# Mike Roess Gold Head Branch State Park

## Unit Management Plan

## APPROVED

**STATE OF FLORIDA**
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**
**Division of Recreation and Parks**
**April 16, 2010**

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## INTRODUCTION

Mike Roess Gold Head Branch State Park is located in Clay County about six miles northeast of the City of Keystone Heights (see Vicinity Map). Access to the park is from State Road 21 (see Reference Map). The Vicinity Map also reflects significant land and water resources existing near the park.

Currently, the park contains 2,366 acres, as reflected on the current Properties under Jurisdiction of the Division of Recreation and Parks (Division) report. Acquisition of Mike Roess Gold Head Branch State Park began in 1936 with an unknown funding source. Subsequent acquisitions were funded by the Park Board, LATF, CARL/P2000 and the Division of Recreation and Park's Acquisition and Inholdings Program (see Addendum 1). Approximately 191 acres adjacent to State Road 21, known as the Gladman tract, were added to the park in 2004.

At Mike Roess Gold Head Branch State Park, public outdoor recreation and conservation is the designated single use of the property. There are no legislative or executive directives that constrain the use of this property.

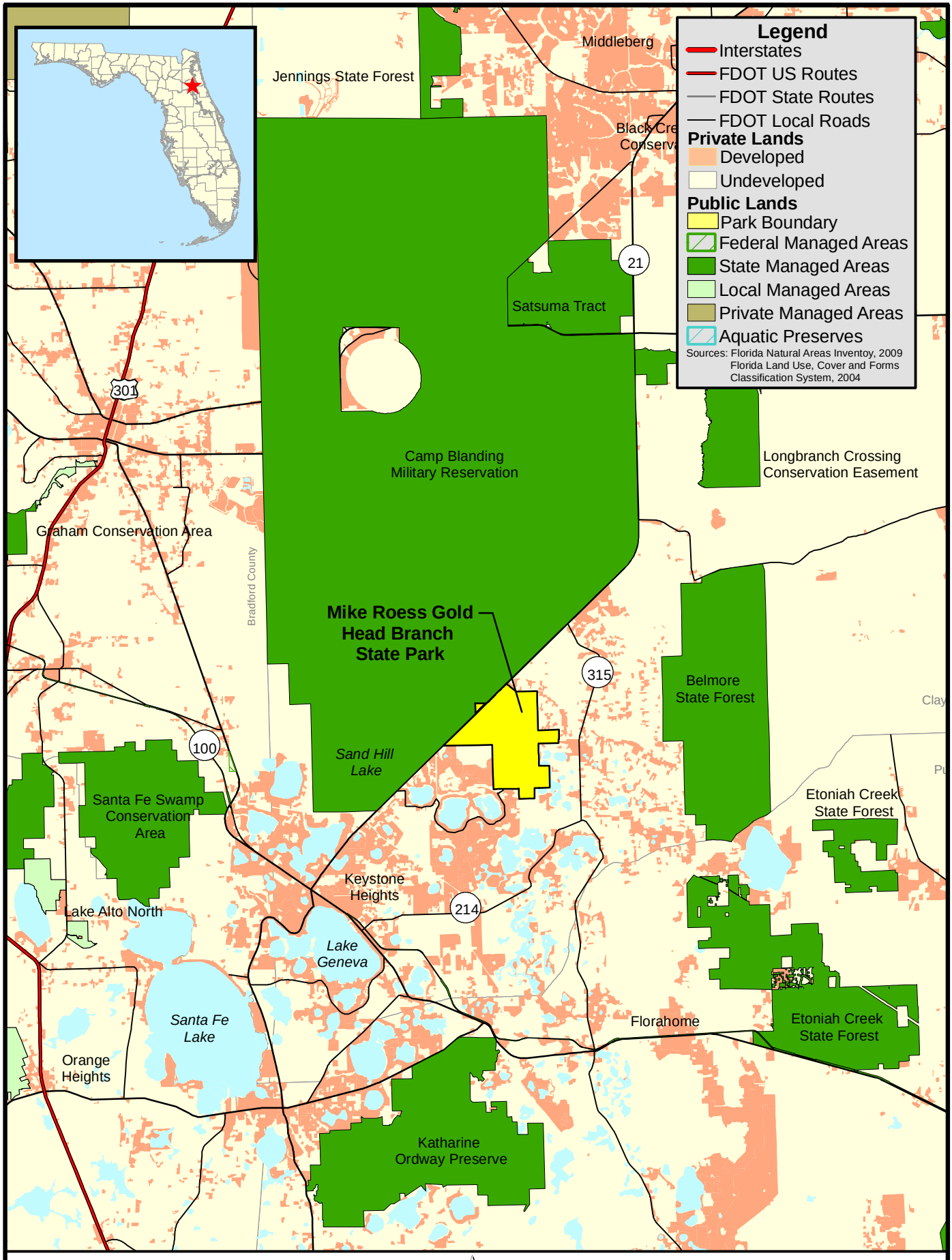
## PURPOSE AND SIGNIFICANCE OF THE PARK

Mike Roess Gold Head Branch State Park is significant in the twentieth century history of Florida as one of nine elements of the New Deal-inspired Florida state park system and as one of the physical expressions of early-twentieth century recreation planning. From 1933 to 1942, the Civilian Conservation Corps (CCC) and the Works Progress Administration (WPA) programs constructed an impressive collection of facilities throughout Florida. A considerable portion of the public recreation facilities created by these programs is preserved in the state park system's New Deal era parks that include Mike Roess Gold Head Branch State Park. CCC camp SP-5 was installed in July of 1935 at the southern end of the park. The official dedication of the park took place on April 15, 1939, and the CCC camp was deactivated in March 1940 (Historic Property Associates 1989).

The park gets its name from the Gold Head Branch stream that originates from springs issuing from the side of the park's deep ravine system. Rolling sandhill and sand pine scrub plant communities provide habitat for a wide variety of wildlife, including fox squirrel and gopher tortoise. The park is also home to one of Florida's oldest lakes, Sheeler Lake, which is approximately 24,000 years old.

The park is classified as a state park in the Division's unit classification system. In the management of state parks, a balance is sought between the goals of maintaining and enhancing natural conditions and providing various recreational opportunities.

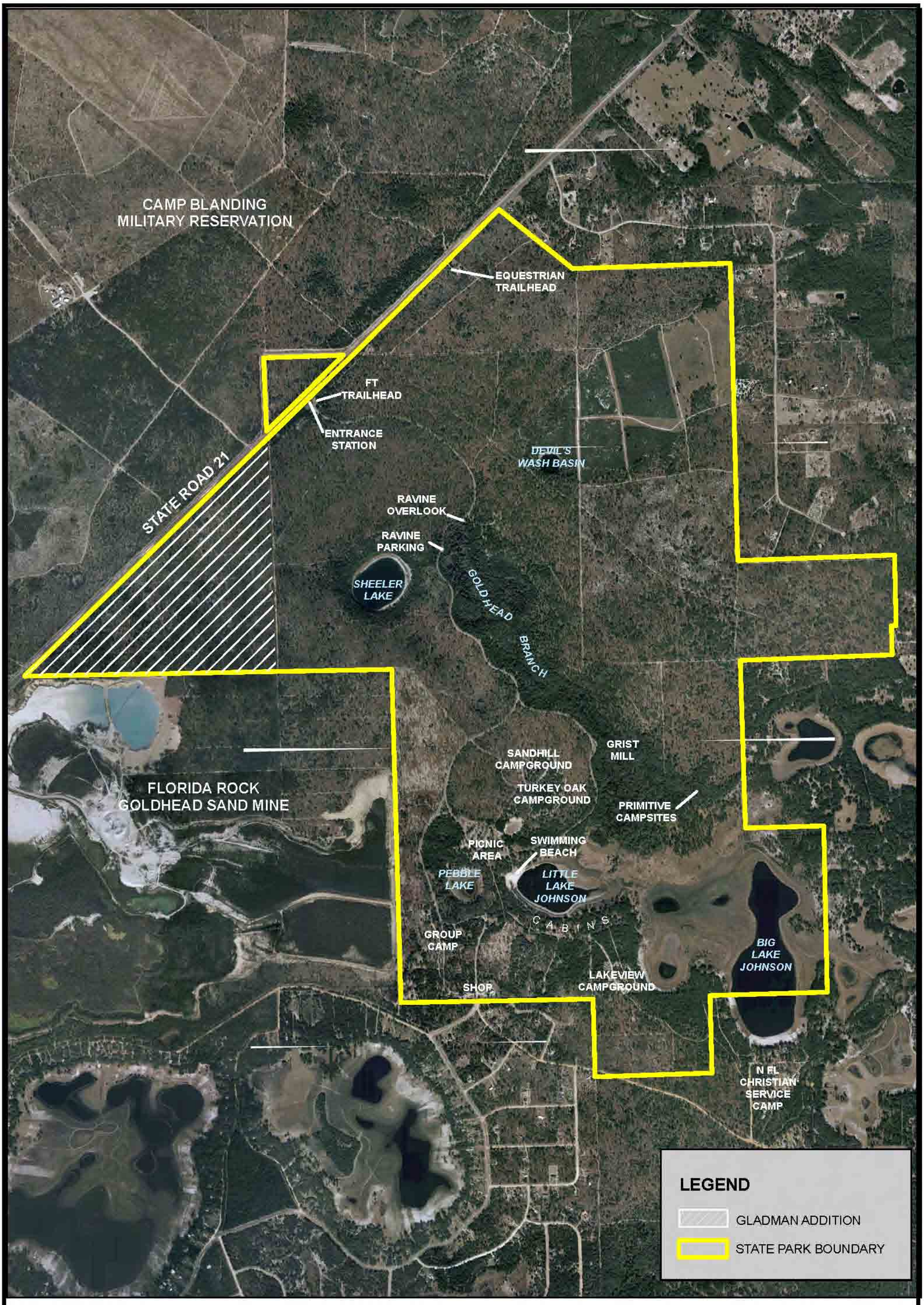
Natural resource management activities are aimed at management of natural systems.




MIKE ROESS GOLD
HEAD BRANCH STATE PARK

Florida Department of Environmental Protection
Division of Recreation and Parks

VICINITY MAP




MIKE ROESS
GOLD HEAD BRANCH STATE PARK

N

0 0.25 0.5 1 Miles

**REFERENCE MAP**

Emphasis of use is placed on passive recreational enjoyment through such activities as natural scenery appreciation, nature study and picnicking, and such fully compatible active pursuits as hiking, camping, swimming, boating and fishing. Development in the park is directed toward providing convenient public access to and within the park, but respecting the more sensitive or fragile natural areas, and to the provision of interpretive and related convenience and safety facilities. Program emphasis is on interpretation and appreciation of the park's natural and cultural attributes—aesthetic, educational and scientific.

**PURPOSE AND SCOPE OF THE PLAN**

This plan serves as the basic statement of policy and direction for the management of Mike Roess Gold Head Branch State Park as a unit of Florida's state park system. It identifies the goals, objectives, actions and criteria or standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and is intended to be consistent with the State Lands Management Plan. Upon approval, this management plan will replace the December 6, 2001 approved plan.

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

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

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

All development and resource alteration proposed in this plan is subject to the granting of appropriate permits, easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state or federal agencies. This plan is also intended to meet the requirements for beach and shore preservation, as defined in Chapter 161, Florida Statutes, and Chapters 62B-33, 62B-36 and 62R-49, Florida Administrative Code.

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

The potential for generating revenue to enhance management was also analyzed. Visitor fees and charges are the principal source of revenue generated by the park. It was determined that 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.

The use of private land managers to facilitate restoration and management of this park was also analyzed. Decisions regarding this type of management (such as outsourcing, contracting with the private sector, use of volunteers, etc.) will be made on a case-by-case basis as necessity dictates.

## 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 standardized system-wide and are set by internal direction. 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, public use regulations, resource management, law enforcement, protection, safety and maintenance.

## Park Management Goals

The following park goals express the Division's long-term intent in managing the state park.

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

## Management Coordination

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

The 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 the park. In addition, the FFWCC aids the Division with wildlife management programs, including imperiled species management and Watchable Wildlife programs. The Department of State, Division of Historical Resources (DHR) assists staff to ensure protection of archaeological and historical sites. The Division also works directly with the St. Johns River Water Management District and other agencies to coordinate water resource management activities within the park and in the surrounding watersheds.

Mike Roess Gold Head Branch State Park is one of nine Florida State Parks that contains a certified segment of the Florida National Scenic Trail (FNST). Formerly the Florida Trail, the FNST was designated in the park in June 2005, as part of the three-party certification agreement between the Division, the U.S. Forest Service and the Florida Trail Association. As prescribed by the agreement, the Division and the FTA coordinate all programs and activities related to the trail.

## Public Participation

On Tuesday, November 17, 2009 (Notice ID: 7867105), the Division provided an opportunity for public input by conducting a public workshop; the purpose was to present the draft management plan to the public. In addition, an Advisory Group meeting was held on Wednesday, November 18, 2009 (Notice ID: 7867396). The purpose of this meeting was to provide the Advisory Group members an opportunity to discuss the draft management plan. Addendum 2 contains the list of Advisory Group Members and the Advisory Group Report.

## Other Designations

Mike Roess Gold Head Branch State Park is not within an Area of Critical State Concern as defined in Section 380.05, Florida Statutes, and it is not presently under study for such designation. The park is a component of the Florida Greenways and Trails System, administered by DEP's Office of Greenways and Trails. The park also includes a section of the Florida Trail and is a stop on the East Section of the Great Florida Birding Trail.

All waters within the park have been designated as Outstanding Florida Waters,

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

## RESOURCE MANAGEMENT COMPONENT

### INTRODUCTION

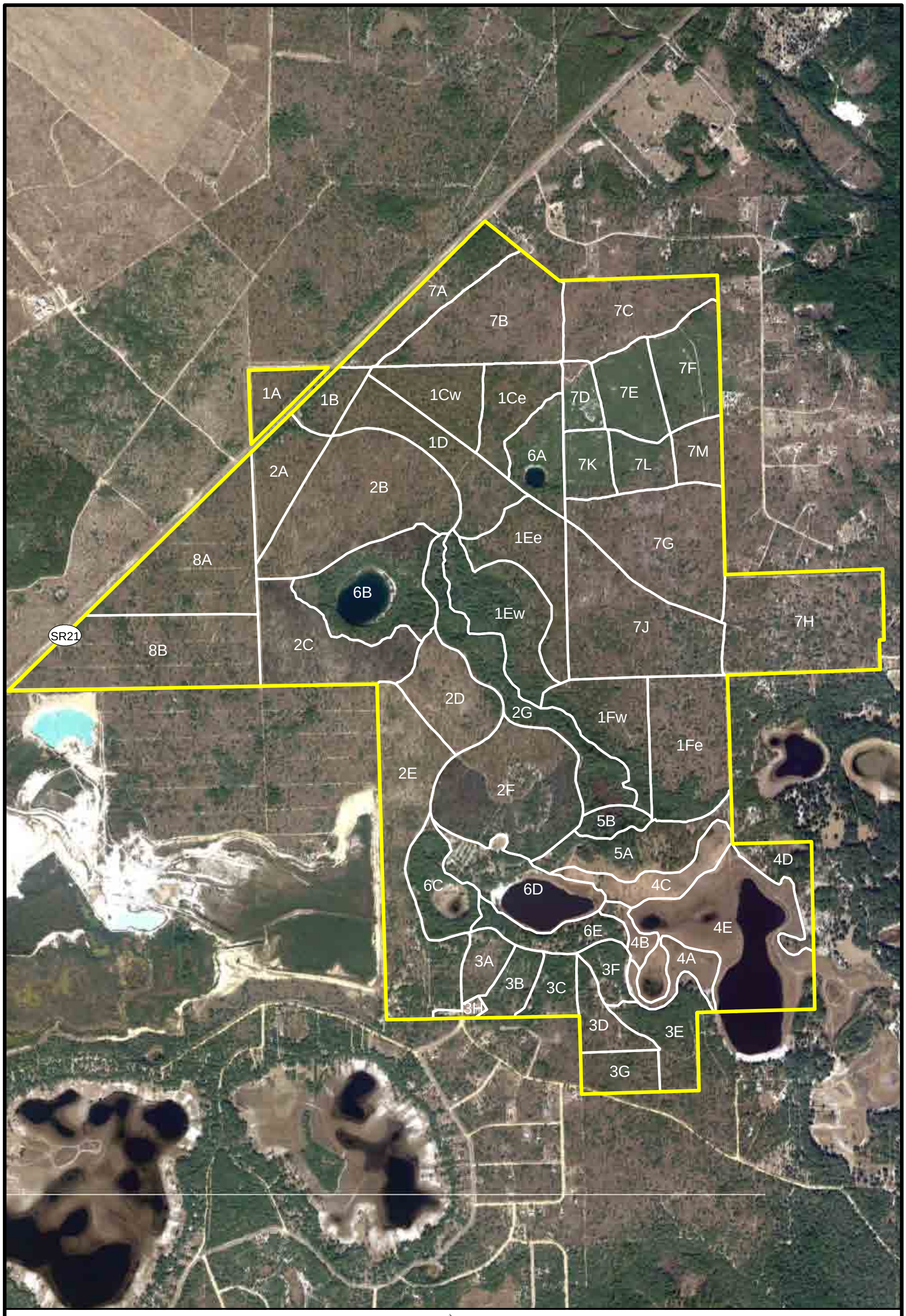
In accordance with Chapter 258, Florida Statutes, the Division of Recreation and Parks has implemented resource management programs for preserving for all time the representative examples of natural and cultural resources of statewide significance under its administration. This component of the unit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

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

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

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

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




MIKE ROESS GOLD HEAD BRANCH STATE PARK

MANAGEMENT ZONES

## RESOURCE DESCRIPTION AND ASSESSMENT

### Natural Resources

### Topography

Mike Roess Gold Head Branch State Park lies within the Northern Physiographic Zone of the state. This region of continuously high ground forms a broad upland that extends eastward to the Eastern Valley and westward into the Western Highlands of the panhandle.

The park straddles the boundary between the Northern Highlands and the Trail Ridge. The uplands north of Lake Johnson are located on the southeastern rim of the Trail Ridge, a relic barrier or spit dominated by excessively well-drained sandhill soils. Lake Johnson and areas to the south lie within the Northern Highlands, a region of sandhills and lakes at a slightly lower elevation (Weatherspoon et al 1989).

Locally, karstic processes influence the topography, as the rolling landscape is dotted with numerous sinkhole lakes of varying sizes, including three within Gold Head Branch State Park. Park elevations range from less than 85 feet above mean sea level (m.s.l.) to 240 feet m.s.l. The steephead ravine formed by Gold Head Branch is the most significant topographic feature of the park. The sandhill upland lake in the park, Lake Johnson, is separated into two distinct basins during periods of low water. Locally, the basins are named Little Lake Johnson, which lies wholly within the park, and Big Lake Johnson, which is partly within private ownership.

Some alteration of terrain occurred during development of the park. Dredging took place off the shore of Little Lake Johnson where the swimming area is now located, and sand was pumped from Pebble Lake to nourish the beach on Little Lake Johnson in the 1950s. In 2002, sand was replaced in the dredged holes in the bottom of Lake Johnson adjacent to the swimming area.

Various natural and artificial changes also occurred in the lower reaches of Gold Head Branch. According to early park base maps and reports (Malsberger 1938), the Civilian Conservation Corps (CCC) diverted the flow of the branch in 1937-38. Just prior to the diversion, the branch flowed due south along two courses. The eastern course ended at Big Lake Johnson, while the western course emptied into the upper end of a narrow lagoon on the north side of Little Lake Johnson. The CCC dug an east-west ditch to connect the two courses, effectively combining their flows into one channel that terminated at the lagoon. The CCC also constructed a low rock wall to create a waterfall at the upper end of the lagoon. In 1938, the CCC proposed to dredge a channel through the broad marsh that then separated Big and Little Lake Johnson (Malsberger 1938). That channel was apparently constructed to allow boats to pass from the park into the main portion of the lake.


MIKE ROESS GOLD HEAD
BRANCH STATE PARK

N

0 750 1,500 3,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks

TOPOGRAPHIC MAP

In 1948 and 1949, an extreme high water event at Lake Johnson apparently killed most of the trees on the seepage slope south of the Primitive Camp Road (Beck 1949). It appears from aerial photography that, by 1953, much of the flow from the Branch no longer followed the old artificial channel to the lagoon at Little Lake Johnson. Instead, several braided streams dispersed flow across the broad marsh between the two lakes. This situation did not last, however, as sometime between 1953 and 1970, Gold Head Branch hydrology was altered once again. A ditch was constructed west of the constriction between the two lakes, capturing flow from the main channel of the Branch south of the Primitive Camp Road and directing it toward Little Lake Johnson. Other ditches may have also been dug within the seepage slope and basin marsh communities of the Branch's outfall area during that period. Both of these communities are associated with the large delta that formed over the centuries as the Gold Head Branch steephead ravine gradually eroded upstream.

An L-shaped berm running north from the constriction in Lake Johnson was also built within the basin marsh during that period. Two theories prevail as to why the berm was constructed: (1) to prevent motorboats from entering the swimming area; or (2) to ameliorate water level fluctuations in the swimming basin. It appears from 1970 aerials and from anecdotal information that some areas of seepage slope were scraped for fill dirt, probably to construct the L-shaped berm. It also appears that some sort of fill or barrier was placed in the channel between Little and Big Lake Johnson. Wildfire suppression during the 1970s resulted in several fire-plow scars that further damaged the seepage slope area. By 1976, the ditch that channeled water from Gold Head Branch into Little Lake Johnson west of the constriction had partially filled with sand, silt and debris. It was reopened in that year with the assistance of the Department of Forestry in order to restore flow to both lakes (Knoll pers. comm. in MacLaren 1989). In 2002, the L-shaped berm was removed and the contours restored to the natural grade to initiate hydrological restoration of the seepage slope and adjacent lakes.

Notable upland manipulations have also occurred in the park, including the creation of a large borrow pit in the southwest corner of the park and the terracing of slopes in various use areas to prevent erosion. Other topographic disturbances are present in the form of obsolete roads and firebreaks. The old tram road that passes through the park extends across the Gladman Addition that was added to the park in 2005. The tram road on the addition retains the topographic alterations that occurred during construction of the rail bed. The tram road runs below much of the surrounding land along this stretch.

## Geology

The region in which the park is located is underlain by several hundred feet of semi-consolidated marine and non-marine deposits of sand, clay, marl, gravel, limestone, dolomite and dolomitic limestone. In descending order, these layers are composed of young marine and estuarine terrace deposits of Holocene and Pleistocene age; old terrace deposits and unnamed coarse clastics of Pleistocene age; the Choctawhatchee

Formation and Hawthorn Formation of Miocene age; and the Ocala Limestone, Avon Park Limestone and Lake City Limestone of Eocene age.

The uppermost, recent deposits are sands and clayey sands that may be gray, brown or black in color and contain organic matter. In addition, these may have beds of clay marl and sandy clay with shell marl and concentrations of shell in some areas. The maximum thickness of these sediments is 80 feet.

Next in sequence are sands that range in color from white to yellow and gray to black. These deposits often are clayey and have organic matter as well. Present too are varicolored clays, sandy clays and clayey sands. These beds can reach a thickness of 140 feet.

Encountered next is unnamed coarse clastics, made up of sands and clayey sands which are varicolored. Sand and sandy, phosphatic limestone are interbedded, and grains and pebbles of phosphate are disseminated as well. The lower part of the deposit may contain very hard limestone that is partly dolomitic. A thickness of 250 feet is reached by the Hawthorn Formation in the region.

The Ocala Limestone lies next in sequence. It is white, cream or tan in color, soft, granular, porous and fossiliferous. Hard layers of limestone and dolomitic limestone are found, mostly in the lower portion. This Eocene deposit may reach a thickness of 250 feet.

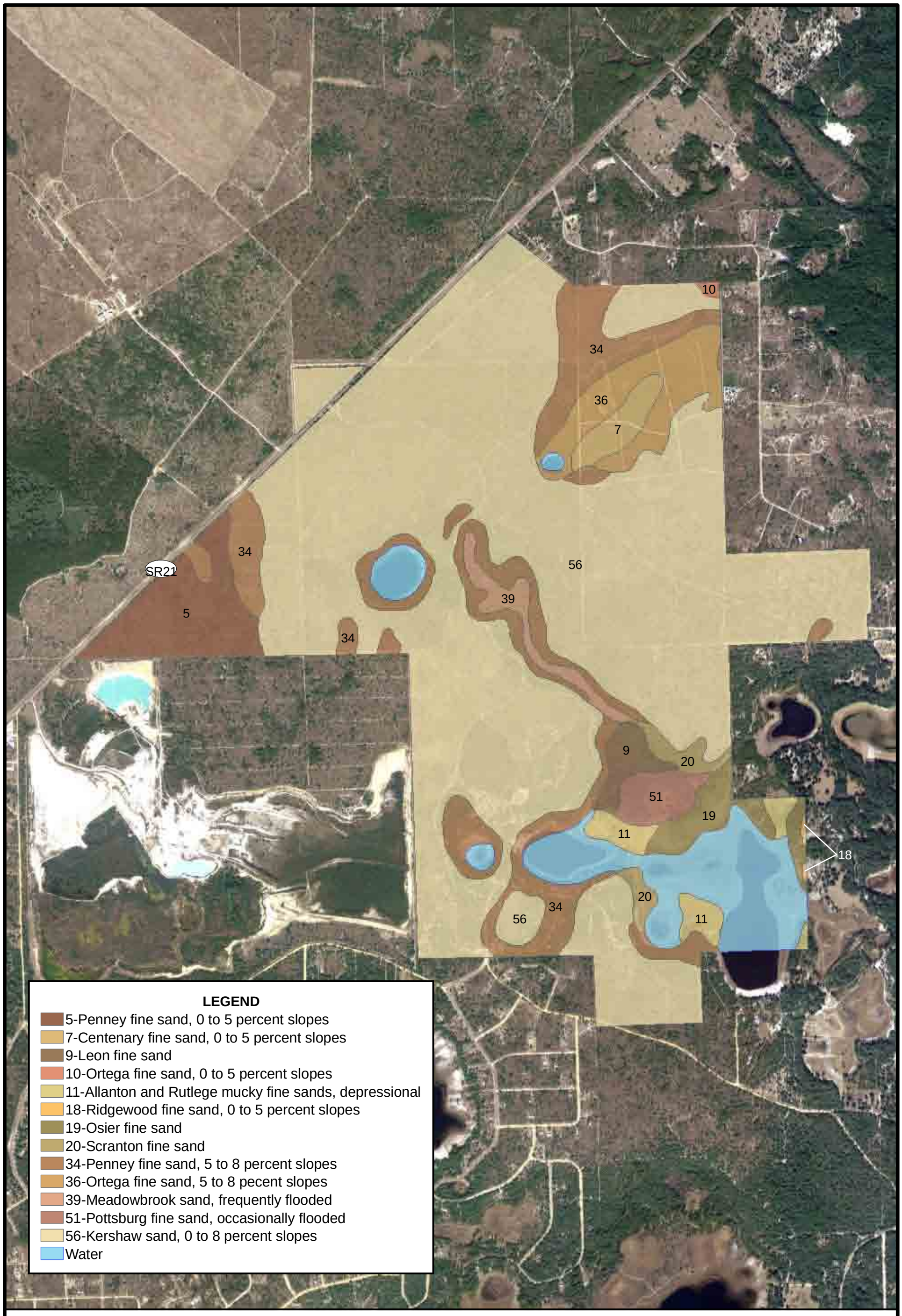
The Avon Park Limestone is a dolomite that is dark brown or tan, granular, hard and dense to porous. Limestones that are tan or cream in color and dolomitic limestones are interbedded as well. The maximum thickness recorded for this deposit is 210 feet.

The Lake City Limestone is a combination of limestone, dolomite and dolomitic limestone that may be tan, gray or brown in color. Its thickness can exceed 440 feet. The Oldsmar Limestone lies beneath the Lake City Limestone. The lowermost Eocene deposits are found only at great depth near the park.

**Soils**

According to the U.S. Soil Conservation Service (Weatherspoon et al 1989), 13 soil types representing 23 percent of the soil types listed for Clay County are found at Mike Roess Gold Head Branch State Park (see Soils Map). Complete soils descriptions are contained in Addendum 4.

Natural changes in topography have caused a shifting of the typical natural communities associated with some soil types. For example, enlargement of the ravine through erosive processes over geological time has caused the deep, excessively well-




MIKE ROESS GOLD HEAD
BRANCH STATE PARK

SOILS MAP

drained sands normally found in the high, droughty uplands to relocate to lower, more mesic slopes. The Penney fine sand soil type that would typically be associated with the sandhill community is now covered by a slope forest. In addition, exclusion of fire in the seepage slope, a community often dominated by herbaceous plants, has allowed extensive invasion of the system by woody species and loblolly pines (*Pinus taeda*).

Past soil disturbances in the park include the removal of topsoil for fill and the construction of terraces, especially near Big Lake Johnson and Little Lake Johnson. One concern is that the removal of soil for terracing may have altered the composition of the natural communities adjacent to Lake Johnson, particularly the seepage slope and mesic flatwoods. In another area of disturbance, this one located above Sheeler Lake, a parking area was stabilized with clay during early development of the park. In recent years, the hard clay surface has channeled runoff down slope toward Sheeler Lake, contributing to erosion of slopes above the lake. Unrestricted foot traffic for many years has also destabilized the sandy soils. Details of the restoration of this area may be found in the *Hydrology* section below.

Although a certain level of soil erosion is naturally associated with steephead ravines, foot traffic can seriously exacerbate the situation. Unauthorized climbing of slopes has been a chronic problem near the head of the Gold Head Branch ravine. It appears that most of the climbing occurs from the base of the slope up to the rim of the ravine. Efforts discouraging climbing by brushing out paths and by using appropriate signs have met with some success and these efforts will be continued. Runoff from the ravine stairwell is also contributing to the erosion on the western slope of the ravine. Erosion has also occurred at a shoreline access point below the rental cabins on Little Lake Johnson. Management activities will follow generally accepted best management practices to prevent further soil erosion and conserve soil and water resources on site.

**Minerals**

The only known mineral resource of value within Gold Head Branch is sand. The large sand mine on the western border of the park attests to its commercial value.

**Hydrology**

The water resources of Gold Head Branch lie within the Etonia Creek drainage basin, a 230-square mile area containing some 100 lakes. In this basin, surface and shallow subsurface waters gradually move southeast to Etonia Creek, which joins the St. Johns River north of Palatka. Although the park itself provides no surface outflow to Etonia Creek, the considerable groundwater recharge within the park likely contributes substantially to the subsurface flows supplying the creek.

In the region of Gold Head Branch State Park, three aquifers exist. The water table (surficial) aquifer consists primarily of sand and clayey sand of Holocene and Pleistocene age. The deeper part of this aquifer consists of sediments of the Miocene-age Choctawhatchee Formation. The Choctawhatchee contains a high amount of clay

and forms a nearly impermeable base to the aquifer. Locally, this aquifer lies about 20 feet below the surface. A secondary artesian aquifer occurs within layers of limestone and sand in the Hawthorn Group. Here, relatively impermeable clay layers separate the water-bearing zones from each other and from the water-table aquifer above and the Floridan aquifer below. The Floridan aquifer is made up of several hundred feet of interbedded soft, porous limestone and hard dense limestone and dolomite. In this region, it encompasses beds of Ocala, Avon Park and Lake City Limestones. The upper limit of the Floridan aquifer in southwestern Clay County where the park is located is about 50 feet below m.s.l. As the Floridan aquifer is not exposed at the surface here, the whole region is one of recharge rather than discharge.

Surface water features of Mike Roess Gold Head Branch State Park include five lakes: Big Lake Johnson and Little Lake Johnson (once considered one water body called Lake Johnson), Sheeler Lake, Devil's Washbasin and Pebble Lake. Two seepage streams are present as well: Gold Head Branch and an unnamed, ephemeral spring-fed run that intermittently flows down a short, but well-defined channel into Pebble Lake. Devil's Washbasin has been called Deer Lake since at least the CCC period. It appears that the more benign name of Deer Lake replaced the traditional one of Devil's Washbasin. All five lakes are classified as acid clear lakes, also referred to as sandhill lakes within the Trail Ridge Lake Region (Griffith et al. 1997). These lakes have pH values ranging from 3.9 to 6.0, are very clear and nutrient-poor, are relatively low in biological productivity and occur in areas of deep, well-drained, sandy soil.

Pebble Lake, Devil's Washbasin and Sheeler Lake are sinkhole lakes. Water levels in these lakes are closely tied to and often reflect the height of groundwater in the water table (surficial) aquifer. A nearly continuous stage record exists from July 1945 to the present for Pebble Lake, which has a total open water area of nine acres when the lake level equals 115 feet above m.s.l. Pebble Lake is unusual in that it fluctuates dramatically, with records showing water level changes over a 38-foot range between 1948 and 2002. When measured in 1936 with a water level of 96.7 feet above m.s.l., Pebble Lake was 23 feet deep. Conversely, Sheeler Lake and Devil's Washbasin do not experience such notable changes, perhaps due to their greater depth or to differences in underlying geology. When measured in 1936 with a water level of 154.7 feet above m.s.l., Sheeler Lake was 72 feet deep. At that time, Devil's Washbasin was about 60 feet deep with a water level of 165.2 feet above m.s.l. (USDI, NPS 1936b). Devil's Washbasin has an open water area of about three acres. Sheeler Lake covers approximately 16.5 acres. A fluctuating zone of emergent vegetation and submersed grasses typically surrounds these lakes.

As with many state parks, Gold Head Branch is charged with preserving extremely fragile hydrologic features. Sheeler Lake has been recognized for its outstanding qualities as one of the pristine deepwater lakes in Florida. In addition, it is one of a known few in the state that approach 23,900 years in age (Watts and Stuiver 1980).

Unfortunately, some degradation has occurred because of erosion on the slopes above the lake and along the shore. This prompted closure of the lake to scuba diving, swimming, and fishing on January 1, 1984. Before the closure, access to the lake was from a small entrance and parking lot (20 cars) located between the current park drive and the east shore of Sheeler Lake. The old parking area contained a substantial volume of clay fill (12-18 inches deep) that had become compacted, forming a hard pan that impeded absorption of rainfall and increased water runoff to the lake. Some clay had also washed down slope from the parking area and had accumulated at the shore of the lake. In 1998, 25 cubic yards of clay were removed from the old parking area and shoreline. The clay was replaced by clean sand appropriate for the site. Waterbars were constructed, and a new trail was established incorporating several switchbacks to minimize erosion along the steep slope leading to the lake. Longleaf pine (*Pinus palustris*), wiregrass (*Aristida stricta*), myrtle oak (*Quercus myrtifolia*) and other native sandhill species were then planted where the clean sand had been placed.

Lake Johnson, in its entirety, has a complex shoreline that encompasses several sub-basins, approximately two-thirds of which lie within the park (including all of Little Lake Johnson and much of Big Lake Johnson). The lake has a water surface area of 519 acres when the lake level is 100 feet above m.s.l. Water depth measured in Little Lake Johnson in 1936, when the lake level was at 93.7 feet above m.s.l., was 11.6 feet (USDI, NPS 1936b). Modern depths are greater due to dredging of the lake bottom for beach and terracing material. In 2002, two large dredged holes adjacent to the swimming area were filled with sand to restore more natural bottom contours to the lake. During the CCC development of the park, drainage structures were installed that conveyed storm water from the parking lots above Little Lake Johnson through underground pipes to concrete aprons near the lake shore. In 2002, the main drainage structure failed adjacent to the lakeshore. Subsequent stormwater events eroded a large gully in the steep slope on the northern edge of Little Lake Johnson. In 2003, the stormwater was rerouted and the system was retrofitted with stormwater retention swales to provide treatment for the parking lot runoff. At least one smaller stormwater system remains from the CCC construction period.

