses and herbs.

Rockland Hammock - flatland with limestone substrate; mesic; subtropical; rare or no fire; mixed tropical hardwoods, often with live oak.

Sinkhole - karst feature with steep limestone walls; mesic-hydric; subtropical or temperate; no fire; ferns, herbs, shrubs, and hardwoods.

MESIC FLATLANDS - flat, moderately well-drained sandy substrates with admixture of organic material, often with a hard pan.

Dry Prairie - flatland with sand substrate; mesic-xeric; subtropical or temperate; annual or frequent fire; wiregrass, saw palmetto, and mixed grasses and herbs.

Mesic Flatwoods - flatland with sand substrate; mesic; subtropical or temperate; frequent fire; slash pine and/or longleaf pine with saw palmetto, gallberry and/or wiregrass or cutthroat grass understory.

Prairie Hammock - flatland with sand/organic soil over marl or limestone substrate; mesic; subtropical; occasional or rare fire; live oak and/or cabbage palm.

Descriptions Of Natural Communities Developed By FNAI

Scrubby Flatwoods - flatland with sand substrate; xeric-mesic; subtropical or temperate; occasional fire; longleaf pine or slash pine with scrub oaks and wiregrass understory.

PALUSTRINE - Wetlands dominated by plants adapted to anaerobic substrate conditions imposed by substrate saturation or inundation during 10% or more of the growing season. Includes non-tidal wetlands; tidal wetlands with ocean derived salinities less than 0.5 ppt and dominance by salt-intolerant species; small (less than 8 ha), shallow (less than 2 m deep at low water) water bodies without wave-formed or bedrock shoreline; and inland brackish or saline wetlands.

WET FLATLANDS - flat, poorly drained sand, marl or limestone substrates.

Hydric Hammock - lowland with sand/clay/organic soil, often over limestone; mesic-hydric; subtropical or temperate; rare or no fire; water oak, cabbage palm, red cedar, red maple, bays, hackberry, hornbeam, blackgum, needle palm, and mixed hardwoods.

Marl Prairie - flatland with marl over limestone substrate; seasonally inundated; tropical; frequent to no fire; sawgrass, spikerush, and/or mixed grasses, sometimes with dwarf cypress.

Wet Flatwoods - flatland with sand substrate; seasonally inundated; subtropical or temperate; frequent fire; vegetation characterized by slash pine or pond pine and/or cabbage palm with mixed grasses and herbs.

Wet Prairie - flatland with sand substrate; seasonally inundated; subtropical or temperate; annual or frequent fire; maidencane, beakrush, spikerush, wiregrass, pitcher plants, St. John's wort, mixed herbs.

SEEPAGE WETLANDS - sloped or flat sands or peat with high moisture levels maintained by downslope seepage; wetland and mesic woody and/or herbaceous vegetation.

Baygall - wetland with peat substrate at base of slope; maintained by downslope seepage, usually saturated and occasionally inundated; subtropical or temperate; rare or no fire; bays and/or dahoon holly and/or red maple and/or mixed hardwoods.

Seepage Slope - wetland on or at base of slope with organic/sand substrate; maintained by downslope seepage, usually saturated but rarely inundated; subtropical or temperate; frequent or occasional fire; sphagnum moss, mixed grasses and herbs or mixed hydrophytic shrubs.

FLOODPLAIN WETLANDS - flat, alluvial sand or peat substrates associated with flowing water courses and subjected to flooding but not permanent inundation; wetland or mesic woody and herbaceous vegetation.

Bottomland Forest - flatland with sand/clay/organic substrate; occasionally inundated; temperate; rare or no fire; water oak, red maple, beech, magnolia, tuliptree, sweetgum, bays, cabbage palm, and mixed hardwoods.

Floodplain Forest - floodplain with alluvial substrate of sand, silt, clay or organic soil; seasonally inundated; temperate; rare or no fire; diamondleaf oak, overcup oak, water oak, swamp chestnut oak, blue palmetto, cane, and mixed hardwoods.

Floodplain Marsh - floodplain with organic/sand/alluvial substrate; seasonally inundated; subtropical; frequent or occasional fire; maidencane, pickerelweed, sagittaria spp., buttonbush, and mixed emergents.

Floodplain Swamp - floodplain with organic/alluvial substrate; usually inundated; subtropical or temperate; rare or no fire; vegetation characterized by cypress, tupelo, black gum, and/or pop ash.

Freshwater Tidal Swamp - river mouth wetland, organic soil with extensive root mat; inundated with freshwater in response to tidal cycles; rare or no fire; cypress, bays, cabbage palm, gums and/or cedars.

Descriptions Of Natural Communities Developed By FNAI

Slough - broad, shallow channel with peat over mineral substrate; seasonally inundated, flowing water; subtropical; occasional or rare fire; pop ash and/or pond apple or water lily.

