

# Lake Jackson Mounds Archaeological State Park

**APPROVED**  
**Unit Management Plan**

**STATE OF FLORIDA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**Division of Recreation and Parks**  
**April 2016**







## Florida Department of Environmental Protection

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April 28, 2016

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

**RE: Lake Jackson Mounds Archaeological State Park - Lease #2530**

Dear Ms. Murray:

On **April 22, 2016**, the Acquisition and Restoration Council recommended approval of the **Lake Jackson Mounds Archaeological State Park** management plan. Therefore, the Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the **Lake Jackson Mounds Archaeological State Park** management plan. The next management plan update is due April 22, 2026.

Approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities. Pursuant to the conditions of your lease, please forward copies of all permits to this office upon issuance.

Sincerely,

A handwritten signature in cursive script, appearing to read "Joseph P. Wilson".

Joseph P. Wilson, Chief  
Office of Environmental Services  
Division of State Lands



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## **INTRODUCTION**

Lake Jackson Mounds Archaeological State Park is located in central Leon County, just north of the City of Tallahassee, on the southwestern end of Lake Jackson. The park contains a total of 204.94 acres (see Vicinity Map). Access to the park is from Crowder Road and Indian Mound Road, approximately 1.5 miles north of the junction of Interstate 10 and U.S. Highway 27. The vicinity and reference maps also reflects significant land and water resources existing near the park.

Lake Jackson Mounds Archaeological State Park was initially acquired on May 26, 1966, consisting of a 10-acre property that encompasses the mounds archaeological site. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to the park and on August 2, 1966, the Trustees leased (Lease Number 2530) the property to the Florida Board of Parks and Historic Memorials (FBPHM), predecessor in interest to the State of Florida Department of Environmental Protection, Division of Recreation and Parks (DRP) under a ninety-nine (99) year lease. The current lease will expire on August 1, 2065.

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

### **Purpose and Significance of the Park**

The purpose of Lake Jackson Mounds Archaeological State Park is to provide for public resource-based interpretive, educational, and outdoor recreational activities, while protecting and preserving its archaeological, historic, and natural features.

### **Park Significance**

- The park preserves a component of the Southeastern Ceremonial Complex – a collection of archaeologically significant mounds and other cultural sites of the Mississippian Period. The largest of these mounds at Lake Jackson Mounds Archaeological State Park is over 35 feet in height.
- Using the remnants of seven prominent earthen mounds, artifacts that have been uncovered in the park, and the natural features surrounding the site, the park interprets the culture of the mound builders to educate the public about prehistoric Florida.
- The park protects a unique and scenic strand of bottomland forest, which contains steephead ravines and a seepage stream that drains into the nearby Outstanding Florida Waters of Lake Jackson.

Lake Jackson Mounds Archaeological State Park is classified as a state special feature site in the DRP's unit classification system. A special feature is a discrete and well-defined object or condition that attracts public interest and provides recreational enjoyment through visitation, observation, and study. A state special feature site is an area which contains such a feature, and which is set aside for

controlled public enjoyment. Special feature sites for the most part are either historical or archaeological by type, but they may also have a geological, botanical, zoological, or other basis. State special feature sites must be of unusual or exceptional character, or have statewide or broad regional significance.

Management of special feature sites places primary emphasis on protection and maintenance of the special feature for long-term public enjoyment. Permitted uses are almost exclusively passive in nature and program emphasis is on interpretation of the special feature. Development at special feature sites is focused on protection and maintenance of the site, public access, safety, and the convenience of the user.

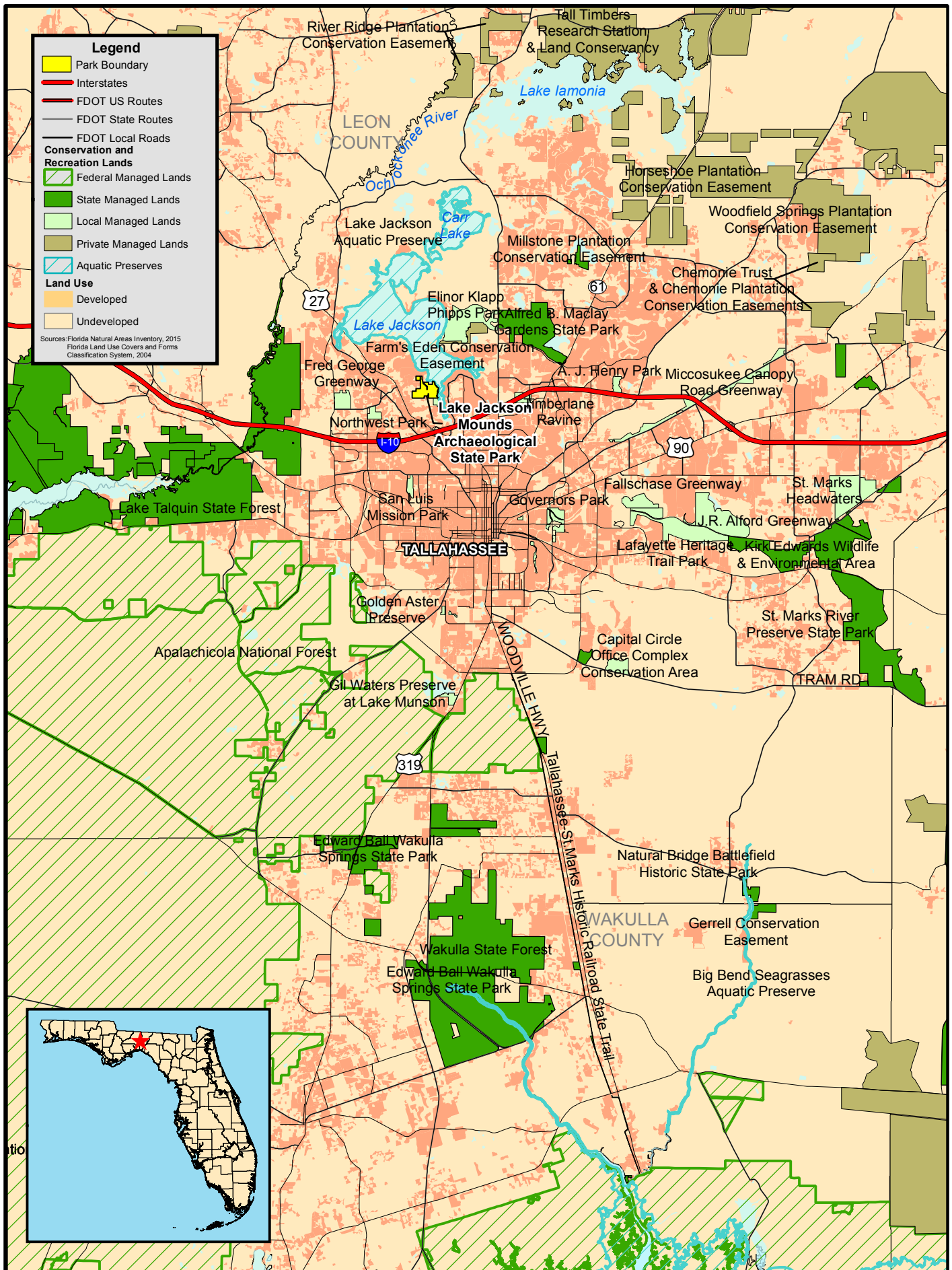
### **Purpose and Scope of the Plan**

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

The plan consists of three interrelated components: the Resource Management Component, 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 identify use areas and propose the types of facilities and programs as well as the volume of public use to be provided.

The Implementation Component consolidates the measurable objectives and actions for each of the park's management goals. An implementation schedule and cost estimates are included for each objective and action. Included in this table are (1)



**Legend**

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

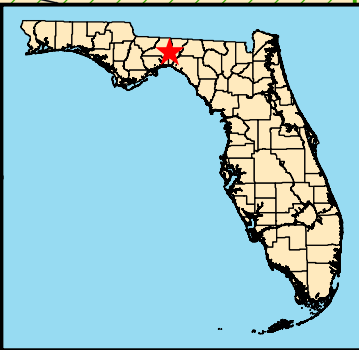
**Conservation and Recreation Lands**

- Federal Managed Lands
- State Managed Lands
- Local Managed Lands
- Private Managed Lands
- Aquatic Preserves

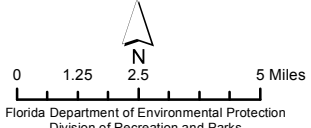
**Land Use**

- Developed
- Undeveloped

Sources: Florida Natural Areas Inventory, 2015  
Florida Land Use Covers and Forms Classification System, 2004

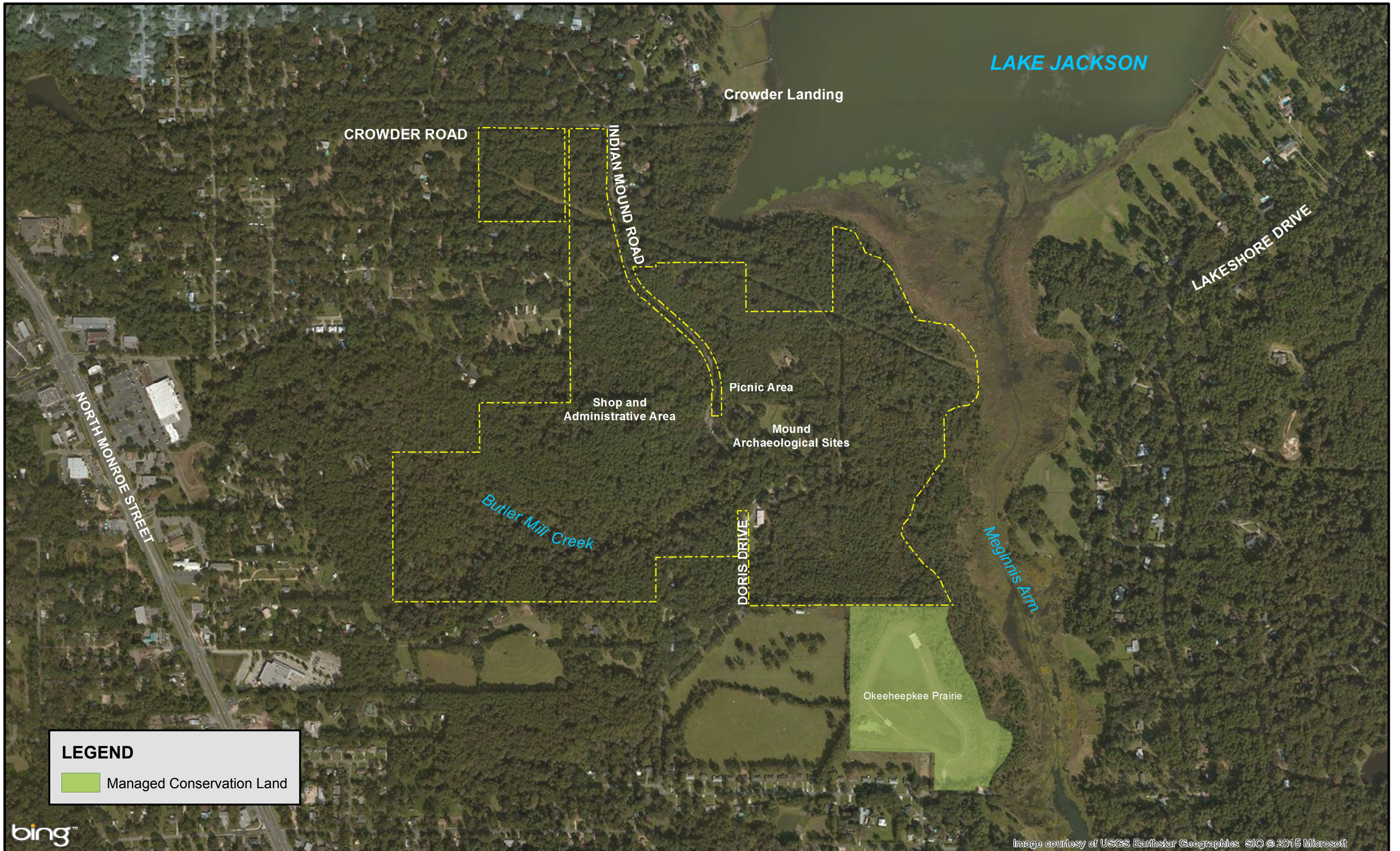


**LAKE JACKSON MOUNDS  
ARCHAEOLOGICAL  
STATE PARK**



**VICINITY  
MAP**

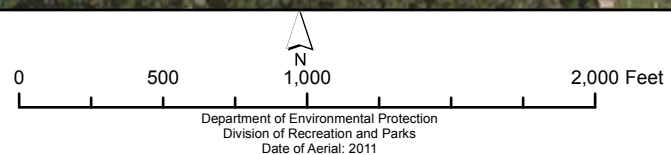




**LEGEND**

Managed Conservation Land

**LAKE JACKSON MOUNDS  
ARCHAEOLOGICAL STATE PARK**



**REFERENCE MAP**



measures that will be used to evaluate the DRP's implementation progress, (2) timeframes for completing actions and objectives and, (3) estimated costs to complete each action and objective.

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

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

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

DRP may provide the services and facilities outlined in this plan either with its own funds and staff or through an outsourcing contract. Private contractors may provide assistance with natural resource management and restoration activities or a Visitor Service Provider (VSP) may provide services to park visitors in order to enhance the visitor experience. For example, a VSP could be authorized to sell merchandise and food and to rent recreational equipment for use in the park. A VSP may also be authorized to provide specialized services, such as interpretive tours or overnight accommodations when the required capital investment exceeds that which DRP can elect to incur. Decisions regarding outsourcing, contracting with the private sector, the use of VSPs, etc. are made on a case-by-case basis in accordance with the policies set forth in DRP's Operations Manual (OM).

## Management Program Overview

### Management Authority and Responsibility

In accordance with Chapter 258, Florida Statutes and Chapter 62D-2, Florida Administrative Code, the Division of Recreation and Parks (DRP) is charged with the responsibility of developing and operating Florida's recreation and parks system. These are administered in accordance with the following policy:

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

Many operating procedures, used system-wide, are outlined in the DRP's Operations Manual (OM).

### Park Management Goals

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

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



## **Management Coordination**

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

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

## **Public Participation**

DRP provided an opportunity for public input by conducting a public hearing and an advisory group meeting to present the draft management plan to the public. These meetings were held on Tuesday, December 8 and Thursday, December 10, 2015, respectively. Meeting notices were published in the Florida Administrative Register, November 30, 2015, Volume 41, Number 230, included on the Department Internet Calendar, posted in clear view at the park, and promoted locally. The purpose of the Advisory Group meeting is to provide the Advisory Group members an opportunity to discuss the draft management plan (see Addendum 2).

## **Other Designations**

Lake Jackson Mounds Archaeological State Park is not within an Area of Critical State Concern as defined in Section 380.05, Florida Statutes, and it is not presently under study for such designation. The park is a component of the Florida Greenways and Trails System, administered by the Department's Office of Greenways and Trails. The mounds archaeological site is listed on the National Register of Historic Places.

All waters within the park have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302, Florida Administrative Code. Surface waters in this park are also classified as Class III waters by the Department. This park is adjacent to the Lake Jackson Aquatic Preserve as designated under the Florida Aquatic Preserve Act of 1975 (Section 258.35, Florida Statutes).



## **RESOURCE MANAGEMENT COMPONENT**

### **Introduction**

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

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

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

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

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

<b>Table 1. Lake Jackson Mounds Archaeological State Park Management Zones</b>		
<b>Management Zone</b>	<b>Acreage</b>	<b>Managed with Prescribed Fire</b>
LJM-A	10.33	N
LJM-B	25.10	N
LJM-C	35.77	N
LJM-D	36.49	N
LJM-E	37.92	N
LJM-F	57.47	N

## **RESOURCE DESCRIPTION AND ASSESSMENT**

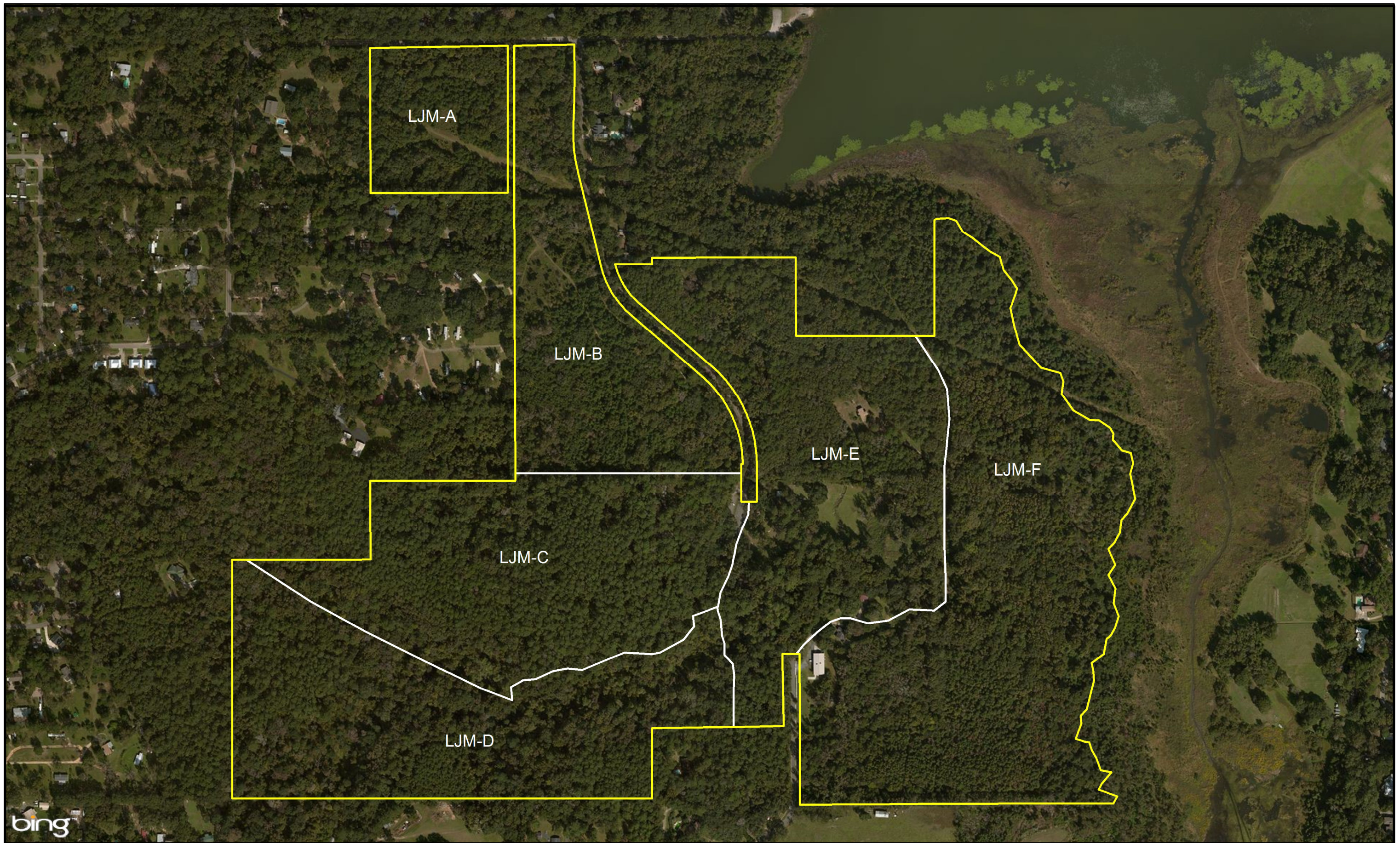
### **Natural Resources**

#### **Topography**

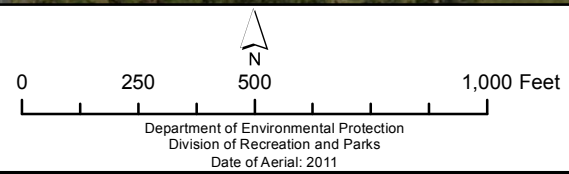
Lake Jackson Mounds Archaeological State Park is partially located within the Florida physiographic province of the Northern Highlands, an area known as the Tallahassee Hills. These ridges are erosional remnants, having been shaped by water drainage over thousands of years. The park occupies a dramatic transition zone from bluff crests descending a steep ravine system or over broad slopes, and across a relatively flat expanse of the Lake Jackson valley to the shores of the lake itself (see Topographic Map). This flat span occupies the minor physiographic zone referred to as the Lake Jackson Lowlands, which is one of several shallow lake-filled depressions surrounded by the rolling landscape of the Tallahassee Hills. Elevation varies at the park from a high of more than 200 feet to about 90 feet at the lake surface, which is subject to wide variation depending on the year.