Big Lake Johnson and Little Lake Johnson, receive inflow by way of Gold Head Branch. In 1937-38, the CCC dug a ditch that captured the flow from the two main branches of Gold Head Branch and channeled the water into a lagoon on the northern edge of Little Lake Johnson (Malsberger 1938). Carlos Maxwell, who worked at Gold Head in the 1940s, recalls that the CCC diversion carried mud into the swimming area and that the stream was later re-diverted closer to the original outflow (MacLaren 1989). Aerial photography shows that in August 1943 Little Lake Johnson was partially separated from the main lake by a narrow, sandy ridge. Two passes containing water were visible in the center of the ridge and near the southern shore. At least one of these passes was created by the CCC around 1938 (Malsberger 1938). By 1953, after a period of record high water, the branch appears to have reestablished a more natural flow pattern across

the broad marsh between the two lakes (02/27/53 aerial photo). Before 1957, Big Lake Johnson and Little Lake Johnson were considered one body of water. In 1957, an earthen dam was constructed across the narrow ridge between the two lakes, in effect separating them. Also at this time, a shallow ditch was dredged to capture a portion of the Gold Head Branch flow and divert it to Little Lake Johnson. The dam and the ditch essentially established the two bodies of water as individual entities. The ditch channel was deepened and a flow control structure with removable wooden boards was constructed between the lakes in 1968. A year later, the earthen dam partially washed out; it was repaired to a higher elevation that has remained reasonably stable over the last 30 years. During that period, the two lakes experienced varying water elevations.

Water levels in Lake Johnson have been recorded since 1945. Beginning in 1959, separate gage readings for Big Lake Johnson and Little Lake Johnson were established due to the physical separation of the two lakes. In 2003, the SJRWMD applied datum corrections to the USGS data records for Big Lake Johnson, and adjusted the historical lake level data. Big Lake Johnson has generally maintained a lower elevation than Little Lake Johnson. In June 2002, Big Lake Johnson reached its lowest recorded stage of 82.3 feet in the 48-year period of record. This was 5.82 feet below the stage of Little Lake Johnson at 88.12 feet. The elevation of the berm separating the two lakes was 96 feet (Vedder and Associates, Inc. 1996).

The earthen dam and L-shaped berm between Big Lake Johnson and Little Lake Johnson extended approximately 800 feet, with varying widths. Soil borings across the dam revealed that fill material had been placed to depths ranging from 6 to 30 inches (JEA 1999). Fill material consisted of sand and loam that was partially, if not entirely, scraped from the surrounding area. At the northern end of the berm, the fill material was 12 to 18 inches deep. Two hundred fifty feet south of the north tree line, and for the next 200 feet, the berm's depth was 12 to 30 inches. The southern portion of the berm was between 6 and 13 inches deep. Erosion had cut through the berm in several locations, particularly in the center. Except under extreme drought conditions, there was a continual flow of water through two well-defined channels from Little Lake Johnson to Big Lake Johnson. Water also usually flowed underneath and through portions of the northern half of the berm, mainly where sheet flow from Little Lake Johnson to Big Lake Johnson seeped through porous openings in the berm or where flow entered small conduits created by burrowing rodents. In 2002, the earthen dam and L-shaped berm were removed in order to further the restoration of the natural hydrology of the stream and lake system. The fill material was carefully removed down to the natural grade based on the soil borings.

Stream flow in Gold Head Branch at the Mill Site has ranged from 43,200 gallons per hour (gal/hr) (SJRWMD 8/27/1976) to 75,780 gal/hr (DRP 7/19/1995). This seepage stream, fed by the surficial aquifer, flows for 6,700 feet before it passes beneath the bridge on the Primitive Camp Road and breaks up into a series of braided channels.

The branch flows south within some of the same channels seen in the 1953 aerial photo. One of the western channels is captured by a ditch that diverts a percentage of the flow of Gold Head Branch southwestward directly into Little Lake Johnson. The defined channel of the ditch is about 300 feet west of the former berm. The flow not captured by the ditch continues through a braided system of channels that ultimately sheet-flow into a marshy area east of the ditch and north of the constriction between the two lakes. Surface flow within these channels is intermittent and highly variable. Braided channels that were known to transmit surface waters in 1953 reopened in the late 1990s and flowed through a breach in the east-west portion of the former berm just south of the current tree line. This surface water flowed for approximately 100 feet south of the breach, in what was identified as the main channel in the 1953 aerial, before sinking into the surficial aquifer that feeds both lakes. The removal of the berm has allowed the braided channels to migrate in a more natural fashion. When flow rates in Gold Head Branch are normal to above normal, that surface water can potentially sheet flow directly into Big Lake Johnson along the same path evident in the 1953 aerial photo. The extent of this sheet flow is contingent on local and regional rainfall, and varies greatly from year to year.

The expansive flat area north of the two lakes is the natural alluvial outflow of Gold Head Branch. Much of the western half of this area has saturated peaty soil that supports an abundance of marsh and bog vegetation. In the southern portion of this peat plain near Big Lake Johnson, the elevation drops several feet, forming an escarpment. At this point, much of the sheet flow enters small channels. There are also numerous seeps that appear at the base of this escarpment; these flow directly into Big Lake Johnson except under drought conditions.

Rainfall and the rate of evapotranspiration govern the water budget for each of the aquatic systems within the park. Local rainfall recharges the surficial aquifer, which is the main source of water for maintenance of stream flows and lake elevations. Another factor is the water level in the upper Floridan aquifer. The St. Johns River Water Management District determined a constant relationship between lake levels and groundwater monitoring wells in Keystone Heights for the period from 1965 – 1991 (Motz et al. 1992). Declines in the potentiometric surface of the Floridan aquifer were associated with decreased lake levels. Although factors that control water levels in the Floridan aquifer are not fully understood, excessive groundwater withdrawal has caused lakes and springs to dry up elsewhere in the state. The park is located just below a drainage divide. Thus, much of the groundwater of the park originates within the confines of the unit. However, at least as much water comes from land that adjoins the park on the north and east sides. Further development of this property in the near future is a distinct possibility.

Groundwater is pumped from the upper Floridan aquifer in the Upper Etonia Creek Basin for public supply, agriculture and mining (Motz et al., 1991). Historically, the

largest groundwater user in the basin was Florida Rock Industries, which operates the Gold Head and Grandin sand mines. Of particular concern is the Gold Head mine that has been in operation since 1958 and is located adjacent to the park on its southwestern border. Between 1989 and 1991, public concern over declining well and lake levels near the plant prompted four extensive studies of the mine's impacts. These studies indicated that withdrawals at the mine did lower the potentiometric surface of the Floridan aquifer in the vicinity of the mine, but that periods of low rainfall had a much greater impact on lake and well levels (Motz et al. 1992). The sand mine was previously permitted to pump up to 763 million gallons per year (mgy) from the Floridan aquifer. In 2003, Florida Rock renewed their water use permit and requested a dramatic reduction in groundwater consumption. The new permit allows them to only pump up to 37 mgy with an emergency backup supply of 83 mgy until the year 2013. That emergency backup supply is reduced to 50.4 mgy from 2013 to 2023.

Park staff, volunteers and state and federal agencies cooperate to monitor the water resources at Gold Head Branch State Park. Daily rainfall totals and lake levels are recorded by the park. District and park staff collects monthly water samples from Gold Head Branch, as well as from Big Lake Johnson, Little Lake Johnson, Devil's Washbasin, Pebble Lake and Sheeler Lake for the Florida LAKEWATCH Program. These samples are analyzed for chlorophyll, water clarity, and nitrogen and phosphorous content. The Florida LAKEWATCH Program is sponsored by the University of Florida's Institute of Food and Agricultural Sciences (IFAS) through the Department of Fisheries and Aquaculture and the Centers for Aquatic Plants and Natural Resources. LAKEWATCH data for Gold Head Branch State Park are available on the Internet at http://lakewatch.ifas.ufl.edu/ .

Four groundwater monitoring wells are maintained at the park by the USGS and the SJRWMD, including a new Floridan well completed in 2007. An older USGS well also monitors the Floridan aquifer, while the others monitor the surficial and intermediate aquifers. Data from the wells are used by the SJRWMD to evaluate groundwater conditions in the Upper Etonia Creek Drainage Basin. The SJRWMD periodically conducts extensive water chemistry analysis of Sheeler Lake. The surface waters of the park are designated Outstanding Florida Waters and are classified as Class III by the Department of Environmental Protection.

**Natural Communities**

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

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

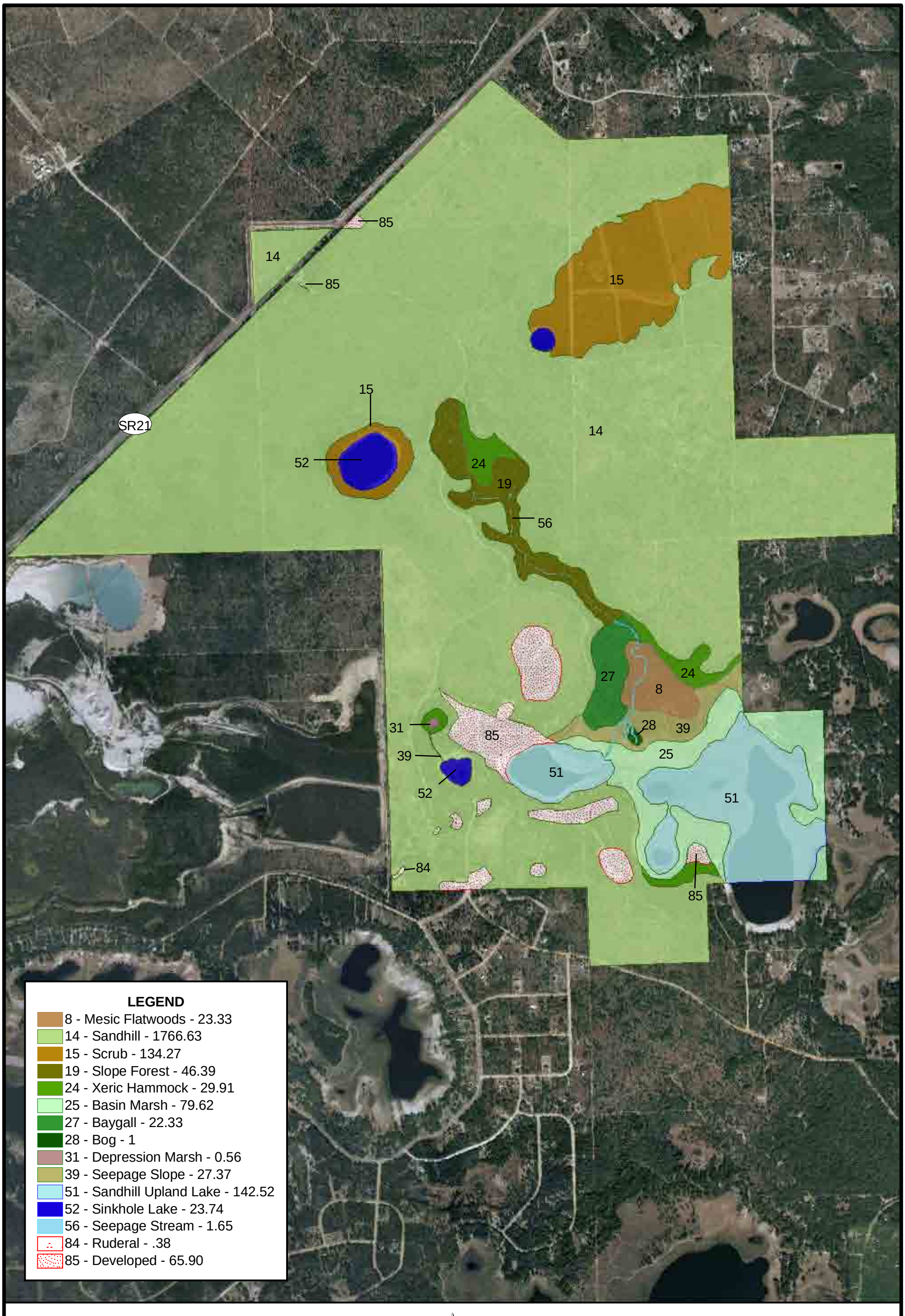
When a natural community within a park reaches the desired future condition, it is considered to be in a "maintenance condition." Required actions for sustaining a community's maintenance condition may include, maintaining optimal fire return intervals for fire dependant communities, ongoing control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

The park contains 13 distinct natural communities as well as ruderal and developed areas (see Natural Communities Map). A list of known plants and animals occurring in the park is contained in Addendum 5.

**MESIC FLATWOODS**

**Desired future condition:** Depending on region of state, dominant pines are usually longleaf pine and/or south Florida slash pine (*Pinus elliottii*). Longleaf pines are the dominant canopy tree species in the mesic flatwoods in north Florida. Native herbaceous groundcover is over at least 50 percent of the area and is less than three feet in height. Saw palmetto (*Serenoa repens*)/ shrub component comprises no more than 50 percent of total shrub species cover, and are less than 3 feet in height. Shrub species include saw palmetto, gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), running oak (*Quercus pumila*), dwarf live oak (*Quercus minima*), shiny blueberry (*Vaccinium myrsinites*) and dwarf huckleberry (*Gaylussacia dumosa*). Shrubs are generally knee-high or less, and there are few if any large trunks of saw palmetto along the ground. The optimal fire return interval for this community is 1-3 years.

**Description and assessment:** An area of mesic flatwoods is located in the upper portions of the Gold Head Branch outfall area, to the south and east of the baygall community. Although less disturbed than the baygall community, the mesic flatwoods have suffered from many years of fire suppression. When fire was reintroduced into




MIKE ROESS GOLD HEAD BRANCH STATE PARK

N

0 750 1,500 3,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks

NATURAL COMMUNITIES MAP

this area north of the Primitive Camp Road in the 1990s, it resulted in the deaths of many large slash pines (*Pinus elliottii*). This was probably due to the heavy buildup of duff around the bases of the pines during the many decades that fire was excluded from the area. The mesic flatwoods community grades into xeric hammock to the northeast, seepage slope to the south and baygall to the west. The lower reach of the seepage stream passes through part of the flatwoods. Although now relatively overgrown with shrubs due to lack of fire, the ecotone between the flatwoods and the stream was once probably a more open seepage slope community. Some areas within the branch outfall, prior to the large scale anthropogenic disturbances, could at one time have had the characteristics of a wet flatwoods community. Such areas, and some portions of what once may have been mesic flatwoods, are for the present included within the baygall community designation.

**General management measures:** The mesic flatwoods will require significant effort to restore a natural fire regime due to lack of periodic fires in much of this area. Firebreaks within and adjacent to the mesic flatwoods may need to be improved or widened. Fuels adjacent to the firebreaks may require mechanical treatment for an extra margin of safety where the live fuels are particularly heavy. Given the intensity of previous burns in the mesic flatwoods, future prescribed burns should be conducted under mild to moderate conditions with sufficient soil moisture to minimize involvement of accumulated duff. It may require several moderate burns to remove the duff accumulations and reduce the available fuels to more natural levels.

**SANDHILL**

**Desired future condition:** Depending on region of state, dominant pines are usually longleaf pine and/or south Florida slash pine. In north Florida, longleaf pines are the dominant canopy tree species in sandhills. Herbaceous cover is 80 percent or greater, and is less than 3 feet in height. In addition to groundcover and pines characteristics, there are scattered individual trees, clumps or ridges of onsite oak species (usually turkey oaks (*Quercus laevis*), sand post oak (*Quercus margaretta*), and blue-jack oak (*Quercus incana*). In old growth conditions, sand post oaks are commonly 150-200 years old, and some turkey oaks are over 100 years old. The optimal fire return interval for this community is 1-3 years.

**Description and assessment:** Sandhill is the most common natural community at Mike Roess Gold Head Branch State Park. Located on the southern end of the Trail Ridge, the sandhills north of Lake Johnson occur on very deep and well-drained sand deposits. Those south of Lake Johnson occur on the shallower sand deposits of the Northern Highlands.

Most of the sandhills in the older sections of the park are in excellent condition. The park contains one of the few remaining examples of an old growth stand of longleaf pines. Large flat-topped longleaf pines are scattered within the north central portion of

the park. Recent corings of several of the larger pines have shown that most of the largest trees are in excess of 250 years in age, with the oldest trees sampled exceeding 350 years. These old growth longleaf typically have red heart disease, and some bear cat-face scars from the turpentine industry. Such scars make the pines more susceptible to damage or death during prescribed fires and care must be taken to protect these ancient longleafs during prescribed burns.

The sandhills in the newer acquisitions to the north and east are in good condition but suffer from more recent timber removal and fire suppression. These areas may lack sufficient adult longleaf pines, but in most cases, there is sufficient recruitment so planting of additional longleaf pines is not required. Historical exclusion of fire, coupled with timber removal prior to state acquisition, has resulted in a shift in dominance in the community from longleaf pine to less fire-tolerant hardwoods such as turkey oak. Some areas of the sandhills had turkey oaks removed in the past under a firewood contract. This practice was discontinued since the artificial removal of xeric-adapted oaks may be less desirable. Suppression of xeric-adapted oaks through prescribed burns that mimic natural fires is a preferred method of restoration.

A small number of slash pines were planted a number of years ago along the park drive and in the picnic area. Since they are non-indigenous to the sandhills, some of these pines have been removed.

In some areas, fire-intolerant species such as laurel (*Quercus laurifolia*) and water oaks (*Quercus nigra*) invaded from adjacent communities as well. The Trail Ridge sandhills appear more xeric than those to the south, and may be more resistant to the invasion of off-site species. Several areas of sandhills at the southern end of the park have been heavily invaded by fire-intolerant hardwoods, but the most recent prescribed fires have had beneficial effects in these areas. Those areas in the park that have received more prescribed burns, particularly lightning season burns, are also in better condition.

The sandhills adjacent to the steephead ravine, and those bordering Pebble Lake and parts of Little Lake Johnson, have been heavily invaded by fire-intolerant hardwoods due to a lack of intense fires over many decades. Due to the location of the park drive, these areas have been isolated from the adjacent sandhills and have not received fire as frequently or as intensely as the remainder of the park.

The Gladman property, purchased in 2004, is the newest addition to the park. Located west of Sheeler Lake, it provides a broader ecological connection to Camp Blanding across State Road 21. Apparently, the property was once surveyed for potential acquisition and mining by the adjacent Florida Rock sand mine. Numerous east-west access roads were cut across the property resulting in long straight areas that are devoid of groundcover.

Two areas of sandhills in the park were dominated by a closed canopy of planted or volunteer sand pines (*Pinus clausa*). One stand was located southeast of Sheeler Lake, and the other was on a more recently acquired property at the northern end of the park. These offsite sand pines were harvested in 2005. Removal of the sand pines will stimulate the suppressed sandhill groundcover species and allow these areas to be burned safely. Groundcover seeds, primarily wiregrass, were collected in the fall of 2005 and were dispersed across the harvested areas in February of 2008.

The southwest corner of the park was heavily disturbed during the CCC period as evident in the 1943 aerials. A long history of refuse dumping and a large borrow pit also impacted the sandhills in this area. Recent construction of a new groundwater well also disturbed this site. Old piles of construction debris and vegetation trimmings are scattered along the roads that crisscross this corner of the park. Although much of the dumping and borrow activity occurred many years ago, there is still evidence of small-scale dumping of plant debris associated with park maintenance activities. The spoil recovered during the removal of the berm between Little and Big Lake Johnson was dumped at this location. Borrow activity in the past has enabled the spread of rose natalgrass (*Melinis repens*), an EPPC Category I exotic species, to other parts of the park. Although remnant longleaf pines and patches of native herbaceous cover persist in this area, the sandhill community in this area is now in poor condition.

**General management measures:** In general, the sandhills at Goldhead Branch only require frequent prescribed fires as many areas are at or close to maintenance condition. Protection of cat-faced pines and old growth pines during prescribed fires will remain a priority. However, several areas in particular will require intensive management to recover the original character of the sandhills. Mechanical and chemical removal of offsite hardwoods will continue near Pebble Lake and Little Lake Johnson, and, when necessary, will be expanded north along the park drive. In addition, planted off-site slash pines should be removed from natural sandhills.

All but a few of the linear road cuts on the Gladman Addition have been abandoned and these areas will be restored naturally. If groundcovers fail to disperse into the open areas, efforts will be made to collect and disperse seed into those areas. In general, the addition is in good condition and mainly requires additional prescribed fires to improve the condition of the sandhills.

The disturbed sandhills in the southwest corner of the park will require some topographical restoration of soil mounds and spreading of brush piles. Care must be taken in this area since it is possible that unmapped cultural resources from the CCC period are located in this area. Restoration of groundcover species through direct seeding may also be necessary. Control of rose natalgrass in all affected areas of sandhills and adjacent developed areas will continue to be a priority for sandhill management.

**SCRUB**

**Desired future condition:** Dominant species over the vast majority of scrub include sand live oak (*Quercus geminata*), myrtle oak, Chapman's oak (*Quercus chapmanii*), saw palmetto and rusty staggerbush (*Lyonia ferruginea*). Scrub oak canopy varies in height from 3 – 8 feet. There is a variety of oak age classes/heights between different scrub patches. There are scattered openings in the canopy with bare patches of sand that support many imperiled or endemic plant species in certain areas of the state; these species are regularly flowering and replenishing their seed banks. Sand pine, where present, is usually not dominant in abundance, percent cover or height. Some areas of mature sand pine occur; groves of sand pine in select locations in the panhandle may exceed 100-150 years of age; do not confuse sand pine age with needed fire return interval. The optimal fire return interval for this community is regionally variable. Typically, when attempting to achieve a mosaic of burned and unburned areas, the interval is 7 to 15 years.

**Description and assessment:** Scrub occurs in disjunct locations within the park. The largest example occurs in an elliptical basin that runs northeast from Devil's Washbasin. Surrounded by sandhill, this basin is probably the remains of an ancient lakebed. Another example of scrub is found in a band surrounding Sheeler Lake. Pebble Lake has a similar band of vegetation, but in this case, it might be more appropriate to classify it as an example of xeric hammock that has evolved from fire-suppressed scrub. It is also likely that the scrub around Pebble Lake was cleared away from the lake during park development.

The scrub northeast of Devil's Washbasin shares many characteristics with scrubby flatwoods. The soils found within this basin are not typical of those associated with sand pine scrub in that they are probably less droughty and less well drained than the surrounding sandhills. These soil characteristics make the area physically more like scrubby flatwoods than a true scrub, although the appearance and species composition of the vegetation is very similar to that of true scrub, particularly along the rim of the basin where the sands are deeper. Sand pines are scattered throughout the area; however park staff planted some of these in 1973-74 (Younker 1973), while others apparently seeded in from offsite. Longer than normal fire, return intervals in this area have allowed the persistence of these sand pines. A patch of vegetation dominated by fetterbush is located within the scrub at the lowest elevation. With the exception of the sinkhole lake, Devil's Washbasin; this part of the basin probably held water more recently in geological time and is closer to the water table than the surrounding scrub. The fetterbush patch is probably a remnant representative of the band of vegetation that typically occurs between scrub and a lakeshore. The lower edge of the scrub surrounding Sheeler Lake is also dominated by fetterbush.

Most of the scrub in the northeast corner of the park was in private hands until 1994 when a 150-acre parcel was purchased by the state from The Nature Conservancy. The

Nature Conservancy had previously purchased the tract to prevent development of the site as a residential area. Firebreaks have been installed within the newly acquired scrub and surrounding sandhills to allow the area to be prescribed burned in a safe and controlled fashion. The zone surrounding Devil's Washbasin was last burned in 1998. The two zones immediately to the east were burned in 1999. Due to the residential areas that lie to the east of the park boundary, the remaining scrub zones required mechanical fuel reduction prior to burning. The mechanically-treated areas will be burned as soon as possible after the treated fuels have cured. The long-term goal is to be able to burn the scrub over a period of years to stagger the age of the rejuvenated scrub. Periodic fires at intervals of approximately 7 - 15 years would be optimal to benefit the Florida scrub-jay (*Aphelocoma coerulescens*), although other species have differing requirements. Scrub-jays have not been recorded in the park since about 1990.

**General management measures:** Most of the eastern half of the northeast scrub has already been mowed or had the firebreaks widened. The next step is to reintroduce fire into the eastern zones, and continue prescribed burning of the western zones. The scrub zone around Sheeler Lake will continue to be burned with the surrounding sandhill, although it may not always ignite when the zone is burned.

**SLOPE FOREST**

**Desired future condition:** A climax mesic community that has a closed canopy of deciduous with evergreen trees in areas with steep slopes. Soil conditions vary from cool moist conditions with substantial organic component to nearly xeric sandy soils in higher elevations. Species composition is very similar to Upland Hardwood Forest. Typical canopy species may include southern magnolia (*Magnolia grandiflora*), mockernut hickory (*Carya alba*), sweetgum (*Liquidambar styraciflua*), live oak (*Quercus virginiana*) and spruce pine (*Pinus glabra*). Diverse understory composition may include smaller trees such as flowering dogwood (*Cornus florida*), redbud (*Cercis canadensis*), and American holly (*Ilex opaca*). Groundcover typically consists of a layer of leaf litter with sparsely populated shade tolerant species including spring ephemerals. Species may include green brier (*Smilax* spp.), switchcane (*Arundinaria gigantean*), and partridgeberry (*Mitchella repens*).

**Description and assessment:** The slope forest occurs on the sides of the steephead ravine associated with Gold Head Branch. While slope forests in the Florida panhandle contain many species characteristic of the Southern Appalachian and Piedmont regions, these species' ranges do not extend as far east as Gold Head Branch. Slope forests in eastern Florida have many species in common with upland mixed forests, but occur on much steeper slopes. The community remains in relatively good condition, despite erosion and compaction resulting from foot traffic off the designated trails.

Both the Fern Loop and Ridge Trails begin at the stairway near the head of the Gold Head Branch ravine. While the Fern Loop Trail is located at the base of the slope in the

head of the ravine, the Ridge Trail runs downstream, ascends the slope and skirts the upper edge of the slope forest, ending at the old mill site. Although these trails are, for the most part, well placed along natural terraces, numerous spur trails exist along the course of these trails. Many of these spurs are remnants of older routes that were abandoned when the trail was relocated, or are newer paths used by park visitors to access the branch. Many of these side trails go up or down slope and increase erosion of the slopes due to foot traffic and storm water runoff. The problem is particularly acute along the Fern Loop Trail where footpaths ascend the steep slope of the ravine head and accelerate the natural erosion taking place in this area. Another erosion problem occurs near the ravine stairway where the drain system for the stairway failed and allowed runoff to flow downslope over the surface of the slope.

**General management measures:** Slope forest requires little in the way of active management except to protect it from disturbances that increase erosion. The multiple side trails that run up or down slope from the official trail will continue to be blocked off or brushed in as necessary to discourage foot traffic on the slopes. Additional signage may be necessary to educate visitors about the damage caused by unauthorized foot trails. While some level of erosion is natural in a steephead ravine, particularly at the head of the ravine, efforts will continue to mitigate visitor impacts that unnaturally accelerate erosion within the slope forest.

**XERIC HAMMOCK**

**Desired future condition:** Typically considered a late successional stage of scrub or sandhill that generally occurs in small isolated patches on excessively well drained soils. Vegetation consists of a low closed canopy dominated by live oak that provides shady conditions. Typical plant species may also include Chapman's oak, and laurel oak. Sand pine, slash pine or longleaf pine may also be a minor component. Understory species include saw palmetto, fetterbush, myrtle oak, yaupon (*Ilex vomitoria*), Hercules' club (*Zanthoxylum clava-herculis*), and Florida rosemary (*Ceratiola ericoides*). Sparse groundcover layer of wiregrass and other herbaceous species may exist but typically absent. A continuous leaf litter layer may be present. Overgrown scrub in need of fire and/or mechanical treatment should not be confused with true xeric hammock.

**Description and assessment:** Xeric hammock occurs within the park in association with the ecotone between the Gold Head Branch ravine and the surrounding sandhills. Examples also occur in association with Lake Johnson and Pebble Lake. In most cases, xeric hammocks result from long-term fire suppression or exclusion. Much of the xeric hammock at Gold Head Branch appears to have developed naturally due to the fire shadow effects of the steephead ravine and the large sandhill upland lakes. Although fires from the sandhills may penetrate xeric hammock and consume fine fuels, only a catastrophic fire would convert a well-developed xeric hammock back to a sandhill. Based on vegetation notes from early National Park Service plans drawn during the

CCC era (USDI, NPS 1936a), the xeric hammock associated with the ravine appeared to exist prior to the 1930s when fire suppression activities were increasing. The dominant plant species listed on the 1936 drawings include American holly, and live oak.

The primitive campground is located in a section of xeric hammock just northeast of the seepage slope and east of the lower reaches of Gold Head Branch. The concentration of visitor use in this area has affected the xeric hammock to some extent, but the impacts are less than would have been expected in a sandhill natural community. As with the adjacent slope forest in the upper reaches of the ravine, the xeric hammock has been affected by spur trails that branch off from designated trails.

**General management measures:** Maintenance of xeric hammocks typically requires minimal efforts other than protection from visitor impacts. Where side trails off the main trails exist, they will be blocked off or brushed in to prevent erosion on the slopes within the xeric hammock above the ravine. Prescribed fires in the sandhills will continue to be allowed to burn into the edges of the xeric hammocks to maintain the ecotones.

**BASIN MARSH**

**Desired future condition:** Emergent herbaceous and low shrub species are dominant over most of the area, and there is an open vista. Trees are few and if present occur primarily in the deeper portions of the community. There is little accumulation of dead grassy fuels due to frequent burning; one can see often see the soil surface through the vegetation when the community is not inundated. Dominant vegetation includes maidencane (*Panicum hemitomon*), panicum (*Panicum* sp.), common reed (*Phragmites australis*), pickerelweed (*Pontederia cordata*), arrowheads (*Sagittaria* spp.), buttonbush (*Cephalanthus occidentalis*), St. John's wort (*Hypericum* spp.) and coastal plain willow (*Salix caroliniana*). The optimal fire return interval for this community is 2-10 years depending on fire frequency of adjacent communities.

**Description and assessment:** The basin marsh in the park occurs around much of Lake Johnson. The extent of this community depends on lake levels. Over the past 50 years, the specific location of this community has changed often, and its size has fluctuated dramatically. As lake levels rise the marsh areas become lake bottom and community types located upslope, such as seepage slope, may convert to basin marsh. The reverse occurs as water levels recede. Conversion of one community type to another is dependent on hydroperiod. Beck (1949) documented the large-scale death of a pine stand on the seepage slope due to a high water period that lasted more than a year. Water levels in Lake Johnson peaked at about 105 feet above m.s.l. in the summer of 1948 according to USGS lake level data. More recent water level readings for Little Lake Johnson are about 89 feet above m.s.l. in contrast. According to Beck's observations, marsh species such as lily pads and marsh marigolds (*Bidens mitis*) occurred where previously a pine forest had stood.

Delineation of natural communities that vary with water levels is a static assessment of a dynamic system. The current natural community map is based on recent water levels that are significantly lower than those experienced in the past. Lower water levels in recent years and the absence of fire under early management have permitted trees, particularly loblolly pines, to invade part of this community. However, a brief high water period during the late 1990s killed back many of the pines within the basin marsh. Prescribed burning has also been used to discourage the invasion of hardwoods and pines into the basin marsh.

Past disturbances such as shallow fireplow scars, ditches and berms within the basin marsh have been described in detail in the *Topography* and *Hydrology* sections above.

**General management measures:** Hydrology is the driving force in the maintenance and restoration of the basin marsh community. Removal of topographic alterations between Little and Big Lake Johnson has restored a more natural hydrological condition to a significant part of the basin marsh. Regional groundwater levels that are beyond the control of park management will continue to exert a large influence on the condition and extent of the basin marsh. Park staff will continue to apply periodic prescribed fires to the basin marsh to control invasion of woody vegetation that otherwise would be controlled by high water events.

**BAYGALL**

**Desired future condition:** Consists of a wet densely forested, peat-filled depression typically near the base of a slope. Seepage from adjacent uplands maintains saturated conditions. Medium to tall trees mainly consisting of sweetbay (*Magnolia virginiana*), loblolly bay (*Gordonia lasianthus*) and/or swamp bay (*Persea palustris*), occasionally sparse pines may also exist. A thick understory consisting of gallberry, fetterbush, dahoon (*Ilex cassine*), titi (*Cyrilla racemiflora*) and red maple (*Acer rubrum*) is typical. Climbing vines such as green briar, poison ivy (*Toxicodendron radicans*) and muscadine (*Vitis rotundifolia*) are usually abundant. The optimal fire return interval for this community is 25-100 years. Frequent fires from adjacent communities should be allowed to enter Baygall ecotone.

**Description and assessment:** The baygall community occurs in the large flat, forested area downstream of the mill site along Gold Head Branch. The ecotone between the slope forest and the seepage stream higher up the branch probably could also be classified as baygall. However, these areas are relatively narrow and difficult to map accurately. For the purposes of the natural community map, these areas are included within the slope forest.

Drawings from 1936 label the area downstream of the mill site as "heavy swamp hardwood growth" (USDI, NPS 1936a). In 1936, two branches of Gold Head Branch

flowed through this area, one along each side of the flat expanse of baygall. Later the western branch either dried up or was diverted. In the early 1980s, park staff reported a large area of subsidence in the northeastern corner of the baygall along the Gold Head Branch. This was likely due to a subterranean collapse of a portion of the streambed. Prescribed fires have also impacted this area by creeping through and burning peat deposits during dry periods. A large disturbed site located in the western half of this area may have been the result of a peat fire, flooding or both. At this site, most of the overstory has died off and the understory has become dominated by weedy vines. This area may have also been logged during a pine beetle eradication project.

A baygall typically occurs at the base of a sandy slope and receives seepage from adjacent uplands. Topographically, the area below the mill site resembles a baygall. Historically, it probably was a baygall, but recent events such as the regionally lowered water table, changes in the surface flow of Gold Head Branch, and peat fires have modified the floristic composition of portions of the area. Before a final definition of natural community boundaries in this area can be made, research on soil characteristics and additional investigation of the range and magnitude of previous impacts will be needed.

**General management measures:** The baygall community at Gold Head Branch will require additional field reconnaissance to delineate the boundaries and evaluate previous natural and anthropogenic disturbances. Further mapping of ditches associated with the mill site, and any topographic alterations by the CCC in the 1930s, may be needed to understand the hydrological changes to the baygall community. In most cases, restoration of native vegetation should proceed naturally as long as the natural hydrological regime is maintained. Additional research is needed to verify the hydrological conditions that may have existed historically. In the meantime, prescribed fires will be allowed to burn into the edges of the baygall from surrounding communities, and fires within the baygall area will be avoided to prevent ground fires in accumulated duff and peat deposits.

**BOG**

**Desired future condition:** Peat filled wetland that usually remains saturated or inundated, occurring on acidic soils. Vegetation structure may consist of dense forest shrubs 3-15 feet in height, or open and marsh like conditions with no woody species present. Typical plant species may include sphagnum moss (*Sphagnum* spp.), titi, fetterbush, buttonbush, wax myrtle (*Myrica cerifera*), bay species, and occasionally scattered pines. The optimal fire return interval for this community is dependant on the surrounding communities. Fires from adjacent uplands should be allowed to enter bog ecotone. This community is highly susceptible to hydrologic alteration. All hydrologic disturbances negatively impacting this community should be restored.

**Description and assessment:** Bog communities are relatively rare in the state, or at least

they are rarely classified as such. Recent evaluations of the Gold Head Branch outfall area have revealed that a bog lies within the broad seepage slope community. Located along what appears to be a natural system of braided seepage, the bog can be distinguished from the surrounding seepage slope by the presence of several feet of peat deposits and relatively dense mats of sphagnum moss. Unlike seepage slopes, which usually have loamy sand soils, bogs are characterized by their deep peat substrates (FNAI/DNR 1990). The bog community at Gold Head was disturbed in the past by the construction of the east-west portion of the L-shaped berm. The berm likely affected surface water flow in the vicinity, although it may not have had much of an impact on lateral flow within the deep peat layers. This area probably once supported hooded pitcherplants (*Sarracenia minor*) and should be a suitable location for reintroduction of that extirpated species.