Strand Swamp - broad, shallow channel with peat over mineral substrate; seasonally inundated, flowing water; subtropical; occasional or rare fire; cypress and/or willow.

Swale - broad, shallow channel with sand/peat substrate; seasonally inundated, flowing water; subtropical or temperate; frequent or occasional fire; sawgrass, maidencane, pickerelweed, and/or mixed emergents.

BASIN WETLANDS - shallow, closed basin with outlet usually only in time of high water; peat or sand substrate, usually inundated; wetland woody and/or herbaceous vegetation.

Basin Marsh - large basin with peat substrate; seasonally inundated; temperate or subtropical; frequent fire; sawgrass and/or cattail and/or buttonbush and/or mixed emergents.

Basin Swamp - large basin with peat substrate; seasonally inundated, still water; subtropical or temperate; occasional or rare fire; vegetation characterized by cypress, blackgum, bays and/or mixed hardwoods.

Bog - wetland on deep peat substrate; moisture held by sphagnum mosses, soil usually saturated, occasionally inundated; subtropical or temperate; rare fire; sphagnum moss and titi and/or bays and/or dahoon holly, and/or mixed hydrophytic shrubs.

Coastal Interdunal Swale - long narrow depression wetlands in sand/peat-sand substrate; seasonally inundated, fresh to brackish, still water; temperate; rare fire; graminoids and mixed wetland forbs.

Depression Marsh - small rounded depression in sand substrate with peat accumulating toward center; seasonally inundated, still water; subtropical or temperate; frequent or occasional fire; maidencane, fire flag, pickerelweed, and mixed emergents, may be in concentric bands.

Dome Swamp - rounded depression in sand/limestone substrate with peat accumulating toward center; seasonally inundated, still water; subtropical or temperate; occasional or rare fire; cypress, blackgum, or bays, often tallest in center.

LACUSTRINE - Non-flowing wetlands of natural depressions lacking persistent emergent vegetation except around the perimeter.

Clastic Upland Lake - generally irregular basin in clay uplands; predominantly with inflows, frequently without surface outflow; clay or organic substrate; colored, acidic, soft water with low mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

Coastal Dune Lake - basin or lagoon influenced by recent coastal processes; predominantly sand substrate with some organic matter; salinity variable among and within lakes, and subject to saltwater intrusion and storm surges; slightly acidic, hard water with high mineral content (sodium, chloride).

Coastal Rockland Lake - shallow basin influence by recent coastal processes; predominantly barren oolitic or Miami limestone substrate; salinity variable among and within lakes, and subject to saltwater intrusion, storm surges and evaporation (because of shallowness); slightly alkaline, hard water with high mineral content (sodium, chloride).

Flatwoods/Prairie Lake - generally shallow basin in flatlands with high water table; frequently with a broad littoral zone; still water or flow-through; sand or peat substrate; variable water chemistry, but characteristically colored to clear, acidic to slightly alkaline, soft to moderately hard water with moderate mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

Marsh lake - generally shallow, open water area within wide expanses of freshwater marsh; still water

Descriptions Of Natural Communities Developed By FNAI

or flow-through; peat, sand or clay substrate; occurs in most physiographic regions; variable water chemistry, but characteristically highly colored, acidic, soft water with moderate mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

River Floodplain Lake - meander scar, backwater, or larger flow-through body within major river floodplains; sand, alluvial or organic substrate; colored, alkaline or slightly acidic, hard or moderately hard water with high mineral content (sulfate, sodium, chloride, calcium, magnesium); mesotrophic to eutrophic.

Sandhill Upland Lake - generally rounded solution depression in deep sandy uplands or sandy uplands shallowly underlain by limestone; predominantly without surface inflows/outflows; typically sand substrate with organic accumulations toward middle; clear, acidic moderately soft water with varying mineral content; ultra-oligotrophic to mesotrophic.

Sinkhole Lake - typically deep, funnel-shaped depression in limestone base; occurs in most physiographic regions; predominantly without surface inflows/outflows, but frequently with connection to the aquifer; clear, alkaline, hard water with high mineral content (calcium, bicarbonate, magnesium).

Swamp Lake - generally shallow, open water area within basin swamps; still water or flow-through; peat, sand or clay substrate; occurs in most physiographic regions; variable water chemistry, but characteristically highly colored, acidic, soft water with moderate mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

RIVERINE - Natural, flowing waters from their source to the downstream limits of tidal influence and bounded by channel banks.

Alluvial Stream - lower perennial or intermittent/seasonal watercourse characterized by turbid water with suspended silt, clay, sand and small gravel; generally with a distinct, sediment-derived (alluvial) floodplain and a sandy, elevated natural levee just inland from the bank.