#### **Geology**

The Suwannee Limestone underlies the entirety of Leon County and was formed during the Oligocene epoch, which dates back from about 34 to 23 million years before the present day. Suwannee Limestone is generally pale orange, partially recrystallized into a finely crystalline matrix, and often contains abundant microfossils; this stratum typically undergoes partial dolomitization to some degree, which entails the process by which magnesium ions replace calcium ions in calcite often as a result of water evaporation and may reduce the extent of observable microfossil content. Since this layer is significantly porous and permeable, it is the principle aquifer from which many wells draw groundwater, particularly on the county's eastern portion. The St. Marks Formation overlies the Suwannee Limestone and developed during the Tampa Stage of the early Miocene epoch (beginning about 23 million years before the present). The St. Marks Formation consists of silty to sandy limestone that varies from pale orange to grayish orange in color, has undergone some degree of secondary dolomitization, and contains lower abundances of microfossils that are generally less identifiable than those found in its underlying stratum. Across Leon County, it is almost exclusively a subsurface formation with little surface exposure, however, its thickness is highly variable on account of its diminution by erosion or solution. It is currently

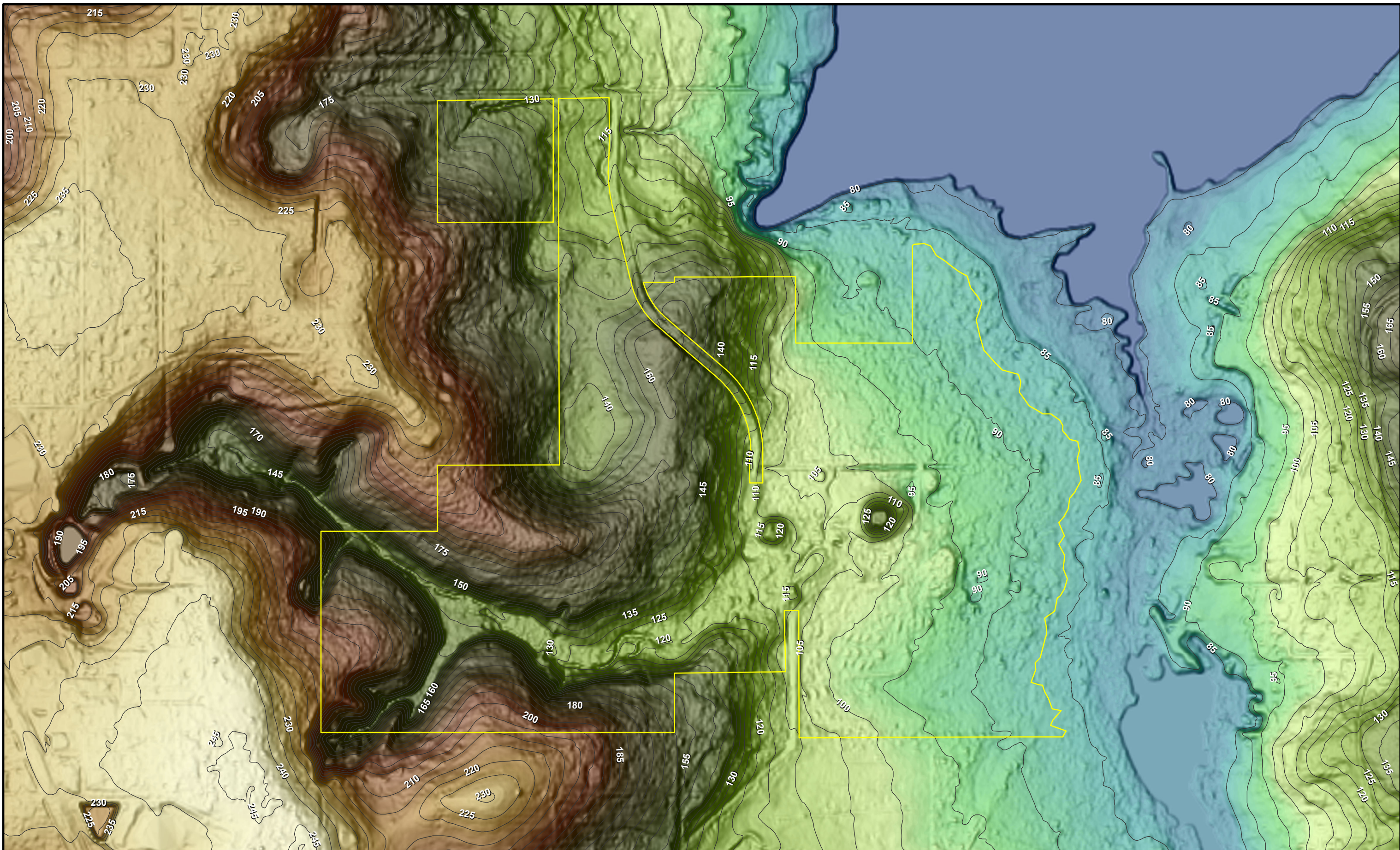


LAKE JACKSON MOUNDS ARCHAEOLOGICAL STATE PARK

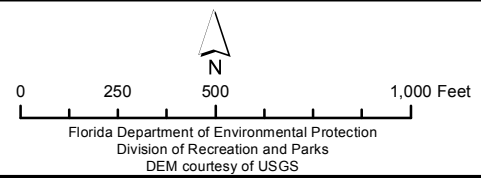


MANAGEMENT ZONES MAP





LAKE JACKSON MOUNDS ARCHAEOLOGICAL STATE PARK



TOPOGRAPHIC MAP





absent from the basins of Lake Iamonia and Miccosukee, a short distance from the park on account of these processes. The Hawthorne Formation overlies the St. Marks Formation, having been deposited later in the Miocene epoch. It consists of a variety of minerals that often display intra-formation layering in the northern portion of Leon County with sandy, clayey, and phosphoritic silt overlying sand and sandy phosphoritic clays overtopping sandy phosphoritic limestone in the lower reaches (Hendry and Sproul 1966).

## **Soils**

This park is dominated by Orangeburg and Plummer soil types with several other varieties covering more limited extents. Orangeburg fine sandy loam occurs with average slopes ranging from 2 to 12 percent on the bluffs and in the ravines toward the western two-thirds of the property. Given the slopes typical for this type, erosion is a significant risk that increases with progressively higher grades. Water drains rapidly through the surface layers and moderately well through the subsoil, which contribute to a water table generally below 72 inches and corresponding low and moderate water capacities in the surface and subsoil layers, respectively. Natural fertility is moderate on gentler grades and moderately low on steeper slopes. The Wagram and Lucy soil types are generally found on 5 to 8 percent slopes and have similar permeability and water capacity characteristics as the Orangeburg soils; the steeper grades also make the former two types vulnerable to erosion. Lucy and Wagram soils usually have even lower depths to the water table at less than 80 inches and they both have a low natural fertility.

The plain between the bluffs and the lake basin itself, which also includes the lower portion of the Butler Mill Creek's original course beginning from just southwest of mound 4, is composed of Albany loamy sand with slopes typically not exceeding 2 percent. While the water capacity and permeability of this soil type is comparable to those soils found on the bluffs and in the ravine, the water table is significantly higher for at least 1 or 2 months of the year on average at about 12 to 30 inches. This creates alternating wet and droughty conditions in the rooting zone for plants growing on Albany soils. Small sections composed of Plummer sand are found at the two easternmost tips of the park property and occur within the lake basin itself, though they are frequently above water as lake levels greatly fluctuate over time. This poorly drained, flat soil has its water table within 15 inches of the substrate's surface for up to 6 months per year on average.

Erosion may be observed at a number of locations along the Butler Mill Creek draining the ravines system, which is classified as a seepage stream. For a substantial portion of this stream's course until it reaches the artificial canal at the grassy field of the main visitor area, the water surface may occur about a meter below the surrounding bottomland forest as it flows along its winding path. Many portions of the stream banks near the water level are unvegetated; the shifting sediments are highly influenced and distributed by scour and inundation following heavy rains as would be expected for this type of feature. One may also see areas along sharp curves where the steep slope has been eroded away so that the upper ground surface is significantly undercut and exposed to collapse. In several places, tree root networks are suspended above previously collapsed zones where soil loss

had already occurred. There is one significantly eroded area encompassing a steephead lying a short distance from the westernmost extent of the walking trail loop and historic Butler Mill site. Its vertical walls tower about 30 feet above its lowest reaches and are composed of pale orange clayey soil that are occasionally draped with vines or devoid of any vegetation depending on the season. These very steep walls occasionally slough off soil during heavy rains. Erosion from this feature is such that a gully has breached a gap in the earthen berm crossing its path downslope so that a wooden pedestrian bridge and bulkheads were erected in 1990, and refurbished in 1998, in order to facilitate hiking along the loop trail. Due to deterioration of these structures over time, park staff has made repairs in order to strengthen and stabilize them, but there is a need to either replace or dismantle them and reroute the walking trail away from the berm. Given logistical constraints of the erosion issue, a mechanical solution to arrest further soil loss would be difficult. At this time, it is necessary to monitor the rate of erosion by recording photo points over future years of the planning cycle. Once documented and if determined that a project should be initiated, the DRP would seek to cooperate with the local soil conservation agency and draft a plan of corrective action.

Observations suggest that a significant portion of the stream bed erosion now so evident has occurred in relatively recent years. In a natural area such as this, one may speculate about why so much soil loss has occurred in the near term. One explanation suggests that precipitation in recent times may have exceeded historic norms, including 1995 flooding from Hurricane Opal. Likewise, urban development in surrounding neighborhoods has resulted in higher surface coverage by impermeable surfaces, which has led to higher quantities of surface water runoff. Another hypothesis offers that the current condition is the result of a historical legacy that diverted the stream flow characteristics on a different trajectory than would have occurred in an undisturbed context. Given the flat, narrow topography of the bottomland forest at the base of the main ravine, it appears likely that there was a shallower depth to the water surface such that the stream would have flowed along a shifting meandering course over time. Once it had been channelized along a segment to flow past the Butler Mill through a gap in the earthen berms, and with flow rate possibly increased by some degree of deforestation in the ravines, incision within a deeper trench in the bottomland forest may have limited its ability to shift course as a result of the natural processes of sediment shifting.

The Butler Mill site referenced above is a valuable cultural feature. Large timbers may still be observed where a water wheel had once been present, though further research is necessary to discern the most likely character of the original structure. Accelerated erosion has led to perceptibly significant decline in site condition over the short term. In order to preserve this feature from being lost to deterioration, a project should be initiated to protect this resource. Given logistical difficulties, it would be optimal to coordinate with the Division of Historical Resources and contract with an engineering firm for planning and execution of the endeavor.

### **Minerals**

There are no known deposits of commercially valuable minerals within Lake Jackson Mounds Archaeological State Park.





## Hydrology

The Floridan Aquifer is the primary source of underground drinking water in Leon County. Shallower aquifers overlying the Floridan Aquifer, including the upper region of the Hawthorne Formation, are secondary sources. Within the park, most of the water flow derives from surface runoff following precipitation with a few seepage streams originating from steepheads in the ravine system. A series of earthen berms were constructed long ago, presumably contemporaneous with the Butler Mill site in the mid-19<sup>th</sup> century, in order to channel surface water flows from the ravines area through a central point, which would have rotated the water wheel mechanism. These berms are still readily apparent; in fact, a portion of the loop trail route is situated along the crest of a berm. The erosive zone described above has created a drainage canal that breaches this berm and is spanned by a wooden pedestrian bridge and bulkheads along the loop trail.

A major hydrological change in the park was the rerouting of the Butler Mill Creek starting in the mid-20<sup>th</sup> century. Up until this time, this stream had flowed between the Indian mounds so that three mounds occurred along either shore (excluding Mound 1 just north of the present park boundary). The first rerouting occurred by raising the ground surface level between mounds 3 and 5 so that the creek was redirected further north into the current grassy field of the main visitor area. Around this time, the creek flowed into a pond between mounds 2 and 4. Subsequent alterations drained the pond and channeled the water through a canal that crosses the grassy field and then flows east along the field's northern fringe, through zone F, and off park property to eventually end up in Lake Jackson's Meginnis Arm, which is its present course. In 1995, Hurricane Opal dropped so much rain on the area that high surface flows through the creek deposited loads of sediment into the eastern expanses of the bottomland forest so that the stream's middle course was rerouted into a different path before it emerged into the canal. In order to restore the site's hydrology to its previous condition existing at the time of the mound builders, the canal should be filled in and the creek rerouted along its original course through the general vicinity where the dilapidated Crowder barn stands today. East of this locality, the original streambed is still evident and minimal work should be needed to restore flow once the blocked section is opened.

Lake Jackson is located along the park's northeastern boundary. The Native American name for the lake was "Okeeheepkee" meaning, "disappearing water." As the indigenous name implies, the draining of water from this lake into subterranean karst caverns is an occasional phenomenon. This water is then transported through the Emerald cave system with most of its volume surfacing again through Wakulla Springs. Lake Jackson has drained at least seven times in recorded history. One early documentation appears in an 1870 book entitled *A Winter In Florida* by Ledyard Bill, which mentions a rapid overnight drainage of Lake Jackson during the winter of 1837. Charles Norton's *A Handbook of Florida* (1891) describes another early event. Norton wrote, "Shortly after the Charleston earthquake of 1886, it [Lake Jackson] distinguished itself by disappearing completely through an unsuspected subterranean passage. Large numbers of fish perished, and for a time, pestilence was dreaded by neighboring residents. After a few days, the lake began

to fill up again.” Similar disappearances of the lake’s surface water occurred after periods of low rainfall in 1907 and 1909. In 1932, the Tallahassee Democrat reported the disappearance of the lake water and the death of thousands of stranded fish. After each drainage event, the lake was eventually replenished by rainfall. Periods of low rainfall occurred in 1957 and 1982 that led to other events. More recently, in mid-September 1999, Lake Jackson drained into Porter Hole Sink over a period of several weeks, again stranding fish and turtles, consistent with the periodic draining that is known to occur (Wagner 1984). This complete drainage of water from the lake basin afforded geologists with the opportunity to descend into the sink for a firsthand look at the karst features. Duration of time before refilling is variable with some periods extending over multiple years, as is the case with the 1999 event. In the interim since the last complete draining, trees and shrubs grew along a band of exposed substrate north of the park boundary. When the water again filled the lake basin, this vegetation was flooded and died as a result. The water level is currently still quite low, though not absent from deeper portions of the basin, so that it had receded away from the park boundary and most of Meginnis Arm, leaving the standing snags of the remnant dead trees and shrubs.

### **Natural Communities**

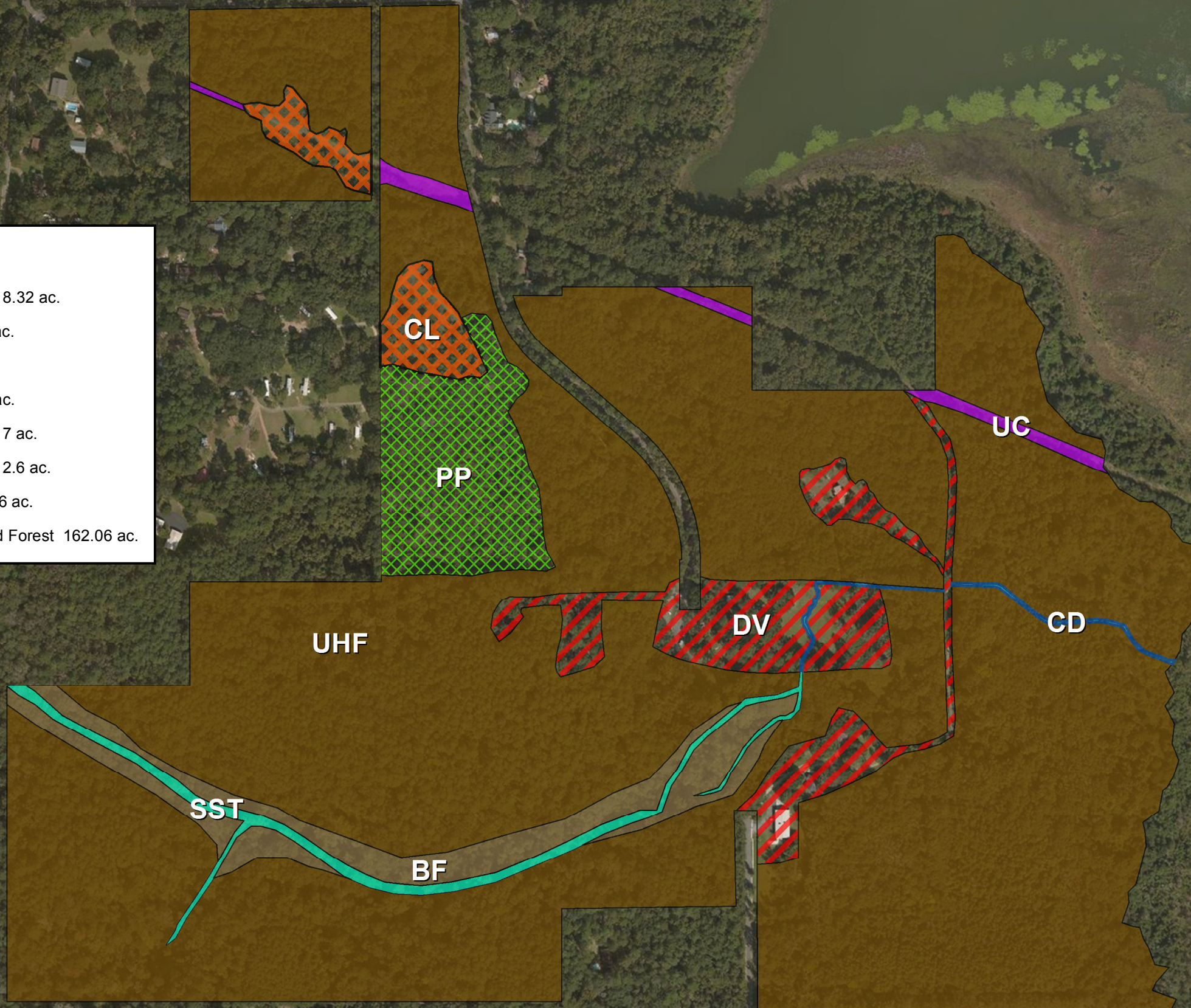
This section of the management plan describes and assesses each of the natural communities found in the state park. It also describes the desired future condition (DFC) of each natural community and identifies the actions that will be required to bring the community to its desired future condition. Specific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

The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors such as climate, geology, soil, hydrology, and fire frequency generally determine the species composition of an area, and that areas that are similar with respect to those factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, however, despite similar physical conditions. In other instances, physical factors are substantially different, yet the species compositions are quite similar. For example, coastal strand and scrub – 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-dependent communities, ongoing control of non-native plant and animal species, maintaining natural hydrological functions (including historic water flows and water quality), preserving a community’s biodiversity and vegetative structure, protecting viable populations of plant and animal species (including those

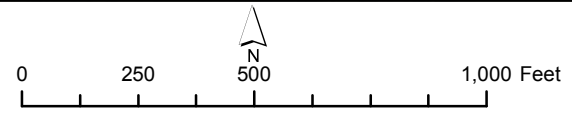
**Legend**

- BF - Bottomland Forest 8.32 ac.
- CD - Canal/Ditch 0.37 ac.
- CL - Clearing 3.78 ac.
- DV - Developed 11.95 ac.
- PP - Pine Plantation 9.17 ac.
- SST - Seepage Stream 2.6 ac.
- UC - Utility Corridor 1.56 ac.
- UHF - Upland Hardwood Forest 162.06 ac.