**General management measures:** Restoration and maintenance of the natural hydrological regime is essential to maintain a bog community. Removal of the berm between Little and Big Lake Johnson should restore some of the natural sheet flow in this area. Like the adjacent basin marsh, regional groundwater levels that are beyond the control of park management will continue to exert a large influence on the condition and extent of the bog. Extended droughts have a large effect on surficial groundwater levels and reduce seepage flow in the bog and surrounding seepage slope. Reintroduction of hooded pitcherplants through direct seeding was initiated in February 2008. Recruitment of pitcherplants will be monitored to determine the success of the project. Outplanting of container-grown plants may be necessary if the direct seeding fails to establish a sustainable population.

**DEPRESSION MARSH**

**Desired future condition:** Emergent herbaceous and low shrub species are dominant over most of the area, and there is an open vista. Trees are few and if present occur primarily in the deeper portions of the community. There is little accumulation of dead grassy fuels due to frequent burning; one can often see the soil surface through the vegetation when the community is not inundated. Dominant vegetation includes maidencane, panicum, common reed, pickerelweed, arrowheads, buttonbush, St. John's wort and coastal plain willow. The optimal fire return interval for this community is 2-10 years depending on fire frequency of adjacent communities.

**Description and assessment:** A small depression marsh lies to the northwest of Pebble Lake, perched on the edge of a slope. The overflow from this wetland feeds a seepage stream that runs between the depression marsh and Pebble Lake. The depression marsh is in fair condition. It has likely been impacted by erosion from upslope in the past, and the surrounding ecotone has become overgrown due to lack of fire.

**General management measures:** The depression marsh will require little specific management other than protection from upslope erosion. Fire frequency is expected to

be low since the marsh is surrounded by xeric hammock and lacks extensive herbaceous vegetation.

**SEEPAGE SLOPE**

**Desired future condition:** Trees are few or absent. Groundcover is dense and is exceptionally species-rich. Dominant species are wiregrass and/or sedges. In the peninsula, blue maidencane (*Amphicarpum muhlenbergianum*), and Curtiss' dropseed (*Sporobolus curtissii*) may also be dominant. In the western panhandle and northeast Florida, seepage slopes may be dominated by species such as titi, fetterbush, large gallberry (*Ilex coriacea*), dahoon holly and other wetland shrubs. Pitcherplants, other carnivorous plant species and terrestrial orchids may be present and abundant in some areas. The optimal fire return interval for this community is 1-3 years.

**Description and assessment:** The seepage slope community is located at the southern end of the Gold Head Branch ravine within the broad outfall region, primarily south of the Primitive Camp Road. In the past, the seepage slope community likely also extended north of the Primitive Camp Road as a narrow ecotone along the edges of the seepage stream within the mesic flatwoods. There is some evidence that hooded pitcherplants were once relatively common along the margins of the seepage stream in this area, as well in the more expansive areas of seepage slope and bog south of the Primitive Camp Road (D. Stewart-Kent pers. comm. A.Nail pers. comm.). This unusual system has experienced more damage than any other community in the park and is now considered to be in poor condition. A portion of this area may have been scraped to form the L-shaped berm near Lake Johnson. Topsoil was also historically removed from this area to be formed into terraces for erosion control in visitor use areas around Little Lake Johnson. Several piles of soil remain adjacent to the Primitive Camp Road. The total extent of the soil scraping in this area is not known at this time. As with the basin marsh down slope, the limits of the seepage slope community are determined by hydroperiod and, largely, by fire. Invading hardwoods and off-site pines such as loblolly pine have hidden many of the natural characteristics of the seepage slope. Written comments on early drawings from the CCC era describe this area as heavy slash pine (USDI, NPS 1936a). Slash pines are more fire tolerant than the loblolly pines that invaded this community after the 1948 floods. Although the natural extent of slash pine cover within this area is still open to debate, the seepage slope probably had a relatively open understory, and any overstory pines were probably slash or longleaf rather than loblolly. Frequent fires, coupled with periodic high water events, would have maintained the open aspect of the community.

**General management measures:** Seepage slope communities are maintained by both hydrology and fire. Seepage from the surficial aquifer is influenced by local rainfall and regional groundwater levels. Maintaining a natural hydrological regime and fire regime is essential for restoration of the seepage slope at Gold Head Branch. Periodic prescribed fires should continue to restore the natural aspect of the seepage slope by

controlling hardwood invasion and encouraging herbaceous growth. The seepage slope grades into the bog and basin marsh communities and is usually burned along with those communities. Restoration of the native groundcover species will be a continuing process. Direct seeding of hooded pitcherplants in February 2008 will hopefully reestablish that extirpated species.

**SANDHILL UPLAND LAKE**

**Desired future condition:** Shallow sandy bottomed lake formed in shallow depressions within sandhill upland communities. Water levels may fluctuate dramatically, including completely drying up only during extreme droughts. Typical vegetation includes emergent, submerged aquatic plants and transitional species along the shoreline. Species include water lilies, sawgrass (*Cladium jamaicense*), pickerelweed, meadow beauty (*Rhexia* spp.), St. John's wort, yelloweyed grass (*Xyris* spp.), hatpins (*Syngonanthus flavidulus*) and spikerush (*Eleocharis* spp.). The natural hydrology, nutrient loading and water quality of this community must be maintained, with no unnatural disturbances. Impacts such as altered water table or disturbances in adjacent uplands that would cause artificial erosion and an increase in turbidity should be restored.

**Description and assessment:** Most of Lake Johnson (Big and Little Lake Johnson combined) lies within the confines of the park; however, the perimeter of the lake has changed tremendously in the past 60 years. The lake margin has receded as basin marsh areas have expanded in response to the relatively low lake levels of recent decades. The current natural community map boundaries are a reflection of the more recent, rather than historical water levels. Both lakes receive surface flow from Gold Head Branch in addition to input from groundwater seepage and rainfall. Lake Johnson as a whole is considered to be in good condition.

Several natural constrictions in Lake Johnson cause sub-basins to be separated from the main part of the lake during low water periods. One such constriction was bermed in 1957, effectively creating two separate basins that are now referred to as Big Lake Johnson and Little Lake Johnson. Additional details about the hydrology of Lake Johnson can be found in the *Hydrology* section above.

**General management measures:** Regional groundwater levels that depend on local rainfall are probably the greatest influence on the sandhill upland lakes within the park. Unfortunately, regional groundwater levels are beyond the control of park management. Little Lake Johnson has been impacted by erosion from visitor access to the shorelines. Stabilization of the shorelines and elimination of duplicate access points has helped mitigate this problem, and will be continued, particularly downslope of the cabin area. Continuation of the LAKEWATCH Program in the sandhill upland lakes will be an important monitoring tool to detect declines or improvements in the condition of the lakes.

**SINKHOLE LAKE**

**Desired future condition:** Relatively permanent and typically deep lake characterized by clear water with a high mineral content formed in depressions within a limestone base. Vegetative cover may range from being completely absent, consist of a fringe of emergent species or be completely covered with floating plants. Typical plant species may include smart weed (*Polygonum* spp.), duckweed (*Lemna* spp.), bladderwort (*Utricularia* spp.) and rushes (*Juncus* spp.). Desired conditions include minimizing disturbances that cause unnatural erosion and minimizing pollution to the connected aquifer system.

**Description and assessment:** There are three sinkhole lakes within Mike Roess Gold Head Branch State Park: Sheeler Lake, Pebble Lake and Devil's Washbasin. These lakes have been subjected to varying degrees of disturbance in the past. Foot traffic has caused slope and shoreline erosion around all of these water bodies. Some destruction of littoral and upland vegetation has occurred as well. Rainfall and runoff from adjacent areas have accelerated the erosion around these lakes.

Sheeler Lake in particular was historically impacted by recreational use. As detailed in the *Hydrology* section above, the lake was closed to swimming in 1984 and restoration measures have since been undertaken. Devil's Washbasin has never suffered the same level of impact due to its remote location; nevertheless, some bank erosion still has occurred. The shoreline and slopes of Pebble Lake were undoubtedly disturbed during the early development phases of the park. More recent impacts to the lake from foot traffic are more apparent. The lake was also degraded somewhat by a faulty septic system during the 1990s. Additional information about these sinkhole lakes may be found in the *Hydrology* section.

**General management measures:** All of the sinkhole lakes require monitoring and control of shoreline access by visitors to prevent erosion and associated declines in water quality. Sheeler Lake and Pebble Lake are more likely to have erosion issues due to the close proximity to the main visitor use areas. A combination of educational signage and natural or artificial barriers should be use to limit shoreline access while still allowing appreciation of the scenic vistas, particularly at Sheeler Lake. As with the sandhill upland lakes, the LAKEWATCH Program will be continued to monitor water quality parameters in the sinkhole lakes.

**SEEPAGE STREAM**

**Desired future condition:** Narrow, relatively short perennial or intermittent stream formed by percolating water from adjacent uplands. Water color is clear to slightly colored, with a slow flow rate and constant temperature. Bottom substrate is typically sandy, but may include gravel or limestone.

**Description and assessment:** Two seepage stream systems occur within the park. Gold

Head Branch flows down a large steephead ravine into the seepage slope and basin marsh areas on the northern edge of Lake Johnson. The other, an unnamed intermittent seepage stream, feeds Pebble Lake from a short ravine and depression marsh located just northwest of Pebble Lake. Both systems are considered to be in good condition, although Gold Head Branch may experience siltation at times due to erosion along the sides of the ravine.

Before the initial acquisition of the park in the 1930s, a mill operated on Gold Head Branch upstream of the broad, flat expanse of baygall located north of the seepage slope above Lake Johnson. The mill site included a dam across the Branch that impounded water upstream to form a mill pond. Natural flow of Gold Head Branch was apparently modified to such an extent that the Branch followed two courses below the dam. Early drawings (USDI, NPS 1936a) depict the site of the actual mill as south of the dam, with the mill race diverting flow south past the mill and into a channel located along the western edge of the baygall. The spillway on the dam appears to have fed another channel that carried flow to the east and then south along the eastern edge of the baygall and through the mesic flatwoods. The lower reaches of Gold Head Branch naturally form a braided stream system within the seepage slope and basin marsh downstream. This broad flat delta formed over geologic time from the eroded sands of the ravine. The branch has historically followed many paths, both natural and artificial, within this delta. Details on the historical paths of the seepage stream may be found in the *Topography* and *Hydrology* sections above.

**General management measures:** Management of the seepage streams will primarily entail protection from excessive erosion. While some erosion is natural at the head of steephead ravines, excessive erosion caused by foot traffic within or along the banks of the seepage stream, or on the slopes above, can cause declines in water quality. Maintenance and expansion of the boardwalk system at the head of the Gold Head Branch Ravine will limit visitor access to the seepage stream and the slopes above it. Staff will continue monitoring water quality of the lower portion of the seepage stream as part of the LAKEWATCH Program.

**RUDERAL**

**Desired future condition:** The ruderal areas within the park will be managed to remove priority invasive plant species (EPPC Category I and II species). Other management measures include limited restoration efforts designed to minimize the effect of the ruderal areas on adjacent natural areas. Cost-effectiveness, return on investment and consideration of other higher priority restoration projects within the park will determine the extent of restoration measures in ruderal areas.

**Description and assessment:** A large, steep-sided borrow pit is located in the southwest corner of the park. Several adjacent areas have been used for dumping of refuse and building materials, probably since the CCC era. Complete restoration of the

borrow pit would require a large quantity of fill and may not be cost effective in comparison with other restoration priorities in the park. A re-contouring and partial filling of the pit may suffice to reduce the effects of the pit on the adjacent sandhills. An active, privately owned sand mine is adjacent to the western boundary of the park in this area, so the pit has little effect on habitat continuity. The disturbed sandhills with degraded groundcover to the north and east of the pit remain a priority for restoration.

**General management measures:** The borrow pit in the southwest corner of the park should be re-contoured and partially filled with available fill material as time and funding are available. Control of EPPC Category I and II species in this area, particularly rose natalgrass, remains a priority.

**DEVELOPED**

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

**Description and assessment:** The developed areas include staff residences, maintenance buildings, cabins and recreational or service facilities.

**General management measures:** Staff will continue to control invasive plant species in developed areas of the park. Additional retro-fitting of stormwater management may be needed in the main picnic area parking areas on the north side of Little Lake Johnson. Defensible space will be maintained around all structures in the sandhills and other areas that are maintained with prescribed fire or might be at risk from wildfires.

**Imperiled Species**

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

Fire-adapted uplands across the state have been declining for the past century due to development pressures, fire suppression, and forestry and agricultural practices. Consequently, many of the animal and plant species that are restricted to these community types are also declining. Mike Roess Gold Head Branch State Park preserves an excellent example of the sandhill natural community on the Trail Ridge, and with certain exceptions, maintains a nearly complete species assemblage. The park is well known for its populations of gopher tortoises (*Gopherus polyphemus*), fox squirrels (*Sciurus niger shermani*), eastern indigo snakes (*Drymarchon corais couperi*) and

southeastern kestrels (*Falco sparverius paulus*).

From 1977-1984, the Duval Audubon Society chapter managed a series of kestrel nest boxes at the park. Another nest box program was initiated in early 1990 by park and district staff to replace the original eight boxes. Due to the limited number of suitable, natural nest cavities in the park, artificial nest boxes were considered necessary for the local perpetuation of the southeastern kestrel. The kestrel boxes also provide cavities for screech owls (*Megascops asio*), great-crested flycatchers (*Myiarchus crinitus*), fox squirrels and flying squirrels (*Glaucomys volans*). As the number of natural cavities in existing snags gradually increases, the need for the program will be reevaluated. The kestrel nest box program was very successful in attracting nesting pairs. During 1990, over 25 fledglings were produced. Nearly all of the fledglings were color-banded and, in later years, patagial-tagged by Dr. John Smallwood of the University of Florida. Monitoring of the boxes during the breeding season was sporadic for several years since Dr. Smallwood was not available to band the fledglings. The park continues to maintain the boxes on an annual basis and has recently entered into a cooperative project with FWC as part of the SE Kestrel Monitoring and Recovery Project (Miller 2008).

The gopher tortoise population at Mike Roess Gold Head Branch State Park has also been the subject of research, but results have not been nearly as encouraging. Studies by Joan Berish of the Florida Fish and Wildlife Conservation Commission and Dr. Mary Brown and Dr. Lori Wendland of the University of Florida College of Veterinary Medicine have documented a very high incidence of exposure to *Mycoplasma agassizii*, the pathogen that is responsible for Upper Respiratory Tract Disease (URTD) in the gopher tortoise and the western desert tortoise (Berish 1997). Anecdotal evidence indicates that sites where tortoises have historically been released are more likely to have tortoises that have been exposed to the pathogen that causes URTD. Unfortunately, the park has been the recipient of many "dumped" tortoises that were released by a well-meaning public. The University of Florida has been using Gold Head Branch State Park since 2002 as a site for a long-term monitoring study to track the fate of infected tortoises. Exposure rates to *Mycoplasma agassizii* have ranged from 62 percent to 33 percent. However, cultures taken from gopher tortoises in 2005 actually isolated a related organism, *Mycoplasma testudineum*, which has been associated with URTD at two other sites in NE Florida. Additional studies are needed to determine the pathogenicity of this species.

Burrow surveys were conducted in 1990 and 2000 that showed a decrease in the number of burrows in the areas sampled within the park. It is likely that there was a die-off of gopher tortoises in the park during that period, which is reflected in the decrease in the number of burrows. Fortunately, recent work done by the University of Florida has documented an increase in the number of juvenile tortoises within their study sites in the park.

Gopher tortoise burrow commensals such as the gopher frog (*Rana capito*) have been documented within the park. The Florida mouse (*Podomys floridanus*) also occurs within the park and has been surveyed by FFWCC and by Division staff. Large areas of suitable habitat exist within the park for these species.

Indigo snakes are sighted periodically in the park and have been documented as road kills. Fox squirrels are observed relatively often in the park, but the park does not support a large population. The fox squirrels are somewhat dependent on acorns produced by oaks that are associated with xeric hammock areas or with the upper edges of the ravine (Wooding pers. comm.).

Historically, red-cockaded woodpeckers (*Picoides borealis*) nested within the park. Cavities within living longleaf pines may still be found in the park; however, most of these cavities have been enlarged by other species.

Another threatened species that appears to have been extirpated from the park is the Florida scrub-jay. Once recorded in small numbers in the scrub northeast of Devil's Washbasin, it has not been seen in the park since at least 1990. Prior to 1998, the last fire documented in the scrub had occurred in the early 1970s. Vegetation re-growth since that time had produced a scrub oak cover whose height and density precluded use of the area by scrub-jays. The 1994 acquisition of the large section of scrub northeast of Devil's Washbasin made prescribed burning of the area much safer. It encouraged a resumption of active management of the scrub in 1998 and 1999, when the three westernmost scrub zones were burned. It is hoped that burning of the scrub zones on a staggered schedule will improve chances for successful re-colonization of the area by scrub-jays. The park participated in a regional scrub-jay evaluation led by Division staff that included field staff from the Division of Forestry at Etoniah Creek State Forest, and FFWCC and Florida National Guard staff from the Camp Blanding Military Reservation. The purpose of the evaluation was to discuss management of the scrub-jays in a regional context, and to assess the condition of scrub-jay habitat on public 웸 윻 으 읊 읨 읳 익 잌 잍 쟐 □ □ □ □ □ □ □ □ □ □□□□□□□□□□□□□□□□□□□□□□

A pair of bald eagles (*Haliaeetus leucocephalus*) currently nests within the park. A nest was formerly located in a large pine in close proximity to the Loblolly Trail east of the branch. In response to staff concerns, a section of the Florida Trail was re-routed to a location further from that nest tree. Subsequent to the trail re-routing the original nest tree fell. The currently active nest is located across the park on the northwestern edge of Sheeler Lake. It is well-insulated from the park's recreational trails. It is presumed to be the same pair of eagles that previously nested in the park. The Sheeler Lake nest has been active for several years and was active as recently as the winter of 2010.

Surveys for adult Say's Spiketail Dragonfly (*Cordulegaster sayi*) were conducted in 2009 and confirmed the presence of the population within the park. Adult spiketails are

known to use the sandhills on either side of the ravine as foraging habitat. Due to the short flight time of this species, adult surveys must be conducted during a relatively narrow window of time.

Several listed plant species occur within the park. White and Judd (1985) conducted a survey of the flora of the Gold Head Branch ravine and documented that area of the park relatively well. However, the surrounding sandhills were not sampled as heavily. Some of the park's imperiled plant species occur within the sandhills, but not all have been located recently. Examples of showy dawnflower (*Stylisma abdita*) have been reconfirmed within the park. Several rare plant species, including hooded pitcherplants, were historically present in the seepage slope and bog natural communities. Perturbations, both natural and anthropogenic, have likely caused the extirpation of many species from these normally diverse communities. Johnson (2001) has summarized the anecdotal history of pitcherplants within the park and discusses the habitat disturbances that eliminated them.

Table 1 contains a list of all known imperiled species within the park and identifies their status as defined by various entities. It also identifies the types of management actions that are currently being taken by Division staff or others, and identifies the current level of monitoring effort. The codes used under the column headings for management actions and monitoring level are defined following the table. Explanations for federal and state status as well as FNAI global and state rank are provided in Addendum 6.

**Table 1: Imperiled Species Inventory**

| Common and Scientific Name | Imperiled Species Status | | | | Management Actions | Monitoring Level |
|---|---|---|---|---|---|---|
| | FWCC | USFWS | FDACS | FNAI | | |
| PLANTS | | | | | | |
| | | | | | | |
| Curtiss' milkweed *Asclepias curtissii* | | | LE | | 1,2,7 | Tier 1 |
| Garberia *Garberia heterophylla* | | | LT | | 1,7 | Tier 1 |
| Trailing milkvine *Matelea pubiflora* | | | LE | | 1,2,7 | Tier 1 |
| Hooded pitcherplant *Sarracenia minor* | | | LT | | 1,3,4 | Tier 2 |

| Common and Scientific Name | Imperiled Species Status | | | | Management Actions | Monitoring Level |
|---|---|---|---|---|---|---|
| | FWCC | USFWS | FDACS | FNAI | | |
| Buckthorn bully *Sideroxylon lycioides* | | | LE | G5, S2 | 1 | Tier 1 |
| Showy dawnflower *Stylisma abdita* | | | LE | G3, S3 | 1,2,7 | Tier 2 |
| Diverseleaf crownbeard *Verbesina heterophylla* | | | | G2, S2 | 1 | Tier 1 |
| | | | | | | |
| INVERTEBRATES | | | | | | |
| | | | | | | |
| Spring-loving psiloneuran caddisfly *Agarodes libalis* | | | | G3, S2S3 | 4,9 | Tier 1 |
| Florida cernotinan caddisfly *Cernotina truncona* | | | | G4, S2 | 4,9 | Tier 1 |
| Say's spiketail dragonfly *Cordulegaster sayi* | | | | G2, S2 | 1,4 | Tier 3 |
| Seminole skipper *Hesperia attalus slossonae* | | | | G2G4 T2T3, S2S3 | 1 | Tier 1 |
| Purple skimmer *Libellula jesseana* | | | | G1, S1 | 4,10 | Tier 1 |
| Ordway melanoplus grasshopper *Melanoplus ordwayae* | | | | G1G2, S1S2 | 1,7 | Tier 1 |
| Rasmussen's neotrichia caddisfly *Neotrichia rasmusseni* | | | | G1, S1 | 4, 9 | Tier 1 |
| Daytona long-horned caddisfly *Oecetis daytona* | | | | G3, S2? | 4,9 | Tier 1 |
| Porter's long-horn caddisfly *Oecetis porteri* | | | | G3G4, S2S3 | 4,9 | Tier 1 |
| Short orthotrichian microcaddisfly *Orthotrichia curta* | | | | G4, S1S2 | 4,9 | Tier 1 |

| Common and Scientific Name | Imperiled Species Status | | | | Management Actions | Monitoring Level |
|---|---|---|---|---|---|---|
| | FWCC | USFWS | FDACS | FNAI | | |
| Gold Head Branch caddisfly *Oxyethira chrysocara* | | | | G1, S1 | 4,9 | Tier 1 |
| Florida cream and brown microcaddisfly *Oxyethira florida* | | | | G1G2, S1S2 | 4,9 | Tier 1 |
| Pescador's bottle-cased caddisfly *Oxyethira pescadori* | | | | G1G3, S2 | 4,9 | Tier 1 |
| Skelley's june beetle *Phyllophaga skelleyi* | | | | G2, S2 | 1 | Tier 1 |
| Alachua pleasing fungus beetle *Triplax alachuae* | | | | G2G4, S2S4 | 1 | Tier 1 |
| AMPHIBIANS | | | | | | |
| Gopher frog *Rana capito* | LS | | | G3, S3 | 1,2,4, 7 | Tier 2 |
| REPTILES | | | | | | |
| American alligator *Alligator mississippiensis* | LS | LT(S/A) | | G5, S4 | 4,10 | Tier 1 |
| Eastern indigo snake *Drymarchon corais couperi* | LT | LT | | G3, S3 | 1,6,7 | |
| Gopher tortoise *Gopherus polyphemus* | LT | | | G3/S3 | 1,2,6, 7,13 | Tier 3 |
| Florida pine snake *Pituophis melanoleucus mugitus* | LS | | | G4T3, S3 | 1,7 | Tier 1 |
| BIRDS | | | | | | |
| Florida Scrub-Jay *Aphelocoma coerulescens* | LT | LT | | G2, S2 | 1,7 | Tier 2 |
| Little Blue Heron *Egretta caerulea* | LS | | | G5, S4 | 4 | Tier 1 |
| Snowy Egret *Egretta thula* | LS | | | G5, S3 | 4 | Tier 1 |
| Tricolored Heron *Egretta tricolor* | LS | | | G5, S4 | 4 | Tier 1 |
| Peregrine Falcon *Falco peregrinus* | | | | G4, S2 | | Tier 1 |

| Common and Scientific Name | Imperiled Species Status | | | | Management Actions | Monitoring Level |
|---|---|---|---|---|---|---|
| | FWCC | USFWS | FDACS | FNAI | | |
| Southeastern American Kestrel *Falco sparverius paulus* | LT | | | G5T4, S3 | 1,5,6, 7,13 | Tier 3 |
| Wood Stork *Mycteria americana* | LE | LE | | G4, S2 | 4 | Tier 1 |
| Red-cockaded Woodpecker *Picoides borealis* | LS | LE | | G3, S2 | 1,6,7 | Tier 1 |
| Least Tern *Sterna antillarum* | LT | | | G4, S3 | | Tier 1 |
| MAMMALS | | | | | | |
| Florida mouse *Podomys floridanus* | LS | | | G3, S3 | 1,6 | Tier 2 |
| Sherman's fox squirrel *Sciurus niger shermani* | LS | | | G5T3, S3 | 1 | Tier 2 |
| Florida black bear *Ursus americanus floridanus* | LT | | | G5T2, S2 | | Tier 1 |

**Management Actions:**

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

**Monitoring Level:**

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

**Tier 2.** Targeted Presence/Absence: includes monitoring methods/activities that are specifically intended to document presence/absence of a particular species or suite of species.
**Tier 3.** Population Estimate/Index: an approximation of the true population size or population index based on a widely accepted method of sampling.
**Tier 4.** Population Census: A complete count of an entire population with demographic analysis, including mortality, reproduction, emigration, and immigration.
**Tier 5.** Other: may include habitat assessments for a particular species or suite of species or any other specific methods used as indicators to gather information about a particular species.

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

**Exotic Species**

Exotic species are plants or animals not native to Florida. Invasive exotic species are able to out-compete, displace or destroy native species and their habitats, often because they have been released from the natural controls of their native range, such as diseases, predatory insects, etc. If left unchecked, invasive exotic plants and animals alter the character, productivity and conservation values of the natural areas they invade.
The park has several invasive exotic plant species. Mimosas (*Albizia julibrissin*) (EPPC I) and flamegold trees (*Koelreuteria elegans*) (EPPC II) have been removed from residence sites. Scattered camphor trees (*Cinnamomum camphora*) (EPPC I) and lantana (*Lantana camara*) (EPPC I) have also been recorded in the park. Japanese climbing fern (*Lygodium japonicum*) is present in scattered locations. Rose natalgrass (EPPC I) is a potentially serious problem. It is thought to have first invaded the park near the old borrow pit. Apparently, the plant has been transported to other locations in the park with soil borrowed from the vicinity of the original infestation, or brought in from the adjacent sand mine. Borrowing of soil within the park has been discontinued. Since the approval of the last management plan in 2001, over 45 acres of exotic plants have been treated within the park. This figure includes multiple re-treatments at the same locations.

Table 2 contains a list of the Florida Exotic Pest Plant Council (FLEPPC) Category I and II invasive, exotic plant species found within the park (FLEPPC, 2009). FLEPPC compiles invasive species lists that are revised every two years. Professional botanists and others perform exhaustive studies to determine invasive exotic plants that should be placed on the lists. Invasive exotic plants are termed Category I when they are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused. Category II invasive exotics have increased in abundance or frequency but have not yet altered Florida plant communities to the

extent shown by Category I species. The table also identifies relative distribution for each species and the management zones in which they are known to occur. An explanation of the codes is provided following the table. For an inventory of all exotic species found within the park, see Addendum 5.

**Table 2: Exotic Plant Species Inventory**

| Common and Scientific Name | FLEPPC Category | FNAI Distribution | Management Zone |
|---|---|---|---|
| Mimosa *Albizia julibrissin* | I | 0 | |
| Camphortree *Cinnamomum camphora* | I | 1 | 3C |
| Flamegold *Koelreuteria elegans* subsp. *formosana* | II | 0 | |
| Lantana *Lantana camara* | I | 0 | |
| Japanese honeysuckle *Lonicera japonica* | I | 2 | 6B |
| Japanese climbing fern *Lygodium japonicum* | I | 2 | 5A, 3A, 3E |
| Rose natalgrass *Melinis repens* | I | 2 | 2C, 2E, 3G, 6B, 6C, 6D, 7H |
| Chinese tallowtree *Sapium sebiferum* | I | 1 | 7H |

**Distribution Categories:**

**0 =** No current infestation: All known sites have been treated and no plants are currently evident.

**1 =** Single plant or clump: One individual plant or one small clump of a single species.

**2 =** Scattered plants or clumps: Multiple individual plants or small clumps of a single species scattered within the gross area infested.

**3 =** Scattered dense patches: Dense patches of a single species scattered within the gross area infested.

**4 =** Dominant cover: Multiple plants or clumps of a single species that occupy a majority of the gross area infested.

**5 =** Dense monoculture: Generally a dense stand of a single dominant species that not only occupies more than a majority of the gross area infested, but also covers/excludes other plants.

**6 =** Linearly scattered: Plants or clumps of a single species generally scattered along a linear feature, such as a road, trail, property line, ditch, ridge, slough, etc. within the gross area infested.

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

In some cases, native wildlife may also pose management problems or nuisances within state parks. A nuisance animal is an individual native animal whose presence or activities create special management problems. Examples of animal species from which nuisance cases may arise include raccoons (*Procyon lotor*), gray squirrels (*Sciurus carolinensis*), venomous snakes and alligators (*Alligator mississippiensis*). Nuisance animals are dealt with on a case-by-case basis.

It is fortunate that the park has relatively few problems with exotic animals. Although feral hogs (*Sus scrofa*) are not known to occur in the park, nine-banded armadillos (*Dasypus novemcinctus*) are present. Armadillos not only impact native animal species that they feed upon, but also destabilize slopes and cause erosion from their diggings. In addition, although alligators could potentially cause concern in the swimming area, the park does not have any significant nuisance animal species. Since the approval of the last management plan in 2001, twenty-seven exotic animals have been removed from the park.

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

**Special Natural Features**

Although Mike Roess Gold Head Branch State Park contains many natural features, the most spectacular one is the Gold Head Branch ravine. Steephead ravines like this are quite rare east of the Florida panhandle. Undisturbed ones are rarer still. The ravine lengthens and enlarges naturally, as the springs at its head erode the soil and the material is washed away by the current. Other springs along the course of the stream may, in time, form lateral valleys in the same manner. Designated a State Natural Feature Site, the ravine is approximately 40 feet deep and 1.5 miles long. The width varies throughout, but reaches several hundred feet in some areas.

Near the bottom of the ravine, a sweetgum was selected as the state champion of its species in 1984. The tree measured 102 feet in height and 13.5 feet in diameter. Lightning strikes and rot have relegated that tree to past-champion status.

The three sinkhole lakes in the park are typical cone-shaped depressions with steep-sloped sides. Sheeler Lake and Devil's Washbasin are fed exclusively by groundwater, while Pebble Lake receives intermittent surface flow as well. Research has shown these lakes to be unusually, but naturally, acidic. Sheeler has also been found to be one of the

oldest lakes within the state. It has been suggested that the fish in Sheeler Lake and perhaps in Devil's Washbasin as well, exist within a very unusual environment. In general, fish are not found in waters of such high acidity except in Florida. The population densities, body sizes and reproductive rates of these lacustrine fish are believed to be quite low. Consideration should be given to nominating the park's sinkhole lakes as State Natural Feature Sites.

## Cultural Resources

This section addresses the cultural resources present in Mike Roess Gold Head Branch State Park that may include archaeological sites, historic buildings and structures, cultural landscapes and collections. The Florida Department of State maintains the master inventory of such resources through the Florida Master Site File (FMSF). State law requires that all state agencies locate, inventory and evaluate cultural resources that appear to be eligible for listing in the National Register of Historic Places. Addendum 7 contains the Florida Department of State, Division of Historical Resources Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties, the criteria used for evaluating eligibility for listing in the National Register of Historic Places and the Secretary of Interior's definitions for the various preservation treatments (restoration, rehabilitation, stabilization and preservation). The following is a summary of the FMSF inventory and the related evaluation of significance.

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

**Description and assessment:** Mike Roess Gold Head Branch State Park was dedicated April 15, 1939. It is among the eight state parks acquired and developed in the 1930s in conjunction with the Civilian Conservation Corps (CCC). The design and construction of the park were directed by the National Park Service, Division of State Parks. Most of the park was designed and or approved by Landscape Architect Emmet Hill, Florida Park Service Director in the 1950s. Construction of the park was handled by CCC Camp SP-5 that was located along the original south boundary of the park. Nineteen buildings survive of the 23 original buildings constructed by the CCC. These buildings included cabins, a bathhouse, picnic pavilion, a blacksmith forge, support structures and the park entrance. The current layout and road system generally follows the original park plan.

The CCC structures were surveyed and documented in a 1989 survey conducted by Historic Property Associates of nine New Deal Era parks. This report indicated that no additional survey work or documentation was needed for the buildings at the park. The only exception is that additional buildings have become 50 years of age since this

survey was conducted. A concession building, campground and associated buildings, and additional cabins were added during the 1950s that have been documented and added to the FMSF.

Additional resources located in the park include the site of a nineteenth century grist mill located at the end of the park's ravine. This structure was partially reconstructed and later demolished. A FMSF form was created for the site, but very limited research on or evaluation of the structure has been conducted. There are two other archaeological sites recorded in the FMSF in addition to the Grist Mill. The Johnson Lake Canoe site is a prehistoric canoe site that has not been evaluated for significance. The Gold Head Branch site is a prehistoric site containing no ceramics and has been determined as ineligible for the National Register.

The park needs to have an archaeological predictive model created to guide future development and survey work.

The park currently has a number of museum objects, archeological artifacts, and archival materials in its possession, but none of them are organized as formal collections. These items include a small collection of original CCC tools which were used to construct the original park buildings, approximately 25 original CCC blueprints relative to the park's original construction, the remains of a dugout canoe discovered at Big Lake Johnson, a rebuilt section of the narrow gauge railroad, historic photographs dating from the 1930s, and a few newspaper articles.

Applying the criteria for listing in the National Register of Historic Places involves the use of contexts as well as an evaluation of integrity of the site. Every significant historical or cultural resource's significance derives from historical contexts. Evaluation will result in a designation of NR (National Register eligible), LS (locally significant), NE (not evaluated) or NS (not significant).

Mike Roess Gold Head Branch state park is significant in the twentieth century history of Florida as one of nine parks of the Florida State Park system developed during the New Deal era. It is also an excellent representative of early twentieth century recreation planning. A study by Historic Property Associates in 1989 recommended that resources located in Florida State Parks developed during the 1930s CCC era should be nominated to the National Register of Historic Places through a multiple property nomination. In the case of this park, its buildings retain the essential character and quality of the original CCC design. The park's CCC structures possess a high level of integrity as to location and construction. These resources, both the park design and the CCC buildings, are considered eligible for listing in the National Register of Historic Places. The original park limits constitute an eligible National Register Historic District.

The remaining 50 year old buildings including a 1950s ranger residence, concession

building and picnic shelters do not contribute in any way to significance of the CCC period area of significance for this park. The buildings are isolated examples of the continued development of state parks. For this reason, these buildings are not considered eligible for listing in the National Register of Historic Places.

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

The recorded cultural resources are generally in fair condition. Several, like the Bathhouse (14), receive little use or wear. Most of the buildings like the pavilion and cabins are generally well maintained. Recent renovations to the park manager's residence (1) place this building in good condition although the renovations included replacement of all siding and windows, which has substantially reduced its historic integrity. Since most of these buildings are used on daily bases, there is a need for aggressive cyclical maintenance. The sloping area between the cabins and Lake Johnson is eroding and is in poor condition. The grist mill is in poor condition.

The park's informal collection of museum objects, archeological artifacts and archival materials are exhibited or stored in several locations in the park. The original CCC tools that were used to construct the original park buildings are located in two areas; some are on display in the recreation building and others are stored in the shop area. The park's original CCC blueprints are stored in a climate controlled office. The remains of a dugout canoe discovered at Big Lake Johnson 4 to 5 years ago are in the main shop area out of the weather. A rebuilt section of the narrow gauge railroad is on display in the recreation building. Photos from the 1930s are either displayed inside the ranger station or kept in storage in climate controlled buildings. While all of these objects are sheltered and relatively secure, evaluations need to be made to determine the condition of the objects and if climate, humidity and pest control measures are adequate to assure their conservation.