Blackwater Stream - perennial or intermittent/seasonal watercourse characterized by tea-colored water with a high content of particulate and dissolved organic matter derived from drainage through swamps and marshes; generally lacking an alluvial floodplain.

Seepage Stream - upper perennial or intermittent/seasonal watercourse characterized by clear to lightly colored water derived from shallow groundwater seepage.

Spring-run Stream - perennial watercourse with deep aquifer headwaters and characterized by clear water, circumneutral pH and, frequently, a solid limestone bottom.

SUBTERRANEAN - Twilight, middle and deep zones of natural chambers overlain by the earth's crust and characterized by climatic stability and assemblages of troglonec, troglophilic, and troglobitic organisms.

Aquatic Cave - cavernicolous area permanently or periodically submerged; often characterized by troglobitic crustaceans and salamanders; includes high energy systems which receive large quantities of organic detritus and low energy systems.

Terrestrial Cave - cavernicolous area lacking standing water; often characterized by bats, such as *Myotis* spp., and other terrestrial vertebrates and invertebrates; includes interstitial areas above standing water such as fissures in the ceiling of caves.

MARINE/ESTUARINE (The distinction between the Marine and Estuarine Natural Communities is often subtle, and the natural communities types found under these two community categories have the same

Descriptions Of Natural Communities Developed By FNAI

descriptions. For these reasons they have been grouped together.) - Subtidal, intertidal and supratidal zones of the sea, landward to the point at which seawater becomes significantly diluted with freshwater inflow from the land.

Consolidated Substrate - expansive subtidal, intertidal and supratidal area composed primarily of nonliving compacted or coherent and relatively hard, naturally formed mass of mineral matter (e.g., coquina limerock and relic reefs); octocorals, sponges, stony corals, nondrift macrophytic algae, blue-green mat-forming algae and seagrasses sparse, if present.

Unconsolidated Substrate - expansive subtidal, intertidal and supratidal area composed primarily of loose mineral matter (e.g., coralgall, gravel, marl, mud, sand and shell); octocorals, sponges, stony corals, nondrift macrophytic algae, blue-green mat-forming algae and seagrasses sparse, if present.

Octocoral Bed - expansive subtidal area occupied primarily by living sessile organisms of the Class Anthozoa, Subclass Octocorallia (e.g., soft corals, horny corals, sea fans, sea whips, and sea pens); sponges, stony corals, nondrift macrophytic algae and seagrasses sparse, if present.

Sponge Bed - expansive subtidal area occupied primarily by living sessile organisms of the Phylum Porifera (e.g., sheepswool sponge, Florida loggerhead sponge and branching candle sponge); octocorals, stony corals, nondrift macrophytic algae and seagrasses sparse, if present.

Coral Reef - expansive subtidal area with elevational gradient or relief and occupied primarily by living sessile organisms of the Class Hydrozoa (e.g., fire corals and hydrocorals) and Class Anthozoa, Subclass Zoantharia (e.g., stony corals and black corals); includes deepwater bank reefs, fringing barrier reefs, outer bank reefs and patch reefs, some of which may contain distinct zones of assorted macrophytes, octocorals, & sponges.

Mollusk Reef - substantial subtidal or intertidal area with relief from concentrations of sessile organisms of the Phylum Mollusca, Class Bivalvia (e.g., molluscs, oysters, & worm shells); octocorals, sponges, stony corals, macrophytic algae and seagrasses sparse, if present.

Worm Reef - substantial subtidal or intertidal area with relief from concentrations of sessile, tubicolous organisms of the Phylum Annelida, Class Polychaeta (e.g., chaetopterids and sabellarids); octocorals, sponges, stony corals, macrophytic algae and seagrasses sparse, if present.

Algal Bed - expansive subtidal, intertidal or supratidal area, occupied primarily by attached thallophytic or mat-forming prokaryotic algae (e.g., halimeda, blue-green algae); octocorals, sponges, stony corals and seagrasses sparse, if present.

Grass Bed - expansive subtidal or intertidal area, occupied primarily by rooted vascular macrophytes, (e.g., shoal grass, halophila, widgeon grass, manatee grass and turtle grass); may include various epiphytes and epifauna; octocorals, sponges, stony corals, and attached macrophytic algae sparse, if present.

Composite Substrate - expansive subtidal, intertidal, or supratidal area, occupied primarily by Natural Community elements from more than one Natural Community category (e.g., Grass Bed and Algal Bed species; Octocoral and Algal Bed species); includes both patchy and evenly distributed occurrences.

Tidal Marsh - expansive intertidal or supratidal area occupied primarily by rooted, emergent vascular macrophytes (e.g., cord grass, needlerush, saw grass, saltwort, saltgrass and glasswort); may include various epiphytes and epifauna.