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LAKE JACKSON MOUNDS ARCHAEOLOGICAL STATE PARK



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

NATURAL COMMUNITIES MAP





that are imperiled or endemic), and preserving intact ecotones linking natural communities across the landscape.

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

### **UPLAND HARDWOOD FOREST**

*Desired future condition:* Mature, closed canopy hardwood forest typically occurring on slopes and rolling hills with generally mesic conditions. Overstory tree species may consist of southern magnolia (*Magnolia grandiflora*), sweetgum (*Liquidambar styraciflua*), live oak (*Quercus virginiana*), laurel oak (*Quercus laurifolia*), Florida maple (*Acer saccharinum* subsp. *floridanum*), white oak (*Quercus alba*), and swamp chestnut oak (*Quercus michauxii*). Understory species would include trees and shrubs such as American holly (*Ilex opaca*), flowering dogwood (*Cornus florida*), eastern redbud (*Cercis canadensis*), and beautyberry (*Callicarpa americana*). Ground cover would be comprised of shade tolerant herbaceous species, sedges, and vines.

*Description and assessment:* The majority of the park's natural area is covered by upland hardwood forest. Given the long history of this parcel's land use and habitat alteration extending back at least over a thousand years, all areas are currently in varied states of secondary succession. According to the most recent revision of the Florida Natural Areas Inventory (FNAI) system of community classification in 2010, the stands occurring on the hillsides of the park's ravines that were once considered slope forests are now categorized as upland hardwood forest; the slope forest type currently refers only to comparable stands occurring in the Apalachicola River valley and possessing its suite of rare endemic plant and animal species. While various pines, especially loblolly, contribute to significant proportions of the canopy in these forests, the understory is generally too shady to allow for new recruitment of these pines. As a consequence, almost all pines observed in this community type were remnant mature individuals and seedlings were not observed. Given the eventuality of these mature pines dying without replacement and the current dominance of hardwood species over the forest processes, this community type most closely approximated conditions on this park.

Within the ravine system, the wooded slopes feature an assortment of hardwood trees and shrubs of various age classes. Some of these trees are over a century old and grow to enormous dimensions. Recruitment continues as tree falls open gaps to provide adequate sunlight to new seedlings. As a result, a profusion of medium and young individuals are also represented throughout the profile. Grades range from moderately steep to nearly vertical drop offs. Spotted wake robin (*Trillium maculatum*) is a particularly noteworthy component of the groundcover in these stands as thousands of these beautiful plants may be observed in the early spring under favorable climatic conditions. While past anecdotal accounts suggested that the state-threatened lanceleaf wakerobin (*Trillium lancifolium*) may be present in these ravines, botanical sources indicate that this rare species is expected to only occur in ravines of Gadsden, Liberty, and Jackson counties (Clewell 1985;

Wunderland and Hansen 2003); nonetheless, staff should continue to watch for this and other imperiled plant species as they visit these ravines. Plant species that may be observed on these forested slopes include American beech (*Fagus grandifolia*), swamp chestnut oak (*Quercus michauxii*), white oak (*Quercus alba*), southern magnolia (*Magnolia grandiflora*), loblolly pine (*Pinus taeda*), pignut hickory (*Carya glabra*), red buckeye (*Aesculus pavia*), blue beech (*Carpinus caroliniana*), red maple (*Acer rubrum*), oakleaf hydrangea, giant cane (*Arundinaria gigantea*), horse sugar (*Symplocos tinctoria*), devil's walking stick (*Aralia spinosa*), spotted wakerobin (*Trillium maculatum*), slender woodoats (*Chasmanthium laxum*), and sarsaparilla vine (*Smilax pumila*).

Other natural areas outside the ravines had been cleared at various times throughout history, some of these relatively recently. One may occasionally observe gigantic live oaks in different sections of the park that had clearly developed in the absence of competing vegetation and are currently growing amidst other younger though mature trees reaching the tall canopy; a particularly huge individual was noticed at the very top edge of a very steep ravine segment. Early accounts of the land between the mound complex and Lake Jackson's Meginnis Arm indicate that most of this area was a grassy field around the middle of the 20<sup>th</sup> century, which is now thickly forested. The park acreage immediately east of Doris Drive was occupied by a trailer park until the 1970s; while the road network and concrete trailer pads are still evident, this land has now succeeded to upland hardwood forest. Most recently, management zones A and B in the northwestern regions of the park were dominated by pasture land and grazed by cattle until shortly before state acquisition; while a fraction of this area is currently occupied by either clearings or a loblolly pine monoculture, a substantial portion is covered by dense concentrations of young hardwood species. Some of the plant species that may be observed in these areas are fairly typical of earlier successional stands depending on soil moisture availability, including laurel oak (*Quercus hemisphaerica*), water oak (*Quercus nigra*), loblolly pine (*Pinus taeda*), sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), black cherry (*Prunus serotina*), southern magnolia (*Magnolia grandiflora*), southern red cedar (*Juniperus silicicola*), yaupon (*Ilex vomitoria*), sawtooth blackberry (*Rubus argutus*), greenbrier (*Smilax* sp.), crossvine (*Bignonia capreolata*), jessamine (*Gelsemium sempervirens*), muscadine grape (*Vitis rotundifolia*), bedstraw (*Galium* sp.), Carolina cranesbill (*Geranium caroliniana*), and poison ivy (*Toxicodendron radicans*).

Exotic plants can be numerous in many areas of the park. A major reason for this abundance lies in the park's location in the Tallahassee metropolitan area, which contains the worst infestation problems in the DRP District 1. Some of the exotic species that may be observed include coral ardisia (*Ardisia crenata*), Japanese false spleenwort (*Deparia petersonii*), Chinese privet (*Ligustrum sinense*), glossy privet (*Ligustrum lucidum*), Japanese climbing fern (*Lygodium japonicum*), Chinese wisteria (*Wisteria sinensis*), air potato (*Dioscorea bulbifera*), nandina (*Nandina domestica*), English ivy (*Hedera helix*), Japanese honeysuckle (*Lonicera japonica*), purple sesban (*Sesbania punicea*), and Chinese tallow (*Sapium sebiferum*). Different species may dominate different parts of the upland hardwood forest. Coral ardisia is very common in the ravines area and shaded sections of zones A and B.

Chinese wisteria, Chinese privet, and glossy privet can reach high abundances in zone F, especially in the vicinity of the former trailer park southeast of the Doris Drive back entrance.

*General management measures:* By far, the most significant management need for this community type involves exotic plant control. Funds for this effort have been available over the past few years, during which time multiple OPS technicians have worked on treating and/or pulling these pest plants from multiple locations at the park. This management measure is discussed more fully in the Exotic Species section below. Park staff should also monitor this community type for erosion issues, particularly in the ravines where slopes can be steep. Since off trail trampling by park visitors can damage native herbaceous plants, potentially spread exotic plant species by aiding propagule dispersal, and promote erosion, walking through this community should be discouraged with signage and public outreach efforts.

### **BOTTOMLAND FOREST**

*Desired future condition:* A fairly low lying, mesic community prone to periodic flooding. Vegetation consists of a mature closed canopy of deciduous and evergreen trees. Overstory species consists of species such as sweetgum, sweetbay, water oak, live oak, swamp chestnut oak, loblolly pine, and spruce pine. Under story may be open or dense. Understory species typically include wax myrtle, saw palmetto, and buttonbush. Presence of groundcover is variable and may consist of woodoats and various sedges.

*Description and assessment:* The bottomland forest occurs in association with the main seepage stream that drains the ravines area in the park's western portion. The soil and microclimate on this valley bottom is generally quite moist, though the Butler Mill Creek is sufficiently incised into the substrate that significant flooding from the creek itself in the ravines should be relatively uncommon under normal circumstances. However, tropical systems that pass over this vicinity are capable of inundating parts of the bottomland forest; Hurricane Opal in 1995 being a notable example. Nonetheless, surface drainage from the ravine slopes during typically heavy rains would deliver significant moisture to the bottomland forest on its way to the seepage stream. Vegetation in most areas of the ravine bottoms west of the Butler Mill site is more open with a carpet of herbaceous plants dominating the groundcover under a canopy of tall trees. East of the mill, the woody trees and shrubs form a thicket that makes walking through this community type more challenging in many places. Plant species that may be observed in the bottomland forest include swamp chestnut oak (*Quercus michauxii*), southern magnolia (*Magnolia grandiflora*), sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), blue beech (*Carpinus caroliniana*), water oak (*Quercus nigra*), elderberry (*Sambucus canadensis*), oakleaf hydrangea (*Hydrangea quercifolia*), southern lady fern (*Athyrium felix-femina*), Christmas fern (*Polystichum acrosticoides*), sensitive fern (*Onoclea sensibilis*), spotted wakerobin (*Trillium maculatum*), Jack-in-the-Pulpit (*Arisaema triphyllum*), green dragon (*Arisaema dracontium*), common yellow wood sorrel (*Oxalis corniculata*), bedstraw (*Galium* sp.), common blue violet (*Viola sororia*), witchgrass (*Dichanthelium* sp.), and sedge (*Carex* sp.).

Exotic plants are common in this community type. Some of the exotic species include small leaf spiderwort (*Tradescantia flumenensis*), coral ardisia (*Ardisia crenata*), Japanese false spleenwort (*Deparia petersonii*), wild taro (*Colocasia esculenta*), Chinese privet (*Ligustrum sinense*), glossy privet (*Ligustrum lucidum*), tung oil tree (*Aleurites fordii*), camphor tree (*Cinnamomum camphora*), and elephant ear (*Xanthosoma sagittifolium*). Control efforts are ongoing and while great strides have been made in the past several years, the problem is a large one that will take years of significant effort to return it to a maintenance condition. Given its inherent potential for a high population growth rate, coral ardisia had been very abundant in the ravines' valley bottoms; this species has been targeted for intensive removal efforts so that much progress has been accomplished, though the seed bank will take subsequent years of attention to prevent a return to high stem densities. Small leaf spiderwort dominates a large proportion of the herbaceous ground cover. Its control will be especially challenging given its relatively short window of growth in the spring with the arrival of higher temperatures in May and June prompting the death of its herbage until the following spring; this species is also intermixed with many native plant species so that non-target damage from herbicidal application is difficult to completely avoid. In contrast, while the woody shrubs and trees are currently common so that their control entails significant effort, at least a staffer may treat or pull these species throughout the year.

*General management measures:* Exotic plant control as described above is the most pressing issue for this community type. Staff should also monitor for significant erosion issues. Since off trail trampling by park visitors can damage native herbaceous plants, potentially spread exotic plant species by aiding propagule dispersal, and promote erosion, walking through this community should be discouraged with signage and public outreach efforts.

## **SEEPAGE STREAM**

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

*Description and assessment:* The ravines are drained by a seepage stream referred to as Butler Mill Creek, which is named after the mill constructed in the mid-19<sup>th</sup> century that was located at the westernmost extent of the loop trail. The main stream originates west of the park boundary. Following local flooding in 1995 of Butler Mill Creek with excess quantities of water from Hurricane Opal and exacerbated by surface runoff from surrounding developed land covers, a retention pond was constructed just east of Highway 27 in order to modulate the amplitude of extreme flow rates and reduce erosion downstream. Earthen berms serve to direct surface flow toward a gap where the mill was located. Prior to these alterations and some degree of probable deforestation in and around the ravines in the past, this seepage stream likely meandered along a shifting course through the adjacent bottomland forest. The path of the stream was altered in the vicinity of the

mound complex from its original route near where the Crowder barn now stands and then between mounds 6 and 7 so that it now drains into a canal that passes through the grassy field north of Mound 2 and on to Lake Jackson's Meginnis Arm off park property. In order to restore the hydrology of the eastern portion of the park, this canal should be filled in and the stream's original course restored. In the vicinity of mounds 6 and 7, the original streambed to the lake is still evident, so limited preparation work should be necessary to promote water flow along this segment. A new stream channel would need to be excavated from the vicinity of Mound 5, past the Crowder barn (planned for eventual demolition anyway on account of its dilapidated state), and over a low water crossing at the access road leading from the Doris Drive entrance in order to link up with its original course. A detailed restoration plan would be drafted in order to prepare for this project.

Along the stream's current course from the ravines to the beginning of the canal, the stream itself is now deeply incised into the soil of the bottomland forest with steep banks up to a meter high in some places. Its path is serpentine as it winds around curves along its route and accepts water from several minor tributaries. In many places, it is eroding the banks and undercutting the anchored soil associated with the root zone of trees and shrubs. Along most of its length, this represents a natural process, albeit likely along an altered trajectory that does not need to be remedied. One major exception is at the location of the mill, which is a significant cultural site. While the building itself is long gone, there still remains large timbers in the bed of the creek where the water wheel once rotated. Erosion has steadily exposed these timbers and threatens to eventually displace them and significantly damage remaining traces of this site. In order to provide for the preservation of this cultural feature, the DRP should investigate the possibility of hiring an engineering contractor to plan and execute a project that would protect the site.

*General management measures:* The main imperatives for managing the seepage stream include exotic plant control and monitoring for excessive erosion that may impact park facilities or cultural sites. Two restoration projects are proposed and described above in order to restore the lower course of the stream to its original route and protect the historic mill site from further deterioration.

## **CANAL**

*Desired future condition:* The canal will be managed to minimize any adverse effects on adjacent natural areas. Priority invasive plant species, category I and II species, as identified by the Florida Exotic Pest Plant Council (FLEPPC) will be removed from the canal if encountered. Erosion from this feature will be monitored and remedied if necessary.

*Description and assessment:* As mentioned above, the canal accepts water from the Butler Mill Creek where it traverses the grassy field before draining due east in a straight line to the park boundary with the water flow ending in Lake Jackson's Meginnis Arm. It is about five feet deep with steep slopes on either side and is crossed by two wooden pedestrian bridges on the north and south ends of the grassy field. The access road linking the back entrance on Doris Drive to the gasline corridor crosses the canal where a culvert allows for drainage. While vegetation

occurs in abundance on its slopes and margins along much of its length, these plants do not significantly impede adequate drainage.

*General management measures:* Until such a time as the Butler Mill Creek may be restored to its original course it had before the mid-20<sup>th</sup> century and the canal could be filled in, park staff should treat exotic plants along its length and monitor its slopes for erosion. Herbicidal treatment over the past several years have reduced abundances of exotic plants along the canal, including wild taro, coral ardisia, and Japanese honeysuckle.

## **CLEARING**

*Desired future condition:* Clearings will be managed to minimize any adverse effects on adjacent natural areas. Priority invasive plant species (FLEPPC Category I and II species) will be removed from the canals if encountered. Erosion from this feature will be monitored and remedied if necessary.

*Description and assessment:* There are three areas currently referred to as clearings. Two of these are located in zones A and B and are associated with this parcel's former status as pasture lands prior to state acquisition. Over the years, they have slowly been reduced in size as woody plants recruit from the edges of the surrounding woodland. The zone A clearing is associated with the gasoline corridor that passes through its center. The zone B clearing has likely persisted as a result of its position at the base of a steep slope adjacent to park property, which is occupied by a mobile home park. Surface water draining from the slope following heavy rains crosses the fence line and an access road to pool within the clearing, sometimes pooling on the surface for a period and likely retarding woody seedling growth. This runoff had previously represented a potential health threat since the water would often be contaminated with sewage from the trailer park; recent upgrades to septic systems a few years ago have improved water quality. The third clearing occurs on the far eastern end of the park and occupies a tiny portion of the Lake Jackson basin. During years of high rainfall between draining events in the lake, this area would be filled with standing water. When the water level is lower and confined to deeper reaches of the basin, it is open soggy terrain occupied with dead snags of trees and shrubs that had established during the last draining event.

*General management measures:* Exotic plants should be treated when encountered in these clearings and park staff should monitor these areas for erosion. Herbicidal treatment in the past few years has reduced the occurrence of exotic plants in the zone B clearing, which included Chinese tallow, glossy privet, Chinese privet, and Japanese climbing fern. The clearings in zones A and B are planned to become part of restoration efforts to improve habitat for gopher tortoises, as described below.

## **PINE PLANTATION**

*Desired future condition:* The pine plantation will be managed to minimize any adverse effects on adjacent natural areas. Priority invasive plant species (EPPC Category I and II species) will be removed from the canals if encountered. Erosion from this feature will be monitored and remedied if necessary.

*Description and assessment:* Strictly speaking, the patch referred to here as a pine plantation is not the result of any specific silvicultural operation to grow pine trees for commercial purposes, and thus is not a plantation. Nonetheless, this patch is a monoculture of loblolly pines that had recruited into the formerly open space of a portion of the abandoned pasture in zone B, so the result is similar without the soil disturbance (e.g., windrow construction) often observed in a managed plantation. These pines are generally about 10 to 15 feet tall, very dense, and are not underlain by significant groundcover vegetation on account of the heavy shading. Several gopher tortoise burrows are known to occur in this location; one observed in the winter of 2012 was clear of debris around the hole and the outer apron, indicative of active inhabitation by a gopher tortoise.

*General management measures:* Aside from the need to prevent exotic plant infestation within this area, there are also plans to restore this land toward an upland pine community type in order to improve the habitat for gopher tortoise occupancy. Since the park is surrounded by developed neighborhoods and is in the midst of a sizeable metropolitan area, prescribed fire is very unlikely to be possible in this location. Therefore, mowing would be used to maintain the vegetative structure of more widely spaced pines and ample open ground to facilitate the growth of herbaceous species. Further details of these plans are discussed below.

#### **UTILITY CORRIDOR**

*Desired future condition:* The utility corridor will be managed to minimize any adverse effects on adjacent natural areas. Priority invasive plant species (EPPC Category I and II species) will be removed from the canals if encountered. Erosion from this feature will be monitored and remedied if necessary.

*Description and assessment:* A natural gas pipeline is buried beneath the surface where a utility corridor crosses northerly sections of park property. This linear feature is about 20 to 30 feet wide and is underlain by a lush carpet of turf grasses along its length. It is mowed by pipeline personnel at least two times per growing season in order to maintain it free from woody plant establishment. It is submerged below Lake Jackson's Meginnis Arm, beyond the park's eastern boundary.