**General management measures:** All of the buildings in the park are used for day to day operations and use of park visitors. No structures have been identified specifically for interpretation as an historic building. All of the National Register eligible buildings along with the original park plan shall be managed using the Secretary of the Interior's

Standards for Rehabilitation. Rehabilitation acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character. Treatment for the grist mill site should focus on stabilization of the remains at the site. All other archaeological sites should receive preservation treatments, which are essentially monitoring and maintenance.

Currently, the park has no organized collections management program. A Scope of Collection Statement needs to be developed, and a collection management assessment needs to be completed, as well an inventory or catalog, a housekeeping manual, and a record keeping system. Climate, humidity and pest control measures need to be evaluated for their adequacy in conserving collection objects, and recommendations for subsequent monitoring activities need to occur in order to assure their conservation.

Detailed management goals, objectives and actions for the management of cultural resources in this park are discussed in the Resource Management Program section of this component. Table 3 contains the name, reference number, culture or period, and brief description of all the cultural sites within the park that are listed in the Florida Master Site File. The table also summarizes each site's level of significance, existing condition and recommended management treatment. An explanation of the codes is provided following the table.

**Table 3: Cultural Sites Listed in the Florida Master Site File**

| Site Name and FMSF # | Culture/Period | Description | Significance | Condition | Treatment |
|---|---|---|---|---|---|
| Entrance Walls 8CL153 | Depression/ New Deal (1930-1940) | Structure | NR | Fair | RH |
| Ranger Station, Building 3 8CL154 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Implement Shed, Building 23 8CL155 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Park Maintenance Shop, Building 17 8CL156 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Blacksmith Forge (in Building 40) 8CL157 | Depression/ New Deal (1930-1940) | Structure | NR | Fair | RH |

| Site Name and FMSF # | Culture/Period | Description | Significance | Condition | Treatment |
|---|---|---|---|---|---|
| Storage Shed, Building 40 8CL158 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Park Manager's Residence, Building 1 8CL159 | Depression/ New Deal (1930-1940) | Building | NR | Good | RH |
| Park Manager's Garage, Building 2 8CL160 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Magnolia Cabin, Building 4 8CL161 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Cypress Cabin, Building 9 8CL162 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Dogwood Cabin, Building 10 8CL163 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Holly Cabin, Building 7 8CL164 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Cedar Cabin, Building 11 8CL165 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Palm Cabin, Building 5 8CL166 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Pine Cabin, Building 12 8CL167 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Oak Cabin, Building 8 8CL168 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Bay Cabin, Building 6 8CL169 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |

| Site Name and FMSF # | Culture/Period | Description | Significance | Condition | Treatment |
|---|---|---|---|---|---|
| Ranger Residence, Building 22 8CL170 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Water Tower 8CL171 | Depression/ New Deal (1930-1940) | Structure | NR | Fair | RH |
| Overlook & Pavilion, Building 18 8CL172 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| McDonald Memorial Pavilion, Building 32 8CL173 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Flagpole 8CL174 | Depression/ New Deal (1930-1940) | Structure | NR | Good | RH |
| Bathhouse/Combination, Building 14 8CL175 | Depression/ New Deal (1930-1940) | Building | NR | Fair | RH |
| Picnic Tables 8CL715 | Depression/ New Deal (1930-1940) | Structure | NE | Fair | RH |
| Pump House, Building 20 8CL1311 | Depression/ New Deal (1930-1940) | Building | NE | Fair | RH |
| Maple Cottage, Building 25 8CL1312 | Modern (Post 1950) | Building | NE | Fair | RH |
| Hickory Cottage, Building 26 8CL1313 | Modern (Post 1950) | Building | NE | Fair | RH |
| Persimmon Cottage, Building 27 8CL1314 | Modern (Post 1950) | Building | NE | Fair | RH |
| Walnut Cottage, Building 28 8CL1315 | Modern (Post 1950) | Building | NE | Fair | RH |

| Site Name and FMSF # | Culture/Period | Description | Significance | Condition | Treatment |
|---|---|---|---|---|---|
| Sweetgum Cottage, Building 29 8CL1316 | Modern (Post 1950) | Building | NE | Fair | RH |
| Recreation/Concession, Building 31 8CL1317 | Modern (Post 1950) | Building | NE | Good | RH |
| Sign Shop, Building 45 8CL1318 | Modern (Post 1950) | Building | NE | Fair | RH |
| Ranger Residence, Building 13 8CL1319 | Modern (Post 1950) | Building | NE | Fair | RH |
| BBQ Shelter, Building 15 8CL1320 | Modern (Post 1950) | Building | NE | Fair | RH |
| Pavilion, Building 16 8CL1321 | Modern (Post 1950) | Building | NE | Fair | RH |
| Gonzales Home/Ranger Residence, Building 33 8CL1322 | Modern (Post 1950) | Building | NE | Fair | RH |
| Gonzales Cottage 1, Building 35 8CL1323 | Modern (Post 1950) | Building | NE | Fair | RH |
| Gonzales Cottage 2, Building 36 8CL1324 | Modern (Post 1950) | Building | NE | Fair | RH |
| Gonzales Cottage 3, Building 37 8CL1325 | Modern (Post 1950) | Building | NE | Fair | RH |
| Gonzales Cottage 4, Building 53 (shed) 8CL1326 | Modern (Post 1950) | Building | NE | Fair | RH |
| Gonzales Water Tower 8CK1327 | Modern (Post 1950) | Structure | NE | Fair | RH |
| Sandhill Restroom, Building 46 8CL1328 | Modern (Post 1950) | Building | NE | Fair | RH |

| Site Name and FMSF # | Culture/Period | Description | Significance | Condition | Treatment |
|---|---|---|---|---|---|
| Turkey Oak Restroom, Building 47 8CL1329 | Modern (Post 1950) | Building | NE | Fair | RH |
| Picnic Shelter, Building 48 8CL1330 | Modern (Post 1950) | Building | NE | Fair | RH |
| Picnic Shelter, Building 49 8CL1331 | Modern (Post 1950) | Building | NE | Fair | RH |
| Picnic Shelter, Building 50 8CL1332 | Modern (Post 1950) | Building | NE | Fair | RH |
| Picnic Shelter, Building 51 8CL1333 | Modern (Post 1950) | Building | NE | Fair | RH |
| Picnic Shelter, Building 52 8CL1334 | Modern (Post 1950) | Building | NE | Fair | RH |
| Ravine Stairway 8CL1335 | Depression/ New Deal (1930-1940) | Structure | NE | Fair | RH |
| CCC Work Camp SP-5 | Depression/ New Deal (1930-1940) | Site | NE | Fair | P |
| Grist Mill Site 8CL673 | Historic – Late 19th , Early 20th Century | Site | NE | Poor | P |
| Johnson Lake Canoe 8CL733 | Prehistoric – Unspecified | Site | NE | Fair | P |
| Gold Head Branch 8CL784 | Prehistoric: Aceramic | Site | NS | Fair | P |

**Significance:**

NR = National Register eligible
LS = locally significant
NE = not evaluated
NS = not significant

**Recommended Treatment:**

RS = Restoration
RH = Rehabilitation
ST = Stabilization
P = Preservation

## RESOURCE MANAGEMENT PROGRAM

### Management Goals, Objectives and Actions

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

While, the Division of Recreation and Parks utilizes the 10-year management plan to serve as the basic statement of policy and future direction for each park, a number of annual work plans provide more specific guidance for Division staff to accomplish many of the resource management goals and objectives of the park. Where such detailed planning is appropriate to the character and scale of the park's natural resources, annual work plans are developed for prescribed fire management, exotic plant management and imperiled species management. Annual or longer- term work plans are developed for natural community restoration and hydrological restoration. The work plans provide the Division with crucial flexibility in its efforts to generate and implement adaptive resource management practices in the state park system.

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

The goals, objectives and actions identified in this management plan will serve as the basis for developing annual work plans for the park. Since the plan is based on conditions that exist at the time the plan is developed, the annual work plans will provide the flexibility needed to adapt to future conditions as they change during the 10-year management planning cycle. As the park's annual work plans are implemented through the 10-year cycle, it may become necessary to adjust the management plan's priority schedules and cost estimates to reflect these changing conditions.

## Natural Resource Management

### Hydrological Management

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

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

***Objective: Monitor and analyze water resources of the park.***

Several management concerns at the park pertain to hydrology. The water that issues from the seepage springs in the ravine is local in origin. In fact, all the lakes in the park have local water sources. Both the volume and quality of water entering these systems could be altered if there are land use changes on the properties north and east of the park. As stated previously, the natural aquatic systems in the park are primarily dependent upon the surficial aquifer for their water supply. Water seeps from the ground at various points along the potentiometric surface of the aquifer, feeding not only Gold Head Branch (surface flow) but also the sinkhole lakes (subsurface flow). Water moves from the park via subsurface drainage into the Etonia Creek system, which joins the St. Johns River. The historic flow patterns of Gold Head Branch should be mapped as well as the watersheds of all of the park's water features.

With the cooperation of the SJRWMD, surface water levels in Lake Johnson and groundwater levels near the sand mine are currently being monitored. The SJRWMD is in the process of establishing minimum flows and levels (MFLs) for various water bodies within the SJRWMD. Evaluation of MFLs for Lake Johnson and Pebble Lake is currently scheduled to begin in 2012. As funding permits, monitoring of additional aquatic resources will be initiated including Gold Head Branch. District and park staff assists with the Florida LAKEWATCH program and periodically collect water samples from the park's lakes and from Gold Head Branch to document water quality.

***Objective: Address park facility water quality impacts on Lake Johnson and on hydrological regimes of the park.***

Mitigation of the impacts of shoreline erosion on lakes within the park, particularly Little Lake Johnson, will be aggressively pursued. Stabilization of recreational access points will be a high priority. In addition, a stormwater management plan is recommended for park facilities that affect the hydrology of Lake Johnson. Culverts,

low-water crossings, stormwater treatment improvements, etc. may be necessary to implement the stormwater management plan.

**Natural Communities Management**

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

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

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

All prescribed burns in the Florida state park system are conducted with authorization from the Department of Agriculture and Consumer Services, Division of Forestry (DOF). Wildfire suppression activities in the park are coordinated with the DOF.

**Objective: Within 10 years, have 1500 acres of the park maintained within the optimum fire return interval.**

Nearly all the natural communities at Mike Roess Gold Head Branch State Park are fire-adapted or at least are influenced by fire. The sandhills require periodic burning to maintain their natural diversity and to prevent invasion by non-fire tolerant species. Likewise, the scrub, flatwoods and seepage slope areas require burning for long-term maintenance of the natural community. Even communities such as the slope forest and xeric hammock are affected by fire along ecotones with fire-adapted communities. The maintenance of natural ecotones between these communities is important for those plant and animal species that are adapted to fringe areas. The use of hard fire breaks, such as roads or disked lines, between community types is discouraged for this reason.

The park is divided into zones based on existing firebreaks (see Management Zones Map). Manageable burn zones were recently established in the park's newest additions to facilitate safe and prudent prescribed burning of fire-suppressed sandhills. Pre-burn preparation is an important consideration when applying fire to areas that have had fire excluded for long periods. In long- unburned sandhill areas, the buildup of leaf litter or duff beneath large longleaf pines can endanger those pines if fires burn during periods of low humidity or drought (Varner III et al. 2007). Raking duff away from the bases of these trees and burning during milder conditions with adequate duff moisture levels will minimize the danger of cambium damage from a smoldering subsurface fire. If

necessary, smoldering duff fires should be extinguished around the bases of the larger longleaf pines after the fire front passes.

Even within the older areas of sandhill, caution must be taken when burning around mature longleaf pines. Many of the older longleaf pines within the park were turpentined before the creation of the park in the 1930s. Those pines are usually over 100 years in age, with many being much older. The cat-faces left by the turpentine industry greatly increase the risk of killing these older trees during prescribed burns due to gaps in the protective bark. Before burning, underbrush and leaf litter should be removed from the bases of cat-faced longleaf pines where necessary. If located near firebreaks, cat-faced pines may be coated with foam immediately before initiating prescribed burns. Cat-faced and unscathed longleaf pines killed by fire along firebreaks present a hazard to staff and to the security of future prescribed burns; therefore, every effort should be made to protect living longleaf pines along firebreaks during a fire. Likewise, existing longleaf pine snags should be protected from fire by raking around their bases and by removing underbrush. Snags that ignite during a burn should be extinguished as soon as possible after the fire front passes to prevent the loss of the snag and to avert potential spotting problems later. Staff should inspect all longleaf snags and cat-faced trees as soon as possible after the fire front passes to extinguish any potentially damaging fires on the trees.

Preparation and planning for wildfires or escaped prescribed burns within the park should also be a component of the park's prescribed burn plan. Preferred fire suppression techniques and guidelines should be identified and discussed with the local Division of Forestry staff prior to the need for fire suppression within the park. Sensitive resources such as wetlands, imperiled species and cultural sites should be identified and mapped and that information conveyed to the Division of Forestry prior to any suppression activities.

In developing prescribed burn plans for the fire-adapted communities in the park, every effort should be made to mimic natural fire regimes in both timing and technique. In most natural sandhill fires, flank fires and head fires probably burned the majority of acres. Care should be taken during prescribed burns to avoid creating the hot spots that occur when two fire lines rapidly converge. To minimize the intensity of the fire convergence, narrow strip-head fires, spot fires or flanking fires are preferred over a single backing fire that converges with a head fire.

Fire season and fire return intervals are both critical components of a fire regime. In most cases after initial fuel reduction burns have been completed during the non-growing season, all sandhill zones should be burned during the natural lightning season, given staffing and weather constraints. The scrub should be burned during periods of lower humidity and lower live fuel moisture to ensure combustion of the shrub layer. The scrub zones east of Devil's Washbasin may require mowing to reduce

fuel heights near the urban interface. The seepage slope community should ideally be burned in the lightning season, while the adjacent basin marsh normally will burn well only in the winter season. Burning of the basin marsh during winter may be required to prevent hardwood and loblolly pine invasion during periods of low water. Burning of basin marsh and seepage slope together in the non-lightning season is preferable to creating a firebreak between the areas just to allow burning of the seepage slope later during the lightning season.

The requirements of animal species, particularly imperiled species, should be considered when developing prescribed burn plans. The fire return interval for the scrub will target the vegetation stages preferred by the Florida scrub-jay, Florida mouse and gopher tortoise. However, certain endemic invertebrates, such as the Rosemary grasshopper, may require a longer fire return interval (Deyrup and Franz 1994). Scrub areas will be maintained as a mosaic of uneven-aged vegetation to maximize habitat, and therefore, species diversity. The majority of wildlife species that are native to sandhills require relatively short fire-return intervals that maintain open vistas and promote longleaf pines and a diverse groundcover.

Table 4 contains a list of all fire-dependent natural communities found within the park, their associated acreage and optimal fire return interval, and the annual average target for acres to be burned.

**Table 4: Prescribed Fire Management**

| Natural Community | Acres | Optimal Fire Return Interval (Years) |
|---|---|---|
| Sandhill | 1790 | 1-3 |
| Scrub | 134 | 7-15 |
| Basin Marsh | 80 | 2-10 |
| Seepage Slope | 27 | 1-3 |
| Mesic Flatwoods | 23 | 1-3 |
| Baygall | 22 | 25-100 |
| Bog | 1 | 1-3 |
| Depression Marsh | 1 | 2-10 |
| | | |
| Annual Target Acreage | 630 - 1900 | |

The park is partitioned into burn zones, and burn prescriptions are implemented on the prescribed burn cycle for each zone (see Management Zones Map). The park's burn plan is updated annually because fire management is a dynamic process. To provide adaptive responses to changing conditions, fire management requires careful planning based on annual and very specific burn objectives. Each annual burn plan is developed to support and implement the broader objectives and actions outlined in this 10-year management plan.

Based upon the fire return intervals and acreage figures for the natural communities within the park, at least 630 acres will need to be burned each year to maintain the natural communities within their target fire return intervals. Not all zones may always be burned within the maximum recommended fire return intervals, while others may be burned more frequently. The number of acres within the target fire return interval should not be less than 1500 acres, or approximately 75 percent of the total fire-dependent acres within the park.

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

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

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

Following are the natural community/habitat restoration and maintenance actions recommended to create the desired future conditions in the sandhill community at the park.

***Objective: Remove off-site tree species from 100 acres of sandhill community.***

Aggressive removal of laurel oaks and other non-fire adapted hardwoods should be encouraged. Several sandhill areas, particularly those bordering the ravine and those

near the developed areas at the south end of the park, have been heavily invaded by non-fire adapted hardwoods. These areas will require special attention to restore a nature fire regime and to recover the groundcover species that are being suppressed. In some areas, a tree cutter or girdling may be useful in reducing the stems of offsite hardwoods, but in almost all cases, herbicide treatment will be needed to control resprouting from rootstocks. Options for removal include contract treatment of large areas or small scale treatment using park staff and volunteers. The selected option will depend upon future funding levels, and will influence the number of acres removed on an annual basis. A removal plan for these areas will be developed and implemented as part of the annual work plan. Significant progress has already been made removing non-fire adapted hardwoods above Pebble Lake adjacent to the park drive, thereby restoring the natural vista from the sandhills across Pebble Lake.

Maintenance of the restored areas will require application of prescribed fire within the recommended fire return interval. Long-term monitoring will be accomplished as part of the burn photopoint process. Control of offsite hardwoods in areas with intact, but suppressed, groundcover (particularly wiregrass) will receive the highest priority. Those areas requiring groundcover restoration will be a secondary priority.

A small number of slash pines were planted a number of years ago along the park drive and in the picnic area. Since they are non-indigenous to the sandhills, some of these pines have been removed. These off-site slash pines may remain in the visitor use areas to provide shade and for aesthetic reasons until they can be replaced with longleaf pines. Planted off-site slash pines should be mapped and removed from natural sandhills.

**Natural Communities Improvement.** Improvements are similar to restoration but on a smaller, less intense scale. This typically includes small scale vegetative management activities or minor habitat manipulation. Following are the natural community/habitat improvement actions recommended at the park.

***Objective: Protect resources from visitor impacts at the ravine, Devil's Washbasin and Sheeler and Pebble Lakes.***

Management actions are needed to address the adverse impacts that visitors are causing at some of the sensitive areas of the park including the ravine and the three sinkhole lakes, Sheeler Lake, Devil's Washbasin and Pebble Lake. Trail improvements should be designed and implemented to address soil compaction and erosion impacts to the ravine. Likewise, visitor management, educational programs, and erosion control measures should be planned and implemented for the area surrounding the sinkhole lakes. A photopoint monitoring program is recommended to document and evaluate the success of these management actions.

**Imperiled Species Management**

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

**the park.**

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

In the preparation of this management plan, Division staff consulted with staff of the FWC's Bureau of Imperiled Species Management or its Regional Biologist and other appropriate federal, state and local agencies for assistance in developing imperiled animal species management objectives and actions. Likewise, for imperiled plant species, Division staff consulted with FDACS. Data collected by the FWC, USFWS, FDACS and FNAI as part of their ongoing research and monitoring programs will be reviewed by park staff periodically to inform management of decisions that may have an impact on imperiled species at the park.

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

***Objective: Monitor and document seven selected imperiled animal species in the park.***

Speed limits within the park should be enforced to reduce the chance of hitting indigo snakes, fox squirrels, gopher tortoises, or other wildlife. Sightings of indigo snakes and fox squirrels will be recorded on a wildlife observation form or similar data sheet. District staff will work with the park to develop a simple tracking form for such observations.

Park staff will continue to cooperate with the FFWCC and the University of Florida's College of Veterinary Medicine on the gopher tortoise Upper Respiratory Tract Disease (URTD) study within the park. Every effort should be made to prevent illegal drop-offs

of gopher tortoises in the park by park visitors. Interpretive materials will be made available to the park staff and to the public to educate them about the disease. Additional tortoises brought into the infected population will only compound the problems facing the resident population. Obviously ill or dead tortoises should be reported to the University of Florida researchers. Protection of the gopher tortoises and their burrows, along with prescribed burning, should suffice to maintain populations of burrow commensals such as Florida mice and gopher frogs. Additional surveys for Florida mice should be conducted to complement the previous FWC and DRP surveys to confirm the presence of the mice in other areas of the park. Staff will develop a list of prioritized management zones for trapping surveys.

Staff will continue to monitor for the presence of scrub jays within the park. Since scrub jays still exist in the region, it is possible that some will re-colonize the Gold Head scrub as restoration of the scrub proceeds.

The active bald eagle nest near Sheeler Lake will be protected from disturbance during the nesting season. At the current time, none of the park's service roads or trails are close enough to the nest to disturb the birds. Recreational use of the Sheeler Lake shoreline near the nest is expected to be minimal, since the lake access trail is across the lake from the nest location.

Park and District staff will continue to assess the population status of adult Say's Spiketail Dragonfly within the park and will develop monitoring guidelines. The Division will continue to depend upon partnerships with other agencies and academic institutions in the monitoring of the host of other imperiled invertebrate species that have been documented at the park by previous researchers.

***Objective: Monitor and document five selected imperiled plant species in the park.***

Protection of imperiled plant species within the ravine will require erosion control and increased vigilance to discourage visitors from climbing the slopes. Sandhill species will likely benefit from a prescribed burn program that mimics the natural fire regime. Some species such as Curtiss' milkweed (*Asclepias curtissii*) actually prefer recently disturbed areas such as roadsides and disked firebreaks. Staff will re-survey the Showy dawnflower population based on the known sites. In addition, staff will attempt to locate and map the Buckthorn bully (*Sideroxylon lycioides*) and Diverseleaf crownbeard (*Verbesina heterophylla*) that are listed by FNAI as S2 species.

Restoration of the natural topography, fire regime and hydrology of the seepage slope, bog and basin marsh communities should provide additional habitat for rare plant species historically associated with these areas, if they still exist in the vicinity. In the case of the hooded pitcherplant, it was recommended that a reintroduction be attempted using seed collected from outside the park (Johnson 2001). A large quantity of seed was collected from populations within Camp Blanding and was distributed in

the seepage slope and bog communities in February 2008 subsequent to a prescribed fire. The reintroduction site will be monitored and, if necessary, the population will be supplemented with container-grown plants.

***Objective: Continue nest box program for Southeastern Kestrels and other cavity nesting species.***

The kestrel nest box program at Gold Head Branch should continue for the near future. Although many more snags have been created at the park in the last decade, adequate numbers of cavities may not yet have been created. Gold Head Branch may also serve as a kestrel reservoir for the surrounding areas. Reproduction within the park may exceed the carrying capacity for mated pairs within the park. In that situation, younger birds would likely disperse into the surrounding areas of marginal habitat and bolster other declining populations. The boxes should be cleaned of debris in January before the nesting season, and at least one follow-up visit will be necessary to determine occupancy. Monthly visits are not required unless banding of fledgling birds needs to be scheduled. Park and District staff will continue to collaborate with FWC on the SE Kestrel Monitoring and Recovery Project (Miller 2008).

District staff will also coordinate with park staff to monitor potential red-cockaded woodpecker (RCW) activities within the park. Cat-faced longleaf pines, which may be some of the older trees within the park, will be protected during prescribed burns. Protection of these potential RCW cavity trees will help increase the chances of attracting the birds to the park. Active colonies of RCWs exist on Camp Blanding due to an aggressive and successful reintroduction program, and it is hoped that the birds will naturally disperse into Gold Head Branch. Consideration may be given to the reintroduction of RCWs from expanding populations and the use of artificial cavity inserts if these are deemed necessary.

Staff will coordinate with the USFWS, FWC and Camp Blanding regarding the management of RCWs within the park and on a regional level.

***Objective: Restore scrub natural community to benefit imperiled scrub plant and animal species.***

Continued coordination with the USFWS, DOF, FWC and Camp Blanding will also be necessary in implementing a regional plan for the management of the Florida scrub-jay. The park has installed firebreaks within the scrub, and prescribed burning of the scrub was initiated in 1998 and 1999. Additional zones still need to be burned to maximize structural diversity of the rejuvenated scrub vegetation. Where necessary, fuel height within the scrub will be reduced by mowing or other mechanical preparations. Unfortunately, the remaining scrub-jay group at Camp Blanding has been declining in recent years. Significant scrub habitat occurs at Etoniah Creek State Forest, and that may be the most likely location for re-establishment of a viable scrub-jay population in the region.

**Exotic Species Management**

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

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

***Objective: Annually treat two acres of exotic plant species in the park.***

An exotic plant removal plan is recommended that maps infested areas by burn zone and determines priorities for treatment. The plan will provide guidance for subsequent annual work plans. The number of acres of exotic plants treated per year is likely to vary widely depending on the status of current infestations and any new infestations that might arise during the life of this management plan. Japanese climbing fern will continue to be treated promptly and repeatedly to ensure removal. Scattered camphortrees will be removed promptly. Any cut stumps will be treated with an appropriate herbicide to prevent resprouting. All infestations of rose natalgrass must be located and treated with herbicide. In the past lantana, mimosas and flamegold trees were removed from the park and will continue to be removed if they reoccur. Priority should be given to EPPC Category I and II species when treating exotic plant species in the park. Non-invasive exotic plants that occur within the park will be removed whenever possible; however, ornamentals that are known to be non-invasive and occur in landscaping around residences may remain. Treated areas will be monitored and follow-up treatments implemented as needed.

***Objective: Scout every zone within the park at least twice within ten years for new populations of exotic invasive plants.***

A plan and schedule for scouting and mapping invasive exotics in every zone within the park at least two times within 10 years is recommended. Areas that have sources of particularly aggressive species or species that dramatically change ecosystem function may need to be scouted more frequently. Finding new populations of invasive exotic plants before they become established will help prevent larger infestations. The focus should be on EPPC Category I and II species.

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

Guidelines for clean sod, fill dirt, limerock, mowing and cleaning and inspecting equipment that enters the park are recommended. New infestations of exotics can be prevented by ensuring that park staff and contractors such as mowers and loggers clean their equipment before entering the park and do not spread exotics by moving from a contaminated area within the park without cleaning their equipment.

***Objective: Implement control measures on three nuisance and exotic animal species in the park.***

Control activities will focus on areas where armadillos are causing the most damage, including the Gold Head Branch ravine and the slopes surrounding the various lakes

within the park. The park also occasionally has to remove feral or stray cats (*Felis catus*) and dogs (*Canis familiaris*) from the park. These animals should be turned over to the county animal control facility.

## 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.

During the development of this plan, an analysis was made regarding the feasibility of additional timber management activities for this park. It was then determined that the primary management goals of the unit could be met without conducting timber management activities for this management plan cycle. Timber management will be reevaluated during the next revision of this management plan.

A timber management assessment was conducted for Mike Roess Gold Head Branch State Park prior to the previous unit management plan. Three stands were identified where natural community restoration measures could benefit from the removal of offsite species of pines. At two locations, offsite sand pines had invaded or been planted in sandhill areas and produced a nearly closed canopy. The adult sand pines were harvested in 2005 to stimulate the dormant herbaceous species and allow safer burning of the sandhills. A third stand of pines was located on a seepage slope south of the steephead ravine. In this case, loblolly pines had invaded an area that had flooded in the late 1940s. The previous pine stand, probably slash pine according to early maps, was killed by the floodwaters. Fire suppression allowed loblolly pines to colonize and eventually dominate the area. Due to the sensitive nature of the seepage wetlands associated with this loblolly stand, it has since been determined that the harvesting of timber within this stand has the potential to create an unacceptable level of disturbance. For this reason, this stand was removed from the list of potential timber harvest sites. With the exception of a few offsite slash pines planted in the main use area and along some stretches of the park drive, there are no additional plans to remove pines within the park at this time.

### Additional Considerations

Consideration should be given to removal of unnecessary service roads and firebreaks. Most of the existing service roads were originally created as firebreaks during an era of heightened concern over wildfires. Removal of certain roads would decrease

fragmentation of the sandhills. Particularly in the southwest area of the park, many roads could be eliminated. Removal of the roads and restoration of the large borrow pit located in this area would add valuable sandhill habitat to the park. The service road that runs along the eastern edge of the ravine may also be a candidate for abandonment. This road hinders the advancement of fire into the upper edges of the ravine in some spots and fragments the sandhill in other areas.

## Cultural Resource Management

### Cultural Resource Management

Cultural resources are individually unique, and collectively, very challenging for the public land manager whose goal is to preserve and protect them in perpetuity. The Division of Recreation and Parks is implementing the following goals, objectives and actions, as funding becomes available, to preserve the cultural resources found in Mike Roess Gold Head Branch State Park.

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

The management of cultural resources is often complicated because these resources are irreplaceable and extremely vulnerable to disturbances. The advice of historical and archaeological experts is required in this effort. Managers of state lands must coordinate any land clearing or ground disturbing activities with the Department of State, Division of Historical Resources (DHR) to allow for review and comment on the proposed project. Recommendations may include, but are not limited to approval of the project as submitted, pre-testing of the project site by a certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects. Projects such as additions, exterior alterations or related new construction regarding historic structures eligible for listing in the National Register of Historic Places must also be submitted to DHR for review and comment.

***Objective: Assess and evaluate 10 of 53 recorded cultural resources in the park.***

While the CCC survey provided sufficient documentation for evaluation, there is a need for 19 historic structures reports that will review in detail the condition and changes to the original buildings. The report will also provide recommendations for needed repairs. The park intends to have 10 historic structure reports developed during the plan period.

The park does not intend to do any archaeological assessments during this plan period. However, the park does recognize the need to assess/evaluate known archaeological sites during plan periods, and the need to prioritize preservation and stabilization projects identified by such assessments/evaluations.

***Objective: Compile reliable documentation for all recorded historic and archaeological sites.***

The park has not had a comprehensive archaeological survey. An archaeological predictive model should be developed. The model would provide for high, medium

and low areas of probability of pre-historic sites, as well as providing guidance for future development as well as Phase 1 survey.

A Scope of Collections needs to be developed to guide acquisition of collection items. An administrative history is needed for the park that will help interpret the history of the park. Oral histories of former CCC members as well as park staff also need to be done to help document the park's history.

The park needs to develop and implement monitoring plan to prepare yearly condition assessments of the parks cultural resources. Consequently, the FMSF should be updated, as needed.

***Objective: Bring 10 of 53 recorded cultural resources into good condition.***

In order to accomplish the objective stated above, the park shall undertake hiring an architect to develop a comprehensive preservation plan and/or building specifications and plans. Such plans will assist in determining a priority for preservation, and in determining what specific measures will need to be taken to return the buildings to good condition.

A cyclical maintenance plan should be implemented to help guide the park with needed repairs for all its buildings. The rehabilitation of the park's historic buildings should be implemented in the order of priority established from the historic structures reports and from the results of annual monitoring. The park does not intend to conduct any archaeological preservation or stabilization projects during this plan period.

## 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.

Populations of rare and listed species within the park need additional documentation. All observations of Sherman's fox squirrels and eastern indigo snakes should be noted. Surveys for evidence of red-cockaded woodpeckers and Florida scrub-jays within the park should be continued. Surveys for Florida mice should be continued to document additional populations. The park should also be surveyed for striped newts (*Notophthalmus perstriatus*) since they are known from nearby wetlands in Camp Blanding, but have not been documented in the park. Listed plant species should be surveyed to locate known populations and to record new locations and additional undocumented species.

Research on the park's rare invertebrate species should be encouraged by coordinating

with the Florida State Arthropod Collection and with regulatory agencies such as the USFWS.

**Cultural Resources**

Specific research about the CCC enrollees who built the park should be undertaken in order to document these resources to the most complete extent possible. The results should be made available to the public and interested scholars and incorporated into the interpretive programs of the park.

Historical research, site analysis and evaluation of the park's CCC era site integrity and significance are needed to determine if the park (including the landscape changes undertaken by the Florida Park Service) should be considered a cultural landscape. If appropriate, additional research and action plans will be developed.

## Resource Management Schedule

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

## Land Management Review

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation and recreation lands titled in the name of the Board of Trustees are being managed for the purposes for which they were acquired and in accordance with their approved land management plans. The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required update of its management plan (see Addendum 8).

Mike Roess Gold Head Branch State Park was subject to a land management review on March 27, 2009. The review team made the following determinations:

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

## LAND USE COMPONENT

### INTRODUCTION

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the 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.

#### Existing Use of Adjacent Lands

The land uses adjacent to Mike Roess Gold Head Branch State Park are primarily low density residential, agricultural, industrial and military uses. Camp Blanding, a National Guard military reservation and bombing range, lies immediately northwest of the park. Noise from military operations is audible in the park and can affect the visitor experience. Florida Rock operates a sand mine along the western boundary. While the mine has impacted a significant area of adjacent uplands, it is not visible from established use areas in the park. A private recreation facility, North Florida Christian Service Camp, is located on the south shore of Big Lake Johnson.

### Planned Use of Adjacent Lands

Existing future land use designations of adjacent lands includes Military Reservation (Camp Blanding), AG/Residential (up to 1 unit/5 acres) and Mining (Florida Rock sand mine). At the time of this plan, no significant land use changes were being pursued adjacent to the park. Existing land use patterns in the area are anticipated to remain unchanged in the near future. Higher density residential uses may begin to appear in proximity of the park as the rural fringe of Keystone Heights moves northeast. The conversion of adjoining land to more intensive uses could impact the park through changes in the quality, and quantity, of surface- and ground-water, complication of the park's prescribed fire and exotic species management programs, traffic congestion, and degradation of the aesthetic character of the land. It will be important for staff to participate in the review of all Comprehensive Plan amendments, proposed zoning changes and development plans within the vicinity of this park in the future.

A spur of the Palatka to Lake Butler State Trail was recently completed from Keystone Heights to the park. The FDOT funded trail is a ten-foot wide asphalt path paralleling State Road 21.

## 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.

#### Land Area

Mike Roess Gold Head Branch State Park contains over 2,300 acres of natural landscapes, the vast majority of which is sandhill. Active management helps maintain a scenic quality to this state-imperiled community with its open canopy of tall pines and groundcover of grasses and flowers. The park's namesake, Goldhead Branch, cuts through the heart of the sandhill community adding a topographic feature of interest and a stark contrast to the surrounding high, dry uplands. Park trails wind through uplands and into the ravine, providing visitors opportunities to experience a cross section of natural community types.

**Water Area**

Several water bodies are located within the park: Sheeler Lake, Devil's Washbasin (formerly referred to as Deer Lake), Pebble Lake, Lake Johnson, Little Lake Johnson and Gold Head Branch. These features provide a broad array of recreational and educational opportunities for the visitors of the park. For example, the developed shoreline of Little Lake Johnson provides an excellent site for swimming and picnicking activities, with its grassed slopes and large sand beach. Pebble Lake functions as a scenic backdrop for a pavilion constructed by the CCC. However, diminishing groundwater levels in recent years have reduced water recreation opportunities as shorelines recede or surface waters disappear entirely. In addition, the shorelines of Sheeler, Pebble and Devil's Washbasin are too fragile for active recreational uses such as swimming and fishing.

**Natural Scenery**

The visual resources of this state park are exceptional. The open, rolling topography and numerous lakes create a series of scenic vistas. Past fire exclusion has resulted in growth of oaks and other pioneer species that impede views of some of the water features of the park. Progress is being made in reestablishing the historic viewsheds that will continue to improve the scenic quality of the park. The heavy timber construction and sensitive site design of the historic CCC development add to the scenic experience.

**Significant Wildlife Habitat**

The park's mosaic of habitats attracts wildlife and provides many opportunities for observing nature. Deer, turkey and gopher tortoises are common sights and the ravine provides refuge to migratory birds contributing to the park's inclusion on the Great Florida Birding Trail. In addition, many imperiled plant and animal species can be found at the park, many of which are associated with sandhills.

**Natural Features**

The significant natural features of the park include mainly geological elements. Two of the unique features at Mike Roess Gold Head Branch State Park are the steephead ravine created by Gold Head Branch and Sheeler Lake. A nature trail passes through the upland and wetland communities of this steephead ravine. The estimated age of Sheeler Lake is approximately 24,000 years making it one of Florida's oldest lakes.

**Archaeological and Historical Features**

As noted in the Cultural Resources section several sites of pre-historic and historic importance are included in the Master Site File for Mike Roess Gold Head Branch State Park. However, the most important historical features include the structures erected by the Civilian Conservation Corps and the ruins of a gristmill located on Gold Head Branch.