Tidal Swamp - expansive intertidal and supratidal area occupied primarily by woody vascular macrophytes (e.g., black mangrove, buttonwood, red mangrove, and white mangrove); may include various epiphytes and epifauna.

DEFINITIONS OF TERMS Terrestrial and Palustrine Natural Communities

Descriptions Of Natural Communities Developed By FNAI

Physiography

Upland - high area in region with significant topographic relief; generally undulating

Lowland - low area in region with or without significant topographic relief; generally flat to gently sloping

Flatland - generally level area in region without significant topographic relief; flat to gently sloping

Basin - large, relatively level lowland with slopes confined to the perimeter or isolated interior locations

Depression - small depression with sloping sides, deepest in center and progressively shallower towards the perimeter

Floodplain - lowland adjacent to a stream; topography influenced by recent fluvial processes

Bottomland - lowland not on active floodplain; sand/clay/organic substrate

Hydrology

occasionally inundated - surface water present only after heavy rains and/or during flood stages

seasonally inundated - surface water present during wet season and flood periods

usually inundated - surface water present except during droughts

Climatic Affinity of the Flora

tropical - community generally occurs in practically frost-free areas

subtropical - community generally occurs in areas that experience occasional frost, but where freezing temperatures are not frequent enough to cause true winter dormancy

temperate - community generally occurs in areas that freeze often enough that vegetation goes into winter dormancy

Fire

annual fire - burns about every 1-2 years

frequent fire - burns about every 3-7 years

occasional fire - burns about every 8-25 years

rare fire - burns about every 26-100 years

no fire - community develops only when site goes more than 100 years without burning

LATIN NAMES OF PLANTS MENTIONED IN NATURAL COMMUNITY DESCRIPTIONS

anise - *Illicium floridanum*
bays:
 swamp bay - *Persea palustris*
 gordonia - *Gordonia lasianthus*
 sweetbay - *Magnolia virginiana*
beakrush - *Rhynchospora* spp.
beech - *Fagus grandifolia*
blackgum - *Nyssa biflora*
blue palmetto - *Sabal minor*
bluestem - *Andropogon* spp.
buttonbush - *Cephalanthus occidentalis*
cabbage palm - *Sabal palmetto*
cacti - *Opuntia* and *Harrisia* spp.,
 predominantly *stricta* and *pentagonus*
cane - *Arundinaria gigantea* or *A. tecta*
cattail - *Typha* spp.
cedars:
 red cedar - *Juniperus silicicola*
 white cedar - *Chamaecyparis thyoides* or
 C. henryi
cladonia - *Cladonia* spp.
cypress - *Taxodium distichum*
dahoon holly - *Ilex cassine*
diamondleaf oak - *Quercus laurifolia*
fire flag - *Thalia geniculata*
Florida maple - *Acer barbatum*
gallberry - *Ilex glabra*
gums:
 tupelo - *Nyssa aquatica*
 blackgum - *Nyssa biflora*
 Ogeechee gum - *Nyssa ogeche*
hackberry - *Celtis laevigata*
hornbeam - *Carpinus caroliniana*
laurel oak - *Quercus hemisphaerica*
live oak - *Quercus virginiana*
loblolly pine - *Pinus taeda*
longleaf pine - *Pinus palustris*
magnolia - *Magnolia grandiflora*
maidencane - *Panicum hemitomon*
needle palm - *Rhapidophyllum hystrix*
overcup oak - *Quercus lyrata*
pickerel weed - *Pontederia cordata* or *P. lanceolata*
pignut hickory - *Carya glabra*
pop ash - *Fraxinus caroliniana*
pond apple - *Annona glabra*
pond pine - *Pinus serotina*
pyramid magnolia - *Magnolia pyramidata*
railroad vine - *Ipomoea pes-caprae*
red cedar - *Juniperus silicicola*
red maple - *Acer rubrum*
red oak - *Quercus falcata*
rosemary - *Ceratiola ericoides*
sagittaria - *Sagittaria lancifolia*
sand pine - *Pinus clausa*
saw palmetto - *Serenoa repens*
sawgrass - *Cladium jamaicensis*
scrub oaks - *Quercus geminata*, *Q. chapmanii*, *Q. myrtifolia*, *Q. inopina*
sea oats - *Uniola paniculata*
seagrape - *Coccoloba uvifera*
shortleaf pine - *Pinus echinata*
Shumard oak - *Quercus shumardii*
slash pine - *Pinus elliotii*
sphagnum moss - *Sphagnum* spp.
spikerush - *Eleocharis* spp.
spruce pine - *Pinus glabra*
St. John's wort - *Hypericum* spp.
swamp chestnut oak - *Quercus prinus*
sweetgum - *Liquidambar styraciflua*
titi - *Cyrilla racemiflora*, and *Cliftonia monophylla*
tuliptree - *Liriodendron tulipifera*
tupelo - *Nyssa aquatica*
turkey oak - *Quercus laevis*
water oak - *Quercus nigra*
waterlily - *Nymphaea odorata*
white cedar - *Chamaecyparis thyoides*
white oak - *Quercus alba*
willow - *Salix caroliniana*
yucca - *Yucca aloifolia*

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A. GENERAL DISCUSSION

Archaeological and historic sites are defined collectively in 267.021(3), F.S., as "historic properties" or "historic resources." They have several essential characteristics that must be recognized in a management program.