*General management measures:* In order to prevent the spread of exotic plants from the corridor into other natural areas of the park, these plants should be treated when encountered. Some clumps of Japanese climbing fern are present between the major access road to the edge of the lake.

#### **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 cultural site management.

*Description and assessment:* Developed areas fulfill a variety of utilitarian and recreational purposes and include the main visitor facilities and associated parking lot, park administrative office and shop area, volunteer campground, two staff residences, pole barn complex, DRP collections facility, and a major access road leading from the park's back entrance to the gasoline utility corridor. The main visitor facilities occur within and north of the mound complex and include a large grassy field, restroom building, picnic pavilion, and wooden walkways over the drainage canal and up to viewing platforms on mounds 2 and 4.

*General management measures:* The main management measures for the developed areas include exotic plant control when encountered and monitoring for erosion. Japanese climbing fern and, to a lesser extent, Japanese honeysuckle are the main exotic plant species occasionally encountered in the developed areas. Areas with likely exotic plant presence include the fringes of the grassy field and the ruderal edges adjacent to the north-south access road.

### **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.

The imperiled species in this park may be primarily observed in three different habitats: within or around Lake Jackson itself, within the ravines, or primarily associated with the abandoned pasture land in zones A and B. Four of the species of special concern are wading birds that may be observed around the shores of Lake Jackson, which is an important local habitat for many species of birds. Alligators may also be observed along the lake's shores. Prevention of heavy infestation by aquatic or terrestrial exotic plants along the shorelines would preserve habitat quality for these species. Most park visitation occurs in the grassy field of the mound complex and along the hiking trails in zones A through E; therefore, relatively few visitors would access the lake itself through the park, which can only be easily approached along the gasoline corridor at the eastern boundary. Since there are numerous other approaches, residences, and boat ramps that provide ready access to the lake, this lower rate of visitation serves to provide a buffer from unintended impacts; nonetheless, signage should be erected near the lake alongside of the gasoline to warn visitors of the possibility of encountering alligators and the safety risks inherent with feeding or approaching them. Southeastern American kestrel may be observed at various locations in the park. Interpretative signage may assist with educating the public about listed species.

There are at least a few gopher tortoises known to occur on park property in the vicinity of the abandoned pasture lands of zones A and B. Several burrows occur within the loblolly pine monocultures, including one very large and maintained west-facing burrow just west of the main access road through zone B. Park staff found that a juvenile had dug a small burrow in the center of the lawn surrounding



the administrative office, which has been repeatedly observed perched at the entrance. There is at least one mating pair in this population. The DRP is planning to restore the clearings and loblolly pine monoculture area toward an upland pine habitat in order to improve habitat quality for the tortoises. While the use of prescribed fire is not considered possible since the park is imbedded within a developed landscape of residential neighborhoods and occurs in a sizeable metropolitan area, mowing of clearings would be an acceptable substitute to maintain the habitat. A detailed restoration plan would be drafted prior to executing such a project, which would include the following elements: (1) mow open areas about once per year or at higher frequency if necessary, (2) thin pine stand over time in order to gradually open up more ground to promote herbaceous growth, (3) discourage hardwood recruitment by selectively cutting such plants, (4) replant native groundcover species as canopy is thinned over time, and (5) explore the need and possibility of diverting surface water flow from the offsite trailer park onto the clearing in zone B. As the restoration proceeds, monitor and record the gopher tortoise population over subsequent years.

There are at least three species of listed plants occurring in the ravines area. In preparation for this plan, a population of the state-threatened southern lady fern was observed in the bottomland forest. Past staff observations had located royal fern and sweet pinxter azalea, which are both listed as commercially exploited species and should either occur in the bottomland forest or elsewhere in the ravines, respectively. Exotic plant control in the ravines, particularly in the moist bottomland forest soils so favorable for growth of many plant species, would serve to increase potential recruitment sites and decrease competitive pressure from these invasive pest plants. Since the main portions of the ravine west of the Butler Mill site are not part of official trails and are considered conservation areas, lack of visitor entry serves as an effective buffer for these listed plants and the habitat at large. Signage in the vicinity of the mill site and at other potential access points from the loop trail would help to warn people that that area is an ecologically sensitive area and foot trampling can damage native vegetation, promote exotic plant spread, and promote erosion. There are unsubstantiated anecdotal accounts of two other rare state-endangered species occurring in the ravines area: bay star vine (*Schisandra glabra*) and lance-leaf wakerobin (*Trillium lancifolium*). In the absence of more information, their presence cannot be corroborated here, but park staff should watch for them in the ravine system.

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

Table 2. Imperiled Species Inventory						
Common and Scientific Name	Imperiled Species Status				Management Actions	Monitoring Level
	FWC	USFWS	FDACS	FNAI		
<b>PLANTS</b>						
Southern lady fern <i>Athyrium felix-femina</i>			LT		2, 10	Tier 1
Royal fern <i>Osmunda regalis</i>			CE		2, 10	Tier 1
Sweet pinxter azalea <i>Rhododendron canescens</i>			CE		2, 10	Tier 1
<b>REPTILES</b>						
American alligator <i>Alligator mississippiensis</i>		T(S/A)		G5/S4	2, 10, 13	Tier 1
Gopher tortoise <i>Gopherus polyphemus</i>	LT			G3/S3	2, 7, 10, 12	Tier 2
<b>BIRDS</b>						
Little blue heron <i>Egretta caerulea</i>	LS			G5/S4	2, 10, 13	Tier 1
Reddish egret <i>Egretta rufescens</i>	LS			G4/S2	2, 10, 13	Tier 1
Snowy egret <i>Egretta thula</i>	LS			G5/S3	2, 10, 13	Tier 1
Tricolored heron <i>Egretta tricolor</i>	LS			G5/S4	2, 10, 13	Tier 1
Southeastern American kestrel <i>Falco sparverius paulus</i>	LT			G5T4/S3	2, 10, 13	Tier 1

**Management Actions:**

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

### **Monitoring Level:**

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

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

### **Exotic and Nuisance Species**

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

Exotic plant control is the main natural resource management imperative at this park. Infestations can be extensive over certain areas of the property. The major reason for the diversity and abundance of these species at this location involves geography and history: metropolitan Tallahassee is currently the most significant center for exotic plant occupancy in the Florida panhandle and DRP District 1. Given the long history of agricultural land use by an appreciable concentration of people, exotic plants have had ample opportunities to establish in this area by accident (e.g., hitchhiking on transportation, introduction of agricultural weeds) or by intention (e.g., planted as ornamentals or for erosion control purposes). While many exotic plants exhibit invasive behavior in fully intact ecosystems, past disturbances (e.g., agricultural production and deforestation) may nonetheless increase opportunities for them to spread and increase in number. Localities that have experienced higher degrees of degradation often serve to support denser source populations that export propagules to sink populations in areas with higher native plant species richness and a lower degree of soil disturbance. A potential mechanism by which disturbance may assist with the spread of exotic species include reduced competition from native vegetation when the native plant is stressed or removed. Often times, a mature native plant may be adept at resisting establishment by exotic plants as long as it can grow, maintain itself, and

reproduce effectively. If the plant or habitat around it is stressed, effective reproduction or individual growth rate may be reduced, thus decreasing the ability of individuals or the population as a whole to preempt recruitment sites from competing propagules dispersed by exotic plants. If disturbance kills native vegetation and can no longer “defend” occupancy sites through efficient resource capture, the exotic species is now competing against other native plant propagules (e.g., seeds, spores, clones) and may take advantage of this situation through propagules, greater densities, higher seedling growth rates, or tolerance of a wider degree of habitat conditions.

Some of these species are widespread throughout the park and are capable of establishing wherever resource concentrations are sufficient to support their growth and where distances to parent plants are low enough to promote higher immigration rates. Coral ardisia is one of the most problematic species and is favored in relatively shaded habitats; while its growth and spread is highest in wetter substrates, it can also establish in relatively quick draining soils. It has been documented that this plant’s success is assisted by its potential for very high germination rates, which translates into a propensity for a high intrinsic population growth rate. Left untreated, its numbers are capable of exploding over the course of only a few years. It is most common on the western portion of the park, especially in management zones A, B, C, and D. Shady areas with higher water availability can support high densities of individuals; for example, it is less frequent in the more open, drier interior of zones A and B, but occasionally dense along the zones’ fringes that receive surface water runoff, particularly in the depressions and ditches that promote stormwater drainage toward Lake Jackson. Intensive control efforts over the past several years have decreased the abundance of this pest plant, though its ultimate control will represent a long term endeavor. While not as abundant as coral ardisia, nandina is often found in similar locations.

Vines, such as Japanese climbing fern, air potato, and Japanese honeysuckle, are afforded a significant advantage by virtue of their growth form. Since vines hang off the woody architectural of other trees and shrubs, they do not have to invest energy into mechanical support that free standing plants do and can thus dedicate that extra energy into further vegetative growth for greater photosynthetic area or toward reproductive effort. Japanese climbing fern presents a particular challenge in terms of preventing the spread of propagules. The microscopic spores can easily contaminate clothing, shoes, or equipment when contacted so that spread of offspring to new areas would always be a risk. Since these spore sacs usually form in the second half of the growing season, reproductive fronds, which are clearly distinguishable from fertile fronds, should be avoided as much as possible during this time of year. When treating this species with herbicide, great care should be observed in order to not walk through tangled herbage in the course of application; if contact cannot be realistically avoided, then it is advisable to wear Tyvek suits and booties and subsequently dispose of the contaminated materials. All areas that need to be maintained with mowing should optimally be fully treated in the first half of the growing season when the fronds are sterile so as to prevent the spread of spores. It is a priority to maintain any mown or other high traffic areas to be free of Japanese climbing fern in order to contain potential dispersal. This would especially

apply to grassy areas (e.g., access road margins, gasoline corridor, and open field in the mound complex), restoration areas in zones A and B, and hiking trails.

Another high priority area for exotic plant control is the ravines system, particularly on the bottomland forest. Since these soils are generally moist, shaded, and rich with organic material, this area is one of the most vulnerable to exotic plant establishment. Unfortunately, it also supports a high diversity of native plant species, including listed species (Southern lady fern, royal fern). The lush vegetation means that any herbicidal treatment must be done with extreme care in order to minimize the chance of non-target damage; park staff should also be sure to use a glyphosate formulation (e.g., Rodeo, AquaNeat) with an adjuvant (e.g., Silnet 200) that is safe for use in aquatic systems and avoid the use of Roundup, which is a good idea in any portion of the park. Staff should also use care to avoid depositing Garlon-4 into standing water when treating woody tissues. Small leaf spiderwort is a particularly difficult pest species to control. Its herbage is only apparent aboveground during the late winter to middle/late spring; when hotter temperatures arrive in June, it desiccates and browns up until the next year. Thus, there is a very limited interval over which this species may be herbicidally treated. Furthermore, this species frequently occurs intermixed with native species, including those taxa with high conservation value, so extreme care is needed in order to prevent non-target damage. Other species that may be observed in the ravines include Japanese false spleenwort, Chinese privet, glossy privet, wild taro, elephant ear, camphor tree, elephant ear, tung oil tree, and English ivy.

Another major nexus of exotic plant infestation is the former trailer park site along the east side of Doris Drive. Given the intensity and relatively recent time since disturbance, one may observe high densities of Chinese privet, Chinese wisteria, air potato, Japanese honeysuckle, and border grass. However, on account of the ruderal quality as well as the infrequent visitation to this area (hence a more limited probability of seed or other propagule transport), the former trailer park site is a lower priority compared with other sections of the park. The main exception lies in the clumps of cogon grass that currently grow on both margins of Doris Drive. Since cogon grass is so problematic to control and kill once well established, treating these clumps with herbicide is a very high priority every year when herbage is observed. Failure to contain this pest plant would lead to the spread of what is considered "one of the world's worst weeds" to other nearby portions of the park.

One other exotic plant issue bears mentioning here. In the early 2000s, a dense infestation of Chinese tallow occurred on the western shoreline of Lake Jackson's Meginnis Arm. With cooperation from the Bureau of Invasive Plant Management (now part of FWC and called the Invasive Plant Management Section), contractors were hired to execute a major control project to treat these tallows on DRP and adjacent State Lands property. While a scattering of tallow trees can still be observed here, their density has been much reduced and follow up control work should occur so that a heavy infestation does not return. Scattered individuals of purple sesban may also be observed along the lake shore.

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

<b>Table 3. Inventory of FLEPPC Category I and II Exotic Plant Species</b>			
<b>Common and Scientific Name</b>	<b>FLEPPC Category</b>	<b>Distribution</b>	<b>Management Zone (s)</b>
<b>PLANTS</b>			
Mimosa <i>Albizia julibrissin</i>	I	0	
Tung oil tree <i>Aleurites fordii</i>	II	2	C, D
Coral ardisia <i>Ardisia crenata</i>	I	3	A, B, C, D, E
Camphor tree <i>Cinnamomum camphora</i>	I	2	C, D
Wild taro <i>Colocasia esculenta</i>	I	2	C, D
Japanese false spleenwort <i>Deparia petersonii</i>	N/A	3	C, D
Air potato <i>Dioscorea bulbifera</i>	I	3	F
English ivy <i>Hedera helix</i>	N/A	3	C, D
Cogon grass <i>Imperata cylindrica</i>	I	2	E, F
Glossy privet <i>Ligustrum lucidum</i>	I	2	C, D, E, F
Chinese privet <i>Ligustrum sinense</i>	I	3	A, B, C, D, E, F
Border grass <i>Liriope spicata</i>	N/A	3	D, F
Japanese honeysuckle <i>Lonicera japonica</i>	I	2	C, D, F
Japanese climbing fern <i>Lygodium japonicum</i>	I	2	A, B, C, D, E, F
Chinaberry <i>Melia azedarach</i>	II	0	

<b>Table 3. Inventory of FLEPPC Category I and II Exotic Plant Species</b>			
<b>Common and Scientific Name</b>	<b>FLEPPC Category</b>	<b>Distribution</b>	<b>Management Zone (s)</b>
Heavenly bamboo <i>Nandina domestica</i>	I	2	A, B, C, D
Yew plum pine <i>Podocarpus macrophyllus</i>	N/A	2	C, D
Chinese tallow <i>Sapium sebiferum</i>	I	2	D, F
Purple sesban <i>Sesbania punicea</i>	II	2	F
Small-leaf spiderwort <i>Tradescantia fluminensis</i>	I	4	C, D
Chinese wisteria <i>Wisteria chinensis</i>	II	3	F
Elephant ear <i>Xanthosoma sagittifolium</i>	II	2	D

**Distribution Categories:**

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

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

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

Three exotic animals are occasionally encountered at the park. Armadillos can cause significant damage to the soils and plant rooting systems as they dig for small animal prey items and construct burrows. Park staff should remove armadillos from the park when they are observed and the opportunity presents itself. When feral cats and dogs are present in the park, staff should call the local animal control agency so its personnel can capture and remove these animals as needed. Alligators are native species that are capable of being nuisances or present safety issues. Since visitors do not usually access the lake from park property, there is a lower probability of adverse encounters. Nonetheless, signage posted near the pipeline corridor's eastern end with Meginnis Arm should warn people of the dangers of feeding or approaching alligators.

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

### **Special Natural Features**

The ravines and steepheads as discussed above are uncommon habitats in the state of Florida that harbor much conservation importance. There are no other special natural features in the park to note here.

### **Cultural Resources**

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

### **Condition Assessment**

Evaluating the condition of cultural resources is accomplished using a three-part evaluation scale, expressed as good, fair, and poor. These terms describe the present condition, rather than comparing what exists to the ideal condition. Good describes a condition of structural stability and physical wholeness, where no obvious deterioration other than normal occurs. Fair describes a condition in which



there is a discernible decline in condition between inspections, and the wholeness or physical integrity is and continues to be threatened by factors other than normal wear. A fair assessment is usually a cause for concern. Poor describes an unstable condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests immediate action is needed to reestablish physical stability.

### **Level of Significance**

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

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

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

### **Prehistoric and Historic Archaeological Sites**

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

*Description:* The Lake Jackson Mounds site (8LE1) is particularly noteworthy for the presence of seven sizeable mounds forming the largest Mississippian complex within a 200-kilometer radius (Payne 1990, 1994A, B; Martinez 2001). It was occupied during the Fort Walton period lasting from 1100 to 1500 AD and was abandoned shortly before the arrival of Spanish explorers to the area; in fact, the absence of mention by the Spaniards suggests that they did not even notice it during their time in the area. The main complex is centered around the original course of the Butler Mill Creek with three mounds constructed on either shore roughly opposite from each other; a separate mound (labeled number 1) occurs

further to the north closer to the shore of Lake Jackson. Evidence of villages has been located in the vicinity of and somewhat north of mounds 2 and 4, though the paucity of such evidence from these mounds toward mounds 3 and 5 to the south suggests that a plaza may have occurred in this area. Six of the seven mounds are flat topped and all range from approximately 1 to 11 meters in height. Mound 2 is the largest, covering about a half hectare in area, and appears to be five sided when viewed with aerial photography, suggesting a possible ramp element on its northeastern slope. The complex also includes two borrow pits in the vicinity of Mound 4 with one of these being deep enough to commonly hold standing water. This complex was listed on the National Register of Historic Places in 1971 with a wide perimeter delineated around it in order to capture an appreciable extent over which its inhabitants lived and worked. Agriculture was believed to constitute a major source of food with the supplementation of wild gathered products; laboratory analysis of botanical specimens from high status burials, likely provided as offerings to the dead, revealed that corn constituted the vast majority of samples with hickory nuts, acorns, and chinquapin nuts also contributing to their diet (Alexander 1984).

The mounds received short references in mid-19<sup>th</sup> century writings during which time the mound complex was owned by the Florida Surveyor General Colonel Robert Butler's plantation, and it was many years before this area received archaeological notice (Payne 1990, 1994A, B; Martinez 2001). In the late 19<sup>th</sup> century, the mound complex was acquired by a company specializing in pecan production on behalf of owners investing in subdivided five acre lots, which had failed by the first half of the 20<sup>th</sup> century and the land changed hands once again; during this period, about 20 pecan trees were planted per acre, which prevented the much of the land between the bluffs and lake from reforesting. Mid-20<sup>th</sup> century anecdotal accounts and photographs of the site show that much of the land was open and grass covered, supporting cattle grazing around this time, though trees are evident on at least some of the mounds. Alterations to the creek had commenced at this time, finally resulting in its diversion into a canal passing through the grassy field north of mounds 2 and 4 and on to Lake Jackson's Meginnis Arm. With appreciation for the pre-Columbian cultural importance of this site spurred by archaeological excavations described below, the state acquired acreage for the creation of a new state park in 1965. Initially covering only a small proportion of the mound complex, parcels were gradually added until park property today has protected the majority of land associated with the complex from residential development, which now surrounds most of the park not bordered by Lake Jackson.