Mike Roess Gold Head Branch State Park is one of the original nine parks in the Florida state park system. In July 1935, the CCC installed a company (Florida SP-5) at Gold Head Branch. Between 1935 and 1939, picnic pavilions, rustic cabins, overlooks,

concession facility, boathouse, entrance station and gate, CCC support buildings were constructed and landscape improvements undertaken. Other CCC activities at the park included the stabilization of the ravine, development of the ravine trail system, and partial reconstruction of the old mill.

## Assessment of Use

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

### Past Uses

Before state ownership, the property had numerous owners and was intensively logged. Road building, construction and other land management activities associated with the CCC-era had a significant impact on the park landscape.

### Future Land Use and Zoning

The Division works with local governments to establish designations that provide both consistency between comprehensive plans and zoning codes and permit typical state park uses and facilities necessary for the provision of resource-based recreation opportunities. Future Land Use (FLU) and zoning designations not clearly related to state park uses generally reflect patterns of previous ownerships or a lack of specific zoning and future land use options dedicated to accommodate such uses.

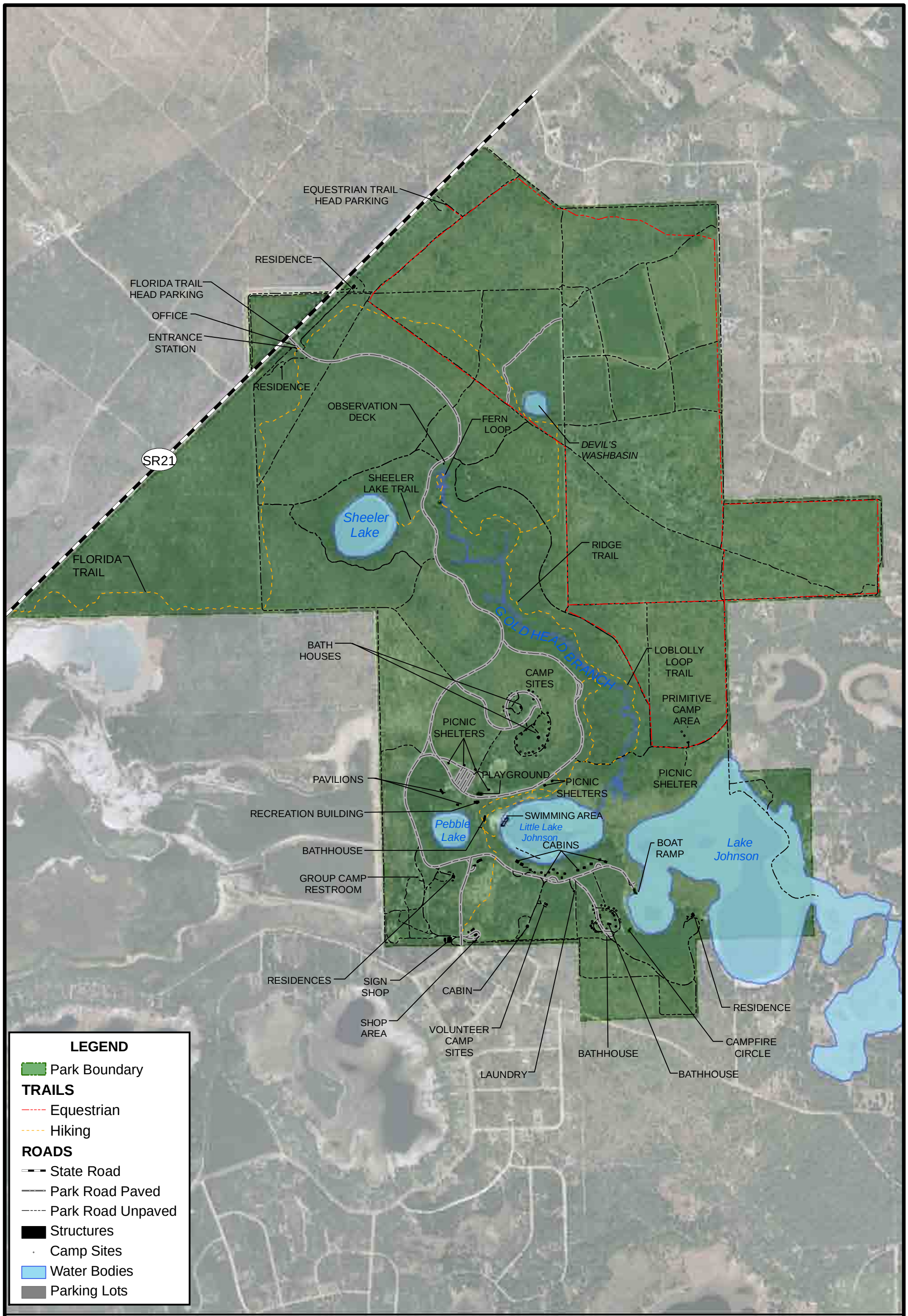
FLU designations of park lands include Recreation/Preservation, Agriculture/Residential (Gladman tract) and Military Reservation (parcel west of State Road 21). Zoning districts include a mix of Agricultural, Public Ownership-2 and Agriculture/Residential. Public Ownership-2 is the only zoning district that explicitly identifies public parks and recreation facilities as permitted uses.

### Current Recreational Use and Visitor Programs

Recreational uses include hiking, horseback riding, nature observation, camping, cabin lodging, swimming, fishing, canoeing and picnicking. The park's hiking trail is a designated segment of the Florida National Scenic Trail (FNST), a proposed continuous hiking trail to traverse the entire length of Florida.

In all areas of the park, visitor use is carefully monitored to avoid unacceptable impacts to sensitive resources and management action initiated, if necessary. Trail hardening or rerouting, closure of areas and prohibition of certain uses may be considered to address resource impacts.

Ranger guided talks and tours and offsite educational programs are offered by the park on a regular basis. Topics covered include the history of the park, water pollution and




MIKE ROESS GOLD HEAD BRANCH STATE PARK

BASE MAP

run-off, history and ecosystem of the lakes, ravine guided hike, CCC history and park construction, and children programs about animals in the park and the role of the park service. The park recorded 61,848 visitors in fiscal year 2007/08. It is estimated that those visitors contributed nearly $3.5 million in total direct economic impact to the local community. In general, peak visitation for both day and overnight visitors occurs from early spring through the summer. A second spike in overnight visitation occurs in the fall. Total visitation has fluctuated over the previous ten-year period. Visitation declined considerably between 2001/02 and 2003/04 but has trended upward since. Fiscal year 2006/07 visitation was the highest on record for this period.

**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 Mike Roess Gold Head Branch State Park the sandhill, scrub, slope forest, lakes and wetland communities have been designated as protected zones (see Conceptual Land Use Plan).

**Existing Facilities**

Recreational facilities at the park include three developed campgrounds, a primitive group camp, large picnic area, recreation hall and swimming beach on Little Lake Johnson, cabins, and a network of hiking and equestrian trails. An observation deck provides views of the head of ravine and a system of concrete steps provides access to trails that explore the seepage stream below. The park has over 3.5 miles of hiking trails, three miles of which are part of the Florida National Scenic Trail and seven miles of trails open for horseback riding. Six roadside interpretive stations provide information about key features of the park. The park has six staff residences, a shop area and is home to the Division's sign shop. As one of the original units of the state park system, the park is challenged with maintaining many historic structures that continue to be used for recreational or support functions.

The following is a listing of recreation and support facilities at the park:

**Mill Site Trailhead**

Loblolly Loop Trail (0.5 mi.)
Paved parking (6 spaces)

Florida National Scenic Trail (4.5 mi.)

**Sheeler Lake Trailhead**

Nature trail (0.1 mi.)
Unimproved roadside parking (3 vehicles)

**Equestrian Trailhead**

Equestrian trail (7 mi.)
Well
Water trough
Unimproved parking

**Ravine Overlook**

Observation deck
Unimproved parking (6 vehicles)

**Ravine Trailhead**

Fern Loop Trail (0.8 mi.)
Ridge Trail (1 mi.)
Paved parking (8 spaces)

Roadside interpretive stations (6)

**Sandhill Camping Area**

18 sites
Bathhouse

**Turkey Oak Camping Area**

19 sites
Bathhouse
Well

**Group Camp**

3 sites (25 persons/site)
Small restroom
Outdoor shower
Well
Water tower (CCC structure)

**Lakeview Camping Area**

36 sites (9 w/out electric)
Campfire circle
Bathhouse

Cabin Area
Rustic cabins (9, CCC structures)
Block cabins (5)
ADA cabins (2)
Storage shed
Stabilized parking (34 vehicles)
Dump station

Boat ramp (Unusable due to low water)

**Primitive Camping Area**

2 sites (8 person capacity/site)
Picnic shelter
Privy

**Picnic and Swim Area**

Beach swimming area
Recreation hall
Medium picnic shelters (5)
Shelter w/b-b-q pit
Picnic pavilion with restroom (CCC structure)
Large picnic pavilion (CCC structure)
Playground
Temporary stage
Limestone picnic tables (62)
Activity field
Paved parking (414 vehicles)
Stabilized parking (18 vehicles)
Bathhouse (CCC structure)

**Mill Site**

Paved parking (15 vehicles)

**Shop Area**

Shop (CCC structure)
Equipment shelter (1)
Storage shed (3)
State sign shop

**Entrance Area**

Entrance station (CCC structure)
Entrance gate (CCC structure)
Small park office
Well

**Other Support Facilities**

Residences (6)
Volunteer Host sites (3)
Utility shed (3)
Laundry building
Park Road (3.5 mi.)

## 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 management plan, the Division assessed potential impacts of proposed uses or development on the park resources and applied that analysis to decisions on the future physical plan of the park as well as the scale and character of proposed development. Potential impacts are more thoroughly identified and assessed as part of the site planning process once funding is available for facility development. At that stage, design elements (such as existing topography and vegetation, sewage disposal and stormwater management) and design constraints (such as imperiled species or cultural site locations) are more thoroughly investigated. Municipal sewer connections, 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 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.

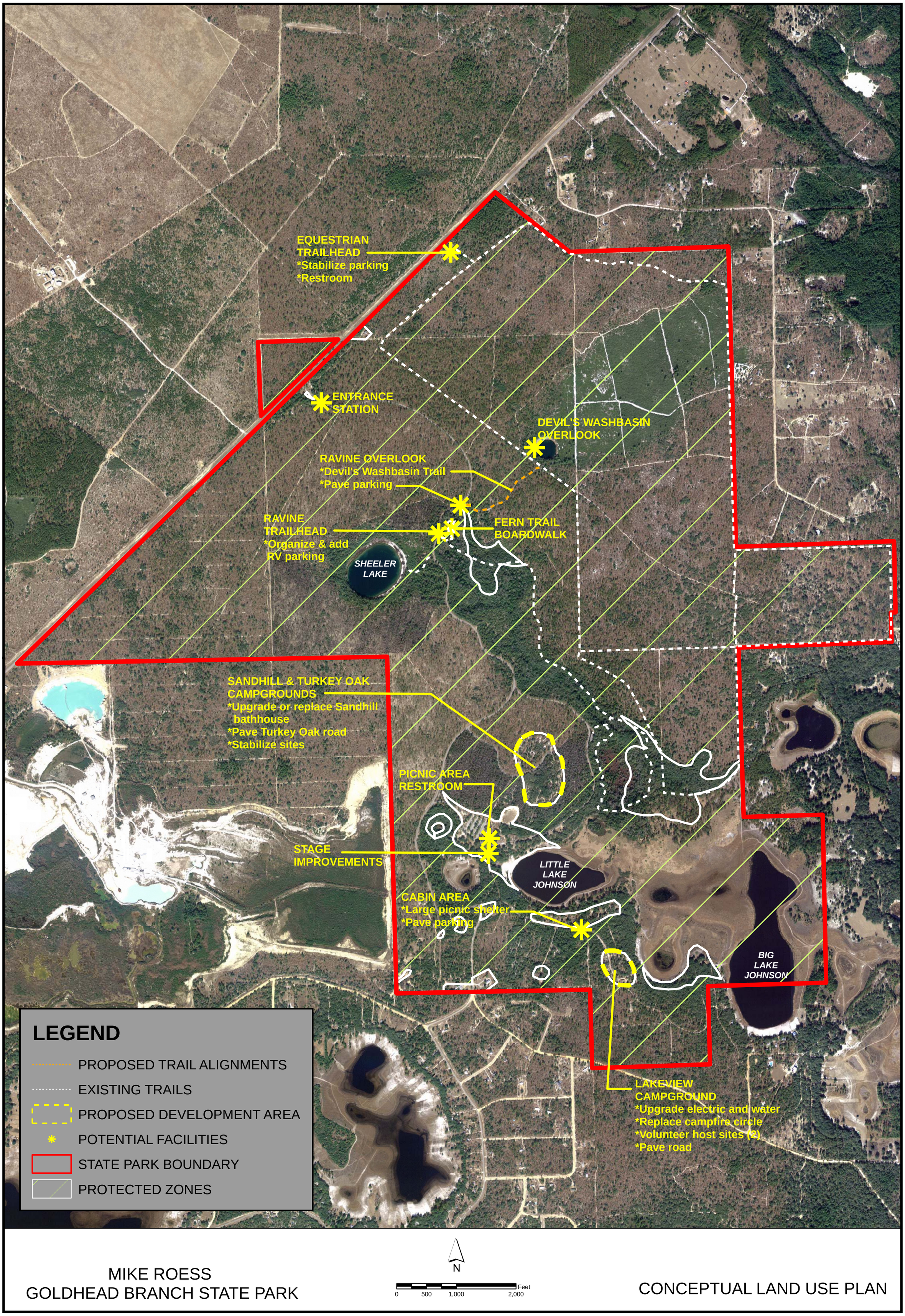
### Potential Uses

**<u>Public Access and Recreational Opportunities</u>**

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

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

***Objective: Maintain the park's current recreational carrying capacity of 2,279 users per day.***




MIKE ROESS
GOLDHEAD BRANCH STATE PARK

N

0 500 1,000 2,000 Feet

CONCEPTUAL LAND USE PLAN

The park will continue to provide opportunities for hiking, horseback riding, nature observation, camping, cabin lodging, swimming, fishing, canoeing and picnicking.

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

Hiking opportunities within the park will be slightly expanded due to the recommendation to create a new trail between the Ravine Overlook and Devil's Washbasin, as discussed below.

***Objective: Continue to provide the current repertoire of six interpretive/educational programs on a regular basis.***

A variety of interpretive programs are currently offered to park visitors through ranger led presentations and hikes. These programs will continue to address such topics as the plants and animals found in the park, history of the area, and park management efforts.

***Objective: Develop four new interpretive/educational programs.***

A new interpretive program is recommended to educate public about the protection of the park's sensitive resources including the ravine and the three sinkhole lakes, Sheeler Lake, Devil's Washbasin and Pebble Lake. Another program is recommended to focus on the history of the CCC at this park. Programs will also be developed to better interpret the park's flora and fauna, and to education park visitors regarding regional water management issues.

## Proposed Facilities

### Capital Facilities and Infrastructure

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

Improvements proposed in this plan are minimal and confined to or at the edges of existing areas impacted by development. No significant impacts to natural communities are anticipated. In fact, recommendations are included to mitigate existing impacts, primarily erosion, due to existing patterns of visitor use. Any clearing necessary at the edges of sandhill communities should avoid old growth or cat-faced pines, if possible. The historic origins of the park and the number of historic structures demand special attention during the planning, design and construction process.

Proposed improvements should be undertaken with respect for the CCC-era design of the park so that individual features as well as the cultural landscape may be interpreted and enjoyed by future generations. In order to preserve the integrity of the cultural landscape and avoid a gradual loss of its physical attributes over time it is recommended that a more detailed plan be developed that establishes preservation goals for the park, which provide a foundation for future decisions about management, treatment, interpretation and use. The National Park Service Cultural Landscape Report process should serve as a model for the park's planning initiative.

The existing facilities of this state park are appropriate to the natural and cultural

resources contained in the park and should be maintained. New construction, as discussed further below, is recommended to improve the quality and safety of the recreational opportunities that visitors enjoy while in the park, to improve the protection of park resources, and to streamline the efficiency of park operations. The following is a summary of improved and new facilities needed to implement the conceptual land use plan for Mike Roess Gold Head Branch State Park:

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

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

***Objective: Improve/repair six existing facilities and one mile of road in the park and make necessary improvements for universal access to park facilities.***

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

**Ravine Trail.** Originally constructed in the 1950's and modified over the years, the concrete steps descending from the park road to the steephead ravine formed by Gold Head Branch have developed erosion problems in several areas, over the years. Careful study of the options available to address these problems is needed. An engineering analysis, followed by design and construction of drainage improvements is recommended. A high priority has been placed on finding solutions to the Ravine Trail erosion problems. A project to eliminate a source of erosion at the top of the ravine, adjacent to the park road, was completed in 2009.

**Trailhead Parking Areas.** A number of parking improvements are needed to organize vehicles, provide adequate capacity and stabilize surfaces. The Ravine Overlook parking area is proposed to be paved with pervious paving to address erosion, organize parking and improve accessibility. The Ravine Trailhead parking area is already paved but should be striped to make more efficient use of this space and RV parking (stabilized, or with pervious paving) should be added immediately across the road with a pedestrian crossing.

**Cabin Area.** The roadside parking areas in front of the rustic and block cabins should be paved with pervious paving to provide a stable, level surface.

**Campgrounds.** While progress has been made in recent years modernizing facilities in the park's three campgrounds, a number of items still need to be addressed to bring these areas up to Division standards. Soft sands make it difficult for recreational vehicles to navigate campground roads and parking areas. It is recommended that the

Lakeview and Turkey Oak Campground roads be paved and that sandy soils of problem sites in all campgrounds be stabilized to improve vehicular access. The water and electrical service in the Lakeview Campground should also be upgraded.

**Picnic Area.** The limestone and cement picnic tables that dot the area are small and uncomfortable, beginning to deteriorate, and not ADA compliant. It is recommended that they eventually be replaced and additional seating provided around the playground.

**Roads.** Roads in both of the park's campgrounds will require re-paving during the 10-year planning period of this plan.

***Objective: Construct 14 new facilities and 0.4 miles of trail in the park.***

**Trails and Interpretation.** The park contains a diverse and interesting mix of natural and cultural resources that provide abundant material for interpretation. To minimize the need for investment in costly and resource intensive facilities, it is recommended that the park be approached as an outdoor classroom. The most significant features of the park should be identified and linked together with interpretive materials--either static signage or guides and handouts. A focus should be on telling the story of CCC Camp SP-5 and its role in establishing the park, with existing historic structures the focal point of interpretation. The park's existing roadside interpretive stations provide a good starting point and should be evaluated for opportunities to improve/expand information and signage that meets professional interpretive standards. It is also recommended that efforts continue to restore and maintain vistas, particularly of Little Lake Johnson and the water tower from the park drive and Pebble Lake from the adjacent pavilion.

The park contains some areas where visitors stray from established trails that create erosion problems. Soft sands and slopes associated with the ravine system exacerbate this problem. Existing routes and overlook points should be assessed for the need of additional signage, split rail fencing or other measures to facilitate trail orientation and reduce erosion and the blazing of social trails. It is also recommended that a boardwalk be added to a portion of the Fern Trail.

To enhance the hiking experience at the park, it is recommended that a nature trail be established on an existing service road between the parking area at the Ravine Overlook and Devil's Washbasin. A small observation deck is recommended at the terminal point of this trail to enhance views of the sinkhole lake and manage visitors in this area.

The equestrian trailhead is comprised of soft sands that make it difficult for vehicles pulling trailers. Stabilization of this area is recommended using materials free from gravel that could pose a hazard for riders. In addition, a composting restroom is recommended for the equestrian trailhead.

**Cabin Area.** A large picnic shelter is recommended on the south side of the cabin road just west of the road leading to the Lakeview Campground.

**Campgrounds.** The Sandhill Campground bathhouse is in need of renovation or replacement. In addition, the Lakeview Campground is recommended to have two camp host sites established in the footprint of the former bathhouse location and the campfire circle replaced with a new facility.

**Picnic Area.** Visitors to the park picnic area currently use the restroom of the recreation hall or the pavilion on Pebble Lake. These facilities are not well positioned to service this large area and the latter facility is not ADA compliant. A more centrally located restroom is recommended in this area.

The stage behind the recreation hall is a popular amenity that supports outdoor concerts and other events. Improvements are recommended to enhance the use of this facility and provide a more stable, fixed structure, while maintaining its existing size and location.

**Support Facilities.** The park has outgrown its CCC-era entrance station. The current building provides insufficient administrative space and stacking distance when processing visitors. It is recommended that a new facility be constructed further in along the park drive, but within site distance of the gate. Impacts from site development should be directed towards the south side of the road to avoid damaging the old growth longleaf pines located on the north side of the existing entrance drive. The current entrance station will continue to serve as administrative space for the park.

## Facilities Development

Preliminary cost estimates for these recommended facilities and improvements are provided in the Ten-Year Implementation Schedule and Cost Estimates located in the Implementation Component of this plan. These cost estimates are based on the most cost-effective construction standards available at this time. The preliminary estimates are provided to assist the Division in budgeting future park improvements, and may be revised as more information is collected through the planning and design processes. The following is a summary of facilities needed to implement the conceptual land use plan for Mike Roess Gold Head Branch State Park:

### Trails and Interpretation

**Equestrian Trailhead**

Stabilize parking
Composting restroom

**Ravine Overlook**

Pave parking
Devil's Washbasin Trail (.35 mi.)

Devil's Washbasin overlook

**Ravine Trailhead**

Boardwalk portion of Fern Trail
Organize parking and add RV spaces

**Trails**

Trail directional signage
Honor box fee collection station

**Cabin Area**

Large shelter
Pave parking

**Campgrounds**

**Sandhill Campground**

Upgrade or replace bathhouse

**Lakeview Campground**

Volunteer host sites (2)
Upgrade electrical and water
Replace campfire circle
Pave road

**Turkey Oak Campground**

Pave road

Stabilize sites in all areas

**Picnic Area**

Improve existing stage
Restroom
Replace picnic tables (25)
Benches (4)

**Support Facilities**

Entrance Station

### Existing Use and Recreational Carrying Capacity

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without significant degradation. This analysis identifies a

range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 5).

The recreational carrying capacity for this park is a preliminary estimate of the number of users the unit could accommodate after the current conceptual development program has been implemented. When developed, the proposed new facilities would approximately increase the unit's carrying capacity as shown in Table 5.

**Table 5--Existing Use and Recreational Carrying Capacity**

| | Existing Capacity | | Proposed Additional Capacity | | Estimated Recreational Capacity | |
|---|---|---|---|---|---|---|
| **Activity/Facility** | **One Time** | **Daily** | **One Time** | **Daily** | **One Time** | **Daily** |
| **Trails** | | | | | | |
| Hiking | 35 | 70 | 4 | 8 | 39 | 78 |
| Equestrian | 56 | 112 | | | 56 | 112 |
| **Cabins** | 78 | 78 | | | 78 | 78 |
| **Camping** | | | | | | |
| Family Camping | 584 | 584 | | | 584 | 584 |
| Group Camp | 75 | 75 | | | 75 | 75 |
| Primitive Camping | 16 | 16 | | | 16 | 16 |
| ***Boating** | 32 | 64 | | | 32 | 64 |
| **Picnicking & Swimming** | 640 | 1,280 | | | 640 | 1,280 |
| **TOTAL** | **1,516** | **2,279** | **4** | **8** | **1,520** | **2,287** |

*Note: Boating capacity set assuming normal water levels.

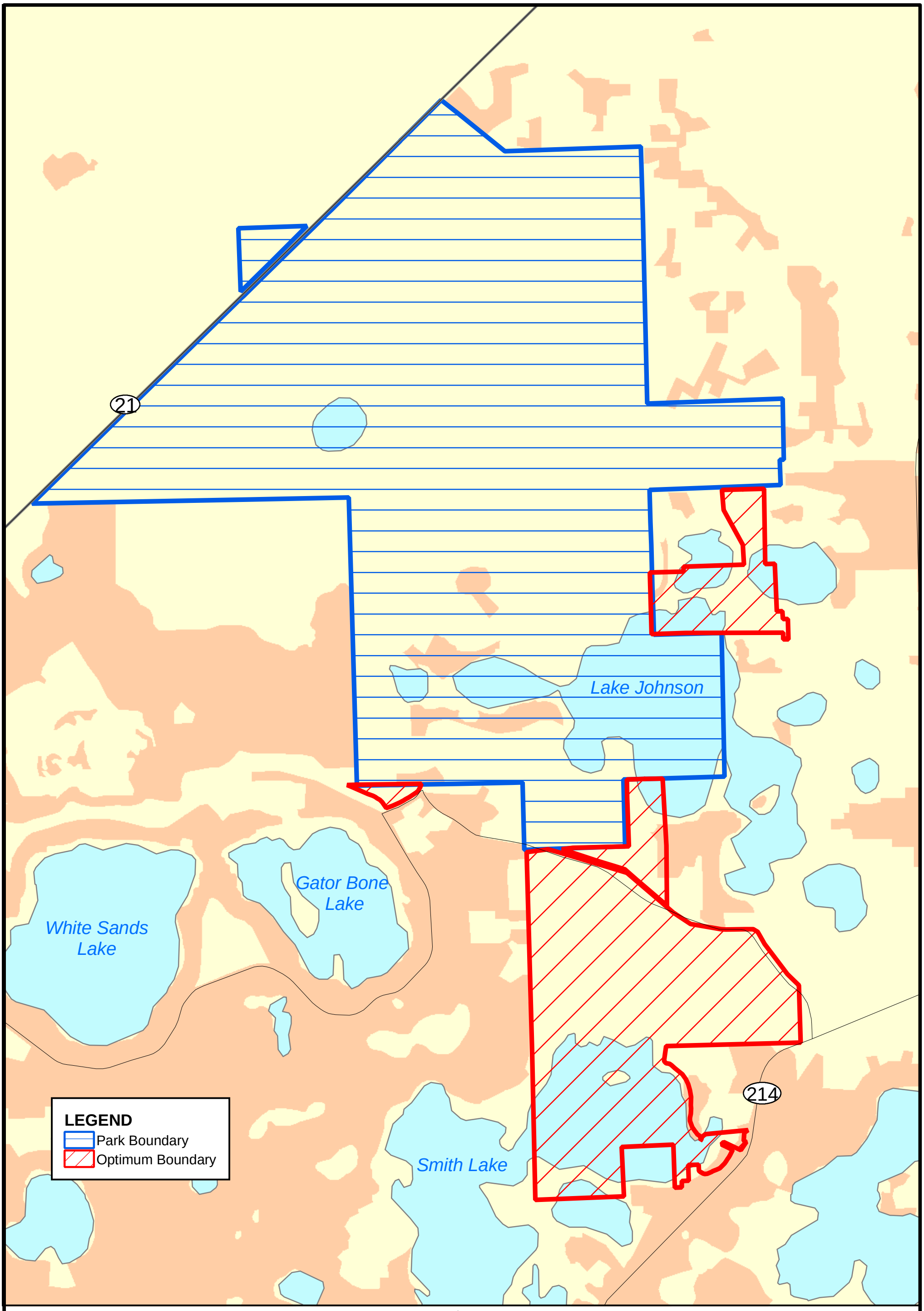
## Optimum Boundary

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.

The park's optimum boundary includes approximately 720 acre of adjacent lands that would protect additional sandhill and sandhill upland lakes. These lands support good quality sandhill or are considered to have high restoration potential, would buffer existing support facilities, improve burning and provide expanded opportunities for recreation. Although the area is not identified in current state land acquisition projects nor in the proposed Ocala NF to Osceola N.F. to Okeefenokee Swamp Greenway (O2O2O) advocated by several conservation groups, the addition does expand the area of habitat that should be protected in the future, one of the goals of both land recommended acquisition projects.




MIKE ROESS GOLD HEAD BRANCH STATE PARK

OPTIMUM BOUNDARY MAP

## IMPLEMENTATION COMPONENT

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

### MANAGEMENT PROGRESS

Since the approval of the last management plan for Mike Roess Gold Head Branch State Park in 2001, significant work has been accomplished and progress made towards meeting the Division's management objectives for the park. These accomplishments fall within three of the five general categories that encompass the mission of the park and the Division.

**Acquisition**

- Added approximately 191 acres (Gladman tract) adjacent to State Road 21 in 2004.

**Park Administration and Operations**

- Constructed small administrative office at entrance with volunteer assistance.
- Upgraded a Park Ranger position to a Park Service Specialist.
- Assumed management of the DEP Sign Shop that produces signs for all state parks.
- Formed the park citizen support organization--Gold Head Associates, Inc.
- Continued coordinating maintenance of park trails with the Florida Trail Association.

**Resource Management**

**Natural Resources**

- Treated over 2,300 acres with prescribed fire and expanded burn program to include areas that had no previous burn history.
- Continued maintenance removal of exotic plants.
- Continued sandhill restoration efforts by treating over 14 acres of offsite hardwoods and removing sand pines from 95 acres.
- Restored 50 acres of scrub by mowing in preparation for prescribed burning.

- Restored scenic vistas of Pebble Lake by removing hardwoods from 8 acres of sandhill with assistance of Scouts, AmeriCorps, Alternative Spring Break students and other volunteers.
- Maintained participation in the LAKEWATCH program.
- Direct seeded hooded pitcherplants in seepage slope and bog communities to begin restoration of this extirpated species.
- Partnered with FWC in Southeastern Kestrel Monitoring and Recovery Project.
- Improved hydrology by removing berm separating Little and Big Lake Johnson and filling a large hole in bottom of Little Lake Johnson that was a source of fill for the swimming beach.
- Added retention swales, infiltration and baffling systems to minimize storm water discharge to Little Lake Johnson.

**Cultural Resources**

- Restored the CCC shop building that had extensive termite, water damage and wood rot.
- Replaced wood rot and painted CCC entrance station.
- Repaired/renovated bathrooms of eight CCC cabins.
- Initiated restoration of CCC Caretakers Cottage, which will include installation of windows, replacement of siding, and painting to represent its original appearance.

**Recreation and Visitor Services**

- Established six roadside kiosks along the park drive to interpret the Tram Road, water tower, lakebeds, CCC-era, mill site, and turpentine industry.
- Coordinated Eagle Scout projects that constructed information kiosks at the Mill Site and the Equestrian Trail Head.
- Conducted ranger programs on and offsite as requested.
- Hosted Division of Recreation and Parks statewide meetings (Volunteer Appreciation Weekend and biologist meeting) and AmeriCorps Graduation ceremonies.

**Park Facilities**

- Constructed equestrian trailhead and designated seven miles of trails for horseback riding.
- Installed new fencing along the ravine.
- Replaced Lakeview Campground bathhouse.
- Upgraded water service in Turkey Oak Campground.
- Stabilized Turkey Oak and Lakeview Campground roads.
- Renovated Cherry Cabin that serves as a bunkhouse for volunteers and others conducting work at the park.
- Constructed two new ADA compliant recreation cabins.
- Completely renovated the Recreation Building, including asbestos abatement, to provide rental space for hosting family reunions, weddings,

meetings and other types of gatherings.
- Installed wooden walkways to historic cabins to improve accessibility and reduce wear and tear on wooden floors.
- Renovated the laundry building.
- Upgraded septic system that serves the CCC cabins, Recreation Building, Pavilion 18 and the dump station.

**MANAGEMENT PLAN IMPLEMENTATION**

This management plan is written for a timeframe of ten years, as required by Section 253.034 Florida Statutes. The Ten-Year Implementation Schedule and Cost Estimates (Table 6) summarizes the management goals, objectives and actions that are recommended for implementation over this period. Measures are identified for assessing progress toward completing each objective and action. A time frame for completing each objective and action is provided. Preliminary cost estimates for each action are provided and the estimated total costs to complete each objective are computed. Finally, all costs are consolidated under the following five standard land management categories: Resource Management, Administration and Support, Capital Improvements, Recreation Visitor Services and Law Enforcement.

Many of the actions identified in the plan can be implemented using existing staff and funding. However, a number of actions have been identified that are unlikely to be carried out during the life of this plan unless additional resources are provided. The ten-year Implementation Schedule and Cost Estimates table therefore includes both "funded" and "unfunded" needs.

The administration of the state park is an ongoing cost that will increase in the future as additional staff, programs and responsibilities are assigned. These administrative costs include a variety of activities, such as the administration of personnel, the management of vendors and contractors for all the park's supply and service needs and the coordination of the park's CSO, to name a few.

The plan's recommended actions, time frames and cost estimates will guide the Division's planning and budgeting activities over the period of this plan. It must be noted that these recommendations are based on the information that exists at the time the plan was prepared. A high degree of adaptability and flexibility must be built into this process to ensure that the Division can adjust to changes in the availability of funds, improved understanding of the park's natural and cultural resources, and changes in statewide land management issues, priorities and policies.

Statewide priorities for all aspects of land management are evaluated each year as part of the process for developing the Division's annual legislative budget requests. When preparing these annual requests, the Division considers the needs and priorities of the entire state park system and the projected availability

of funding from all sources during the upcoming fiscal year. In addition to annual legislative appropriations, the Division pursues supplemental sources of funds and staff resources wherever possible, including grants, volunteers and partnerships with other entities. The Division's ability to accomplish the specific actions identified in the plan will be determined largely by the availability of funds and staff for these purposes, which may vary from year to year. Consequently, the target schedules and estimated costs identified in Table 6 may need to be modified during the ten-year management planning cycle.