First of all, they are a finite and non-renewable resource. Once destroyed, presently existing resources, including buildings, other structures, shipwreck remains, archaeological sites and other objects of antiquity, cannot be renewed or revived. Today, sites in the State of Florida are being destroyed by all kinds of land development, inappropriate land management practices, erosion, looting, and to a minor extent even by well-intentioned professional scientific research (e.g., archaeological excavation). Measures must be taken to ensure that some of these resources will be preserved for future study and appreciation.

Secondly, sites are unique because individually they represent the tangible remains of events that occurred at a specific time and place.

Thirdly, while sites uniquely reflect localized events, these events and the origin of particular sites are related to conditions and events in other times and places. Sites can be understood properly only in relation to their natural surroundings and the activities of inhabitants of other sites. Managers must be aware of this "systemic" character of historic and archaeological sites. Also, it should be recognized that archaeological sites are time capsules for more than cultural history; they preserve traces of past biotic communities, climate, and other elements of the environment that may be of interest to other scientific disciplines.

Finally, the significance of sites, particularly archaeological ones, derives not only from the individual artifacts within them, but equally from the spatial arrangement of those artifacts in both horizontal and vertical planes. When archaeologists excavate, they recover, not merely objects, but also a record of the positions of these objects in relation to one another and their containing matrix (e.g., soil strata). Much information is sacrificed if the so-called "context" of archaeological objects is destroyed or not recovered, and this is what archaeologists are most concerned about when a site is threatened with destruction or damage. The artifacts themselves can be recovered even after a site is heavily disturbed, but the context -- the vertical and horizontal relationships -- cannot. Historic structures also contain a wealth of cultural (socio-economic) data that can be lost if historically sensitive maintenance, restoration or rehabilitation procedures are not implemented, or if they are demolished or extensively altered without appropriate documentation. Lastly, it should not be forgotten that historic structures often have associated potentially significant historic archaeological features that must be considered in land management decisions.

B. STATUTORY AUTHORITY

Chapter 253, Florida Statutes ("State Lands") directs the preparation of "single-use" or "multiple-use" land management plans for all state-owned lands and state-owned sovereignty submerged lands. In this document, 253.034(4), F.S., specifically requires that "all management plans, whether for single-use or multiple-use properties, shall specifically describe how the managing agency plans to identify, locate, protect and preserve, or otherwise use fragile non-renewable resources, such as archaeological and historic sites, as well as other fragile resources..."

Chapter 267, Florida Statutes is the primary historic preservation authority of the state. The importance of protecting and interpreting archaeological and historic sites is recognized in 267.061(1)(a), F.S.:The rich and unique heritage of historic properties in this state, representing more than 10,000 years of human presence, is an important legacy to be valued and conserved for present and future generations. The destruction of these nonrenewable historic resources will engender a significant loss to the state's quality of life, economy, and cultural environment. It is therefore declared to be state policy to:

1. Provide leadership in the preservation of the state's historic resources; [and]

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2. Administer state-owned or state-controlled historic resources in a spirit of stewardship and trusteeship;...

Responsibilities of the Division of Historical Resources in the Department of State pursuant to 267.061(3), F.S., include the following:

1. Cooperate with federal and state agencies, local Governments, and private organizations and individuals to direct and conduct a comprehensive statewide survey of historic resources and to maintain an inventory of such responses.
2. Develop a comprehensive statewide historic preservation plan.
3. Identify and nominate eligible properties to the National Register of Historic Places and otherwise administer applications for listing properties in the National Register of Historic Places.
4. Cooperate with federal and state agencies, local governments, and organizations and individuals to ensure that historic resources are taken into consideration at all levels of planning and development.
5. Advise and assist, as appropriate, federal and state agencies and local governments in carrying out their historic preservation responsibilities and programs.
6. Carry out on behalf of the state the programs of the National Historic Preservation Act of 1966, as amended, and to establish, maintain, and administer a state historic preservation program meeting the requirements of an approved program and fulfilling the responsibilities of state historic preservation programs as provided in subsection 101(b) of that act.
7. Take such other actions necessary or appropriate to locate, acquire, protect, preserve, operate, interpret, and promote the location, acquisition, protection, preservation, operation, and interpretation of historic resources to foster an appreciation of Florida history and culture. Prior to the acquisition, preservation, interpretation, or operation of a historic property by a state agency, the Division shall be provided a reasonable opportunity to review and comment on the proposed undertaking and shall determine that there exists historic authenticity and a feasible means of providing for the preservation, interpretation and operation of such property.
8. Establish professional standards for the preservation, exclusive of acquisition, of historic resources in state ownership or control.
9. Establish guidelines for state agency responsibilities under subsection (2).