Serious interest in the mound complex developed gradually over the course of the 20<sup>th</sup> century (Payne 1990, 1994A, B; Martinez 2001). Two researchers, Nels Nelson and Mark Boyd, referred to the site in the context of wider curiosity about how the complex may fit into the wider history of the region. Finally, Gordon Willey and Richard Woodbury arrived on the site in 1940 and conducted limited excavations on either side of Mound 2 (Willey 1949), which provided a record of how the site appeared at the time; most of the mounds had some limited evidence of looter excavation at the time with the exception of mounds 3 and 7. John Griffin

excavated an area between mounds 2 and 4 and also examined a looter's cut on the south slope of Mound 2, providing the first account of the subterranean structure of the mounds (Griffin 1950). The Division of Natural Resources (DNR) arranged for excavations in 1968 and 1969 in preparation for construction of the canal and three proposed projects (parking lot, shop area / residence, bathroom building), respectively. In 1975-1976, salvage excavations performed by Calvin Jones uncovered a wealth of information and artifacts from within Mound 3 (described below). A local resident, Louis Hill, excavated portions of Mound 6 in the 1970s, contributing to knowledge of the mound builders. Installation of the wooden stairway and a sign on Mound 2 by DNR were accompanied by small-scale excavation studies in 1986 and 1989. Claudine Payne (1989) conducted an auger survey (20-centimeter diameter by 1-meter depth) at 377 points at roughly 10 meter intervals in the grassy field as well as in the forested area south of Mound 4, approximating a phase I archaeological survey; she also performed stratigraphic excavations in mounds 4 and 5 shortly thereafter. Some other excavations performed in relation to various state park construction projects preceded installation of a fencerow in 1990 by Calvin Jones, septic tank burial (Jones 1992), power pole replacement (Stevenson 2003), and erection of an archaeological collections facility (Andrews 2007). Daniel Seinfeld, archaeologist with Florida Bureau of Archaeological Research, in 2014 completed field work using ground penetrating radar (GPR) at the site and has research results pending. Timothy Roberts is currently engaged in a research project at the Butler Mill site and an effort is underway through the Florida Bureau of Historic Preservation to nominate the site for listing on the National Register.

In response to a report that Sam Crowder intended to remove a significant portion of Mound 3 for expansion of his shop area, Calvin Jones approached him and received permission to perform salvage excavations of artifacts in the mound in the face of strict time and logistical constraints (Jones 1982, 1991, 1994). At that time, the state park boundary only enclosed a relatively small proportion of the archaeological resources associated with the mound complex with much of the rest owned by Mr. Crowder. The original dimensions of Mound 3 were 4.9 meters high with a base measuring about 44 meters by 48 meters. Over several months during 1975-1976, Calvin Jones devoted his efforts to recovery of artifacts and collection of information on the contextual associations; despite his considerable efforts, other archaeological information was lost, including western and northern edges of the mound (2.5 to 3.5 meters in height) not surveyed before being hauled away. Jones discovered that the mound essentially functioned as a mortuary temple at least toward the latter stages of its use with additions of soil progressively enlarging it over the course of more than two centuries beginning about 1240 AD. Evidence of 12 structures and two dozen burials were found within the mound at different stages of its history. Deducing from differential deposition of burial goods (termed "mortuary furniture"), there appeared to be some degree of social stratification among these higher status individuals with some apparently ranking higher than others. Artifacts recovered from this mound included utilitarian objects (containers, various tools), weapons (projectile points, copper, and stone axes), pipes, garments and ornaments, sociologically symbolic objects (decorated breastplates, pigments), and food offerings. These spectacular findings, the magnitude of which

was somewhat unexpected at the time, greatly contributed to the understanding of the site's inhabitants and attested to the importance of the Lake Jackson Mounds complex to the Apalachee society in the area and Mississippian culture in a wider context (Jones 1982, 1991, 1994; Alexander 1984; Storey 1993).

Calvin Jones recorded FMSF 8LE1412, which describes the location of what appeared to be a prehistoric clay-lined habitation site as reported by Sam Crowder. Jones visited the site, listed as being about 600 feet south of Mound 3 and reported to have had indigenous ceramics and lithics associated with it. Unfortunately, it appears to have been destroyed at some point in the past and was likely located in the area of the former trailer park east of Doris Drive.

The most significant archaeological site in the park associated with the historic period is the Butler Mill site (8LE5997), which was erected by the antebellum planter Colonel Robert Butler when he developed his plantation in this locality. This mill was constructed in the mid-19<sup>th</sup> century and would have been powered by the flow of water through the seepage stream in the main ravine's bottomland forest. In order to concentrate this flow and control its route, large earthen berms were constructed on either side of the mill itself, which extend to either slope of the main ravine. Southeast of the mill site, this berm was extended parallel to the rest of the stream's length, possibly to channel seepage or surface water flow from that steep north facing slope toward the mill site or to control flooding/erosion east of the mill. These earthen berms are still visible today and the longer berm parallel to the stream forms the substrate for a section of the loop trail. Aside from the gap where the mill itself had once stood at the bottom of the main ravine, there is another prominent gap in the berm wall where drainage from the erosive feature described above breached the barrier; a wooden bridge was built in 1990 in order to facilitate hiker access across this gap and along the loop trail. Two borrow pits are also evident where fill material must have been extracted from the main ravine slopes proximal to the mill site. Additional observations also suggest that there may have been irrigation canals radiating east from the mill site toward agricultural fields from the Butler plantation era. Today, the mill building itself is long gone, but large timbers are still visible in the stream bed that may have been associated with a water wheel mechanism. There are some other structures, mostly associated with DRP ownership and management of the park that will become historic sites over the course of the next planning cycle; Bureau of Natural and Cultural Resources (BNCR) personnel are working on completing and filing the appropriate documentation involving these structures.

The Crowder South site (8LE1412) was recorded by Calvin Jones as a late prehistoric (Fort Walton and Leon-Jefferson) site. It is currently listed in the FMSF as having been destroyed. The Material History site (8LE5998) is a 20<sup>th</sup> century refuse pile. It is not considered eligible for listing on the National Register. A canal (8LE5999) was recorded as a Resource Group and is associated with the Butler Mill Site. The canal is a contributing element to the mill and is also eligible for the National Register.

*Condition Assessment:* The mound complex as a whole may be rated as fair, though the condition of individual mounds may be variously described as poor to good. Mounds 2 and 4, currently incorporated as major features of the main visitor facilities and accessible with wooden walkways and platforms, are in good condition and have been the least damaged. The entirety of Mound 4 is free of significant woody plant growth and is covered with an abundance of grasses and forbs, which have prevented erosion issues. The northern half of Mound 2 is similarly managed as Mound 4; the south facing slope is occupied by woody trees and shrubs commonly observed in the surrounding upland hardwood forest, which was retained in large part so that visitors would not readily see the dilapidated Crowder barn, debris piles, and other disturbances in the developed area south of that mound. Unfortunately, the other mounds on the property are in poor condition. Mound 3 is severely damaged as it was extensively excavated by Mr. Crowder for the fill material and to provide space for his work area; little of its original outline remains and a deep gash cuts into the earth on its southern portion. The eastern half of Mound 5 was also removed and its remaining structure is irregularly shaped and pitted; a large underground fuel tank was installed and is still submerged in this spot to this day. A project to remove two large petroleum tanks from the former trailer park site nearby and just east of Doris Drive included groundwater and soil testing analyses and found that contaminant levels in the vicinity were below Cleanup Target Levels (Dillis and Snelson 2006), indicating that there is currently no significant evidence that storage tanks in the immediate area have polluted the substrate. Mounds 6 and 7 have been extensively excavated as well and their original profiles are no longer evident. Additionally, there is an abundance of debris (e.g., trash piles, abandoned trailer, construction refuse) in the vicinity of mounds 5 and 6. As time passes, these items have become progressively buried beneath soil and vegetative cover. The wooden stairway on Mound 2 has been replaced over the past year; in the process, park staff consulted with DHR and were very careful to place the new posts into the original holes in order to avoid any new excavations. The upper viewing platform is planned for replacement over the next year. Unfortunately, anecdotal reports suggest that the majority of the deterioration in mound condition dates from relatively recent times since the mid-20<sup>th</sup> century (Payne 1990, 1994A, B). Presumably, alterations resulting from agricultural operations during the Butler Plantation and post-Civil War eras were minimal with only relatively small excavations made. The significance of the site to regional pre-Columbian society was not realized until field research was conducted.

As noted above, the original building that housed the Butler Mill facilities is no longer evident, but large timbers may still be observed in the streambed. The specific site directly affected by the water flow has been adversely impacted by recent flooding events and is at risk of significant deterioration in the near future. The soil along the edge of the streambed in the immediate area is eroding and the banks are becoming undercut in several places; the earthen berm adjacent to the streambed itself is also eroding into the stream. The large timbers in the streambed are now fully exposed, experience significant pressure from the water flow, and some appear to have shifted in position so that they are not level and perpendicular to the direction of flow. A significant concern is that another flood event may severely damage current traces of the site and scatter timbers or their fragments

downstream out of place. Aside from the mill site itself, most of the remaining berm structure appears to be in good condition. The gap formed down from the erosive area has been stabilized by a bulkhead structure that prevents further widening of that gap, though the bulkhead and wooden bridge are somewhat deteriorated and in need of repair or replacement. Other sections of the berm show no evidence of significant erosion and the site as a whole is describable as being in fair condition.

*Level of Significance:* Further research is needed. The Butler Mill site is potentially eligible for the National Register pending investigation of the site and its context. The Crowder South site (8LE1412) is currently listed in the FMSF as having been destroyed with a condition unknown at this time. The Material History site (8LE5998) is a 20<sup>th</sup> century refuse pile. It is in good condition. The canal (8LE5999), a linear resource recorded as a Resource Group, is in fair condition.

*General management measures:* Damage done to the structure of the mounds is unfortunately irreparable once the substrate has been removed, so any management practices can serve to preserve, protect, and respect what remains. If a mound has been severely excavated, it cannot be returned to a good condition. That being said, multiple measures can be taken to improve the interpretation context and resistance to degradation. Collecting and disposing of the refuse especially concentrated in the vicinity of mounds 5 and 6 is a priority. However, prior to initiating this activity, an archaeologist should survey the materials to confirm that all targeted items are indeed modern and lacking in any historical significance. This clean up would also be crucial in the course of restoring the Butler Mill Creek bed to its former hydrological context. Another priority for preserving and interpreting the mounds involves managing the woody vegetation growing on them. While maintaining some degree of vegetative cover is critical for preventing erosion, the growth of large trees on the mounds risks tipping up large clumps of substrate when these trees fall. Also, maintaining these mounds without large densities of woody plants allows park visitors to experience these features in a state more closely approximating how they likely would have appeared to the original indigenous builders. The trade-off inherent in exposing these mounds to full view is that that would also raise awareness to potential looters, so accompanying measures may need to be introduced to mitigate this potential threat. A vegetation management plan needs to be drafted that would incorporate the disparate advantages and disadvantages to various approaches and develop measures to address any issues, including viewing opportunities for the public.

The planning and work necessary to restore, stabilize, and protect existing elements of the mill site itself (eroding banks and berm, shifting and likely deteriorating structural timbers) is beyond the scope of DRP ability to fulfill on its own. In cooperation with the DHR, an engineering contractor should be hired to assess the site needs, draft a plan to remedy the situation, and execute the field work necessary to complete the project. In the meantime, park staff should monitor the mill site and other sections of the berm with photo points, particularly focusing on potential trouble spots including locations that may receive visitor foot traffic or high surface water flows. The wooden bridge and bulkhead structures down from the erosive area should be assessed and either repaired or replaced. Exposure to the elements has aged the lumber. At least a few of the bulkhead timbers are

visibly sagging. To ensure best management practices, staff should attend Archaeological Resource Management (ARM) training through DHR

### **Collections**

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

*Description:* Artifacts had been uncovered in the course of multiple excavation studies since the mid-20<sup>th</sup> century. Perhaps the most notable of these endeavors was the salvage operation undertaken by Calvin Jones in 1975-1976 prior to the demolition of mound 3 by the landowner at that time (Jones 1982, 1991). Facing time and logistical constraints, Mr. Jones was able to recover an impressive array of artifacts and human remains from inside the mound primarily arising from habitations and burials of high status individuals over time. Mr. Jones' work provided valuable information about the people, political structure, trade networks, artistic influences, and other cultural attributes of the mound builders and highlighted the regional importance of the site. From the "mortuary temple" feature that is Mound 3, the remains of 12 structures and about two dozen burials were uncovered; artifacts obtained included burial objects composed of copper, lead, mica, steatite, and other materials. Other excavation projects for research purposes or for archaeological surveys prior to various construction projects have unearthed a variety of pottery sherds, shells, vegetative remnants, and flint fragments (Griffin 1950; Alexander 1984; Jones 1990; Storey 1993; Payne 1994; Martinez 2001; Stevenson 2003; Andrews 2007). These artifacts are considered to be the property of the Division of Historic Resources (DHR), which houses these objects in their storage facility. Documents related to park facilities, work projects, and the park's archaeological/historical context are stored at the park's administrative office.

*Condition Assessment:* As the archaeological and historic artifacts are stored in the DHR facilities, one can be assured that these items are preserved in a state similar to that following their discovery and cleaning and in a secure, climate-controlled setting. Documents stored in the park administrative office may be up to several decades old and are generally printed on contemporary office paper; they are adequately preserved in a climate-controlled facility that receives periodic pest control services. While the administrative office building sustained damage from a recent tree fall to its roof opposite to the file room where they are stored, the building's rooms are effectively sealed off from the outside environment and remain climate controlled to limit damage from humidity and temperature extremes.

*Level of Significance:* The archaeological artifacts have very high cultural significance given the fact that they were recovered from a regional center of Mississippian culture that has greatly contributed to modern understanding of that period and is listed on the National Register of Historic Places. The paper files at the park administrative office are mostly copies or contemporary records and have limited cultural significance in and of themselves with most reflecting information that can be obtained from other sources.

*General management measures:* All artifacts in possession by DHR would be expected to be managed and preserved with a high degree of professionalism associated with their mandate and appropriate for their culture value. Management of the records in the park administrative office is adequate and will continue.

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

<b>Table 4. Cultural Sites Listed in the Florida Master Site File</b>						
<b>Site Name and FMSF #</b>	<b>Culture/Period</b>	<b>Description</b>	<b>Significance</b>	<b>Condition</b>	<b>Treatment</b>	<b>Management Zone</b>
LE0001 Lake Jackson Mounds Complex	Prehistoric Indigenous, 19 <sup>th</sup> and 20 <sup>th</sup> centuries	Archaeological Site	NRL	F	P	E, F
LE1412 Crowder South	Fort Walton, Leon-Jefferson	Archaeological Site, listed as destroyed	NE	NA	NA	F
LE5997 Butler Mill site	19 <sup>th</sup> century	Archaeological Site	NR	F	ST	C, D
LE5998 Material History	20 <sup>th</sup> century	Archaeological Site	NS	F	ST	B
LE6127 Butler Hill	19 <sup>th</sup> century	Archaeological Site	NR	F	ST	C, D
LE5999 Lake Jackson Canal	19 <sup>th</sup> century	Resource Group (linear)	NR	F	ST	D, E

**Significance**

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

P Poor  
 NA Not accessible  
 NE Not evaluated

**Recommended Treatment**

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

**Condition**

G Good  
 F Fair



## RESOURCE MANAGEMENT PROGRAM

### Management Goals, Objectives, and Actions

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

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

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

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

### Natural Resource Management

#### Hydrological Management

**Goal: Protect water quality and quantity in the park, restore natural 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: Restore natural hydrological conditions and functions to approximately 0.43 acres of seepage stream and upland hardwood forest natural communities.***

This project would involve the hydrological restoration of the Butler Mill Creek to its original streambed prior to 20<sup>th</sup> century alteration and the accompanying filling of the canal that currently transports water from its winding natural route to Lake Jackson. The total acreage of work estimated necessary to accomplish this task is ~0.6 acres. Components of this effort include (1) excavation of a stream course roughly equivalent to the original path extending from a position between mounds 3 and 5, through the site of the dilapidated Crowder barn, over a new low water crossing on the access road leading north from the Doris Drive entrance, and connecting to the original streambed running between mounds 6 and 7; (2) filling of the drainage canal flowing through the grassy field of the mound complex; and (3) filling of the canal through the upland hardwood forest between the grassy field and Lake Jackson. For these purposes, assuming an average five meter wide excavation / fill area along the total length of these linear features, accomplishing part 1 would entail 850-square meter excavation along a 170-meter length, part 2 would involve a 1,575-square meter filling effort over a 315-meter length, and part 3 would entail a 900-square meter filling effort over a 180-meter length. Consequently, this effort would restore 0.43 acres including only the new seepage stream length (~0.21 acres) and the area of the canal that passes through the upland hardwood forest (~0.22 acres); filling in the canal area through the developed grassy field would involve a total of about 0.39 acres.

### **Natural Communities Management**

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

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

**Natural Communities Restoration:** In some cases, the reintroduction and maintenance of natural processes is not enough to reach the natural community desired future conditions in the park, and active restoration programs are required. Restoration of altered natural communities to healthy, fully functioning natural landscapes often requires substantial efforts that may include mechanical treatment of vegetation or soils and reintroduction or augmentation of native plants and

animals. For the purposes of this management plan, restoration is defined as the process of assisting the recovery and natural functioning of degraded natural communities to desired future condition, including the re-establishment of biodiversity, ecological processes, vegetation structure, and physical characters.

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

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

***Objective: Conduct habitat/natural community restoration activities on 12.9 acres of upland pine community.***

This project would involve conducting activities on 12.9 acres of clearings and loblolly pine monoculture located in zones A and B as described in the Imperiled Species section. Individual components include 1.5 acres of the zone A clearing, 2.3 acres of the zone B clearing, and 9.1 acres of the loblolly pine monoculture. As anticipated, restoration activities would eventually direct community properties toward those approximating an upland pine community, though periodic undergrowth mowing would likely replace prescribed burning given the limitations of the project area being located a very short distance from a developed neighborhood (primary an issue with smoke screening). A detailed plan would be drafted in order to guide the execution of the project and involve cooperation between park and district staff. In order to initiate restoration on the zone A clearing, which is bisected by the gasline corridor, the cooperation of the gasline company would be necessary. Trees could not be maintained on the gasline itself and the replacement of turf grasses with native forbs and grasses may conflict with maintenance of the corridor. If problematic, alternatives could include widening the clearing north and south of the gasline to obtain a larger restoration area or abandonment of plans for a zone A restoration in favor of zone B operations alone.

**Imperiled Species Management**

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

The DRP strives to maintain and restore viable populations of imperiled plant and animal species primarily by implementing effective management of natural systems. Single species management is appropriate in state parks when the maintenance, recovery or restoration of a species or population is complicated due to constraints associated with long-term restoration efforts, unnaturally high

mortality or insufficient habitat. Single species management should be compatible with the maintenance and restoration of natural processes, and should not imperil other native species or seriously compromise park values.

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

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

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

Park and district staff will continue to update the baseline imperiled species occurrence inventory for plants and animals as resource management activities are conducted and such species are observed.

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

Concomitant with the restoration activities to be undertaken in zones A and B, whereby clearings and loblolly pine monocultures are gradually adapted toward conditions more typical of upland pine communities, park staff will seek to monitor gopher tortoise population size as well as locations of known burrows inside and outside the restoration areas. Specific recommended actions are provided in the Implementation Component that address the needs and methodologies to be used for this monitoring effort.