**Table 6**
**Mike Roess Gold Head Branch State Park**
**Ten-Year Implementation Schedule and Cost Estimates**
**Sheet 1 of 5**

| **Goal I: Provide administrative support for all park functions.** | | **Measure** | **Planning Period** | **Estimated Manpower Cost* (10 Years)** | **Estimated Expense Cost* (10 Years)** |
|---|---|---|---|---|---|
| **Objective A** | **Continue day-to-day administrative support at current levels.** | Administrative support ongoing | C | **$810,000** | **$210,000** |
| **Objective B** | **Expand administrative support as new lands are acquired and/or new facilities are developed.** | Administrative support expanded | UFN | **$180,000** | **$16,000** |
| | | | | | |
| **Goal II: Protect water quality and quantity in the park, restore hydrology to the extent feasible, and maintain the restored condition.** | | **Measure** | **Planning Period** | **Estimated Manpower Cost* (10 Years)** | **Estimated Expense Cost* (10 Years)** |
| **Objective A** | **Monitor and analyze water resources of the park.** | Monitoring/analysis ongoing | C | **$16,000** | **$0** |
| Action 1 | Continue collection of surface and groundwater data including rainfall, lake levels, and continue participation in LAKEWATCH Program. | Annual Report | C | $15,000 | $0 |
| Action 2 | Map historical flow patterns of Gold Head Branch and map watersheds of all of the park's water features. | Maps completed | LT | $1,000 | $0 |
| Action 3 | Establish monitoring program for rate of flow of Gold Head Branch. | Monitoring ongoing | UFN | unknown | unknown |
| **Objective B** | **Address park facility water quality impacts on Lake Johnson and on hydrological regimes of the park.** | # Impacts eliminated/reduced | LT | **$1,500** | **$20,500** |
| Action 1 | Document current conditions and manage cabin visitor circulation and entry points to Little Lake Johnson. | # Impacts reduced | ST | $500 | $500 |
| Action 2 | Develop a stormwater management plan for park facilities that affect the hydrology of Lake Johnson. | Plan completed | LT | $1,000 | $20,000 |
| Action 3 | Design, permit and construct culverts, low water crossings, stormwater treatment improvements, etc. to implement stormwater management plan. | # Improvements completed | UFN | unknown | unknown |
| | | | | | |
| **Goal lII: Restore and maintain the natural communities/habitats of the park.** | | **Measure** | **Planning Period** | **Estimated Manpower Cost* (10 Years)** | **Estimated Expense Cost* (10 Years)** |
| **Objective A** | **Within 10 years have1,500 acres of the park maintained within optimal fire return interval.** | # Acres within fire return | LT | **$205,000** | **$212,000** |
| Action 1 | Develop/update annual burn plan. | Plan updated | C | $6,000 | $0 |
| Action 2 | Maintain existing fire breaks in accordance with annual burn plan. | # Miles maintained | C | $13,000 | $55,000 |
| Action 3 | Establish new fire breaks and complete other treatments in accordance with annual burn plan. | # Miles established | C | $6,000 | $22,000 |
| Action 4 | Ensure staff training and equipment meet standards. | Training and equip. | C | $20,000 | $20,000 |
| Action 5 | Manage fire dependent communities for ecosystem function, structure and processes by burning between 630 - 1900 acres annually. | Average # acres burned annually | C | $160,000 | $115,000 |
| **Objective B** | **Remove off-site tree species from 100 acres of sandhill community.** | # Acres treated | LT | **$4,000** | **$1,000** |
| Action 1 | Map off-site tree locations by management zone and develop removal plan for off-site tree species. | Plan complete | ST | $500 | $0 |
| Action 2 | Implement tree removal plan. | # Acres treated | LT | $3,500 | $1,000 |

* 2010 Dollars
ST = actions within 2 years
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C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

**Table 6**
**Mike Roess Gold Head Branch State Park**
**Ten-Year Implementation Schedule and Cost Estimates**
**Sheet 2 of 5**

| | | | | | |
|---|---|---|---|---|---|
| **Objective C** | **Protect resources from visitor impacts at Ravine and Devil's Washbasin, Sheeler and Pebble Lakes.** | # Projects implemented | LT | **$7,500** | **$8,000** |
| Action 1 | Design and implement photopoint monitoring program. | Program implemented | ST | $1,000 | $500 |
| Action 2 | Plan and implement trail improvements to address compaction and erosion impacts to the Ravine. | # Improvements completed | LT | $4,000 | $5,000 |
| Action 3 | Plan and implement visitor management and erosion control measures for Devil's Washbasin, Sheeler Lake and Pebble Lake | # Measures implemented | LT | $1,000 | $2,000 |
| Action 4 | Continue sandhill restoration of abandoned Sheeler Lake Parking and trail (1 acre). | # Acres restored | LT | $1,500 | $500 |
| | | | | | |
| **Goal IV: Maintain, improve or restore imperiled species populations and habitats in the park.** | | **Measure** | **Planning Period** | **Estimated Manpower Cost* (10 Years)** | **Estimated Expense Cost* (10 Years)** |
| **Objective A** | **Monitor and document seven selected imperiled animal species in the park.** | # Species monitored | C | **$15,000** | **$2,500** |
| Action 1 | Update baseline imperiled species occurrence inventory list, as needed. | List completed | C | $1,000 | $0 |
| Action 2 | Develop monitoring protocols for four selected imperiled animal species. | # Protocols developed | ST | $1,000 | $500 |
| Action 3 | Implement monitoring protocols for four imperiled animal species. | # Species monitored | C | $1,000 | $1,000 |
| Action 4 | Record all observations of eastern indigo snakes within the park and provide data to FWC. | Annual report | C | $3,000 | $0 |
| Action 5 | Record Sherman's Fox Squirrels observed within the park. | Annual report | C | $2,000 | $0 |
| Action 6 | Continue to monitor gopher tortoises for signs of Upper Respiratory Tract Disease within the park. | Monitoring ongoing | C | $2,000 | $0 |
| Action 7 | Conduct additional trapping surveys for Florida mice. | Monitoring ongoing | C | $2,500 | $500 |
| Action 8 | Continue to monitor park for presence of Florida scrub-jays | Monitoring ongoing | C | $1,500 | $0 |
| Action 9 | Protect bald eagle nest from disturbance and monitor activity status of nest | Monitoring ongoing | C | $500 | $0 |
| Action 10 | Determine status of adult Say's spiketail dragonfly within the park. | Monitoring ongoing | ST | $500 | $500 |
| **Objective B** | **Monitor and document four selected imperiled plant species in the park.** | # Species monitored | C | **$5,500** | **$2,500** |
| Action 1 | Continue to survey for imperiled plant species within the park. | Monitoring ongoing | C | $1,000 | $500 |
| Action 2 | Develop monitoring protocols for four selected imperiled plant species. | # Protocols developed | ST | $1,000 | $500 |
| Action 3 | Implement monitoring protocols for four imperiled plant species. | # Species monitored | C | $1,000 | $500 |
| Action 4 | Monitor status of hooded pitcherplants reintroduction site in Gold Head Branch seepage slope and bog. | Monitoring ongoing | LT | $500 | $500 |
| Action 5 | If necessary, supplement or establish hooded pitcherplant population with container-grown plants. | # Plants established | LT | $2,000 | $500 |
| **Objective C** | **Continue nest box program for southeastern kestrels and other cavity nesting species.** | Monitoring ongoing | C | **$7,000** | **$1,500** |
| Action 1 | Partner with FWC on the SE Kestrel Monitoring and Recovery Project | Annual report | C | $1,000 | $500 |
| Action 2 | Maintain nest boxes and monitor use by SE kestrels, Sherman's fox squirrels, and other cavity nesting species. | Annual report | C | $6,000 | $1,000 |
| **Objective D** | **Restore scrub natural community to benefit imperiled scrub plant and animal species.** | # Acres restored | LT | **$1,500** | **$4,500** |
| Action 1 | Establish secure firebreaks around scrub areas in accordance with annual burn plan. | # Miles established | ST | $500 | $500 |
| Action 2 | Where necessary, reduce fuel height in scrub by mowing or other mechanical preparation. | # Acres treated | ST | $1,000 | $4,000 |
| Action 3 | Conduct prescribed burns in all seven scrub burn zones. | # Zones burned | LT | Action III.A.5 | Action III.A.5 |

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**Table 6**
**Mike Roess Gold Head Branch State Park**
**Ten-Year Implementation Schedule and Cost Estimates**
**Sheet 3 of 5**

| | | | | | |
|---|---|---|---|---|---|
| **Goal V: Remove exotic and invasive plants and animals from the park and conduct needed maintaince-control.** | | **Measure** | **Planning Period** | **Estimated Manpower Cost* (10 Years)** | **Estimated Expense Cost* (10 Years)** |
| **Objective A** | **Annually treat two acres of exotic plant species in the park.** | # Acres treated | C | **$8,000** | **$13,000** |
| Action 1 | Develop exotic plant removal plan with infested areas mapped by burn zone and prioritized for treatment. | Plan completed | ST | $1,000 | $0 |
| Action 2 | Treat highest priority areas as identified by exotic plant removal plan. | # Acres treated | C | $5,000 | $10,000 |
| Action 3 | Monitor treated areas and follow-up as needed. | # Plants treated | C | $2,000 | $3,000 |
| **Objective B** | **Scout every zone within the park at least twice within ten years for new populations of exotic invasive plants.** | # Acres surveyed | C | **$4,000** | **$1,000** |
| Action 1 | Develop and implement plan and schedule for scouting and mapping invasive plants species within the park. | # Acres surveyed | C | $4,000 | $1,000 |
| **Objective C** | **Practice preventative measures to avoid accidental introduction or spreading of exotics within the park.** | Measures implemented | C | **$1,000** | **$500** |
| Action 1 | Develop and implement guidelines for sod, fill dirt, limerock that enter the park and for cleaning mowing and other equipment to prevent spread of exotics. | Guidelines completed | ST | $1,000 | $500 |
| **Objective D** | **Implement control measures on three exotic and nuisance animal species in the park.** | # Species | C | **$2,000** | **$1,000** |
| Action 1 | Remove armadillos from sensitive areas of the park, including the ravine and lake edges. | # Animals | C | $1,000 | $500 |
| Action 2 | Remove feral cats and dogs from the park as necessary. | # Animals | C | $1,000 | $500 |
| | | | | | |
| **Goal VI: Protect, preserve and maintain the cultural resources of the park.** | | **Measure** | **Planning Period** | **Estimated Manpower Cost* (10 Years)** | **Estimated Expense Cost* (10 Years)** |
| **Objective A** | **Assess and evaluate 10 of 53 recorded cultural resources in the park.** | Documentation complete | LT | **$1,000** | **$30,000** |
| Action 1 | Complete ten Historic Structures Reports (HSR's) for historic buildings and cultural landscape. Prioritize repair, restoration and rehabilitation projects. | Reports and priority lists completed | LT | $1,000 | $30,000 |
| **Objective B** | **Compile reliable documentation for all recorded historic and archaeological sites.** | Documentation complete | LT | **$75,500** | **$15,000** |
| Action 1 | Complete a predictive model for high, medium and low probability of locating archaeological sites within the park. | Probability Map completed | ST | $0 | $7,000 |
| Action 2 | Conduct oral history interviews. | Interviews complete | LT | unknown | unknown |
| Action 3 | Compile park administrative history. | Report completed | ST | $2,000 | $0 |
| Action 4 | Develop and adopt a Scope of Collections Statement. | Document completed | ST | $500 | $0 |
| Action 5 | Conduct Level 1 archaeological survey for priority areas identified by the predictive model. | Survey completed | LT | unknown | unknown |
| Action 6 | Ensure all known sites are recorded in the Florida Master Site File. | Data updated | C | $3,000 | $0 |
| Action 7 | Monitor all 53 recorded cultural sites and update the Florida Master Site File as needed. | Monitoring ongoing | C | $70,000 | $8,000 |
| **Objective C** | **Bring 10 of 53 recorded cultural resources into good condition.** | # Sites in good condition | C | **$0** | **$0** |
| Action 1 | Create and implement cyclical maintenance program for each historic structure. | Maintenance programs implemented | C | see Action VIII.A | see Action VIII.A |
| Action 2 | Design and implement restoration, rehabilitation or stabilization projects for structures and landscape in order of priority listed in HSRs. | Priority projects completed | UFN | unknown | unknown |

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**Table 6**
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| **Goal VII: Provide public access and recreational opportunities in the park.** | | **Measure** | **Planning Period** | **Estimated Manpower Cost* (10 Years)** | **Estimated Expense Cost* (10 Years)** |
|---|---|---|---|---|---|
| **Objective A** | **Maintain the park's current recreational carrying capacity of 2,279 users per day.** | # Recreation/visitor opportunities per day | C | **$1,440,000** | **$370,000** |
| **Objective B** | **Expand the park's recreational carrying capacity by 8 users per day.** | # Recreation/visitor opportunities per day | ST | **$0** | **$0** |
| **Objective C** | **Continue to provide the current repertoire of six interpretive/educational programs on a regular basis.** | # Interpretive/education programs | C | **$9,000** | **$0** |
| **Objective D** | **Develop four new interpretive/educational programs.** | # Interpretive/education programs | ST | **$3,000** | **$0** |
| Action 1 | Update and implement Statement for Interpretation. | Document updated/implemented | ST | $1,000 | $0 |
| Action 2 | Develop and implement targeted interpretive programs to educate public about the park's flora and fauna and CCC history, on protection of the park's sensitive resources, and about regional water resource issues . | Programs implemented | ST | $2,000 | $0 |
| | | | | | |
| **Goal VIII: Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.** | | **Measure** | **Planning Period** | **Estimated Manpower Cost* (10 Years)** | **Estimated Expense Cost* (10 Years)** |
| **Objective A** | **Maintain all public and support facilities in the park.** | Facilities maintained | C | **$1,320,000** | **$330,000** |
| **Objective B** | **Improve/repair six existing facilities and one mile of road in the park and make necessary improvements for universal access to park facilities.** | # Facilities/Miles of Trail/Miles of Road | LT | **$18,000** | **$951,000** |
| Action 1 | Continue to implement the park's transition plan to ensure facilities are accessible in accordance with the American with Disabilities Act of 1990. | Plan implemented | LT | $8,000 | $35,000 |
| Action 2 | Conduct engineering study and drainage improvements to address erosion problems on the Ravine Trail | Improvements completed | UFN | $8,000 | $200,000 |
| Action 3 | Pave parking area at Ravine Overlook. | Project complete | ST | $0 | $24,000 |
| Action 4 | Re-stripe Ravine parking area; add 2 RV parking spaces. | Project complete | UFN | $0 | $23,000 |
| Action 5 | Pave cabin area parking spaces. | Project complete | ST | $0 | $72,000 |
| Action 6 | Pave Lakeview Campground road. | Project complete | ST | $0 | $190,000 |
| Action 7 | Pave Turkey Oak Campground road. | Project complete | UFN | $0 | $190,000 |
| Action 8 | Upgrade Lakeview Campground water and electrical service. | Project complete | LT | $0 | $210,000 |
| Action 9 | Replace 25 masonry picnic tables with ADA compliant tables; add 4 benches in playground. | # Amenities in place | LT | $2,000 | $7,000 |

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**Table 6**
**Mike Roess Gold Head Branch State Park**
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**Sheet 5 of 5**

| | | | | | |
|---|---|---|---|---|---|
| **Objective C** | **Construct 14 new facilites and 0.4 miles of trail.** | # Facilities/Miles of Trail/Miles of Road | LT | **$0** | **$1,417,000** |
| Action 1 | Upgrade 4 existing interpretive exhibits throughout the park. | # Exhibits upgraded | LT | $0 | $58,000 |
| Action 2 | Design and construct approximately 500 ft. boardwalk on Fern Trail. | Project complete | UFN | $0 | $72,000 |
| Action 4 | Establish a 0.3 mile trail from Ravine Overlook parking area to Devils Washbasin and construct overlook. | Project complete | ST | $0 | $27,000 |
| Action 5 | Stabilize equestrian parking area; install composting restroom. | Project complete | UFN | $0 | $34,000 |
| Action 6 | Design, permit and construct large picnic shelter in cabin area. | Project complete | UFN | $0 | $90,000 |
| Action 7 | Replace Sandhill Campground bathhouse. | Project complete | UFN | $0 | $400,000 |
| Action 8 | Install 2 campground host sites in Lakeview Campground and replace campfire circle. | Project complete | UFN | $0 | $220,000 |
| Action 9 | Design and construct new restroom in picnic area. | Project complete | UFN | $0 | $260,000 |
| Action 10 | Design and construct upgraded stage area at Recreation Hall. | Project complete | LT | $0 | $36,000 |
| Action 11 | Design and construct new ranger station, convert CCC structure to administrative office. | Project complete | UFN | $0 | $350,000 |

**Summary of Estimated Costs**

| **Management Categories** | **Estimated Cost** |
|---|---|
| Resource Management | $667,500 |
| Administration and Support | $1,216,000 |
| Capital Improvements | $4,036,000 |
| Recreation Visitor Services | $1,822,000 |
| Law Enforcement Activities** | |

**Law enforcement activities in Florida State Parks are conducted by the DEP Division of Law Enforcement and by local law enforcement agencies.

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# Addendum 1—Acquisition History

**Purpose of Acquisition:**

The Florida Board of Forestry (FBF) acquired Mike Roess Gold Head Branch State Park to preserve, develop, operate and maintain the property for outdoor recreational, park, conservation and related purposes.

**Sequence of Acquisition:**

On February 15, 1936, FBF, predecessor in interest to the Florida Board of Parks and Historic Memorials (FBPHM), obtained title to an 80-acre property constituting the initial area of Mike Roess Gold Head Branch State Park. FBF acquired the property from Lake Johnson Development Company through donation. Since this initial donation, FBF and its successor agencies acquired several individual parcels through other donations; a patent from the U. S. government; and by using Land Acquisition Trust Fund, Preservation 2000 and Florida Forever funds. Presently the park has approximately 2,366 acres.

On September 28, 1967, FBPHM, predecessor in interest to the Division of Recreation and Parks (Division), transferred its title interest in Mike Roess Gold Head Branch to the Trustees of the Internal Improvement Fund (TIIF), which is now known as the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Trustees).

**Lease Agreement:**

On January 31, 1968, the Trustees leased Mike Roess Gold Head Branch State Park to FBPHM under a 99-year lease agreement, Lease No. 2324. On September 4, 1970, the Trustees leased the park to the State of Florida Department of Natural Resources, predecessor in interest to the State of Florida Department of Environmental Protection, for the use and benefit of the Division under a 99-year new lease, Lease No. 2455. On July 2, 1984, the Trustees amended this new lease to change the term of the lease to fifty (50) years. This new term will expire on July 1, 2034.

According to Lease No. 2455, the Division manages Mike Roess Gold Head Branch State Park for the conservation and protection of natural, historical and cultural resources and uses this property for resource-based public outdoor recreation compatible with the conservation and protection of the resources of the park.

**Title Interest:**

The Trustees hold fee simple title to Mike Roess Gold Head Branch State Park.

**Special Conditions on Use:**

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

**Outstanding Reservations:**

The lease from the Trustees to the Division for Mike Roess Gold Head Branch State Park stipulates that the property be utilized for public outdoor recreation and related purposes. Following is a listing of outstanding rights, reservations and encumbrances that apply to this park.

| | |
|---|---|
| Instrument: | Well Monitoring Use Agreement |
| Instrument Holder: | St. Johns River Water Management District |
| Begging Date: | May 6, 1991 |
| Ending Date: | May 5, 2021 |
| Outstanding Rights, Uses, Etc: | The use agreement enables the St Johns River Water Management District to construct, maintain and operate monitor wells on a portion of Mike Roess Gold Head Branch State Park. |

| | |
|---|---|
| Instrument: | Right-of-Way Easement |
| Instrument Holder: | Clay Electric Co-Operative, Inc. |
| Begging Date: | October 4, 1954 |
| Ending Date: | There is no specific ending date given. |
| Outstanding Rights, Uses Etc: | The easement allows Clay Electric Co-operative, Inc. to construct, erect, operate and maintain lines for transmitting electrical power on a portion of Mike Roess Gold Heard Branch State Park and grants the right of ingress to and egress from this easement area to the co-operative. |

| | |
|---|---|
| Instrument: | Patent |
| Instrument Holder: | The United States of America |
| Begging Date: | February 12, 1937 |
| Ending Date: | There is no specific ending date given. |
| Outstanding Rights, Uses, Etc: | The patent is for a 160-acre property given to the state of Florida by the United States of America to be used for Public Park and recreational purposes. This patent is subject to the said land being used for public park and recreation. If this land ceases to be used for a period of five years for the specified purpose, the title and management interests in the property will revert to the United States of America. |

# Addendum 2—Advisory Group Members and Report

The Honorable Chereese Stewart,
Commissioner, District 4
Clay County Board of County
Commissioners
477 Houston Street
P.O. box 1366
Green Cove Springs, Florida 32043

Mary Lou Hildreth, Mayor
City of Keystone Heights
P.O. Box 420
Keystone Heights, Florida 32656

Tony Brown, Vice-Mayor
City of Keystone Heights
P.O. Box 420
Keystone Heights, Florida 32656

Jason Cutshaw, Park Manager
Mike Roess Gold Head Branch State
Park
6239 State Road 21
Keystone Heights, FL 32656

Wes Taylor, Chair
Clay Soil and Water Conservation
District
102 North Cypress Avenue
Green Cove Springs, Florida 32043

Scotland Talley
North Central Region Conservation
Biologist
Florida Fish and Wildlife
Conservation Commission
3377 East U.S. Highway 90
Lake City, Florida 32055

Heather Venter
Florida Division of Forestry
7247 Big Oaks Road
Bryceville, Florida 32009

Ty Silcox, President
Gold Head Associates, Inc.
6239 State Road 21
Keystone Heights, Florida 32656

Tom Larson, Chair
Northeast Florida Sierra Club
887 Marshside Court
Jacksonville Beach, Florida 32250

Carole Adams, President
Duval Audubon Society
7473 Carriage Side Court
Jacksonville, Florida 32256

Paula Snellgrove, Chair
Florida Trail Association
North Florida Trailblazers Chapter
465 Lake Asbury Drive
Green Cove Springs, Florida 32043

Mr. Chip Wear
Equestrian Representative
6710 Westbrook Drive
Keystone Heights, Florida 32656

Mr. Robert Butts
5698 Christian Camp Road
Keystone Heights, Florida 32656

The Advisory Group meeting to review the draft land management plan for Mike Roess Gold Head Branch State Park was held at the Keystone Heights City Hall on Wednesday, November 18, 2009.

Chairman Wendell Davis of the Clay County Commission was represented by District 4 Commissioner Chereese Stewart. Mayor Mary Lou Hildreth, City of Keystone Heights, was represented by Vice-Mayor Tony Brown. Mr. Tom Larson (Northeast Florida Sierra Club), Ms. Carole Adams (Duval Audubon Society) and Mr. Robert Butts (adjacent landowner) did not attend. Mr. Larson and Dr. Kathy Cantwell submitted written comments on the plan on behalf of the Sierra Club (copies attached). Mr. Butts attended the public workshop held the evening before. Summaries of the written comments and Mr. Butts' comments are included below. All other appointed Advisory Group members were present. Division of Recreation and Parks staff attending included Mr. Willie Cutts, Mr. Dan Pearson, Ms. Ellen Andrews, Ms. Jill Debuono, Mr. Joe Blazina and Mr. Lew Scruggs.

Mr. Scruggs began the meeting by explaining the purpose of the Advisory Group and summarizing the management plan review process. He provided a brief summary of the public comments received during the public workshop. He then asked each member of the advisory group to express his or her comments on the draft management plan.

## Summary of Advisory Group Comments

**Ms. Venter (FL Division of Forestry)** provided corrections for typographic errors and suggestions for map format changes. She said the draft plan is excellent, and complemented the Division on the format, the accuracy of the descriptions of existing conditions and on the desired future conditions targeted for the park's natural and cultural resources.

**Mr. Wear (Equestrian Representative)** agreed that the draft is an excellent management plan. He recommended improvements for the park's equestrian trailhead, including stabilized parking and wash racks to rinse off horses at the end of trail rides. He suggested that the equestrian community would support the park with volunteer projects and could sponsor development projects through the Partnership in Parks grant program. Mr. Wear pointed out that funding shortfalls are a problem, as indicated by the unfunded needs identified by the management plan.

**Mr. Taylor, (Chair, Clay Soil and Water Conservation District)** agreed that the draft plan does a good job of addressing future management needs at the park. He reiterated the statement that a commitment to funding is essential to the success of any plan.

**Commissioner Stewart (Clay County Commission)** agreed that the draft plan is very

good. She stated that Clay County has valuable natural and scenic resources that contribute to its tourist appeal, and that the residents and their elected officials consider the state park extremely valuable for their own recreation and for attracting visitors. She pointed out the importance of grant funding as a way to continue important park programs when budgets are lean.

**Mr. Silcox (Citizen Support Organization)** agreed that the draft constitutes a good plan for the park. He noted that funding is needed to make goals and objectives happen, and that the organization is very interested in getting projects off the ground. He said that it seems that the state's funding typically does not reach parks like Mike Roess Gold Head Branch State Park because of their out-of-the way location. He said that the CSO desires to increase park attendance, and hopes that the Keystone Heights community and the City government will get more involved in that effort in the future.

**Ms. Snellgrove (Florida Trail Association)** requested that Florida Trail references be revised, since the segment through the park is now certified as part of the Florida National Scenic Trail. She suggested that the agreement between the Division and the Florida Trail Association should also be mentioned in the plan. She said that her organization looks forward to continuing its long and productive partnership with the Division at the state park.

**Mr. Talley (Florida Wildlife Conservation Commission)** said that he likes the new management plan format. He said that it appeared to deal well with the new statutory requirements for state land management plans. He suggested that the minimum targeted burn acreage in the plan should be set higher. He pointed out that grassland birds need more frequent burns. Mr. Talley agreed that the recent revegetation project between the road and the ravine was a good measure for maintaining the health of the natural community. Mr. Talley recommended continued monitoring of the kestrel boxes, following FWC protocols, after current research is completed. He said that FWC is beginning to consider armadillos as naturalized species, and asked if they were causing unacceptable damage to the park's resources.

**Mr. Brown (City of Keystone Heights)** offered hats off for the accomplishments of the park over the past several years. He said that the City offers its assistance in lobbying for support of the park. He said that the City officials consider the park a great asset to the community and a benefit to the local economy because of the outside visitors it attracts.

**Mr. Butts (Adjacent Landowner)** asked if the Division has considered off-road biking trails, birdwatching stations or an aquarium at the park. He suggested t that identification signs for trees and shrubs on park trails would provide a valuable interpretive amenity. He suggested that a primitive horse camp would expand the equestrian opportunities the park now offers, and recommended that orienteering

courses for scout groups would be very successful because of the park's topography.

## Summary of Written Comments

**Mr. Larson (Sierra Club)** suggested the plan should provide more guidance for addressing erosion problems on the Ravine trail. He asked what future configuration is planned for Big and Little Lake Johnson. He asked if there are plans to incorporate the State Road 21 bike path into the park's programs. He discussed the issues surrounding groundwater supply and uses in the region. He questioned the exclusion of a parcel of land on the park's eastern boundary from the Optimum Boundary Map and suggested additional budget totals on the 10-Year Schedule and Cost Estimates table.

**Dr. Cantwell (Sierra Club)** noted the unique nature of the assemblage of natural features such as the steephead ravine, ancient lakes among ancient sand dunes, karst geology and the longleaf pine/wiregrass natural community. She supported the designated protected zone that is included in the draft plan. Dr. Cantwell, like Mr. Larson, placed emphasis on the need for regional watershed and groundwater resource protection. She noted that the park has a unique opportunity to provide educational programs on these topics. She supported proposed actions to restore natural hydrology in the park, to the extent possible. Dr. Cantwell urged that the plan refer to the park's function in the "O2O2O" wildlife corridor that connects the Ocala National Forest through Putnam County to the Osceola NF and the Okefenokee Wildlife Refuge in southern Georgia. She questioned whether the local park managers monitor the availability of land identified for acquisition consistent with the state's conservation land acquisition programs, and provided suggestions for the park's Optimum Boundary Map. She suggested that monitoring for Florida black bear could be more valuable than for Bald eagle. She urged managers to avoid situations that could set fire to the park's bog wetland during prescribed fire events. Dr. Cantwell recommended that any new pavement in the park should be constructed with pervious surfaces to reduce impacts to the park's hydrology.

Written comments have been appended to this document.

## Staff Recommendations

Division staff recommends approval of the draft management plan with minor changes and corrections resulting from the public workshop and Advisory Group review. References to the Florida Trail will be revised. The priority and potential actions to address erosion on the Ravine Trail will be discussed. The potential expansion of programs for interpretation of the park's flora and fauna, water management issues that affect the entire region, and use of the park for orienteering training will be discussed. Pervious pavement will be recommended for any additional paving that occurs in the park. Regarding the suggestions to add equestrian camping and off-road biking trails

to the park, staff believes that those activities would not be appropriate to the sensitivity of the sandhill and scrub communities and sandy soils of the park, and they are not recommended additions for the draft management plan.

Staff believes that natural community restoration activities to address mesic flatwoods restoration and removal of hardwoods from the sandhills are adequately addressed in the plan. The plan discusses restoration activities around the old borrow pit, but we believe that a full topographic restoration of that area could be very disruptive of the surrounding community and more expensive than the potential benefits would justify. With regard to monitoring Florida black bear, it is known from long experience that the occurrence of these animals in the park is so rare that there is no realistic way to monitor them. Of course, any observation of the animals by park staff is recorded. Regarding questions about the regional watershed issues, staff is checking with the St. Johns River Water Management District regarding the establishment of minimum flows and levels for Lake Johnson and Pebble Lake, and will add information to the draft plan if it is available. The Division has, for many years, actively collaborated with the water management district on resource protection for the park's surface and groundwater resources, and will continue to do so in the future.

Regarding questions about the park's optimum boundary, the parcel east of the park that is excluded for the optimum boundary has multiple owners, some of whom are unwilling to sell, and is therefore not eligible for inclusion. The connection of the park to the larger ecological greenway from Ocala to the Okefenokee Swamp will be discussed in the Optimum Boundary section of the plan. Division staff does monitor land sales listing activity within the optimum boundary and within adjacent Florida Forever project areas. However, the maps in the park management plan need to remain specific to the park itself, and should not include repetition of the state's larger acquisition interests, to avoid possible confusion regarding future park management boundaries.

## Notes on Composition of the Advisory Group

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

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

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

Dear Mr. Scruggs:

I offer here some comments on the draft management plan for Mike Roess Gold Head Branch State Park. I cannot come to the meetings this week due to other obligations. However, Kathy Cantwell of Gainesville, active with the Sierra Club Suwannee-St. Johns Group, may come to the meeting (I'm uncertain of her plans—I sent her the document you'd sent me after I reviewed it).

The notes I made are only a few—it seems you and Fla Park Service are doing a pretty good job with this property—the knowledge base appears to be there. Probably I'm overlooking or not appreciating some things a more experienced eye would catch, but here goes:

(p. 16) Runoff problem from ravine stairwell—plan steps to remedy (not seen later in document)
(p. 19) What is the big picture plan for Lakes Johnson (Big and Little)? (Land use element?) What is the desired state or configuration?
(p. 20) ". . . Factors that control water levels in the Floridan aquifer are not fully understood"! Excessive water withdrawals are causing dry-up across the region. It's impacted Keystone Heights for a long time, incl. the park. Agencies, citizens, business interests need to improve their stewardship of our groundwater resources. Regionally we need much more conservation and less waste of water.
(p. 24) What is the plan to address forest restoration in the mesic flatwoods?
(p. 25) What is the plan to resolve the problem of sandhill invasion by fire-intolerant hardwoods?
(p. 26) There is need in plan for rectification of the impacts of dumping and borrow from the SW corner of park
(p. 35) Regional ground water levels are noted as beyond control of park management. However, the plan and park management (as well as DEP officials), should communicate the impacts to the SJRWMD and press for mitigation/remediation. Plan for action rather than "not my problem".
(p.51) Cultural resources collection protection plan is needed.
(p.58) MFLs are to be reported in 2009. Has report been made? What amounts/levels were identified? If not yet reported, confirm when—put into / adjust plan when obtained (don't wait 10 years to consider).
(p.89) Optimum boundary map—why is a tract on east side of park not included in the opt. boundary? It would become an in-holding. In long term, for integrity of the boundary, it should be joined to the park.
(Table 6; flwg p.94) – recommend subtotals be presented for each Goal and grand total be shown for all.

No mention is made (that I noticed) of integrating the bicycle trail along SR-21 into park planning/program offerings--.

There is a good inventory of needs and proposals—it all gets down to available money. Hopefully, with a return to economic prosperity in coming years we can find support locally and in Tallahassee for more investment in this fine resource.

Thanks for the opportunity to participate in this management plan review. Please keep me on the list for contact respecting management plans in the northeast quarter of the state.

Regards,

Tom Larson
Chair, Sierra Club Northeast Florida Group and
Steering Committee member, Sierra Club Florida


**Suwannee- St Johns Group**

December 1, 2009
**Re: Gold Head State Park Management Plan**
**Via: email**

Dear Mr. Scruggs

Thank you for giving the Sierra Club Suwannee-St John Group an opportunity to make comments on the Management Plan for Gold Head State Park. These comments are made in addition to Tom Larson's comments from the Sierra Club Northeast Florida Group.

Gold Head State Park is truly a unique park with an unusual seepage stream forming a ravine. It contains one of the oldest lakes in the state. It is perched on the end of the ancient Trail Ridge, an extraordinary geologic feature formed by ancient sea dunes that runs through north central Florida and Georgia.

It is an outstanding remnant of the ecosystem most of the SE coast consisted of a little over a hundred years ago, the fragile, fire-dependent long leaf community. Its sandhill lakes are some of the last remaining ultra-oligotrophic lakes in the area. There used to be hundreds of these very, very low nutrient, almost sterile lakes in north central Florida. Most have succumbed to human development and the inevitable runoff from artificial fertilizer, septic tanks and removal of the littoral vegetation that used to filter pollutants out.

We appreciate the State Park management being protective of these lakes and acknowledging that they and the sandhill, scrub, slope forest and wetland communities should remain in the "protected zone" excluded from any intense use. (page 78).

One of the most striking features in the management plan are the aerial maps. Just a cursory glance will show how dramatic and profound has been the drop in water levels in Big and Little Lake Johnson. They look to be at least 1/3 down if not ½ their historical size.

This a complex and volatile issue in the Lake region. Who or what is truly to blame for the profound drop in our lake levels? We agree with park management that this is probably the result of Florida's mines and human development combined with a lack of rainfall that have sucked the aquifer to historic lows.

On page 21 of the plan you state that Florida Rocks Industries requested a dramatic drop in their consumptive water use permit from 763 mgy to 37mgy. Is this truly a drop in use? In other words, were they really consuming 763 mgy? It has been our experience that the CUP's are usually many times over what the industry or agricultural industry actually needs. Even so, this is a good event.

We believe that the park is missing an opportunity to educate the public about the drop in lake levels and their possible cause. It is a great opportunity to educate the public about water conservation. It would also be helpful to include some aerials of previous decades of the park for comparison in the management plan (and even in the educational information).We saw that water pollution education is given but not conservation. (page 76)

We agree wholeheartedly with the parks plans to remove any artificial berms or ditches which have altered the normal hydrology of the ground water in the park. The hydrology should be restored to its original as much as possible.

Gold Head State Park is part of the great "O2O2O" wildlife corridor. This corridor is probably the most significant and longest of wildlife corridors in the SE United States. It runs from the **O**cala National Forest through the Etoniah Greenway in Putnam County, through Etoniah State Forest and Belmore State Forest to Gold Head State Park and Camp Blanding, then on to the **O**sceola National Forest to the Pinhook Swamp and finally to the Great **O**kefenokee Wildlife Refuge. (Thus the O2O2O)

We believe that the corridor information needs to be included in the management plan and to be part of the educational program as well. The optimum boundary should also look at the very long term picture of ultimately connecting Belmore State Forest and /or Etoniah State Forest by public land acquisitions to Gold Head Branch State Park and Camp Blanding.

Park management, often living locally, may be more aware when opportunities arise for potential purchasing opportunities. Is there a methodology in place for monitoring land sales in the region? What lands are already on the Florida Forever list? What lands need to be added to the Florida Forever list? It might be helpful to include the Florida Forever planning map in the plan.

On page 64 of the plan in the imperiled species section it is mentioned that seven species were selected to monitor but we only counted six. (indigo snakes, fox squirrels, gopher tortoises, Florida mice, scrub jays and adult Say's Spiketail Dragonfly). You do mention the one bald eagle's nest but we're not sure how valuable that information is. We believe that documentation and monitoring for black bear would be much more useful and informative. This would give us a much better idea as to how far the bears are moving, from where and how viable the corridor is.

In addition we have some minor recommendations. On page 32 and 33 the bog wetland is described. Management includes restoration of the normal hydrology as much as

possible, which we agree with. We think it also should be mentioned that there should be caution when any burns are planned in the area as bogs are susceptible to fires that can be very destructive and difficult to manage because of the immense fuel they contain in peat.

Finally, in the proposed facilities section, page 83-85, it is mentioned that some of the parking areas that are currently without "improvements" will be paved. We would recommend that pervious pavement be used, if possible, as this is an area of high recharge as you know. We would also recommend that all rest rooms be replaced, as needed, with composting toilets.

Thank you for this opportunity to be part of the planning in this beautiful state park.

Yours truly,

Kathy Cantwell, MD
Public Lands Chair
Sierra Club
Suwannee-St Johns Group

# Addendum 3—References Cited

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# Addendum 4—Soil Descriptions

**(5) Penney Fine Sand, 0 to 5 percent slopes -** This soil is nearly level to gently sloping and is excessively drained. It is on the deep, sandy uplands. The mapped areas are irregular in shape and range from 15 to 300 acres. The slopes are nearly smooth to convex.

Typically, this soil has a surface layer of gray fine sand about 3 inches thick. The underlying material is fine sand. The upper part, to a depth of 17 inches, is brownish yellow. The next layer, to a depth of 45 inches is yellow. Below that layer, to a depth of 57 inches the underlying material is very pale brown. The lower part to a depth of 80 inches is very pale brown and has thin lamellae of yellowish brown loamy fine sand.

Included with this soil in mapping are some small areas of Albany, Blanton, Centenary, and Ortega soils. In a few places are small areas of Penney soils that have slope of 5 to 8 percent. The included soils make up about 15 percent or less of the map unit.

This soil has a water table at a depth of more than 72 inches. The available water capacity is very low. The permeability is rapid.