Responsibilities of other state agencies of the executive branch, pursuant to 267.061(2), F.S., include:

1. Each state agency of the executive branch having direct or indirect jurisdiction over a proposed state or state-assisted undertaking shall, in accordance with state policy and prior to the approval of expenditure of any state funds on the undertaking, consider the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the National Register of Historic Places. Each such agency shall afford the division a reasonable opportunity to comment with regard to such an undertaking.
2. Each state agency of the executive branch shall initiate measures in consultation with the division to assure that where, as a result of state action or assistance carried out by such agency, a historic property is to be demolished or substantially altered in a way that adversely affects the character, form, integrity, or other qualities that contribute to [the] historical, architectural, or archaeological value of the property, timely steps are taken to determine that no feasible and prudent alternative to the proposed demolition or alteration exists, and, where no such alternative is determined to exist, to assure that timely steps are taken either to avoid or mitigate the adverse effects, or to undertake an appropriate archaeological salvage excavation or other recovery action to document the property as it existed prior to demolition or alteration.
3. In consultation with the division [of Historical Resources], each state agency of the executive branch shall establish a program to locate, inventory, and evaluate all historic properties under the agency's ownership or control that appear to qualify for the National Register. Each such agency shall exercise caution to assure that any such historic property is not inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate significantly.
4. Each state agency of the executive branch shall assume responsibility for the preservation of historic

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resources that are owned or controlled by such agency. Prior to acquiring, constructing, or leasing buildings for the purpose of carrying out agency responsibilities, the agency shall use, to the maximum extent feasible, historic properties available to the agency. Each agency shall undertake, consistent with preservation of such properties, the mission of the agency, and the professional standards established pursuant to paragraph (3)(k), any preservation actions necessary to carry out the intent of this paragraph.

5. Each state agency of the executive branch, in seeking to acquire additional space through new construction or lease, shall give preference to the acquisition or use of historic properties when such acquisition or use is determined to be feasible and prudent compared with available alternatives. The acquisition or use of historic properties is considered feasible and prudent if the cost of purchase or lease, the cost of rehabilitation, remodeling, or altering the building to meet compliance standards and the agency's needs, and the projected costs of maintaining the building and providing utilities and other services is less than or equal to the same costs for available alternatives. The agency shall request the division to assist in determining if the acquisition or use of a historic property is feasible and prudent. Within 60 days after making a determination that additional space is needed, the agency shall request the division to assist in identifying buildings within the appropriate geographic area that are historic properties suitable for acquisition or lease by the agency, whether or not such properties are in need of repair, alteration, or addition.
6. Consistent with the agency's mission and authority, all state agencies of the executive branch shall carry out agency programs and projects, including those under which any state assistance is provided, in a manner which is generally sensitive to the preservation of historic properties and shall give consideration to programs and projects which will further the purposes of this section.

Section 267.12 authorizes the Division to establish procedures for the granting of research permits for archaeological and historic site survey or excavation on state-owned or controlled lands, while Section 267.13 establishes penalties for the conduct of such work without first obtaining written permission from the Division of Historical Resources. The Rules of the Department of State, Division of Historical Resources, for research permits for archaeological sites of significance are contained in Chapter 1A-32, F.A.C.

Another Florida Statute affecting land management decisions is Chapter 872, F.S. Section 872.02, F.S., pertains to marked grave sites, regardless of age. Many state-owned properties contain old family and other cemeteries with tombstones, crypts, etc. Section 872.05, F.S., pertains to unmarked human burial sites, including prehistoric and historic Indian burial sites. Unauthorized disturbance of both marked and unmarked human burial site is a felony.

C. MANAGEMENT POLICY

The choice of a management policy for archaeological and historic sites within state-owned or controlled land obviously depends upon a detailed evaluation of the characteristics and conditions of the individual sites and groups of sites within those tracts. This includes an interpretation of the significance (or potential significance) of these sites, in terms of social and political factors, as well as environmental factors. Furthermore, for historic structures architectural significance must be considered, as well as any associated historic landscapes.

Sites on privately owned lands are especially vulnerable to destruction, since often times the economic incentives for preservation are low compared to other uses of the land areas involved. Hence, sites in public ownership have a magnified importance, since they are the ones with the best chance of survival over the long run. This is particularly true of sites that are state-owned or controlled, where the basis of management is to provide for land uses that are minimally destructive of resource values.