## **Exotic Species Management**

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

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

***Objective: Annually treat 15 acres of exotic plant species in the park.***

Exotic plant control is one of the most important natural resource management activities for this park. Effort necessary in order to treat existing or new infestations as well as maintain areas where infestations have been reduced or eliminated is considerable. Existing staffing constraints can also thinly stretch manpower across individual state parks in the Tallahassee-St. Marks park administration. As a result, 15 targeted gross acres is a balanced goal that seeks to control the problem while avoiding overextension by park and district personnel. Fortunately, budgetary allocations specifically dedicated to exotic species control have been available over the past few years. With these funds, the hiring of exotic plant control technician labor has been possible, during which time great strides have been made in reducing the extent and abundance of many infestations. Provided that this funding remains available in future years, this labor will enable the park to exceed the above mentioned target acreage. Other possibilities for exotic plant control (e.g., IPMS contractors, AmeriCorps service members, volunteer groups) will be pursued over time. The highest priority areas at which to direct control efforts include the ravines area and bottomland forest associated with the Butler Mill Creek, proposed restoration areas in zones A and B, and along corridors that would facilitate the spread of such pest plants (e.g., gasline corridor, access roads, walking trails).

***Objective: Implement control measures on 3 exotic animal species in the park.***

Park staff will work to pursue control efforts on armadillos as they and suitable opportunities are encountered in the park. The local animal control agency will be contacted for assistance in the event that feral dogs or cats become nuisances on the park.

## Cultural Resource Management

### **Cultural Resource Management**

Cultural resources are individually unique, and collectively, very challenging for the public land manager whose goal is to preserve and protect them in perpetuity. DRP is implementing the following goals, objectives, and actions, as funding becomes available, to preserve the cultural resources found in Lake Jackson Mounds Archaeological State Park.

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

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

#### ***Objective: Assess and evaluate 3 of 6 recorded cultural resources in the park.***

Over the course of the next planning cycle, three of the recorded cultural resources should be evaluated. The Archaeological Sensitivity Modeling project conducted by personnel from the University of South Florida has provided a LIDAR-based map of the park that analyzes the land surface and provides higher resolution imagery of known and possibly unknown cultural features; incorporating additional spatially-explicit data, this project is intended to produce a predictive model in order to identify leads in locating undocumented cultural sites and is being undertaken for all state parks in Florida. The Butler Mill site (FMSF file pending) is an important cultural feature that has been insufficiently documented and studied. Field surveillance for the USF project has provided some surface topography of the mill site and represents a good start for better understanding this feature. Further assessment is needed to investigate historical associations and significance in addition to elucidating its physical extent and integrity. While 8LE1412, the former prehistoric habitation site, is listed as having been destroyed, an effort should be

made to establish the original location and ascertain whether other artifacts or further information are available in the vicinity.

There is also an ongoing need to evaluate the mounds themselves and the landscape within the boundary delineated for FMSF 8LE0001 that was demarcated in order to incorporate the plazas, agricultural fields, and villages associated with the mound builders. This assessment would assist with identifying management concerns, feature deterioration, and location of unknown site elements. Similarly, park staff should regularly monitor the mounds and associated visitor facilities for signs of erosion and exotic plant encroachment, providing corrective action when needed. Not only is exotic plant control more difficult when infestations become dense, but subsequent treatment may result in the loss of root system stabilization and eventual erosive risk. Prevention of small scale establishment effectively mitigates these risks.

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

Despite the archaeological and historical importance of this park, there remains a variety of research needs that should be addressed. As referenced above, much about the Butler Mill and its associated structures remains unknown. Further research on the antebellum landscape as it appeared and was utilized on Colonel Butler's plantation is also necessary. Payne (1994A) indicated that some artifacts recovered on the park property may indicate habitation of the site subsequent to its 1500 AD abandonment by the indigenous population, possibly suggesting a Spanish cattle ranch north of the main mound complex; further research would be necessary to establish whether this is in fact the case.

Preliminary results from the Archaeological Sensitivity Modeling project have already suggested locations deserving of further study on the park property and likely will lead to the eventual documentation of unknown cultural features. Claudine Payne (1989) conducted an auger survey at regular intervals in the grassy field and in forested acreage south of Mound 4, which approximated a phase I archaeological survey.

The predictive modeling effort indicated areas worthy of further survey projects to uncover artifacts and data about the mound builders and later historical inhabitants. Payne (1994A) points out that the southern and southeastern extents of indigenous settlement are not clearly known at this time and should be investigated further.

There are likely to still be people living in the area that are related to previous landowners or that may have experienced the mounds complex before it was a park who could give impressions of past site conditions or currently unknown cultural sites. These individuals should be identified, contacted, and requested to participate in interviews. Similarly, literature reviews of newspaper articles, early traveler accounts, or scholarly treatments should be conducted in order to amass a greater store of written information about the park's cultural resources.

***Objective: Bring 3 recorded cultural sites into good condition.***

There are two main steps involved in fully describing and tracking the maintenance needs of the Butler Mill site, which has not been adequately analyzed by cultural experts. In order to document potential deterioration of the site, park staff should initiate a plan to take regular photo point images at intervals in consultation with BNCR. These images would be stored as part of a permanent record of the site's condition. The second step would be to arrange for engineering consultants to survey and research the Butler Mill site in order to produce a report that proposes measures to undertake in order to prevent further deterioration of the site features through erosion and exposure to the elements.

Two efforts would seek to preserve the mound complex itself as well as a historic trash dump in the vicinity of mounds 6 and 7, both items listed in the FMSF for the park. Since the trash dump also includes a quantity of modern refuse scattered about, a cultural expert would need to be contracted that could analyze the site and determine which objects have cultural significance and which ones simply detract from the historic nature of the site. Finally, a vegetation management plan should be drafted that seeks to provide a strategy for maintaining woody plants on the mounds. This would help to ensure that the substrate is stabilized from erosion and safe from loss through tree falls tipping up soil clumps with the root crown while providing adequate viewing opportunities by park visitors.

### **Special Management Considerations**

#### **Timber Management Analysis**

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

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

#### **Arthropod Control Plan**

All DRP lands are designated as "environmentally sensitive and biologically highly productive" in accordance with Ch. 388 and Ch. 388.4111 Florida Statutes. If a local mosquito control district proposes a treatment plan, then the DRP works with the local mosquito control district to achieve consensus. By policy of DEP since



1987, aerial adulticiding is not allowed, but larviciding and ground adulticiding (truck spraying in public use areas) is typically allowed. DRP does not authorize new physical alterations of marshes through ditching or water control structures. Mosquito control plans temporarily may be set aside under declared threats to public or animal health, or during a Governor's Emergency Proclamation. An Arthropod Management Plan was instituted for this park in 1987.

### **Additional Considerations**

The park contains litter and disturbed areas that remain from the previous landowners. As public use areas are more clearly delineated and hiking trails are improved or expanded, litter, and remnants of previous land uses will be removed.

### **Resource Management Schedule**

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

### **Land Management Review**

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

Lake Jackson Mounds Archaeological State Park has not been subject to a Land Management Review.



## **LAND USE COMPONENT**

### **Introduction**

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

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

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

### **External Conditions**

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

Lake Jackson Mounds Archaeological State Park is located within Leon County, about two miles north of Tallahassee in the Panhandle of Florida. The City of Tallahassee has a population of approximately 186,400 (U.S. Census, American Fact Finder 2013) and is the largest population center in the metropolitan statistical area. The greater Tallahassee area within Leon County has a population of approximately 282,000. Adjacent Gadsden County has a population of approximately 46,300. As a whole, the population of the metropolitan statistical area increased by 14.7 percent between 2000 and 2010, a growth trend which is projected to continue within the next ten years (U.S. Census 2013 estimate). As of 2010, 22 percent of residents in these counties

were in the under 17 age group, 22 percent in the 18 to 34 age group, 32 percent in the 35 to 54 age group, and 24 percent were aged 55 and over, which indicates a younger community than the statewide average for these groupings. Nearly 370,000 Floridians reside within 50 miles of the park, which includes the cities of Tallahassee, Havana, Quincy, Crawfordville, Perry, and Monticello (BEBR, University of Florida 2013).

### **Existing Use of Adjacent Lands**

Lake Jackson Mounds Archaeological State Park is located two miles north of Tallahassee, off U.S. Highway 27, on the southwestern shore of Lake Jackson in western Leon County. Land surrounding the site consists predominately of medium density residential development. A Lake Protection District restricts the scale of development in this area and encompasses sites identified for soil and water restoration projects. County-maintained boat ramps are located at the end of Crowder Road, adjacent to the archaeological site and at Meginnis Arm. Lake Jackson, itself, is managed as an aquatic preserve.

Across Lake Jackson is Elinor Klapp-Phipps Park, which is managed by the City of Tallahassee and offers miles of shared-use trails for mountain biking and equestrian use, as well as dedicated hiking and mountain bike trails. City and state park properties on this east side of Lake Jackson, including Alfred B. Maclay Gardens State Park, create a unique greenway corridor stretching over four miles across north Tallahassee. Other sites of archaeological and historical significance in the vicinity of Lake Jackson Mounds include the DeSoto Site, Letchworth Mounds Archaeological State Park, San Marcos de Apalachee State Park, Natural Bridge Battlefield State Park, Tallahassee-St. Marks Historic Railroad Trail State Park, and Mission San Luis de Apalache.

### **Planned Use of Adjacent Lands**

As the population of Leon County continues to grow, the land surrounding the park will continue to be developed with residential homes. Past development practices of mound leveling and pond digging, prior to acquisition as a park, have compromised the archaeological resources in the area. Increasing residential development threatens the remaining pieces of the archaeological site that are not under park management, as well as the natural resources of the park including water quality and wildlife habitat. In addition, significant aesthetic impacts to the character of the park could result if adjacent land continues to be converted to residential and commercial uses.

In 1999, Leon County and the Northwest Florida Water Management District acquired 26.17 acres comprising Okeeheepkee Prairie Park, located directly south of Lake Jackson Mounds Archaeological State Park on the eastern end of Fuller Road by the Meginnis Arm Tributary. The park is managed by the Leon County Parks and Recreation Department and serves as a buffer along the lakefront marsh resources and natural stormwater treatment marsh. Proposed park amenities for near-term development include a walking trail around the

perimeter of the existing pond, an elevated boardwalk to provide universal access to the pond trail, and a parking area. Proposed long-term park amenities include an elevated boardwalk around the perimeter of the recreational area, interpretative signage, and a park pavilion. Recognizing this park's proximity to Lake Jackson Mounds Archaeological State Park, there is potential to link these parks with a trail.

As of 2013, the Leon County Parks and Recreation Department is in the planning and design phases of the new 158-acre park, Fred George Basin Greenway, located on the west side of U.S. Highway 27 within only two miles of the state park. When completed, this park will offer additional resource protection and recreational opportunities.

### **Property Analysis**

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

#### **Recreational Resource Elements**

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

#### **Land Area**

The park lies in a broad plain at the foot of the bluffs of the lake basin. The park contains a variety of landscapes that support hiking and nature study along 1.8 miles of trail.

#### **Water Area**

Meginnis Arm is a branch of Lake Jackson located directly east of the park. Butler Mill Creek flows east through the park to Meginnis Arm.

#### **Shoreline**

The eastern boundary provides 0.7 miles of shoreline along Lake Jackson. The shoreline is densely vegetated with no point of access and is not available as a recreation resource from the park. The nearest access point to Lake Jackson is the county-maintained boat ramp located north of the park at the end of Crowder Road.

## **Natural Scenery**

The scenery from the top of the mounds is noteworthy, in its historical context and in terms of the surrounding natural resources. The Butler Mill Trail extends through lush hardwood hammock with several steepheads and ravines that provide additional opportunities for nature study.

## **Significant Habitat**

Dense upland hardwood and bottomland forests and proximity to Lake Jackson offer habitat for various rare and imperiled species. Bobcats are occasionally seen in the park and alligators inhabit the waters of Meginnis Arm. Wading birds are common in the wetlands and along the lakeshore. During the spring and fall, falcons, hawks, and migratory species often rest in the park. Trilliums are abundant in the slope forest in the early spring.

## **Natural Features**

Significant hill and steephead features that are part of the Tallahassee Red Hills characterize the park's topography. The park contains examples of upland hardwood forest along the steep slopes surrounding the seepage streams. Several steepheads of various sizes occur within the forest.

## **Archaeological and Historic Features**

The most significant features of the park are the six earthen mounds that were occupied between A.D. 1050 and 1500. The mounds are built on both sides of Butler Mill Creek. The mounds range in size from 3 to 36 feet high. Evidence of homesites, village areas, and burial grounds have been found at the site. The archaeological site is one of the 10 largest Mississippian mound centers in the lower Southeast. The historic significance of the mounds is the primary focus of the park's interpretive and recreational features. The park was also the site of a historic plantation between 1825 and 1870. A gristmill remains as a historic landmark of this period.

## **Assessment of Use**

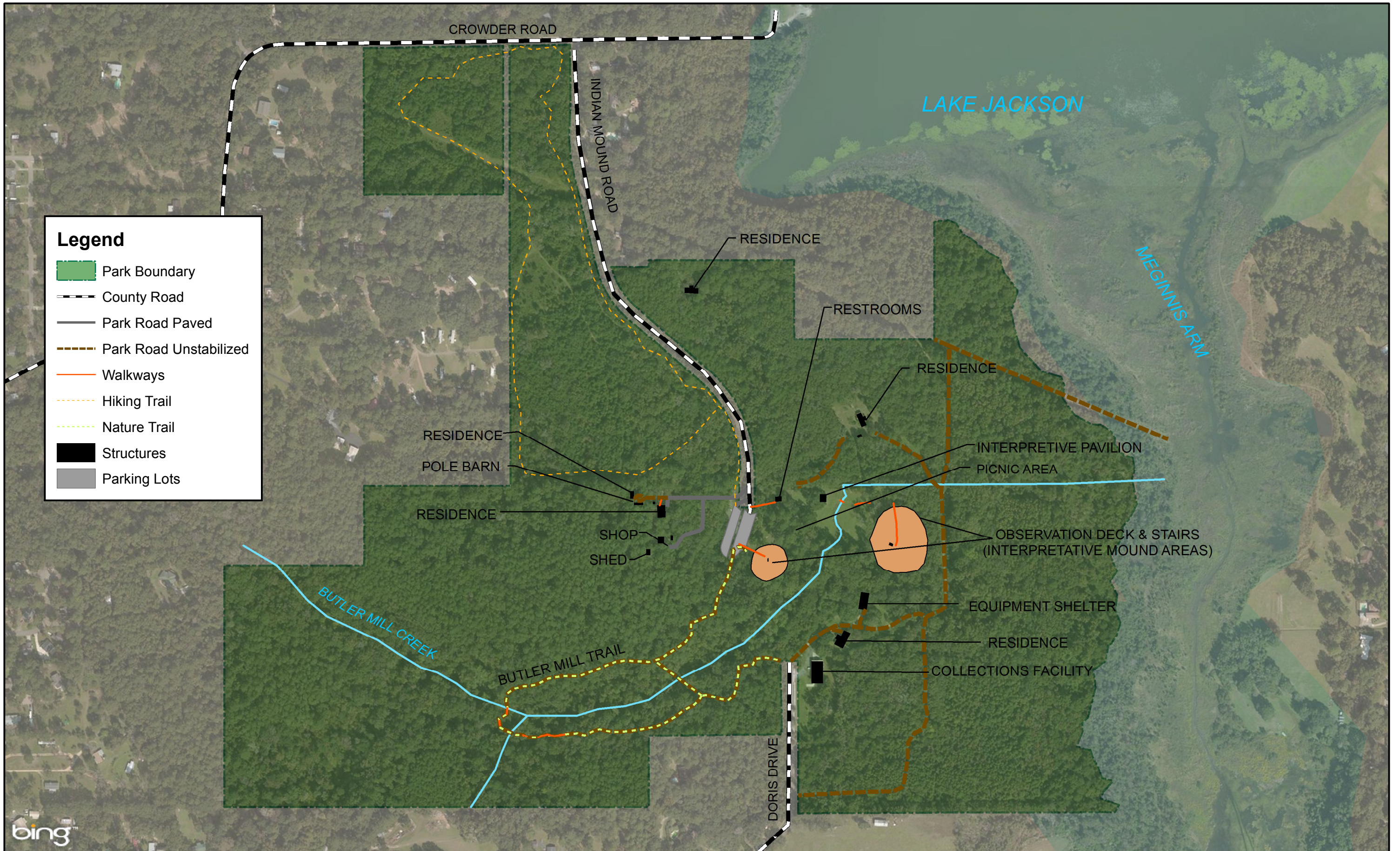
All legal boundaries, significant natural features, structures, facilities, roads, and trails existing in the unit are delineated on the base map (see Base Map). Specific uses made of the unit are briefly described in the following sections.

### **Past Uses**

Past uses of Lake Jackson Mounds revolved around the various Native American cultures that occupied the site. Native Americans known as the Mississippian culture and a tribe known as the Apalachee used the site for hunting, fishing, and farming. During the 1800s, the area was used as a plantation. In modern history, portions of the property were used as a single-family residence and mobile home park development.

### **Future Land Use and Zoning**

The DRP works with local governments to establish designations that provide both consistency between comprehensive plans and zoning codes and permit

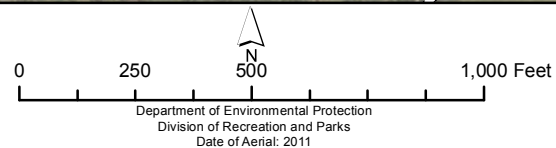


**Legend**

- Park Boundary
- County Road
- Park Road Paved
- Park Road Unstabilized
- Walkways
- Hiking Trail
- Nature Trail
- Structures
- Parking Lots

bing

LAKE JACKSON MOUNDS ARCHAEOLOGICAL STATE PARK



BASE MAP





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

In an effort to protect future degradation and pollution of Lake Jackson, Leon County created a "Lake Protection" land use designation, which includes the park and 20 other less intensively developed areas (Leon County 2014). This designation allows residential uses of one dwelling unit per two acres. A clustering option is available. Industrial, office, and commercial uses are prohibited in the Lake Protection Area within the city limits. In the unincorporated county, minor office and minor commercial uses may be approved if the development retains its resultant stormwater on site.

### **Current Recreational Use and Visitor Programs**

Current recreational uses of the site include picnicking, hiking, wildlife observation, and historical interpretation. The main focus of the site is the archaeological resources, which allow visitors to learn about an ancient Native American civilization. In addition, Butler Mill Trail provides a scenic walk through upland hardwood forest and along steepheads. Unique historic features for interpretation include an earthen dike and gristmill dam built in the 1830s.

Lake Jackson Mounds Archaeological State Park recorded 19,160 visitors in Fiscal Year (FY) 2014-2015. By DRP estimates, the FY 2014-2015 visitors collectively contributed \$1,790,815 in direct economic impact, the equivalent of adding 29 jobs to the local economy (FDEP 2015).

### **Protected Zones**

A protected zone is an area of high sensitivity or outstanding character from which most types of development are excluded as a protective measure. Generally, facilities requiring extensive land alteration or resulting in intensive resource use, such as parking lots, camping areas, shops or maintenance areas, are not permitted in protected zones. Facilities with minimal resource impacts, such as trails, interpretive signs and boardwalks are generally allowed. All decisions involving the use of protected zones are made on a case-by-case basis after careful site planning and analysis.

At Lake Jackson Mounds Archaeological State Park, all known cultural sites have been designated as protected zones. Additionally, all wetlands and floodplain as well as the ravines, bottomland forest, and seepage stream are within protected zones. The park's current protected zones are delineated on the Conceptual Land Use Plan.

### **Existing Facilities**

The primary use area of the park is centered around the two most significant archaeological mound sites. The mounds offer stairs and an observation

platform access with interpretive information. Hiking trails stem from this area and facilitate visitor access throughout the park (see Base Map).

The recreation and educational features of the primary day use area include the two interpretive mound sites, an education pavilion, nine picnic tables, restrooms, and the Butler Mill Trail.