**(7) Centenary Fine Sand, 0 to 5 percent slopes - This** soil is nearly level to gently sloping and is moderately well drained. It is on slight rises on the broad flatwoods and along transitional areas on the uplands that are between the many small streams and creeks in the county. The mapped areas are irregular in shape and range from 20 to 85 acres. The slopes generally are convex.

Typically, this soil has a surface layer of very dark grayish brown fine sand bout 5 inches thick. The subsurface layer is fine sand. The upper part, to a depth of 10 inches is brown. The next layer, to a depth of 43 inches, is very pale brown with mottles. The lower part to a depth of 54 inches is light gray. The upper part of the subsoil to a depth of 60 inches is dark reddish gray fine sand. The lower part to a depth of 80 inches is dark reddish brown fine sand.

Included with this soil in mapping are small areas of Albany, Blanton, Ridgewood, and Ortega soils. The included soils make up about 15 percent or less of the map unit.

This soil has a high water table at a depth of 42 to 60 inches for 1 to 4 months during most years. During droughty periods, the water table is at a depth of more than 60 inches. The available water capacity is very low. The permeability is moderately rapid.

**(9) Leon fine sand** - This soil is nearly level and poorly drained. It is in broad areas on the flatwoods. The mapped areas are irregular in shape or elongated and range from 10 to 100 acres. Slopes are smooth and range from 0 to 2 percent.

Typically, this soil has a surface layer of very dark gray fine sand about 4 inches thick.

The subsurface layer, to a depth of about 16 inches, is light gray fine sand. The subsoil is fine sand. The upper part, to a depth of 20 inches, is black. The sand grains are well coated with organic material. The next layer, to a depth of 26 inches, is very dark grayish brown with organic coatings on the sand grains. Below that layer, to a depth of 67 inches, the subsoil is dark brown. The lower part to a depth of 80 inches is black with organic coatings on most of the sand grains.

**(10) Ortega Fine Sand, 0 to 5 percent slopes** - This soil is nearly level to gently sloping and is moderately well drained. It is on slightly convex slopes on the broad flatwoods and along gentle slopes in the deep, sandy areas on the rolling uplands. The mapped areas generally are irregular in shape and range from 10 to 75 acres.

Typically, this soil has a surface layer of dark grayish brown fine sand about 3 inches thick. The underlying material is fine sand. The upper part, to a depth of 18 inches, is very pale brown. The next layer, to a depth of 62 inches, is yellow with mottles. The lower part to a depth of 80 inches is white with mottles.

Included with this soil in mapping are small areas of Albany, Blanton, Centenary, Hurricane, Penney, and Ridgewood soils. The included soils make up about 15 percent or less of the map unit.

This soil has a high water table at a depth of 40 to 60 inches for cumulative periods of 6 to 8 months during most years. It is at a depth of more than 60 inches during droughty periods. The available water capacity is very low. The permeability is rapid.

**(11) Allanton and Rutledge Mucky Fine Sand, depressional** - The soils in this map unit are nearly level and very poorly drained. These soils are in depressional areas. The mapped areas are circular, elongated, or irregular in shape and range from 10 to 70 acres. The slopes are concave and range from about 0 to 2 percent.

Allanton soil makes up about 40 to 55 percent of this map unit. Rutlege soil makes up about 35 to 40 percent. The included soils make up less than 20 percent of the map unit.

Typically, the upper part of the surface layer of this Allanton soil, to a depth of about 12 inches, is very dark gray mucky fine sand. The lower part, to a depth of 18 inches, is very dark grayish brown mucky fine sand. The upper part of the subsurface layer, to a depth of about 26 inches, is dark gray fine sand. The lower part, to a depth of 56 inches is grayish brown fine sand. The upper part of the subsoil, to a depth of 80 inches is very dark gray fine sand with organic coatings on the sand grains.

Typically, the upper part of the surface layer of this Rutlege soil, to a depth of about 12 inches, is black mucky fine sand. The lower part, to a depth of about 23 inches, is very dark grayish brown mucky fine sand. The underlying material is fine sand. The upper

part, to a depth of 41 inches, is grayish brown. The next layer, to a depth of 48 inches, is light gray. The lower part to a depth of 80 inches is light brownish gray.

Included in mapping are some small areas of Leon, Plummer, Sapelo, and Surrency soils.

The soils in this map unit have a high water table within 12 inches of the surface for 6 to 12 months of the year. The surface generally is covered with water for 6 months or more. The available water capacity is moderate. The permeability is moderately rapid; however, because of a shallow water table the internal drainage is slow.

**(18) Ridgewood Fine Sand, 0 to 5 percent slopes - This** soil is nearly level to gently sloping and is somewhat poorly drained. It is in relatively small areas on the broad flatwoods and along transitional areas on the uplands that are between the many small creeks and streams in the county. The mapped areas are irregular in shape and range from 15 to 80 acres. The slopes generally are convex.

Typically, this soil has a surface layer of dark gray fine sand about 5 inches thick. The underlying material is fine sand. The upper part, to a depth of 13 inches, is pale brown. The next layer, to a depth of 24 inches is very pale brown with brownish yellow mottles. Below that layer, to a depth of 56 inches, the underlying material is light gray with mottles. The lower part to a depth of 80 inches is light gray.

Included with this soil in mapping are small areas of Albany, Hurricane, Ortega, Osier, and Plummer soils. The included soils make up about 15 percent of the map unit.

This soil has a high water table at a depth of 24 to 40 inches for 2 to 4 months during most years. During extreme wet periods, the high water table is at a depth of 15 to 24 inches for brief periods of less than 3 weeks. During dry periods, it is at a depth of more than 40 inches. The available water capacity is low. The permeability is rapid.

**(19) Osier Fine Sand** - This soil is nearly level and poorly drained. It is on poorly defined flats on the broad flatwoods and in shallow depressions on the sandy, rolling uplands. The shape of the area is variable. The mapped areas range from 10 to 45 acres. On the broad flats, the slopes are nearly smooth; but in the shallow depressions, they generally are slightly concave. The slopes range from 0 to 2 percent.

Typically, this soil has a surface layer of very dark gray fine sand about 5 inches thick. The underlying material is fine sand. The upper part, to a depth of 16 inches, is dark grayish brown. The next layer, to a depth of 33 inches, is grayish brown with yellowish brown mottles. Below that layer, to a depth of 48 inches, the underlying material is light brownish gray with brownish yellow mottles. The next layer, to a depth of 62 inches, is gray with strong brown mottles. The lower part to a depth of 80 inches is

dark grayish brown with gray mottles.

Included with this soil in mapping are small areas of Albany, Hurricane, Leon, Plummer, Ridgewood, and Rutlege soils. Also included are a few small areas of an Osier soil that is similar to this Osier fine sand, but it has 2 to 5 percent slopes. The included soils make up 15 percent or less of the map unit.

This soil has a high water table at a depth of less than 12 inches for 3 to 6 months during most years. The available water capacity is very low. The permeability is rapid.

**(20) Scranton Fine Sand** - This soil is nearly level and somewhat poorly drained. It is in relatively small areas on the broad flatwoods and along transitional areas between the uplands and the many small creeks and streams in the county. The mapped areas are irregular in shape and range from 15 to 200 acres. The slopes are nearly smooth and range from 0 to 2 percent.

Typically, this soil has a surface layer of very dark grayish brown fine sand about 9 inches thick. The underlying material is fine sand. The upper part, to a depth of 22 inches, is dark gray. The next layer, to a depth of 41 inches, is grayish brown. Below that layer, to a depth of 61 inches, the underlying material is light brownish gray. The lower part to a depth of 80 inches is light gray.

Included with this soil in mapping are small areas of Leon, Ona, Osier, Plummer, Ridgewood, Sapelo and Rutlege soils. The included soils make up about 15 percent of the map unit. This soil has a high water table at a depth of 6 to 18 inches for 3 to 6 months during most years. During dry periods, it is at a depth of more than 40 inches. The available water capacity is low. The permeability is rapid.

**(34) Penny fine sand, 5 to 8 percent slopes** - This soil is moderately sloping and excessively drained. It is in small areas on sharp breaking slopes paralleling drainageways and in relatively large areas on long, narrow slopes on the broad uplands. The mapped areas range from about 5 to 100 acres. The slopes are slightly convex in most areas.

Typically, this soil has a surface layer of gray fine sand about 3 inches thick. The underlying material is fine sand. The upper part, to a depth of 57 inches, is very pale brown. The lower part to a depth of 80 inches is very pale brown with thin lamellae of yellowish brown loamy fine sand.

Included with this soil in mapping are some small areas of Albany, Blanton, Centenary, and Ortega soils. The included soils make up about 15 percent or less of the map unit.

This soil has a water table at a depth of more than 72 inches. The available water

capacity is very low. The permeability is rapid.

**(36) Ortega Fine Sand, 5 to 8 percent slopes** - This soil is moderately sloping and moderately well drained. It is in small area on sharp breaking slopes paralleling drainage ways and on long, narrow, irregular slopes on the broad uplands. The mapped areas range form about 5 to 90 acres. The slopes are slightly convex in most areas.

Typically, this soil has a surface layer of dark gray fine sand, about 5 inches thick. The underlying material is fine sand. The upper part, to a depth of 62 inches is very pale brown. The next layer, to a depth of 75 inches, is light brownish gray. The lower part to a depth of 80 inches is light gray.

Included in this soil in mapping are some small areas of Albany, Blanton, Centenary, Hurricane, Penney, and Ridgewood soils. The included soils make up about 15 percent or less of the map unit.

This soil has a high water table at a depth of 40 to 60 inches for cumulative periods of 6 to 8 months during most years. It is at a depth of more than 60 to inches during droughty periods. The available water capacity is very low. The permeability is rapid.

**(39) Meadowbrook sand, frequently flooded** - This soil is nearly level and poorly drained. It is in drainageways. The mapped areas are elongated or irregular in shape and range from 50 to 500 acres. The slopes are nearly smooth and range from 0 to 2 percent.

Typically, this soil has a surface layer of very dark gray to black sand about 8 inches thick. The upper part of the subsurface layer, to a depth of about 16 inches is gray fine sand. The next layer, to a depth of 28 inches, is grayish brown fine sand. The lower part, to a depth of 43 inches, is gray fine sand. The subsoil to a depth of 80 inches or more is light gray or gray mottled sandy clay loam.

Included with this soil in mapping are Pamlico, Rutlege, and Surrency soils. These soils also are frequently flooded. Also included are a few areas of soils that have a subsurface layer that is stained organic matter. The included soils make up about 15 percent of the map unit.

This soil is frequently flooded for periods of long duration. The floodwater may be as much as 2 feet deep. The high water table is within 12 inches of the surface for most of the year except during long, extended dry periods. The available water capacity is low. The permeability is moderately low.

**(51) Pottsburg Fine Sand, occasionally flooded** - This soil is nearly level and poorly

drained. It is on the flood plains. The mapped areas are irregular in shape or elongated and range from 50 to 500 acres. The slopes are nearly smooth and range from 0 to 2 percent.

Typically, this soil has a surface layer of very dark gray fine sand about 4 inches thick. The subsurface layer is fine sand. The upper part, to a depth of 25 inches, is grayish brown. The next layer, to a depth of 46 inches, is gray. The lower part, to a depth of 65 inches, is light gray. The subsoil to a depth of 80 inches or more is dark, reddish brown fine sand. The sand grains in the subsoil are well coated with organic material.

Included with this soil in mapping are small areas of Hurricane, Leon, Lynn Haven, Osier, Plummer, and Rutlege soils. Also included are soils that are similar to Pottsburg soil but have a stained layer at a depth of more than 50 inches. The included soils make up 20 percent or less of the map unit.

This soil has a high water table at a depth of less than 12 inches for 1 to 4 months during most years. It recedes to a depth of more than 40 inches during very dry periods. Flooding occurs about every 2 or 3 years. The available water capacity is low. The permeability is moderate.

**(56) Kershaw Sand, 0 to 8 percent slopes** - This soil is nearly level to moderately sloping and is excessively drained. It is on the deep, sandy uplands. The mapped areas are irregular in shape and range form 15 to 1,500 acres. The slopes are nearly smooth to convex.

Typically, this soil has a surface layer of dark gray brown sand about 4 inches thick. The upper part of the underlying material, to a depth of 68 inches, is brownish yellow sand. The lower part to a depth of 80 inches is yellow sand.

Included with this soil in mapping are some small areas of Ortega, Penney, and Troup soils. Also included are small areas of soils that are similar to Kershaw soil but have a coarser texture. The included soils make up about 10 percent or less of the map unit.

This soil has a high water table at a depth of more than 80 inches. The available water capacity is very low. The permeability is very rapid.

# Addendum 5—Plant And Animal List

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

**LICHENS**

*Brigantiaea leucoxantha*
*Cladonia polycarpia*
*Coccocarpia erythroxyli*
*Graphina incrustans*
*Heterodermia crocea*
*Leptogium austroamericanum*
*Leptogium marginellum*
*Lobaria tenuis*
*Parmotrema ultralucens*
*Pertusaria velata*
*Phyllopsora confusa*
*Pseudoparmelia sphaerospora*

**BRYOPHYTES**

*Atrichum angustatum*
*Bazzania trilobata*
*Bryum capillare*
*Calypojeia fissa*
*Calypojeia peruviana*
*Cephalozia connivens*
*Cephalozia lunulifolia*
*Ceratolejeunea laetefusca*
*Cheilolejeunea rigidula*
*Cololejeunea cardiocarpia*
*Cololejeunea minutissima*
*Dicranum sabuletorum*
*Entodon macropus*
*Fissidens cristatus*
*Fissidens ravenelii*
*Forsstroemia trichomitria*
*Frullania ericoides*
*Frullania kunzei*
*Frullania obcordata*
*Funaria hygrometrica*
*Haplocaldium microphyllum*
*Haplohymenium triste*
*Isopterygium tenerum*
*Jaegerina scariosa*
*Lejeunea flava*

*** Non-native Species**
**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for imperiled species) |
|---|---|---|
| | *Lejeunea glaucencens* | |
| | *Lejeunea laetivirens* | |
| | *Lejeunea ulicina* | |
| | *Leucobryum albidum* | |
| | *Leucodon julaceus* | |
| | *Leucolejeunea clypeata* | |
| | *Leucolejeunea conchifolia* | |
| | *Lophocolea bidentata* | |
| | *Macromitrium richardii* | |
| | *Mastigolejeunea auriculata* | |
| | *Octoblepharum albidum* | |
| | *Pallavicinia lyellii* | |
| | *Papillaria nigrescens* | |
| | *Plagiochila dubia* | |
| | *Plagiochila ludoviciana* | |
| | *Rhizogonium spiniforme* | |
| | *Riccardia latifrons* | |
| | *Riccia fluitans* | |
| | *Schizomitrium pallida* | |
| | *Schlotheimia rugifolia* | |
| | *Sematophyllum adnatum* | |
| | *Sematophyllum caespitosum* | |
| | *Sphagnum palustre* | |
| | *Sphagnum recurvum* | |
| | *Syrrhopodon incompletus* | |
| | *Syrrhopodon parasiticus* | |
| | *Syrrhopodon texanus* | |
| | *Telaranea nematodes* | |
| | *Thelia hirtella* | |
| | *Thuidium delicatum* | |
| | *Tortella humilis* | |
| | **MYOCOTES** | |
| | *Cladina evansii* | |
| | *Cladina subtenuis* | |
| | *Cladonia balfourii* | |
| | *Cladonia calycantha* | |
| | *Cladonia didyma* | |
| | *Cladonia furcata* | |
| | *Cladonia leporina* | |
| | *Cladonia pitryea* | |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for imperiled species) |
|---|---|---|
| | *Cladonia polycarpoides* | |
| | *Cladonia ravenelii* | |
| | *Coccocarpia asterella* | |
| | *Coccocarpia cronia* | |
| | *Coccocarpia erythroxyli* | |
| | *Dirinaria picta* | |
| | *Haematomma puniceum* | |
| | *Heterodermia casarettiana* | |
| | *Heterodermia obscurata* | |
| | *Leptogium austroamericanum* | |
| | *Leptogium chloromelum* | |
| | *Leptogium cyanescens* | |
| | *Leptogium isidiosellum* | |
| | *Leptogium marginellum* | |
| | *Lobaria ravenelii* | |
| | *Lopadium leucoxanthum* | |
| | *Pannaria leucosticha* | |
| | *Parmelia caroliniana* | |
| | *Parmelia confoederata* | |
| | *Parmelia crinita* | |
| | *Parmelia cryptochlorophaea* | |
| | *Parmelia dissecta* | |
| | *Parmelia hypotropum* | |
| | *Parmelia laevigatula* | |
| | *Parmelia mellissii* | |
| | *Parmelia michauxiana* | |
| | *Parmelia praesorediosa* | |
| | *Parmelia reticulata* | |
| | *Parmelia rigida* | |
| | *Parmelia rudecta* | |
| | *Parmelia sulphurata* | |
| | *Parmelia tinctorum* | |
| | *Sticta weigelii* | |
| | *Strigula complanata* | |
| | *Usnea mutabilis* | |
| | *Usnea strigosa* | |
| | **PTERIDOPHYTES** | |
| Ebony spleenwort | *Asplenium platyneuron* | |
| Florida shield fern | *Dryopteris ludoviciana* | |
| Beaded fern | *Hypolepis repens* | |

*** Non-native Species**
**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for imperiled species) |
|---|---|---|
| Japanese climbing fern | *Lygodium japonicum** | |
| Cinnamon fern | *Osmunda cinnamomea* | |
| Royal fern | *Osmunda regalis* | |
| Resurrection fern | *Pleopeltis polypodioides* | |
| Tailed bracken | *Pteridium aquilinum* var. *pseudocaudatum* | |
| Sand spikemoss | *Selaginella arenicola* | |
| Ovate marsh fern | *Thelypteris ovata* | |
| Shoestring fern | *Vittaria lineata* | |
| Netted chain fern | *Woodwardia areolata* | |
| Virginia chain fern | *Woodwardia virginica* | |
| | **GYMNOSPERMS** | |
| Red cedar | *Juniperus virginiana* | |
| Sand pine | *Pinus clausa* | |
| Slash pine | *Pinus elliottii* | |
| Spruce pine | *Pinus glabra* | |
| Longleaf pine | *Pinus palustris* | |
| Loblolly pine | *Pinus taeda* | |
| | **ANGIOSPERMS** | |
| **MONOCOTS** | | |
| Blue maidencane | *Amphicarpum muhlenbergianum* | |
| Florida bluestem | *Andropogon floridanus* | |
| Bushy bluestem | *Andropogon glomeratus* | |
| Purple bluestem | *Andropogon glomeratus* var. *glaucopsis* | |
| Elliott's bluestem | *Andropogon gyrans* | |
| Splitbeard bluestem | *Andropogon ternarius* | |
| Broomsedge bluestem | *Andropogon virginicus* | |
| Nodding nixie | *Apteria aphylla* | |
| Big threeawn | *Aristida condensata* | |
| Wiregrass | *Aristida stricta* var. *beyrichiana* | |
| Common carpetgrass | *Axonopus fissifolius* | |
| Big carpetgrass | *Axonopus furcatus* | |
| Watergrass | *Bulbostylis barbata** | |
| Capillary hairsedge | *Bulbostylis ciliatifolia* | |
| Ware's hairsedge | *Bulbostylis warei* | |
| Bluethread | *Burmannia biflora* | |
| Grassleaf roseling | *Callisia graminea* | |
| Piedmont roseling | *Callisia rosea* | |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for imperiled species) |
|---|---|---|
| Slender sandbur | *Cenchrus gracillimus* | |
| Coastal Sandbur | *Cenchrus spinifex* | |
| Longleaf woodoats | *Chasmanthium laxum* var. *sessiliflorum* | |
| Whitemouth dayflower | *Commelina erecta* | |
| Bermudagrass | *Cynodon dactylon* * | |
| Poorland flatsedge | *Cyperus compressus* | |
| Baldwin's flatsedge | *Cyperus croceus* | |
| LeCont's flatsedge | *Cyperus lecontei* | |
| Manyspike flatsedge | *Cyperus polystachyos* | |
| Pinebarren flatsedge | *Cyperus retrorsus* | |
| Fourangle glatsedge | *Cyperus tetragonus* | |
| Needleleaf witchgrass | *Dicanthelium aciculare* | |
| Variable witchgrass | *Dichanthelium commutatum* | |
| Cypress witchgrass | *Dichanthelium ensifolium* | |
| Eggleaf witchgrass | *Dichanthelium ovale* | |
| Roughhair witchgrass | *Dichanthelium strigosum var leucoblepharis* | |
| Asia crabgrass | *Digitaria bicornis** | |
| Southern crabgrass | *Digitaria ciliaris* | |
| Air-potato | *Dioscoria bulbifera* * | |
| Viviparous spikerush | *Eleocharis vivipara* | |
| Indian goosegrass | *Eleusine indica* * | |
| Green-fly orchid | *Epidendrum conopseum* | 19 |
| Purple lovegrass | *Eragrostis spectabilis* | |
| Centipedegrass | *Eremochloa ophiuroides* * | |
| Pinewoods fingergrass | *Eustachys petraea* | |
| Slender fimbry | *Fimbristylis autumnalis* | |
| Carolina fimbry | *Fimbristylis caroliniana* | |
| Southern umbrellasedge | *Fuirena scirpoidea* | |
| Needlepod rush | *Juncus scirpoides* | |
| Carolina redroot | *Lachnanthes carolina* | |
| Small's bogbutton | *Lachnocaulon minus* | |
| Southern cutgrass | *Leersia hexandra* | |
| Italian ryegrass | *Lolium perenne* * | |
| Rose Natalgrass | *Melinis repens* * | |
| Maidencane | *Panicum hemitomon* | |
| Warty panicgrass | *Panicum verrucosum* | |
| Bahiagrass | *Paspalum notatum* * | |
| Thin paspalum | *Paspalum setaceum* | |
| Needle palm | *Rhapidophyllum hystrix* | 19 |
| Fascicled beaksedge | *Rhynchospora fascicularis* | |
| Narrowfruit horned beaksedge | *Rhynchospora inundata* | |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for imperiled species) |
|---|---|---|
| Sandyfield beaksedge | *Rhynchospora megalocarpa* | |
| Bunched beaksedge | *Rhynchospora microcephala* | |
| Shortbeak beaksedge | *Rhynchospora nitens* | |
| Scrub palmetto | *Sabal etonia* | |
| Bluestem palm | *Sabal minor* | |
| Cabbage palm | *Sabal palmetto* | |
| Quillwort arrowhead | *Sagittaria isoetiformis* | |
| Tall nutgrass | *Scleria triglomerata* | |
| Sand spike-moss | *Selaginella arenicola* | |
| Saw palmetto | *Serenoa repens* | |
| Yellow bristlegrass | *Setaria parviflora* | |
| Earleaf greenbrier | *Smilax auriculata* | |
| Saw greenbrier | *Smilax bona-nox* | |
| Cat greenbrier | *Smilax glauca* | |
| Laurel greenbrier | *Smilax laurifolia* | |
| Sarsaparilla vine | *Smilax pumila* | |
| Jackson vine | *Smilax smallii* | |
| Bristly greenbrier | *Smilax tamniodes* | |
| Coral greenbrier | *Smilax walteri* | |
| Lopsided Indiangrass | *Sorghastrum secundum* | |
| Sand cordgrass | *Spartina bakeri* | |
| Longleaf wedgescale | *Sphenopholis filiformis* | |
| Smutgrass | *Sporobolus indicius* * | |
| Pineywoods dropseed | *Sporobolus junceus* | |
| St. Augustinegrass | *Stenotaphrum secundatum* | |
| Yellow hatpins | *Syngonanthus flavidulus* | |
| Bartram's airplant | *Tillandsia bartramii* | |
| Spanish moss | *Tillandsia usneoides* | |
| Perennial sandgrass | *Triplasis americana* | |
| Paragrass | *Urochloa mutica* | |
| Richard's yelloweyed grass | *Xyris jupicai* * | |
| Adam's needle | *Yucca filamentosa* | |
| Lawn orchid | *Zeuxine strateumatica* * | |
| **DICOTS** | | |
| Slender threeseed mercury | *Acalypha gracilens* | |
| Red maple | *Acer rubrum* | |
| Sticky jointvetch | *Aeschynomene viscidula* | |
| Seminole false foxglove | *Agalinis filifolia* | |
| Purple false foxglove | *Agalinis purpurea* | |
| Pipestem | *Agarista populifolia* | |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for imperiled species) |
|---|---|---|
| Hammock snakeroot | *Ageratina jucunda* | |
| Mimosa | *Albizia julibrissin* * | |
| Common ragweed | *Ambrosia artemisiifolia* | |
| False indigobush | *Amorpha fruticosa* | |
| Peppervine | *Ampelopsis arborea* | |
| Fringed bluestar | *Amsonia ciliata* | |
| Eastern bluestar | *Amsonia tabernaemontana* | |
| Devil's walkingstick | *Aralia spinosa* | |
| Florida Indian plantain | *Arnoglossum floridanum* | |
| Curtiss' milkweed | *Asclepias curtissii* | 15 |
| Pineland milkweed | *Asclepias obovata* | |
| Butterflyweed | *Asclepias tuberosa* | |
| Whorled milkweed | *Asclepias verticillata* | |
| Slimleaf pawpaw | *Asimina angustifolia* | |
| Woolly pawpaw | *Asimina incana* | |
| Bigflower pawpaw | *Asimina obovata* | |
| Smallflower pawpaw | *Asimina parviflora* | |
| Common pawpaw | *Asimina triloba* | |
| Florida milkvetch | *Astragalus obcordatus* | |
| Sea myrtle | *Baccharis halimifolia* | |
| Coastalplain honeycombhead | *Balduina angustifolia* | |
| Pineland wild indigo | *Baptisia lecontei* | |
| Florida greeneyes | *Berlandiera subacaulis* | |
| Beggarticks | *Bidens alba* | |
| Smallfruit beggarticks | *Bidens mitis* | |
| Spanish needles | *Bidens pilosa** | |
| Crossvine | *Bignonia capreolata* | |
| False nettle | *Boehmeria cylindrica* | |
| American beautyberry | *Callicarpa americana* | |
| Trumpet creeper | *Campsis radicans* | |
| Florida paintbrush | *Carphephorus corymbosus* | |
| Pignut hickory | *Carya glabra* | |
| Chinquapin | *Castanea pumila* | |
| Littleleaf Buckbrush | *Ceanothus microphyllus* | |
| Spadeleaf | *Centella asiatica* | |
| Spurred butterfly pea | *Centrosema virginianum* | |
| Common buttonbush | *Cephalanthus occidentalis* | |
| Mouse-ear chickweed | *Cerastium glomeratum* * | |
| Florida rosemary | *Ceratiola ericoides* | |
| Partridge pea | *Chamaecrista fasciculata* | |
| Sensitive pea | *Chamaecrista nictitans* | |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for imperiled species) |
|---|---|---|
| Heartleaf sandmat | *Chamaesyce cordifolia* | |
| Graceful sandmat | *Chamaesyce hypericifolia* | |
| Hyssopleaf sandmat | *Chamaesyce hyssopifolia* | |
| Spotted sandmat | *Chamaesyce maculata* | |
| Florida alicia | *Chapmannia floridana* | |
| Cottony goldenaster | *Chrysopsis gossypina* | |
| Scrubland goldenaster | *Chrysopsis subulata* | |
| Camphortree | *Cinnamomum camphora* * | |
| Purple thistle | *Cirsium horridulum* | |
| Sweet orange | *Citrus* x *aurantium* * | |
| Netleaf leather-flower | *Clematis reticulate* | |
| Virginsbower | *Clematis virginiana* | |
| Atlantic pigeonwings | *Clitoria mariana* | |
| Tread-softly | *Cnidoscolus stimulosus* | |
| Canadian horseweed | *Conyza canadensis* | |
| Coastalplain tickseed | *Coreopsis gladiata* | |
| Flowering dogwood | *Cornus florida* | |
| Swamp dogwood | *Cornus foemina* | |
| Slender scratchdaisy | *Croptilon divaricatum* | |
| Rabbitbells | *Crotalaria rotundifolia* | |
| Showy rattlebox | *Crotalaria spectabilis** | |
| Silver croton | *Croton argyranthemus* | |
| Michaux's croton | *Croton michauxii* | |
| Titi | *Cyrilla racemiflora* | |
| Summer farewell | *Dalea pinnata* | |
| Hairy small-leaf ticktrefoil | *Desmodium ciliare* | |
| Florida ticktrefoil | *Desmodium floridanum* | |
| Zarzabacoa comun | *Desmodium incanum** | |
| Smooth ticktrefoil | *Desmodium marilandicum* | |
| Pinebarren ticktrefoil | *Desmodium strictum* | |
| Threeflower ticktrefoil | *Desmodium triflorum* * | |
| Velvetleaf ticktrefoil | *Desmodium viridiflorum* | |
| Poor Joe | *Diodia teres* | |
| Common persimmon | *Diospyros virginiana* | |
| Oblongleaf twinflower | *Dyschoriste oblongifolia* | |
| Tall elephantsfoot | *Elephantopus elatus* | |
| Smooth elephantsfoot | *Elephantopus nudatus* | |
| Devil's grandmother | *Elephantopus tomentosus* | |
| American burnweed | *Erechtites hieraciifolius* | |
| Prairie fleabane | *Erigeron strigosus* | |
| Loquat | *Eriobotrya japonica* * | |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for imperiled species) |
|---|---|---|
| Dogtongue wild buckwheat | *Eriogonum tomentosum* | |
| Fragrant eryngo | *Eryngium aromaticum* | |
| Coralbean | *Erythrina herbacea* | |
| American strawberrybush | *Euonymus americanus* | |
| Dogfennel | *Eupatorium capillifolium* | |
| Yankeeweed | *Eupatorium compositifolium* | |
| Falsefennel | *Eupatorium leptophyllum* | |
| Mohr's thoroughwort | *Eupatorium mohrii* | |
| Slender flattop goldenrod | *Euthamia caroliniana* | |
| Cottonweed | *Froelichia floridana* | |
| Elliott's milkpea | *Galactia elliottii* | |
| Eastern milkpea | *Galactia regularis* | |
| Downy milkpea | *Galactia volubilis* | |
| Coastal bedstraw | *Galium hispidulum* | |
| Pennsylvania everlasting | *Gamochaeta pensylvanica* * | |
| Garberia | *Garberia heterophylla* | 15 |
| Southern beeblossom | *Gaura angustifolia* | |
| Blue huckleberry | *Gaylussacia frondosa* var. *tomentosa* | |
| Yellow jessamine | *Gelsemium sempervirens* | |
| Loblolly bay | *Gordonia lasianthus* | |
| American witchhazel | *Hamamelis virginiana* | |
| Pinebarren frostweed | *Helianthemum corymbosum* | |
| Queen-devil | *Hieracium gronovii* | |
| Innocence | *Houstonia procumbens* | |
| Roundpod St. John's-wort | *Hypericum cistifolium* | |
| Sandweed | *Hypericum fasciculatum* | |
| Pineweeds | *Hypericum gentianoides* | |
| St. Andrew's-cross | *Hypericum hypericoides* | |
| Myrtleleaf St. John's-wort | *Hypericum myrtifolium* | |
| Carolina holly | *Ilex ambigua* | |
| Dahoon | *Ilex cassine* | |
| Large galberry | *Ilex coriacea* | |
| Gallberry | *Ilex glabra* | |
| American holly | *Ilex opaca* | |
| Yaupon | *Ilex vomitoria* | |
| Carolina indigo | *Indigofera caroliniana* | |
| Largeroot morning-glory | *Ipomoea macrorhiza** | |
| Virginia willow | *Itea virginica* | |
| Flamegold | *Koelreuteria elegans* subsp. *formosana* * | |
| Sandspur | *Krameria lanceolata* | |
| Virginia dwarfdandelion | *Krigia virginica* | |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for imperiled species) |
|---|---|---|
| Lantana | *Lantana camara* * | |
| Deckert's pinweed | *Lechea dectertii* | |
| Thymeleaf pinweed | *Lechea minor* | |
| Hairy pinweed | *Lechea mucronata* | |
| Hairy Lespedeza | *Lespedeza hirta* | |
| Coastal doghobble | *Leucothoe axillaris* | |
| Swamp doghobble | *Leucothoe racemosa* | |
| Pinkscale gayfeather | *Liatris elegans* | |
| Fewflower gayfeather | *Liatris pauciflora* | |
| Shortleaf gayfeather | *Liatris tenuifolia* | |
| Gopher apple | *Licania michauxii* | |
| Canadian toadflax | *Linaria canadensis* | |
| Sweetgum | *Liquidambar styraciflua* | |
| Japanese honeysuckle | *Lonicera japonica* * | |
| Coral honeysuckle | *Lonicera sempervirens* | |
| Shrubby primrosewillow | *Ludwigia suffruticosa* | |
| Skyblue lupine | *Lupinus diffusus* | |
| Rose-rush | *Lygodesmia aphylla* | |
| Rusty staggerbush | *Lyonia ferruginea* | |
| Coastalplain staggerbush | *Lyonia fruticosa* | |
| Fetterbush | *Lyonia lucida* | |
| Southern magnolia | *Magnolia grandiflora* | |
| Sweetbay | *Magnolia virginiana* | |
| Trailing milkvine | *Matelea pubiflora* | 14 |
| Black medick | *Medicago lupulina* * | |
| Sensitive brier | *Mimosa quadrivalvis* | |
| Partridgeberry | *Mitchella repens* | |
| Indianpipe | *Monotropa uniflora* | |
| Wax myrtle | *Myrica cerifera* | |
| Spatterdock | *Nuphar advena* | |
| Blackgum | *Nyssa sylvatica* | |
| Clustered mille graines | *Oldenlandia uniflora* | |
| Pricklypear | *Opuntia humifusa* | |
| Piedmont leatherroot | *Orbexilum lupinellus* | |
| Wild olive | *Osmanthus americanus* | |
| Creeping woodsorrel | *Oxalis corniculata* | |
| Coastalplain palafox | *Palafoxia integrifolia* | |
| Coastalplain nailwort | *Paronychia herniarioides* | |
| Pineland nailwort | *Paronychia patula* | |
| Rugel's nailwort | *Paronychia rugelii* | |
| Virginia creeper | *Parthenocissus quinquefolia* | |