It should be noted that while many archaeological and historical sites are already recorded within state--owned or controlled--lands, the majority of the uplands areas and nearly all of the inundated areas have not been surveyed to locate and assess the significance of such resources. The known sites are, thus,

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only an incomplete sample of the actual resources - i.e., the number, density, distribution, age, character and condition of archaeological and historic sites - on these tracts. Unfortunately, the lack of specific knowledge of the actual resources prevents formulation of any sort of detailed management or use plan involving decisions about the relative historic value of individual sites. For this reason, a generalized policy of conservation is recommended until the resources have been better addressed.

The generalized management policy recommended by the Division of Historical Resources includes the following:

1. State land managers shall coordinate all planned activities involving known archaeological or historic sites or potential site areas closely with the Division of Historical Resources in order to prevent any kind of disturbance to significant archaeological or historic sites that may exist on the tract. Under 267.061(1)(b), F.S., the Division of Historical Resources is vested with title to archaeological and historic resources abandoned on state lands and is responsible for administration and protection of such resources. The Division will cooperate with the land manager in the management of these resources. Furthermore, provisions of 267.061(2) and 267.13, F.S., combined with those in 267.061(3) and 253.034(4), F.S., require that other managing (or permitting) agencies coordinate their plans with the Division of Historical Resources at a sufficiently early stage to preclude inadvertent damage or destruction to known or potentially occurring, presently unknown archaeological and historic sites. The provisions pertaining to human burial sites must also be followed by state land managers when such remains are known or suspected to be present (see 872.02 and 872.05, F.S., and 1A-44, F.A.C.)
2. Since the actual resources are so poorly known, the potential impact of the managing agency's activities on historic archaeological sites may not be immediately apparent. Special field survey for such sites may be required to identify the potential endangerment as a result of particular management or permitting activities. The Division may perform surveys, as its resources permit, to aid the planning of other state agencies in their management activities, but outside archaeological consultants may have to be retained by the managing agency. This would be especially necessary in the cases of activities contemplating ground disturbance over large areas and unexpected occurrences. It should be noted, however, that in most instances Division staff's knowledge of known and expected site distribution is such that actual field surveys may not be necessary, and the project may be reviewed by submitting a project location map (preferably a 7.5 minute U.S.G.S. Quadrangle map or portion thereof) and project descriptive data, including detailed construction plans. To avoid delays, Division staff should be contacted to discuss specific project documentation review needs.
3. In the case of known significant sites, which may be affected by proposed project activities, the managing agency will generally be expected to alter proposed management or development plans, as necessary, or else make special provisions to minimize or mitigate damage to such sites.
4. If in the course of management activities, or as a result of development or the permitting of dredge activities (see 403.918(2)(6)a, F.S.), it is determined that valuable historic or archaeological sites will be damaged or destroyed, the Division reserves the right, pursuant to 267.061(1)(b), F.S., to require salvage measures to mitigate the destructive impact of such activities to such sites. Such salvage measures would be accomplished before the Division would grant permission for destruction of the affected site areas. The funding needed to implement salvage measures would be the responsibility of the managing agency planning the site destructive activity. Mitigation of historic structures at a minimum involves the preparation of measured drawings and documentary photographs. Mitigation of archaeological resources involves the excavation, analysis and reporting of the project findings and must be planned to occur sufficiently in advance to avoid project construction delays. If these services are to be contracted by the state agency, the selected consultant will need to obtain an Archaeological Research Permit from the Division of Historical Resources, Bureau of Archaeological Research (see 267.12, F.S. and Rules 1A-32 and 1A-46 F.A.C.).
5. For the near future, excavation of non-endangered (i.e., sites not being lost to erosion or development) archaeological site is discouraged. There are many endangered sites in Florida (on

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both private and public lands) in need of excavation because of the threat of development or other factors. Those within state-owned or controlled lands should be left undisturbed for the present - with particular attention devoted to preventing site looting by "treasure hunters". On the other hand, the archaeological and historic survey of these tracts is encouraged in order to build an inventory of the resources present, and to assess their scientific research potential and historic or architectural significance.

6. The cooperation of land managers in reporting sites to the Division that their field personnel may discover is encouraged. The Division will help inform field personnel from other resource managing agencies about the characteristics and appearance of sites. The Division has initiated a cultural resource management training program to help accomplish this. Upon request the Division will also provide to other agencies archaeological and historical summaries of the known and potentially occurring resources so that information may be incorporated into management plans and public awareness programs (See Management Implementation).
7. Any discovery of instances of looting or unauthorized destruction of sites must be reported to the agent for the Board of Trustees of the Internal Improvement Trust Fund and the Division so that appropriate action may be initiated. When human burial sites are involved, the provisions of 872.02 and 872.05, F. S. and Rule 1A-44, F.A.C., as applicable, must also be followed. Any state agent with law enforcement authority observing individuals or groups clearly and incontrovertibly vandalizing, looting or destroying archaeological or historic sites within state-owned or controlled lands without demonstrable permission from the Division will make arrests and detain those individuals or groups under the provisions of 267.13, 901.15, and 901.21, F.S., and related statutory authority pertaining to such illegal activities on state-owned or controlled lands. County Sheriffs' officers are urged to assist in efforts to stop and/or prevent site looting and destruction.