Support facilities include a shop and equipment shelter, pole barn, three staff residences, four utility buildings, and a 45-space parking lot. A repository building that houses artifacts and a wide-range of collections items of interpretive significance is located in the park at the Doris Drive entrance. The pole barn houses large-scale collections items from various state parks. The park office or administration building serves as the base for the five co-managed parks, Lake Jackson Mounds, San Marcos de Apalache, Letchworth-Love Mounds, Natural Bridge Battlefield, and St. Marks River Preserve.

### **Recreation Facilities**

#### Day Use Area

Mounds Interpretive Sites (2)  
Education/Interpretive Pavilion  
Picnic Pavilion (9 tables)  
Restrooms  
Butler Mill Trail

### **Archaeological and Historic Features**

Mound Sites (7)  
Butler Mill

### **Support Facilities**

#### Shop/Administration Area

Shop (2 bays)  
Park Office/Administration Building  
Pole Barn  
Residence (1)

#### North Residence Area

Residence (1)

#### Collections Area

Collections Building/Artifact Repository  
Equipment Shelter  
Residences (1)

## **Conceptual Land Use Plan**

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

During the development of the conceptual land use plan, the DRP assessed the potential impact of proposed uses or development on the park resources and applied

**Legend**

- ☀ Proposed Facilities
- ⋯ Proposed Trail
- Existing Trails
- ▨ Protected Zone
- Mound Sites
- - - Park Boundary

LAKE JACKSON

Park Road and Parking Lot  
Repair and Improve

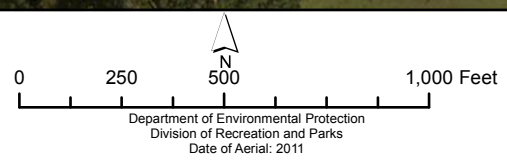
Shop/Administration Area  
Repair Shop Building  
Repair/Renovate Administration Building  
Repair/Reconstruct Pole Barn

North Residence Area  
Remove Former Residence Structure  
Restore Landscape

Collections Area  
Repair/Reconstruct Equipment Shelter  
Improve Collections Building

Butler Mill Trail  
Interpretation of Historic Gristmill Site  
Additional Wayfinding and Interpretive Signage

East Trails  
Improve Management Roads for Hiking  
Construct New Trails  
Potential Trail Connection to Okeeheepkee Prairie Park





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

### **Potential Uses**

#### **Public Access and Recreational Opportunities**

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

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

***Objective: Maintain the park's current recreational carrying capacity of 312 users per day.***

The park will continue to offer the current program of resource-based recreational and educational activities. All interpretive exhibits, trails, picnic areas, and points of access should be maintained to accommodate the park's current carrying capacity.

***Objective: Expand the park's recreational carrying capacity by 80 users per day.***

1 mile of newly designated and created hiking trail is proposed for the eastern portion of the park. The trail would be developed from improvements to existing unstabilized park roads that are not currently designated for hiking and creation of an altogether new segment of trail. The trail will increase the park's recreational carrying capacity by approximately 20 additional visitors at one time or up to 80 visitors per day.

***Objective: Continue to provide the current repertoire of 1 interpretive program on a regular basis.***

Interpretive programs are intended to serve as catalysts to learning and forge public understanding of park resources. Park staff offers one interpretive tour of the mounds archaeological site and the hiking trails. The program is geared towards school-aged children and designed as a walking tour focusing on the two primary mounds. It introduces participants to the Native Americans who built the mounds, including interpretation of how the mounds were constructed. Materials and information provided at the interpretive pavilion assist with this program.

***Objective: Develop 1 new interpretive program.***

Interpretation regarding the historic gristmill should be developed at the site of the actual mill and canal, as well as along the existing Butler Mill Hiking Trail. Features encountered at this site that should be included in the interpretation include earthen ramps, a terraced area, mill timbers, wooden fence posts, and a scatter of brick fragments. As interpretive signs are added, care should be taken to avoid disturbance of the site.

### **Proposed Facilities**

#### **Capital Facilities and Infrastructure**

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

Lake Jackson Mounds Archaeological State Park is in need of various updates to capital facilities and infrastructure, as well as various parkwide improvements to the landscape and interpretive features.

Repairs and renovations of park service buildings, including the administration office, shop, collections building, and equipment shelter will be required within this ten-year planning period. Additionally, removal of obsolete and non-historic structures is recommended.

The existing facilities of this state park are appropriate to the natural and cultural resources contained in the park and should be maintained. New construction, as discussed further below, is recommended to improve the quality and safety of the recreational opportunities, to improve the protection of park resources, and to streamline the efficiency of park operations. The following is a summary of proposed facility improvements or renovations needed to implement the conceptual land use plan for Lake Jackson Mounds Archaeological State Park:

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

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

***Objective: Improve/repair 5 existing facilities.***

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

Support Facilities

*Shop and Administration Area*

The park administration building and a portion of the shop building are in need of structural repair where fractures in the foundation and walls have occurred as a result of settling. Engineering study is needed to determine the preferred method of correcting the building's structural issues. The administration building was constructed in the 1970s and is not considered a historic structure. Further renovations of the administration building are also recommended.

The pole barn, which is used as an outdoor storage shelter for the collections building, is in need of repair or upgrade. Artifacts under the pole barn are not well sheltered from weather and not secure from unauthorized public access.

*Road and Parking Lot*

Large areas of the park road and parking lot are in disrepair, despite repeated patching. Sloped areas are more affected than level areas, due to shifting of the clay soils in the roadbed. As the park road and parking lot continue to degrade, it is recommended that the affected areas be repaved with a stabilizing under-layer (e.g., geo-synthetic webbing) in the clay roadbed to mitigate shifting and subsidence.

*North Residence Area*

A former modular home ranger residence, located in the residence area on north side of the mounds interpretive area, is no longer in use and is not suitable for repair or renovation. The structure should be demolished or removed from park property and the site should be restored to the character of the adjacent landscape. Other structures recommended for removal to further restore the landscape include the former laundry facility and large concrete pads remaining from the park's previous use as a mobile home park.

*Collections Area*

The collections building, which is managed by the Bureau of Natural and Cultural Resources and stores items of statewide historic and archaeological

significance, is in need of improved office space and climate control to enhance the protection of stored artifacts. The nearby equipment shelter, which has been used as outdoor storage for the collections building, is need of significant improvements or reconstruction.

***Objective: Construct 1 mile of trail.***

Day Use Area and Trails

Approximately 1 mile of hiking trail should be added to the lower southeast portion of the park, east of Doris Drive. A portion of the proposed hiking trail east of Doris Drive already exists as unstabilized park service road. A new segment of trail should be added to form a loop. Additionally, the network of service roads found in the northeast portions of the park are suitable for hiking. These trails would primarily traverse upland hardwood and bottomland forests. Visitors frequently use these roads for hiking, although they are not formally designated for public recreational use. Interpretive kiosks with a trail map should be added to establish trailheads. Wayfinding signage should be placed along the trails to guide visitors along designated paths and more clearly distinguish between recreation and support areas. Where feasible, new trails may be routed to connect with existing trails on the west side of the park as well as the adjacent Okeeheepkee Prairie County Park to the south.

**Facilities Development**

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

**Support Facilities**

Shop/Administration Area

Improve/repair shop and park office  
Improve/repair pole barn

Road and Parking Lot

Improve/repair paved road and parking

North Residence Area

Remove residence and restore landscape

Collections Area

Improve/repair collections building

Improve/repair equipment shelter  
**Recreation Facilities**

Day Use Area and Butler Mill Trail

Wayfinding and interpretation  
Interpret historic gristmill site

East Trails

Improve/expand hiking trails



## **Recreational Carrying Capacity**

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 6).

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

<b>Activity/Facility</b>	<b>Existing Capacity</b>		<b>Proposed Additional</b>		<b>Estimated Total Capacity</b>	
	<b>One Time</b>	<b>Daily</b>	<b>One Time</b>	<b>Daily</b>	<b>One Time</b>	<b>Daily</b>
<b>Interpretive Programs</b>	30	120			30	120
<b>Trails</b>						
Nature	30	120	20	80	50	200
<b>Picnicking</b>	36	72			36	72
<b>TOTAL</b>	<b>96</b>	<b>312</b>	<b>20</b>	<b>80</b>	<b>116</b>	<b>392</b>

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

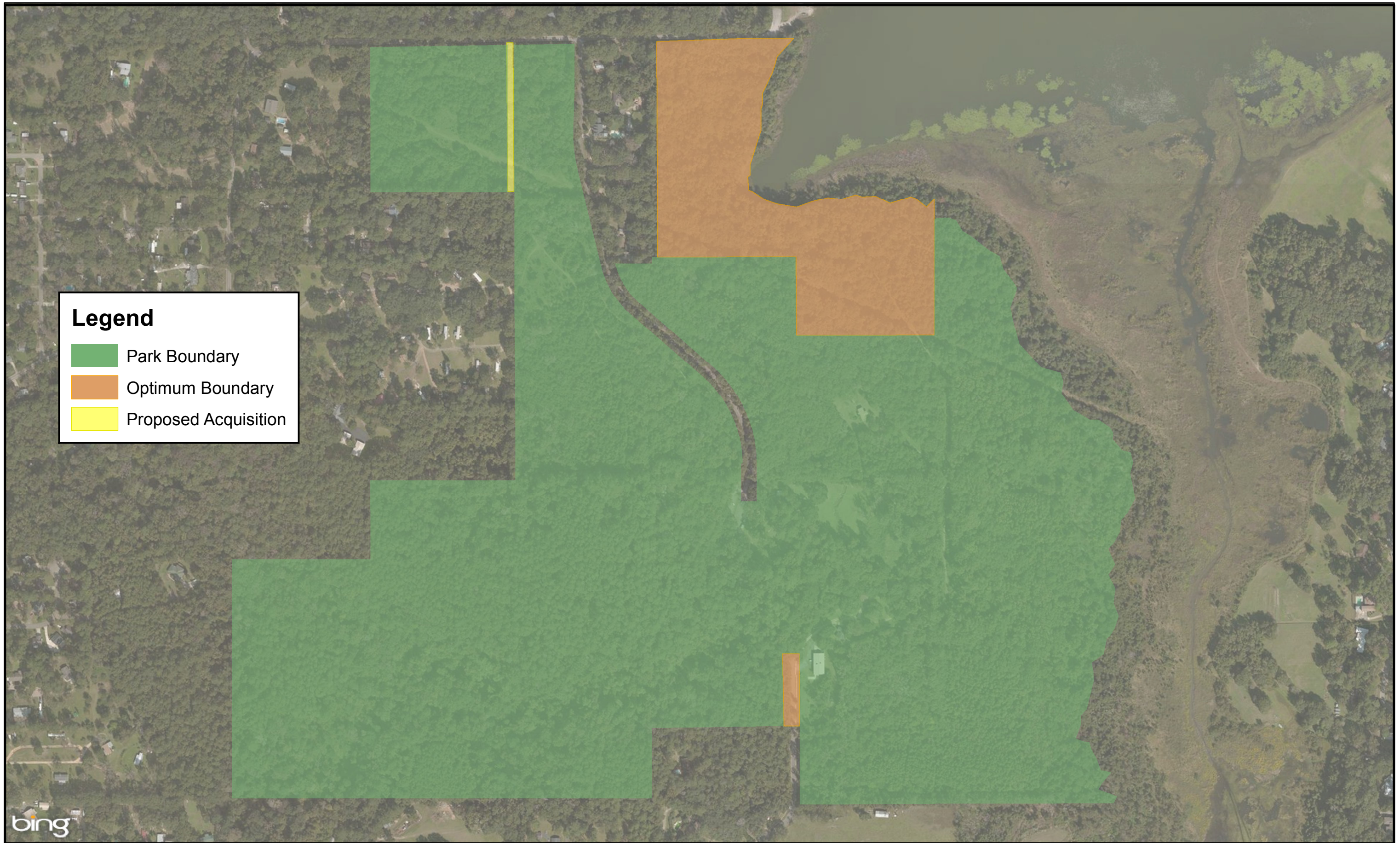
## **Optimum Boundary**

The optimum boundary map reflects lands considered desirable for direct management by the DRP as part of the state park. These parcels may include public or privately owned land that would improve the continuity of existing parklands, provide the most efficient boundary configuration, improve access to

the park, provide additional natural and cultural resource protection or allow for future expansion of recreational activities. Parklands that are potentially surplus to the management needs of DRP are also identified. As additional needs are identified through park use, development, and research, and as land use changes on adjacent property, modification of the park's optimum boundary may be necessary.

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

Approximately 22 acres of land to the northeast of the current park have been identified as desirable for acquisition. Acquisition of this land will not only protect known cultural resources, it will also enhance the park's boundaries for management purposes and would facilitate public recreational use of Lake Jackson from the park. In addition, the Leon County property at the end of Doris Drive, which is bordered on both sides by park property, has been identified for acquisition. Acquisition of this parcel would improve security for the nearby ranger residence and reduce illegal activity known to frequently occur at the site. Likewise, a county utility easement that separates the northwest parcel from the remainder of the park has been identified for acquisition in order to make all portions of the park contiguous. At this time, no lands are considered surplus to the needs of the park.

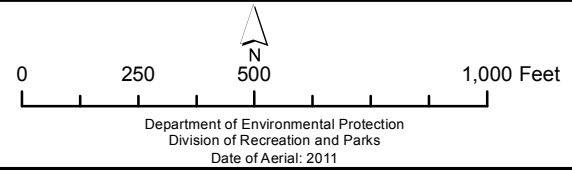


**Legend**

- Park Boundary
- Optimum Boundary
- Proposed Acquisition

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LAKE JACKSON MOUNDS ARCHAEOLOGICAL 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 of Recreation and Parks (DRP) progress toward achieving resource management, operational, and capital improvement goals and objectives since approval of the previous management plan for this park. This component also compiles the management goals, objectives, and actions expressed in the separate parts of this management plan for easy review. Estimated costs for the ten-year period of this plan are provided for each action and objective, and the costs are summarized under standard categories of land management activities.

### **MANAGEMENT PROGRESS**

Since the approval of the last management plan for Lake Jackson Mounds Archaeological State Park in 2004, significant work has been accomplished and progress made towards meeting the DRP's management objectives for the park. These accomplishments fall within three of the five general categories that encompass the mission of the park and the DRP.

#### **Acquisition**

In 2015, a 1-acre inholding was acquired within a central portion of the boundary.

#### **Resource Management**

##### **Natural Resources**

- Established an exotic plant control plan and brought three management zones into maintenance condition in order to restore natural communities.
- Additional plants and animals were documented to add to the park's species lists.

##### **Cultural Resources**

- Archaeological research of the mounds and park grounds has continued.

#### **Recreation and Visitor Services**

- The park has continued to host more than 21,000 visitors annually.
- Developed an improved ranger-led tour of the mound complex with updated archaeological information as new information about the mounds was gained.
- Reconstructed the stairs and platform on Mound 2 for improved visitor access.

#### **Park Facilities**

- Installation of new drain field at park office to improve waste water treatment and protect water quality in the Lake Jackson watershed.
- Improved the volunteer campground to improve the park's staffing capacity.
- Remodeled one ranger residence to improve onsite living conditions for staff.

## **MANAGEMENT PLAN IMPLEMENTATION**

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

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

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

Table 7  
 Lake Jackson Mounds Archaeological State Park Ten-Year Implementation Schedule and Cost Estimates  
 Sheet 1 of 4

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

Goal I: Provide administrative support for all park functions.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Continue day-to-day administrative support at current levels	Administrative support ongoing	C	\$675,000
Objective B	Expand administrative support as new lands are acquired, new facilities are developed, or as other needs arise	Administrative support expanded	C	\$20,000
Goal II: Protect water quality and quantity in the park, restore hydrology to the extent feasible, and maintain the restored condition		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Restore natural hydrological conditions and function to approximately 0.43 acres of seepage stream and upland hardwood forest natural communities	Acreeage restored	UFN	\$150,000
Action 1	Complete professional hydrological assessment to determine engineering needs	Assessment complete	UFN	\$50,000
Action 2	Excavate new stream course (~0.21 acre) that would follow the "original" stream	Acreeage excavated	UFN	\$50,000
Action 3	Fill the canal that currently crosses the grassy field (~0.39 acre) and an upland hardwood forest (0.22 acre) to drain into Lake Jackson's Megginis Arm	Acreeage filled	UFN	\$50,000
Goal III: Restore and maintain the natural communities/habitats of the park		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Conduct habitat/natural community restoration activities on 12.9 acres toward an upland pine natural community.	# Acres with restoration underway	LT	\$13,000
Action 1	Develop site specific restoration plan	Plan developed	ST	\$750
Action 2	Implement restoration plan on property currently occupied by clearings and a "pine plantation" in mgmt zones A and B	# Acres with restoration underway	LT	\$12,000
Goal IV: Maintain, improve, or restore imperiled species populations and habitats in the park.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Update baseline imperiled species occurrence inventory lists for plants and animals, as needed	List updated	C	\$4,500
Objective B	Monitor and document one selected imperiled animal species (gopher tortoise) in the park	# Species monitored	C	\$2,300
Action 1	Develop monitoring protocol for gopher tortoises	Protocol developed	ST	\$300
Action 2	Implement monitoring protocol for gopher tortoises	# Species monitored	C	\$2,000

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





Table 7  
 Lake Jackson Mounds Archaeological State Park Ten-Year Implementation Schedule and Cost Estimates  
 Sheet 2 of 4

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

Goal V: Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
<b>Objective A</b>	<b>Annually treat 15 acres of exotic plant species in the park</b>	# Acres treated	C	<b>\$34,900</b>
Action 1	Annually develop/update exotic plant management work plan	Plan developed/updated	C	\$16,000
Action 2	Implement annual work plan by treating 15 acres in park, annually, and continuing maintenance and follow-up treatments, as needed	Plan implemented		\$18,900
<b>Objective B</b>	<b>Implement control measures on three exotic and nuisance animal species in the park</b>	# Species for which control measures implemented	C	<b>\$1,000</b>
Action 1	Implement control measures on exotic animals as needed	# Species for which control measures implemented	C	\$1,000
Goal VI: Protect, preserve, and maintain the cultural resources of the park		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
<b>Objective A</b>	<b>Assess and evaluate 3 of 6 recorded cultural resources in the park</b>	Documentation complete	LT	<b>\$1,000</b>
Action 1	Complete 3 assessments/evaluations of archaeological sites. Prioritize preservation and stabilization projects	Assessments complete	LT	\$1,000
<b>Objective B</b>	<b>Compile reliable documentation for all recorded historic and archaeological sites</b>	Documentation complete	LT	<b>\$54,000</b>
Action 1	Ensure all known sites are recorded or updated in the Florida Master Site File (including historical park buildings)	# Sites recorded or updated	ST	\$1,000
Action 2	Conduct further research into the pre-Columbian or subsequent period history of the park and environs	Research reports created	C	\$10,000
<b>Objective C</b>	<b>Bring 3 recorded cultural sites into good condition</b>	# Sites improved in condition	LT	<b>\$43,000</b>
Action 1	Initiate monitoring program for Butler Mill site by establishing photo points	Program implemented	ST	\$550
Action 2	Arrange for engineering consultants to record Butler Mill site characteristics and plan for steps to prevent further deterioration (e.g. erosion, exposure of features to elements)	Project completed	UFN	\$30,000
Action 3	For the trash dump site in eastern portion of park (near mounds 6 and 7), arrange for expert to assess site and distinguish cultural artifacts from modern refuse; initiate clean up of site	Project completed	UFN	\$10,000
Action 4	Complete a vegetation management plan that sets a strategy for how woody vegetation would be maintained on the mound features in order to promote preservation of substrate while providing for viewing opportunities	Plan drafted and implemented	LT	\$2,450

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



Table 7  
 Lake Jackson Mounds Archaeological State Park Ten-Year Implementation Schedule and Cost Estimates  
 Sheet 3 of 4

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

Goal VII: Provide public access and recreational opportunities in the park		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
<b>Objective A</b>	<b>Maintain the park's current recreational carrying capacity of 312 users per day</b>	# Recreation/visitor	C	<b>\$80,000</b>
<b>Objective B</b>	<b>Expand the park's recreational carrying capacity by 80 users per day</b>	# Recreation/visitor	LT	<b>\$20,000</b>
Action 1	Expand 1 recreational opportunity by adding 1 mile of additional hiking trail to the park	# Recreation/visitor opportunities per day	LT	\$20,000
<b>Objective C</b>	<b>Continue to provide the current repertoire of 1 interpretive program on a regular basis</b>	# Interpretive/education programs	C	<b>\$24,000</b>
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 Expense Cost* (10 Years)
<b>Objective A</b>	<b>Maintain all public and support facilities in the park</b>	Facilities maintained	C	<b>\$100,000</b>
<b>Objective B</b>	<b>Continue to implement the park's transition plan to ensure facilities are accessible in accordance with the American with Disabilities Act of 1990</b>	Plan implemented	ST	<b>\$10,000</b>
<b>Objective C</b>	<b>Improve and/or repair 5 existing facilities as identified in the Land Use Component</b>	# Facilities/Miles of Trail/Miles of Road	LT	<b>\$242,000</b>
<b>Objective D</b>	<b>Construct 1 mile of trail as identified in the Land Use Component</b>	# Facilities/Miles of Trail/Miles of Road	LT	<b>\$20,000</b>
<b>Objective E</b>	<b>Expand maintenance activities as existing facilities are improved and new facilities are developed</b>	Facilities maintained	C	<b>\$5,000</b>

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



Table 7  
 Lake Jackson Mounds Archaeological State Park Ten-Year Implementation Schedule and Cost Estimates  
 Sheet 4 of 4

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

**Summary of Estimated Costs**

Management Categories	Total Estimated Manpower and Expense Cost* (10-years)
Resource Management	\$303,700
Administration and Support	\$695,000
Capital Improvements	\$267,000
Recreation Visitor Services	\$110,000
Law Enforcement Activities <sup>1</sup>	n.a.
	<sup>1</sup> Law enforcement activities in Florida State Parks are conducted by the FWC Division of Law Enforcement and by local law enforcement agencies.