*** Non-native Species**

**+ Recently Extirpated**

| **Common Name** | ***Scientific Name*** | **Primary Habitat Codes (for imperiled species)** |
|---|---|---|
| Yellow passionflower | *Passiflora lutea* | |
| Buckroot | *Pediomelum canescens* | |
| Manyflower beardtongue | *Penstemon multiflorus* | |
| Red bay | *Persea borbonia* | |
| Silk bay | *Persea borbonia* var. *humilis* | |
| Swamp bay | *Persea palustris* | |
| Thicket bean | *Phaseolus polystachios* | |
| Oak mistletoe | *Phoradendron leucarpum* | |
| Red chokeberry | *Photinia pyrifolia* | |
| Pokeweed | *Phytolacca americana* | |
| Piriqueta | *Piriqueta caroliniana* | |
| Narrowleaf silkgrass | *Pityopsis graminifolia* | |
| Southern plantain | *Plantago virginica* | |
| Rosy camphorweed | *Pluchea rosea* | |
| Slenderleaf clammyweed | *Polanisia tenuifolia* | |
| Tall jointweed | *Polygonella gracilis* | |
| Hairy smartweed | *Polygonum hirsutum* | |
| Carolina laurelcherry | *Prunus caroliniana* | |
| Black cherry | *Prunus serotina* | |
| Flatwoods plum | *Prunus umbellata* | |
| Wafer ash | *Ptelea trifoliata* | |
| Blackroot | *Pterocaulon pycnostachyum* | |
| Chapman's oak | *Quercus chapmanii* | |
| Sand live oak | *Quercus geminata* | |
| Bluejack oak | *Quercus incana* | |
| Turkey oak | *Quercus laevis* | |
| Laurel oak | *Quercus laurifolia* | |
| Myrtle oak | *Quercus myrtifolia* | |
| Water oak | *Quercus nigra* | |
| Running oak | *Quercus pumila* | |
| Live oak | *Quercus virginiana* | |
| West Indian meadowbeauty | *Rhexia cubensis* | |
| Pale meadowbeauty | *Rhexia mariana* | |
| Swamp azalea | *Rhododendron viscosum* | |
| Winged sumac | *Rhus copallinum* | |
| Doubleform snoutbean | *Rhynchosia difformis* | |
| Tropical Mexican clover | *Richardia brasiliensis* * | |
| Black locust | *Robinia pseudoacacia* * | |
| Sawtooth blackberry | *Rubus argutus* | |
| Sand blackberry | *Rubus cuneifolius* | |
| Softhair coneflower | *Rudbeckia mollis* | |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for imperiled species) |
|---|---|---|
| Carolina wild petunia | *Ruellia caroliniensis* | |
| Azure blue sage | *Salvia azurea* | |
| Elderberry | *Sambucus nigra* subsp. *canadensis* | |
| Hooded pitcherplant | *Sarracenia minor* | 28, 39 |
| Sassafras | *Sassafras albidum* | |
| Helmet skullcap | *Scutellaria integrifolia* | |
| Whitetop aster | *Sericocarpus tortifolius* | |
| Piedmont seymeria | *Seymeria pectinata* | |
| Common wireweed | *Sida acuta* | |
| Indian hemp | *Sida rhombifolia* | |
| Gum bully | *Sideroxylon lanuginosum* | |
| Buckthorn bully | *Sideroxylon lycioides* | 24 |
| Kidneyleaf rosinweed | *Silphium compositum* | |
| Carolina goldenrod | *Solidago arguta* | |
| Pinebarren goldenrod | *Solidago fistulosa* | |
| Sweet goldenrod | *Solidago odora* | |
| Chapman's goldenrod | *Solidago odora* var. *chapmanii* | |
| Roughfruit scaleseed | *Spermolepis divaricata* | |
| Queensdelight | *Stillingia sylvatica* | |
| Pineland scalypink | *Stipulicida setacea* | |
| Showy dawnflower | *Stylisma abdita* | 15 |
| Coastalplain dawnflower | *Stylisma patens* | |
| Carolina false vervain | *Stylodon carneum* | |
| Sidebeak pencilflower | *Stylosanthes biflora* | |
| Eastern silver aster | *Symphyotrichum concolor* | |
| Wavyleaf aster | *Symphyotrichum undulatum* | |
| Scurf hoarypea | *Tephrosia chrysophylla* | |
| Florida hoarypea | *Tephrosia florida* | |
| Spiked hoarypea | *Tephrosia spicata* | |
| Goat's rue | *Tephrosia virginiana* | |
| Eastern poison ivy | *Toxicodendron radicans* | |
| Poison sumac | *Toxicodendron vernix* | |
| Wavyleaf noseburn | *Tragia urens* | |
| Virginia marsh St. John's-wort | *Triadenum virginicum* | |
| Narroleaf bluecurls | *Trichostema setaceum* | |
| Sparkleberry | *Vaccinium arboreum* | |
| Highbush blueberry | *Vaccinium corymbosum* | |
| Darrow's blueberry | *Vaccinium darrowii* | |
| Shiny Blueberry | *Vaccinium myrsinites* | |
| Deerberry | *Vaccinium stamineum* | |
| Diverseleaf crownbeard | *Verbesina heterophylla* | 8 |

*** Non-native Species**

**+ Recently Extirpated**

**Mike Roess Gold Head Branch State Park Plants**

| Common Name | *Scientific Name* | Primary Habitat Codes (for imperiled species) |
|---|---|---|
| Tall ironweed | *Vernonia angustifoli*a | |
| Walter's viburnum | *Viburnum cassinoides* | |
| Possumhaw | *Viburnum nudum* | |
| Common blue violet | *Viola sororia* | |
| Carolina violet | *Viola villosa* | |
| Summer grape | *Vitis aestivalis* | |
| Muscadine | *Vitis rotundifolia* | |
| Southern rockbell | *Wahlenbergia marginata* * | |
| Chinese wisteria | *Wisteria sinensis* * | |
| Tallow wood | *Ximenia americana* | |

*** Non-native Species**

**+ Recently Extirpated**

## Mike Roess Gold Head Branch State Park Plants

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

* Non-native Species

\+ Recently Extirpated

| Common Name | *Scientific Name* | Primary Habitat Codes (for all species) |
|---|---|---|
| | **INVERTEBRATES** | |
| | **CADDISFLIES** | |
| | *Agarodes crassicornis* | |
| Spring-loving psiloneuran caddisfly | *Agarodes libalis* | 56 |
| Florida cernotinan caddisfly | *Cernotina truncona* | 52 |
| | *Chimarra aterrima* | |
| Floridian finger-net caddisfly | *Chimarra florida* | 56 |
| | *Hydroptila disgalera* | |
| | *Hydroptila maculata* | |
| | *Neotrichia armitagei* | |
| Rasmussen's neotrichia caddisfly | *Neotrichia rasmusseni* | unk. |
| Daytona long-horned caddisfly | *Oecetis daytona* | 56 |
| | *Oecetis inconspicua complex* | |
| Porter's long-horn caddisfly | *Oecetis porteri* | 52 |
| Short orthotrichian microcaddisfly | *Orthotrichia curta* | 56 |
| | *Oxyethira abacatia* | |
| Gold Head Branch caddisfly | *Oxyethira chrysocara* | 56 |
| Florida cream and brown microcaddisfly | *Oxyethira florida* | 56 |
| | *Oxyethira glasa* | |
| Little-entrance oxyethiran microcaddisfly | *Oxyethira janella* | 56 |
| | *Oxyethira lumosa* | |
| | *Oxyethira pallida* | |
| Pescador's bottle-cased caddisfly | *Oxyethira pescadori* | 56 |
| | *Triaenodes perna* | |
| | **BUTTERFLIES AND MOTHS** | |
| Seminole skipper | *Hesperia attalus slossonae* | 14 |
| | **DRAGONFLIES** | |
| Say's spiketail dragonfly | *Cordulegaster sayi* | 14, 39 |
| Purple skimmer | *Libellula jesseana* | 52 |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for all species) |
|---|---|---|
| | **GRASSHOPPERS** | |
| Ordway melanoplus grasshopper | *Melanoplus ordwayae* | 15 |
| Orangewinged grasshopper | *Pardalophora phoenicoptera* | 14 |
| Rosemary grasshopper | *Schistocerca ceratiola* | 15 |
| | **BEETLES** | |
| Sand pine scrub ataenius beetle | *Ataenius saramari* | 15 |
| Skelley's june beetle | *Phyllophaga skelleyi* | 14 |
| Alachua pleasing fungus beetle | *Triplax alachuae* | 14 |
| | **SPIDERS** | |
| Blue purse-web spider | *Sphodros abboti* | 19 |
| | **FISH** | |
| Yellow bullhead | *Ameiurus natalis* | 51 |
| Brown bullhead | *Ameiurus nebulosus* | 51 |
| Warmouth | *Chaenobryttus gulosus* | 51 |
| Blackbanded sunfish | *Enneacanthus chaetodon* | 51 |
| Chain pickerel | *Esox niger* | 51 |
| Mosquitofish | *Gambusia holbrooki* | 51, 56 |
| Florida gar | *Lepisosteus platyrhincus* | 51 |
| Bluegill | *Lepomis macrochirus* | 51, 52 |
| Redear sunfish | *Lepomis microlophus* | 51 |
| Largemouth bass | *Micropterus salmonoides* | 51, 52 |
| Golden shiner | *Notemigonus crysoleucas* | 51 |
| Black crappie | *Pomoxis nigromaculatus* | 51 |
| | **AMPHIBIANS** | |
| **Salamanders** | | |
| Southeastern slimy salamander | *Plethodon grobmani* | 19 |
| **Frogs and Toads** | | |
| Florida cricket frog | *Acris gryllus dorsalis* | 25 |

*** Non-native Species**
**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for all species) |
|---|---|---|
| Oak toad | *Bufo quercicus* | 14 |
| Southern toad | *Bufo terrestris* | MTC |
| Greenhouse frog | *Eleutherodactylus planirostris* * | 19 |
| Green treefrog | *Hyla cinerea* | 19, 24, 25 |
| Squirrel treefrog | *Hyla squirella* | 19, 24, 25 |
| Gopher frog | *Rana capito* | 14 |
| Bullfrog | *Rana catesbeiana* | 51 |
| Bronze frog | *Rana clamitans clamitans* | 54 |
| Pig frog | *Rana grylio* | 51 |
| Southern leopard frog | *Rana sphenocephala* | 25 |
| | **REPTILES** | |
| **Crocodilians** | | |
| American alligator | *Alligator mississippiensis* | 51 |
| **Turtles** | | |
| Florida softshell turtle | *Apalone ferox* | 51,52 |
| Chicken turtle | *Deirochelys reticularia* | 51 |
| Gopher tortoise | *Gopherus polyphemus* | 14 |
| Peninsula cooter | *Pseudemys floridana peninsularis* | 51 |
| Florida box turtle | *Terrapene carolina bauri* | 19, 27, 39 |
| **Lizards** | | |
| Green anole | *Anolis carolinensis* | 19, 27 |
| Six-lined racerunner | *Cnemidopherus sexlineatus* | 14, 15 |
| Southeastern five-lined skink | *Eumeces inexpectatus* | 24 |
| Broad-headed skink | *Eumeces laticeps* | 19 |
| Ground skink | *Scincella lateralis* | 19 |
| Southern fence lizard | *Sceloporus undulates undulatus* | 14 |
| **Snakes** | | |
| Florida cottonmouth | *Agkistrodon piscivorus conanti* | 25 |
| Scarlet snake | *Cemophora coccinea* | 19 |
| Southern racer | *Coluber constrictor priapus* | MTC |
| Eastern diamondback rattlesnake | *Crotalus adamanteus* | 14, 24 |
| Timber rattlesnake | *Crotalus horridus* | 19 |
| Southern ringneck snake | *Diadophis punctatus punctatus* | 19 |
| Eastern indigo snake | *Drymarchon corais couperi* | 14, 15 |
| Corn snake | *Elaphe guttata guttata* | 14 |
| Yellow rat snake | *Elaphe obsoleta quadrivittata* | 19, 24 |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for all species) |
|---|---|---|
| Eastern mud snake | *Farancia abacura abacura* | 25 |
| Eastern hog-nosed snake | *Heterodon platyrhinos* | 24 |
| Scarlet kingsnake | *Lampropeltis triangulum elapsoides* | 14, 24 |
| Eastern kingsnake | *Lampropeltis getula getula* | 19 |
| Eastern coachwhip snake | *Masticophis flagellum flagellum* | 14 |
| Eastern coral snake | *Micrurus fulvius* | 19 |
| Florida green water snake | *Nerodia floridana* | 25 |
| Florida water snake | *Nerodia fasciata pictiventris* | 25 |
| Brown water snake | *Nerodia taxispilota* | 54 |
| Rough green snake | *Opheodrys aestivus* | 24 |
| Florida pine snake | *Pituophis melanoleucus mugitis* | 14 |
| Striped crayfish snake | *Regina alleni* | 25 |
| Dusky pigmy rattlesnake | *Sistrurus miliarius barbouri* | 24 |
| Crowned snake | *Tantilla relicta* | 14 |
| Peninsula (Florida) ribbon snake | *Thamnophis sauritus sackenii* | 27 |
| Eastern garter snake | *Thamnophis sirtalis sirtalis* | 27 |
| | **BIRDS** | |
| **Geese** | | |
| Canada Goose | *Branta canadensis* | 51 |
| **Ducks** | | |
| Wood Duck | *Aix sponsa* | 51 |
| Northern Shoveler | *Anas clypeata* | 51 |
| Green-winged Teal | *Anas crecca* | 51 |
| Blue-winged Teal | *Anas discors* | 51 |
| Mallard | *Anas platyrhynchos* | 51 |
| American Black Duck | *Anas rubripes* | 51 |
| Lesser Scaup | *Aythya affinis* | 51 |
| Ring-necked Duck | *Aythya collaris* | 51 |
| Hooded Merganser | *Lophodytes cucullatus* | 51 |
| **Turkeys** | | |
| Wild Turkey | *Meleagris gallopavo* | 14, 24 |
| **Quail** | | |
| Northern Bobwhite | *Colinus virginianus* | 14 |
| **Grebes** | | |
| Pied-billed Grebe | *Podilymbus podiceps* | 51 |

*** Non-native Species**

**+ Recently Extirpated**

**Mike Roess Gold Head Branch State Park Animals**

| Common Name | *Scientific Name* | Primary Habitat Codes (for all species) |
|---|---|---|
| **Cormorants** | | |
| Double-crested Cormorant | *Phalacrocorax auritus* | 51 |
| **Darters** | | |
| Anhinga | *Anhinga anhinga* | 51 |
| **Herons and Bitterns** | | |
| Great Blue Heron | *Ardea herodias* | 25 |
| American Bittern | *Botaurus lentiginosus* | 25 |
| Cattle Egret | *Bubulcus ibis* | 25, 82 |
| Green Heron | *Butorides virescens* | 25 |
| Great Egret | *Ardea alba* | 25 |
| Little Blue Heron | *Egretta caerulea* | 25 |
| Snowy Egret | *Egretta thula* | 25 |
| Tricolored Heron | *Egretta tricolor* | 25 |
| Least Bittern | *Ixobrychus exilis* | 25 |
| **Storks** | | |
| Wood Stork | *Mycteria americana* | 51 |
| **Vultures** | | |
| Turkey Vulture | *Cathartes aura* | MTC |
| Black Vulture | *Coragyps atratus* | MTC |
| **Ospreys** | | |
| Osprey | *Pandion haliaetus* | 51 |
| **Hawks,Eagles and Kites** | | |
| Cooper's Hawk | *Accipiter cooperii* | 19, 24 |
| Sharp-shinned Hawk | *Accipiter striatus* | 19, 24 |
| Red-tailed Hawk | *Buteo jamaicensis* | MTC |
| Red-shouldered Hawk | *Buteo lineatus* | MTC |
| Broad-winged Hawk | *Buteo platypterus* | 19 |
| Northern Harrier | *Circus cyaneus* | 25 |
| Bald Eagle | *Haliaeetus leucocephalus* | 27, 51 |
| **Falcons** | | |
| Merlin | *Falco columbarius* | MTC |
| Peregrine Falcon | *Falco peregrinus* | MTC |
| Southeastern American Kestrel | *Falco sparverius paulus* | 14 |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for all species) |
|---|---|---|
| **Rails and Coots** | | |
| American Coot | *Fulica americana* | 51 |
| Common Moorhen | *Gallinula chloropus* | 51 |
| King Rail | *Rallus elegans* | 25 |
| **Cranes** | | |
| Sandhill Crane | *Grus canadensis* | 25, 51 |
| **Plovers** | | |
| Killdeer | *Charadrius vociferus* | MTC |
| **Snipes and Sandpipers** | | |
| Spotted Sandpiper | *Actitis macularius* | 51 |
| Common Snipe | *Gallinago gallinago* | 25 |
| American Woodcock | *Scolopax minor* | 25 |
| Solitary Sandpiper | *Tringa solitaria* | 51 |
| **Gulls and Terns** | | |
| Least Tern | *Sternula antillarum* | 51 |
| **Doves** | | |
| Common Ground-Dove | *Columbina passerina* | 14 |
| Mourning Dove | *Zenaida macroura* | MTC |
| **Cuckoos** | | |
| Yellow-billed Cuckoo | *Coccyzus americanus* | 19, 24 |
| Black-billed Cuckoo | *Coccyzus erythropthalmus* | 19, 27 |
| **Owls** | | |
| Barn Owl | *Tyto alba* | 25 |
| Great Horned Owl | *Bubo virginianus* | MTC |
| Eastern Screech-Owl | *Megascops asio* | 14, 24 |
| Barred Owl | *Strix varia* | 27 |
| **Goatsuckers** | | |
| Chuck-will's-widow | *Caprimulgus carolinensis* | 14, 24 |
| Whip-poor-will | *Caprimulgus vociferus* | 14, 24 |
| Common Nighthawk | *Chordeiles minor* | 14 |
| **Swifts** | | |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for all species) |
|---|---|---|
| Chimney Swift | *Chaetura pelagica* | OF |
| **Hummingbirds** | | |
| Ruby-throated Hummingbird | *Archilochus colubris* | MTC |
| **Kingfishers** | | |
| Belted Kingfisher | *Ceryle alcyon* | 51 |
| **Woodpeckers** | | |
| Northern Flicker | *Colaptes auratus* | 14 |
| Pileated Woodpecker | *Dryocopus pileatus* | 19, 24 |
| Red-bellied Woodpecker | *Melanerpes carolinus* | 19, 24 |
| Red-headed Woodpecker | *Melanerpes erythrocephalus* | 14 |
| Yellow-bellied Sapsucker | *Sphyrapicus varius* | 19, 24 |
| Red-cockaded Woodpecker | *Picoides borealis* + | 14 |
| Downy Woodpecker | *Picoides pubescens* | MTC |
| Hairy Woodpecker | *Picoides villosus* | 14, 24 |
| **Flycatchers and Kingbirds** | | |
| Eastern Wood-Pewee | *Contopus virens* | 14, 19 |
| Acadian Flycatcher | *Empidonax virescens* | 19 |
| Great Crested Flycatcher | *Myiarchus crinitus* | MTC |
| Eastern Phoebe | *Sayornis phoebe* | MTC |
| Eastern Kingbird | *Tyrannus tyrannus* | 14 |
| **Shrikes** | | |
| Loggerhead Shrike | *Lanius ludovicianus* | 14 |
| **Vireos** | | |
| Yellow-throated Vireo | *Vireo flavifrons* | 19 |
| White-eyed Vireo | *Vireo griseus* | 19, 24 |
| Red-eyed Vireo | *Vireo olivaceus* | 19 |
| Blue-headed Vireo | *Vireo solitarius* | 19 |
| **Jays and Crows** | | |
| Florida Scrub-Jay | *Aphelocoma coerulescens* + | 15 |
| American Crow | *Corvus brachyrhynchos* | MTC |
| Fish Crow | *Corvus ossifragus* | MTC |
| Blue Jay | *Cyanocitta cristata* | MTC |
| **Swallows and Martins** | | |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for all species) |
|---|---|---|
| Purple Martin | *Progne subis* | 25, 51, OF |
| Bank Swallow | *Riparia riparia* | 25, 51, OF |
| Tree Swallow | *Tachycineta bicolor* | 25, 51, OF |
| **Titmice** | | |
| Tufted Titmouse | *Baeolophus bicolor* | MTC |
| Carolina Chickadee | *Poecile carolinensis* | MTC |
| **Wrens** | | |
| Sedge Wren | *Cistothorus platensis* | 25 |
| Bewick's Wren | *Thryomanes bewickii* | 19 |
| Carolina Wren | *Thryothorus ludovicianus* | MTC |
| House Wren | *Troglodytes aedon* | MTC |
| Winter Wren | *Troglodytes troglodytes* | 19, 27 |
| **Kinglets** | | |
| Ruby-crowned Kinglet | *Regulus calendula* | MTC |
| **Gnatcatchers** | | |
| Blue-gray Gnatcatcher | *Polioptila caerulea* | 19, 24 |
| **Thrushes** | | |
| Veery | *Catharus fuscescens* | 19 |
| Hermit Thrush | *Catharus guttatus* | 19 |
| Wood Thrush | *Hylocichla mustelina* | 19 |
| Eastern Bluebird | *Sialia sialis* | 14 |
| American Robin | *Turdus migratorius* | MTC |
| **Thrashers** | | |
| Gray Catbird | *Dumetella carolinensis* | 24, 27 |
| Northern Mockingbird | *Mimus polyglottos* | MTC |
| Brown Thrasher | *Toxostoma rufum* | 15, 24, 27 |
| **Waxwings** | | |
| Cedar Waxwing | *Bombycilla cedrorum* | MTC |
| **Warblers** | | |
| Black-throated Blue Warbler | *Dendroica caerulescens* | 19 |
| Yellow-rumped Warbler | *Dendroica coronata* | 14, 24, 25 |
| Prairie Warbler | *Dendroica discolor* | 19 |
| Yellow-throated Warbler | *Dendroica dominica* | 19, 24 |

*** Non-native Species**

**+ Recently Extirpated**

| Common Name | *Scientific Name* | Primary Habitat Codes (for all species) |
|---|---|---|
| Magnolia Warbler | *Dendroica magnolia* | 19, 24, 27 |
| Palm Warbler | *Dendroica palmarum* | 14, 25 |
| Pine Warbler | *Dendroica pinus* | 14 |
| Cape May Warbler | *Dendroica tigrina* | 19 |
| Common Yellowthroat | *Geothlypis trichas* | 25 |
| Yellow-breasted Chat | *Icteria virens* | 15 |
| Black-and-white Warbler | *Mniotilta varia* | 19 |
| Northern Parula | *Parula americana* | MTC |
| Prothonotary Warbler | *Protonotaria citrea* | 19 |
| Ovenbird | *Seiurus aurocapilla* | 19 |
| Louisiana Waterthrush | *Seiurus motacilla* | 39, 54 |
| American Redstart | *Setophaga ruticilla* | 19 |
| Hooded Warbler | *Wilsonia citrina* | 19 |
| **Tanagers** | | |
| Summer Tanager | *Piranga rubra* | 14, 19 |
| **Sparrows and Towhees** | | |
| American Goldfinch | *Carduelis tristis* | MTC |
| Swamp Sparrow | *Melospiza georgiana* | 25 |
| Song Sparrow | *Melospiza melodia* | 25, 39 |
| House Sparrow | *Passer domesticus* * | 82 |
| Fox Sparrow | *Passerella iliaca* | 14 |
| Eastern Towhee | *Pipilo erythrophthalmus* | 14, 15, 24 |
| Vesper Sparrow | *Pooecetes gramineus* | 25, 39 |
| Chipping Sparrow | *Spizella passerina* | 14, 39 |
| Field Sparrow | *Spizella pusilla* | 14, 39 |
| **Cardinals, Grosbeaks and Buntings** | | |
| Northern Cardinal | *Cardinalis cardinalis* | 19 |
| Painted Bunting | *Passerina ciris* | 19, 24 |
| **Meadowlarks, Blackbirds and Orioles** | | |
| Red-winged Blackbird | *Agelaius phoeniceus* | 25 |
| Bobolink | *Dolichonyx oryzivorus* | 25, 39 |
| Orchard Oriole | *Icterus spurius* | 14 |
| Brown-headed Cowbird | *Molothrus ater* | 14 |
| Eastern Meadowlark | *Sturnella magna* | 25, 39 |
| Boat-tailed Grackle | *Quiscalus major* | MTC |
| Common Grackle | *Quiscalus quiscula* | MTC |

*** Non-native Species**

**+ Recently Extirpated**

## Mike Roess Gold Head Branch State Park Animals

| Common Name | *Scientific Name* | Primary Habitat Codes (for all species) |
|---|---|---|
| | **MAMMALS** | |
| **Didelphids** | | |
| Virginia opossum | *Didelphis virginiana* | MTC |
| **Insectivores** | | |
| Least shrew | *Cryptotis parva* | 14, 24 |
| **Moles** | | |
| Eastern mole | *Scalopus aquaticus* | 14, 19, 24 |
| **Bats** | | |
| Southeastern myotis | *Myotis austroriparius* | MTC |
| Red bat | *Lasiurus borealis* | MTC |
| Seminole bat | *Lasiurus seminolus* | MTC |
| Hoary bat | *Lasiurus cinereus* | MTC |
| Northern yellow bat | *Lasiurus intermedius* | MTC |
| Evening bat | *Nycticeius humeralis* | MTC |
| Eastern pipistrelle | *Pipistrellus subflavus* | MTC |
| Brazilian free-tailed bat | *Tadarida brasiliensis* | MTC |
| **Edentates** | | |
| Nine-banded armadillo | *Dasypus novemcinctus* * | MTC |
| **Lagomorphs** | | |
| Marsh rabbit | *Sylvilagus palustris* | 25, 39 |
| Eastern cottontail | *Sylvilagus floridanus* | 14, 24 |
| **Rodents** | | |
| Southeastern pocket gopher | *Geomys pinetis* | 14, 15, 24 |
| Southern flying squirrel | *Glaucomys volans* | 14, 19, 24 |
| Florida round-tailed muskrat | *Neofiber alleni* | 25 |
| Florida mouse | *Podomys floridanus* | 14 |
| Eastern gray squirrel | *Sciurus carolinensis* | MTC |
| Sherman fox squirrel | *Sciurus niger shermani* | 14, 24 |
| Hispid cotton rat | *Sigmodon hispidus* | MTC |
| **Carnivores** | | |
| Domestic dog | *Canis familiaris* * | MTC |
| Coyote | *Canis latrans* * | MTC |
| Domestic cat | *Felis catus* * | MTC |

*** Non-native Species**

**+ Recently Extirpated**

## Mike Roess Gold Head Branch State Park Animals

| Common Name | *Scientific Name* | Primary Habitat Codes (for all species) |
|---|---|---|
| Bobcat | *Lynx rufus* | MTC |
| Raccoon | *Procyon lotor* | MTC |
| River otter | *Lutra canadensis* | 25, 51, 54 |
| Gray fox | *Urocyon cinereoargenteus* | MTC |
| Florida black bear | *Ursus americanus floridanus* | MTC |
| **Artiodactyls** | | |
| White-tailed deer | *Odocoileus virginianus* | MTC |

*** Non-native Species**

**+ Recently Extirpated**

## Mike Roess Gold Head Branch State Park Animals

| Common Name | *Scientific Name* | Primary Habitat Codes (for all species) |
|---|---|---|

* Non-native Species

\+ Recently Extirpated

# Addendum 6—Imperiled Species Ranking Definitions

The Nature Conservancy and the Natural Heritage Program Network (of which FNAI is a part) define an element as any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave or other ecological feature. An element occurrence (EO) is a single extant habitat that sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element.

Using a ranking system developed by The Nature Conservancy and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks to each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element occurrences, estimated abundance (number of individuals for species; area for natural communities), range, estimated adequately protected EOs, relative threat of destruction, and ecological fragility.

Federal and State status information is from the U.S. Fish and Wildlife Service; and the Florida 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) |

## Imperiled Species Ranking Definitions

| | | |
|---|---|---|
| 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 near 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 that, in the near future, may result in its becoming a threatened species?

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

LE = Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973,as amended.

LT = Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered.

# Addendum 7—Cultural Information

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

## A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, '*Historic property' or 'historic resource' means any prehistoric district, site, building, object, or other real or personal property of historical, architectural, or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state."*

## B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources which are owned or controlled by the agency.

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

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

## C. Statutory Authority

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

**Chapter 253, F.S. –** State Lands

**Chapter 267, F.S. –** Historical Resources

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

Other helpful citations and references:

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

Other helpful citations and references:

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

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

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

## D. Management Implementation

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

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

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

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

## E. Minimum Review Documentation Requirements

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

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

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

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

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

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

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

* * *

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

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

Phone: (850) 245-6333

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

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

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

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

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

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

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

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

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

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

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

**Addendum 8—March 27, 2009 Land Management Review Report and Response**

Florida Department of
# Environmental Protection

Memorandum

August 10, 2009

TO: Marianne Gengenbach, Program Administrator
Division of State Lands

FROM: Parks Small, Chief, Bureau of Natural and Cultural Resources
Division of Recreation and Parks

Albert Gregory, Chief, Office of Park Planning
Division of Recreation and Parks

SUBJECT: Response to Draft Land Management Review (LMR)
Mike Roess Goldhead Branch State Park

The Land Management Review draft report provided to DRP determined that management of Mike Roess Goldhead Branch State Park by the Division of Recreation and Parks met the two tests prescribed by law. Namely, the review team concluded that the land is being managed for the purposes for which it was acquired and in accordance with the land management plan.

Below are Additional Recommendations and Checklist Findings (items the LMR determined should be further addressed in the management plan update) of the draft LMR report, with our Manager's Response to each.
The responses were prepared via a coordinated effort of the park, district office, and our offices.

**Discussion in the management plan regarding Adjacent Property Concerns, specifically Inholdings and Additions. (PR)**
*Managing Agency Response:*
*The Optimum Boundary for the park, which guides the acquisition of Inholdings and Additions, has been expanded to include adjacent lands, and this is reflected in the upcoming Unit Management Plan revision.*

Thank you for your attention.

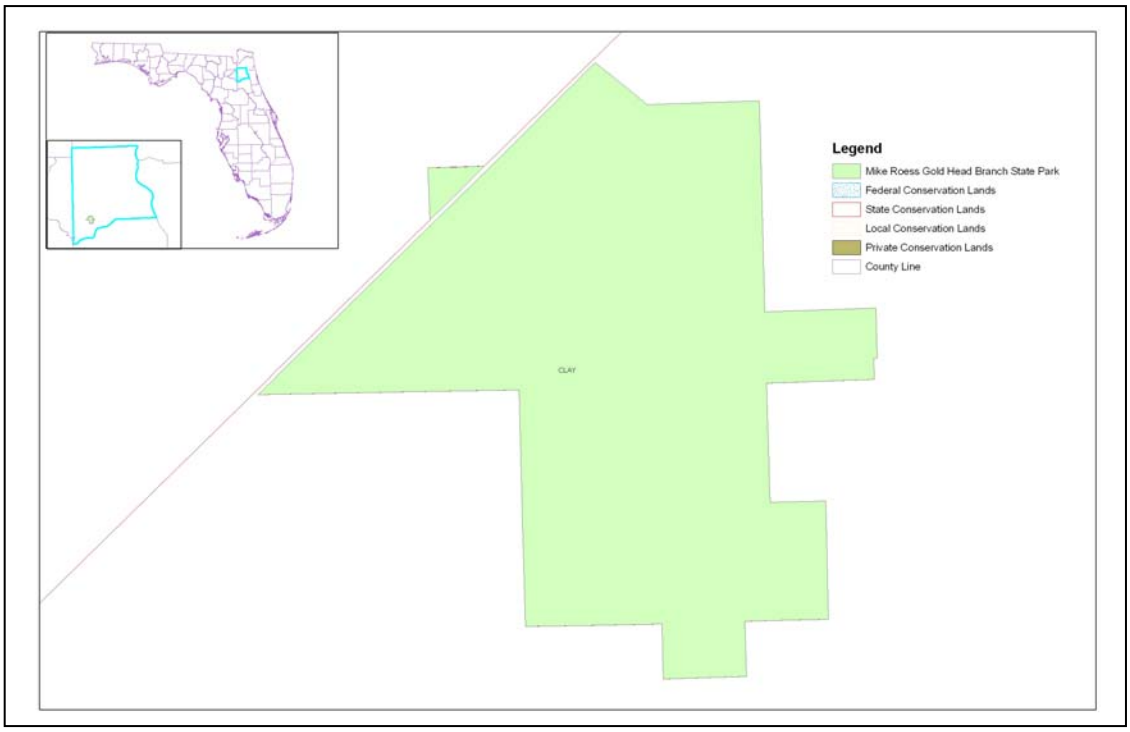
GK

CC: Donald Forgione, Chief, Bureau of Parks District 2
William Cutts, Assistant Chief, Bureau of Parks District 2
Jason Cutshaw, Park Manager, Mike Roess Goldhead Branch State Park
Craig Parenteau, Environmental Specialist, Bureau of Parks District 2

**Name of Site:** Gold Head Branch State Park **County:** Clay County

**Managed by:** Department of Environmental Protection
Department of Recreation & Parks **Acres:** 2,524 Acres

**Review Date:** 3/27/09




**Review Team Determination**

Managed in accordance with acquisition purpose? Yes = 7, No = 0

Management practices, including public access, in compliance with the management plan? Yes =7, No = 0

| Categories | Management Plan Review | Field Review |
|---|---|---|
| Natural Communities | 0.98 | 4.35 |
| Listed Species | 1.00 | 4.21 |
| Natural Resource Survey | 0.82 | 3.98 |
| Cultural Resources | 1.00 | 4.57 |
| Prescribed Fire | 0.90 | 4.81 |
| Wildlife Habitat Management | 1.00 | 4.29 |
| Exotic Species | 0.89 | 4.21 |
| Hydrology | 0.93 | 4.52 |
| Groundwater Monitoring | 1.00 | 4.57 |
| Surface Water Monitoring | 1.00 | 4.57 |
| Resource Protection | 0.92 | 4.74 |
| Adjacent Property Concerns | 0.64 | 4.30 |
| Public Access & Education | 1.00 | 4.54 |
| Management Resources | N/A | 4.79 |
| Managed Area Uses | 0.96 | N/A |
| Buildings, Equipment, Staff & Funding | N/A | 3.75 |

## Consensus Commendations to the Managing Agency

The following commendations resulted from discussion and vote of the review team members.

1. The team commends the DRP on the diligence to maintaining the condition of the property with the use of prescribed fire. (VOTE: 7+, 0-)

2. The team commends the manager and staff for the amount of work being done at this park with the limited resources available. (VOTE: 7+, 0-)

3. The team commends the DRP for the prevention of soil erosion in areas impacted by human disturbance and past management activities, and the restoration of those areas that have been impacted. (VOTE: 7+, 0-)

4. The team commends the manager and staff for the ability to protect the cultural resources of the park and the efforts to make the public aware of the historic nature of the area. (VOTE: 7+, 0-)

5. The team commends the park staff for the recycling program and their achievement of Green Lodging (upgrading of the cabins and facilities and their use of green products for cleaning). (VOTE: 7+, 0-)

## Consensus Recommendations to the Managing Agency

The following recommendations resulted from a discussion and vote of review team members. The management plan must include responses to the recommendations identified below.

No recommendations were recorded.

## Checklist Findings

The following items received high scores on the review team checklist, which indicates that management actions exceeded expectations.

- Natural Communities, specifically Mesic Flatwoods, Sandhill, Scrub, Slope Forest, Xeric Hammock, Basin Marsh, Baygall, Bog, Depression Marsh, Seepage Slope, Sandhill Upland Lake, Sinkhole Lake, and Seepage Stream.
- Listed Species: Protection and Preservation, specifically Animal inventory, Kestrel, Gopher Tortoise, Scrub Jay, and Plant Inventory.
- Natural Resources Survey/ Management, specifically Sport Fish or Habitat Monitoring, Listed Species or Habitat Monitoring, Other Non-Game Species or Habitat Monitoring, Fire Effects Monitoring, and Invasive Species Survey/Monitoring.
- Cultural Resources, specifically Cultural Resource Survey, Protection and Preservation.
- Resource Management and Prescribed Fire, specifically Area Being Burned, Frequency and Quality.
- Non-Native, Invasive and Problem Species, specifically Prevention/Control of Plants, Animals and Pests/Pathogens.
- Hydrologic/Geologic Function Hydro-Alteration, specifically Roads/Culverts, Hydro Period Alterations, Water Level Alteration, Dams, Reservoirs or other impoundments.
- Quality and Quantity of Ground and Surface Water Monitoring.
- Resource Protection, specifically Boundary Survey, Gates & Fencing, Signage, and Law Enforcement Presence.

- Land Use/Adjacent Property Concerns in regards to Expanding Development.
- Public Access, specifically Roads, Parking and Canoe Access.
- Environmental Education & Outreach, specifically Wildlife, Invasive Species, Habitat Management Activities, Interpretive Facilities & Signs, Recreational Opportunities and Management of Visitor Impacts.
- Managed Area Uses, specifically Fishing, Hiking, Cabins, Camping, Picnicking/Swimming and Canoeing.
- Uses Proposed in Management Plan, specifically Interpretive Center and Equestrian/Shared-Use Trails.

The following items received low scores on the review team checklist, which indicates that management actions noted during the Field Review (FR) were not considered sufficient (less than 2.5 score on average), or that the text noted in the Management Plan Review (PR) does not sufficiently address this issue (less than .5 score on average.). The management plan must include responses to the checklist items identified below:

**1. Discussion in the management plan regarding Adjacent Property Concerns, specifically Inholdings and Additions. (PR)**

*Managing Agency Response:*

*The Optimum Boundary for the park, which guides the acquisition of Inholdings and Additions, has been expanded to include adjacent lands, and this is reflected in the upcoming Unit Management Plan revision.*