In addition to the above management policy for archaeological and historic sites on state-owned land, special attention shall be given to those properties listed in the National Register of Historic Places and other significant buildings. The Division recommends that the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Revised 1990) be followed for such sites.

The following general standards apply to all treatments undertaken on historically significant properties.

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alterations of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy materials that

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characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired. (see Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings [Revised 1990]).

Divisions of Historical Resources staff are available for technical assistance for any of the above listed topics. It is encouraged that such assistance be sought as early as possible in the project planning.

D. MANAGEMENT IMPLEMENTATION

As noted earlier, 253.034(4), F.S., states that "all management plans, whether for single-use or multiple-use properties, shall specifically describe how the managing agency plans to identify, locate, protect and preserve, or otherwise use fragile non-renewable resources, such as archaeological and historic sites..." The following guidelines should help to fulfill that requirement.

1. All land managing agencies should contact the Division and send U.S.G.S. 7.5 minute quadrangle maps outlining the boundaries of their various properties.
2. The Division will in turn identify site locations on those maps and provide descriptions for known archaeological and historical sites to the managing agency.
3. Further, the Division may also identify on the maps areas of high archaeological and historic site location probability within the subject tract. These are only probability zones, and sites may be found outside of these areas. Therefore, actual ground inspections of project areas may still be necessary.
4. The Division will send archaeological field recording forms and historic structure field recording forms to representatives of the agency to facilitate the recording of information on such resources.
5. Land managers will update information on recorded sites and properties.
6. Land managers will supply the Division with new information as it becomes available on previously unrecorded sites that their staff locate. The following details the kind of information the Division wishes to obtain for any new sites or structures that the land managers may report:

A. Historic Sites

- (1) Type of structure (dwelling, church, factory, etc.).
- (2) Known or estimated age or construction date for each structure and addition.
- (3) Location of building (identify location on a map of the property, and building placement, i.e., detached, row, etc.).
- (4) General Characteristics: (include photographs if possible) overall shape of plan (rectangle, "L" "T" "H" "U", etc.); number of stories; number of vertical divisions of bays; construction materials (brick, frame, stone, etc.); wall finish (kind of bond, coursing, shingle, etc.); roof shape.
- (5) Specific features including location, number and appearance of:
 - (a) Important decorative elements;
 - (b) Interior features contributing to the character of the building;
 - (c) Number, type, and location of outbuildings, as well as date(s) of construction;
 - (d) Notation if property has been moved;
 - (e) Notation of known alterations to building.

B. Archaeological Sites

- (1) Site location (written narrative and mapped location).
- (2) Cultural affiliation and period.
- (3) Site type (midden, burial mound, artifact scatter, building rubble, etc.).

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- (4) Threats to site (deterioration, vandalism, etc.).
- (5) Site size (acreage, square meters, etc.).
- (6) Artifacts observed on ground surface (pottery, bone, glass, etc.).
- (7) Description of surrounding environment.
- 7. No land disturbing activities should be undertaken in areas of known archaeological or historic sites or areas of high site probability without prior review by the Division early in the project planning.
- 8. Ground disturbing activities may proceed elsewhere but land managers should stop disturbance in the immediate vicinity of artifact finds and notifies the Division if previously unknown archaeological or historic remains are uncovered. The provisions of Chapter 872, F.S., must be followed when human remains are encountered.
- 9. Excavation and collection of archaeological and historic sites on state lands without a permit from the Division are a violation of state law and shall be reported to a law enforcement officer. The use of metal detectors to search for historic artifacts shall be prohibited on state lands except when authorized in a 1A-32, F.A.C., research permit from the Division.
- 10. Interpretation and visitation which will increase public understanding and enjoyment of archaeological and historic sites without site destruction or vandalism is strongly encouraged.
- 11. Development of interpretive programs including trails, signage, kiosks, and exhibits is encouraged and should be coordinated with the Division.
- 12. Artifacts found or collected on state lands are by law the property of the Division. Land managers shall contact the Division whenever such material is found so that arrangements may be made for recording and conservation. This material, if taken to Tallahassee, can be returned for public display on a long term loan.

E. ADMINISTERING AGENCY

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

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

Contact Person:

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