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



## **Addendum 1—Acquisition History**





## **Lake Jackson Mounds Archaeological State Park Acquisition History**

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### **Purpose of Acquisition:**

The Board of Trustees of the Internal Improvement Fund (Trustees) of the State of Florida purchased the initial area of Lake Jackson Mounds Archaeological State Park for the use and benefit of the Outdoor Recreational Development Council of the State of Florida.

### **Sequence of Acquisition:**

On May 26, 1966, the Trustees acquired approximately 10-acre property constituting the initial area of Lake Jackson Mounds Archaeological State Park for the use and benefit of the Florida Outdoor Recreational Development Council, which was the state entity that was responsible for reviewing and approving all statewide recreation plans for acquisition and development of public recreation areas. The Trustees purchased the property from Lowell D. and Willie B. Crowder for \$200,000. This purchase was funded under the Land Acquisition Trust Fund (LATF) program.

Since the 1966 initial purchase, the Trustees acquired new parcels primarily under Preservation 2000 Additions and Inholdings (P2000/ A & I) program. The Trustees also acquired some parcels through donations and a group of vacated roads through resolution passed by the Board of County Commissioners of Leon County. The Trustees added each of these new acquisitions to Lake Jackson Mounds Archaeological State Park through different amendments to the park's lease, and the current area of the park is 205 acres.

### **Title Interest:**

The Trustees hold fee simple title interest in Lake Jackson Mounds Archaeological State Park.

### **Lease Agreement:**

On August 2, 1966, the Trustees leased Lake Jackson Mounds Archaeological State Park to the Florida Board of Parks and Historic Memorials (FBPHM), predecessor in interest to the State of Florida Department of Environmental Protection, Division of Recreation and Parks (DRP). Trustees leased the property to FBPHM under Lease 2530. This lease is for a period of ninety-nine (99) years, and it will expire on August 1, 2065.

According to Lease 2530, DRP manages Lack Jackson Mounds Archaeological State Park for the purposes of developing, improving, operating, maintaining, and otherwise managing the property for public outdoor recreational, park, conservation, and related purposes.

## **Lake Jackson Mounds Archaeological State Park Acquisition History**

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### **Special Conditions on Use:**

Lake Jackson Mounds Archaeological 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 this plan or the management purposes of the park.

### **Outstanding Reservations:**

The DRP's lease from Trustees stipulates that all the property be used for public outdoor recreation and related purposes. The following is a list of outstanding rights, reservations and encumbrances that apply to Lake Jackson Mounds Archaeological State Park.

Instrument: ..... Drainage Easement (Easement No. 24879)  
Instrument Holder: ..... Leon County  
Beginning Date: ..... August 23, 1968  
Ending Date: ..... Perpetuity  
Outstanding Rights, Uses, Etc.: ..... This easement grants Leon County the right to use a portion of Lake Jackson Mounds Archaeological State Park for the purpose of cleaning, excavating, constructing, and maintaining outfall ditches.

**Addendum 2—Advisory Group Members and Report**



**Lake Jackson Mounds Archaeological State Park  
Advisory Group Members and Report**

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**Local Government Officials**

The Honorable Andrew Gillum, Mayor  
City of Tallahassee

The Honorable Bill Proctor, Chair  
Leon County Board of  
County Commissioners

**Agency Representatives**

Rob Lacy, Park Manager

Billy Sermons, District Wildlife Biologist  
Florida Fish and Wildlife Conservation  
Commission

Mike Wisenbaker, Archaeology  
Supervisor  
Bureau of Archaeological Research  
Florida Division of Historical Resources

David Wright  
Natural Bridge Timberlands, LLC.

Stan Peacock, Chairman  
Leon Soil and Water Conservation  
District

Jason Love, Supervisory Forester  
Florida Division of Forestry

**Tourist Development Council**

Lee Daniel, Executive Director  
Leon County Tourist  
Development Council

**Environmental Representatives**

Sean McGlynn  
Apalachee Chapter of Florida Audubon

Linda Smith, President  
Florida Native Plant Society  
Sarracenia Chapter

**Cultural Resource Representatives**

Anne Peery, Executive Director  
Florida Trust for Historic Preservation

**User Groups**

Cathy Briggs, President  
Apalachee Canoe and Kayak Club

**Citizen Support Organization**

Buzz (William) Gifford, President  
Natural Bridge Historical Society, Inc.

**Adjacent Landowners**

Peter Gerrell

Barbara Edwards, President  
Butler Forest HOA

# **Lake Jackson Mounds Archaeological State Park Natural Bridge Battlefield Historic State Park Advisory Group Staff Report**

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The Advisory Group meeting to review the proposed unit management plans (UMP) for Lake Jackson Mounds Archaeological State Park and Natural Bridge Battlefield Historic State Park was held at the Downtown Tallahassee Visitor Information Center on Thursday, December 10, 2015 at 9:00 AM.

Jamie Van Pelt represented Mayor Andrew Gillum. Commissioner John Dailey represented the Leon County Board of County Commissioners. Joe Davis represented Billy Sermons. Matthew Vickery represented David Wright. Gary Stogner represented Lee Daniel. John Lorenz represented Cathy Briggs. Linda Smith, William Gifford, Peter Gerrell, and Barbara Edwards were not in attendance. Mike Wisenbaker submitted written comments in advance of the meeting. All other appointed Advisory Group members were present.

Attending Division of Recreation and Parks (DRP) staff members were Tony Tindell, Arthur Stiles, Rob Lacy, Martha Robinson, Ralph Perkins, Jennifer Carver, Alexandra Beesting, Eric Pate, Tyler Maldonado, and Daniel Alsentzer.

Mr. Alsentzer began the meeting by explaining the purpose of the Advisory Group and reviewing the meeting agenda. He provided a brief overview of the DRP's planning process and summarized public comments received during the public hearings of the previous two evenings as well as the written comments received from members not in attendance. Mr. Alsentzer then asked each member of the Advisory Group to express his or her comments on the draft plans. After all comments were shared, Mr. Alsentzer described next steps for the drafting of the plans. The meeting was concluded at 9:35 AM.

## **Summary of Advisory Group Comments**

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**Sean McGlynn** (Apalachee Chapter of Florida Audubon) expressed concern about proposed legislation to allow private individuals to own artifacts found on public land and noted that the Rakestraw acquisition is vulnerable to artifact collecting. Mr. McGlynn also noted that the park's sinkholes and springs have unique flora and fauna and are among the most endangered natural features in Florida. He encouraged acquisition of properties adjacent to Natural Bridge to provide access to the St. Marks Rise, including properties to the east of the existing park boundary. Mr. McGlynn commented that the St. Marks River and its associated springs should be considered equally if not even more ecologically and culturally significant than other major features of Florida, such as Wakulla Springs. He additionally noted that Lake Jackson Mounds is adjacent to the Lake Jackson Aquatic Preserve, which increases the importance of the park. He noted that, like Natural Bridge, the geologic character of Lake Jackson is also defined by karst.

**John Lorenz** (Apalachee Canoe and Kayak Club) stated that he supports the proposed improvements to the existing canoe/kayak launch at Natural Bridge, but he advised against "overbuilding." Mr. Lorenz recommended a simple design that utilizes the natural surface of the site.

**Jamie Van Pelt** (Office of the Mayor, City of Tallahassee) stated that his primary purpose in attending was to listen and provide support from the City. Mr. Pelt noted that even though

## **Lake Jackson Mounds Archaeological State Park Natural Bridge Battlefield Historic State Park Advisory Group Staff Report**

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these parks are not located within city limits, they are both considered nearby assets of Tallahassee. He stated that the continued improvement and growth of these parks is valuable for the region as a whole, particularly for regional tourism.

**Joe Davis** (Florida Fish and Wildlife Conservation Commission (FWC)) commented that the FWC and DRP share related mission statements. He stated that the proposed plans for both parks are consistent with the management practices of FWC for all natural and cultural resources. Mr. Davis urged continued management and restoration of areas within the existing park boundaries. He emphasized the importance of management for imperiled species, including gopher tortoise. He recommended a survey of karst invertebrates (e.g., cave crayfish, etc.) at Natural Bridge, if such a survey has not already been conducted, to determine whether terrestrial land management affects those species. Mr. Davis concurred with the proposed management actions, including prescribed burns. He further commented that both parks are jewels in the historic fabric of Florida. He emphasized that the DRP does a good job of interpreting and protecting archaeological and historic sites. Mr. Davis noted strong concern over the implications of a proposed bill to allow private ownership of discovered artifacts. Drawing comparisons to FWC lands in the Aucilla area, Mr. Davis stated that looting could pose a serious threat to the resources of both parks. He encouraged the DRP to coordinate with FWC law enforcement to address any issues regarding enforcement, particularly as it applies to looting. He added that FWC law enforcement is also available to assist with other management issues such as fees, vandalism, or poaching. Mr. Davis later commented that the long-term vision for the Natural Bridge area is to acquire additional lands along the St. Marks River corridor to connect the existing state and county conservation areas. He noted that this connectivity would benefit FWC habitat and species conservation efforts in the watershed where protected parcels are currently disjointed.

**Stan Peacock** (Leon Soil and Water Conservation District) commented that the parks are assets to the community. He commended the acquisition of the Rakestraw property and house. He supported using the Rakestraw house as a museum and for interpretive programming. Mr. Peacock recommended interpreting how the land in both parks was used throughout history. In addition to the Civil War Battle, he suggested telling the overall story, from prehistory through early 20<sup>th</sup> century history, including human settlement as well as wildlife. Mr. Peacock reiterated the concerns of other advisory group members over unauthorized digging for artifacts. He also noted concern over impacts to the springs and water quality at Natural Bridge.

**Gary Stogner** (Leon County Tourist Development Council) commented that both parks play key roles in tourism for telling the overall story of the area's history. He stated that the parks do a good job of interpretation and presenting information to the public. He supported efforts to improve interpretive and educational programming at the parks. Mr. Stogner stated that protection of resources is critical to tourism and also sends a valuable message to the public about the importance of the state's history. He added that Lake Jackson Mounds is included in the Leon County trails website, *Trailahassee*, and provides opportunities to touch both the recreation and historic aspects of the area. Mr. Peacock is glad to find a point of connection between outdoor recreation and learning about history.

## **Lake Jackson Mounds Archaeological State Park Natural Bridge Battlefield Historic State Park Advisory Group Staff Report**

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**Jason Love** (Florida Forest Service) commented that the plans are well-written and that both properties are well-managed. Mr. Love noted that the parks have several common characteristics, but are each unique. For both parks, but particularly Natural Bridge, he recommended careful management of the upland natural communities. He cautioned that pine beetle infestation at Natural Bridge could pose a significant threat to the surrounding neighborhoods and that fire and timber thinning are key methods for reducing this risk. Mr. Love recognized that Lake Jackson Mounds is more difficult to manage as it is adjacent to an urban area. Responding to other advisory group member comments, Mr. Love later noted that the entire St. Marks River corridor is on the Florida Forever acquisition list.

**Matt Vickery** (Natural Bridge Timberlands/Desert Ranches) supported adequate recreational access and the proposed interpretive programming at Natural Bridge. He acknowledged that the paddling launch on the north side of Natural Bridge Road is located on Natural Bridge Timberlands property, and the company wants to be a good partner in continuing this public recreational access.

**John Dailey** (Leon County Board of County Commissioners, District 3) stated that Lake Jackson Mounds is located within District 3 of the Leon County and provides a significant recreational and educational benefit to the entirety of Leon County. Commissioner Dailey emphasized that Leon County is appreciative of its ongoing partnerships with these state parks. He described a vision to connect all parks and trails within the County. Recognizing the significance of cultural resource protection at these parks, he stated that the County may add the issue to its legislative priorities to monitor. Commissioner Dailey was glad that the City of Tallahassee was also participating in the public process for the parks and would like to continue coordinating between the County, City, and State. Lastly, Commissioner Dailey noted that Leon County's new Okeeheepkee Prairie Park, which is adjacent to Lake Jackson Mounds, would be hosting its opening event at 1:00 PM.

**Anne Peery** (Florida Trust for Historic Preservation) stated that the Florida Trust for Historic Preservation supports the management practices and proposed improvements for both parks and always has an interest in the protection of cultural, architectural, and archaeological resources. She was grateful to have opportunity to comment. She echoed the concerns of other advisory group members regarding potential looting as a result of the proposed artifact bill. As her organization does not have staff specialized in archaeological resources, she recommended that the DRP communicate with the Florida Public Archaeology Network (FPAN) to help at the micro-level. She stated that in every aspect, the plans address concerns of the Florida Trust for Historic Preservation. Ms. Peery commented that agency budgets allocations do not include sufficient funding to maintain all historic structures in the parks, but that the DRP should look for additional revenues to address preservation needs. Ms. Peery encouraged the use of both parks for heritage tourism and would like to bring the Heritage Conference to Tallahassee next year, ideally using both sites for conference sessions. She noted that tourism associated with cultural heritage sites tends to attract longer-staying visitors and more revenue. She recommended engaging with Visit Tallahassee and Visit Florida more to have sites marketed to right kind of visitor interested in history.

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# Lake Jackson Mounds Archaeological State Park Natural Bridge Battlefield Historic State Park Advisory Group Staff Report

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## Summary of Written Comments

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**Mike Wisenbaker** (Division of Historical Resources, Bureau of Archaeological Research) provided written comments that were shared at the Advisory Group meeting.

*Lake Jackson Mounds Archaeological State Park:* Mr. Wisenbaker commented that DHR strongly concurs with conducting additional research and interpretive planning for the Butler Mill site located within the park. He offered DHR's assistance in this endeavor. He noted that additional research on the Mississippian mound complex has recently been completed within the park and should be referenced in the resource management component. Mr. Wisenbaker also noted that three archaeological sites and one resource group are missing from the park's site inventory. Documentation and location of these sites was included with Mr. Wisenbaker's comments. He commended the DRP for the interpretation that is taking place within the state park.

*Natural Bridge Battlefield Historic State Park:* Mr. Wisenbaker remarked that the DRP has done an excellent job of addressing the historical resources of this highly significant state park. Mr. Wisenbaker concurs with the language of the resource management component that combines the Natural Bridge site and Rakestraw Field as one cultural site, but noted that the features remain listed under separate site files. He encouraged the DRP to request merging these files in the Florida Master Site File. With regard to the text under the objective "*Compile reliable documentation for all historic and archaeological resources,*" Mr. Wisenbaker recommended that the entire park be considered a high probability area for archaeological and historic sites. Mr. Wisenbaker noted that there is no mention in the plan of DHR's Archaeological Resource Monitoring (ARM) training and commented that, at a historical park such as Natural Bridge, it is extremely important for all staff working there to attend such training. He recommended that ARM training be mentioned in the plan.

## Staff Recommendations

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The staff recommends approval of the proposed management plan for Lake Jackson Mounds Archaeological State Park and Natural Bridge Historic State Park as presented, with the following significant changes:

### **Lake Jackson Mounds Archaeological State Park**

- Language will be added to reference ARM training for DRP staff in the cultural resource management section of the resource management component of the plan.
- The DRP will revise the inventory of archaeological sites and resource groups to match the Florida Master Site File records and park boundary.

### **Natural Bridge Battlefield Historic State Park**

- Language will be added to reference ARM training for DRP staff in the cultural resource management section of the resource management component of the plan.
- Language will be added to the resource management component to plan for timber management to assist restoration and resource management efforts in the park's uplands.

# Lake Jackson Mounds Archaeological State Park Natural Bridge Battlefield Historic State Park Advisory Group Staff Report

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

## Notes on Composition of the Advisory Group

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

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

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

### **Addendum 3—References Cited**



## **Lake Jackson Mounds Archaeological State Park References Cited**

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## **Addendum 4—Soil Descriptions**

## Lake Jackson Mounds State Park Soil Descriptions

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**1 – Albany loamy sand, 0 to 2 percent slopes.** This nearly level, somewhat poorly drained soil is on lower elevations of uplands. Typically, the surface layer is very dark grayish brown loamy sand about 4 inches thick. The subsurface layer is loamy sand about 46 inches thick – the upper 17 inches is pale brown, the next 15 inches is very pale brown, and the lower 14 inches is mottled very pale brown, yellow, and brownish yellow. The subsoil extends to a depth of 78 inches – the upper 13 inches is mottled light gray and yellowish brown sandy loam and the lower 15 inches is light yellowish brown sandy clay loam. Below 78 inches is light gray very fine sandy loam that has yellow and reddish yellow mottles. Included with this soil in mapping are small areas of Troup and Plummer soils. These inclusions make up about 20 percent of the map unit.

This Albany soil has a seasonal high water table 12 to 30 inches below the surface for 1 to 2 months in most years. Available water capacity is very low in the surface and subsurface layers and medium in the subsoil. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. Natural fertility is low.

The native trees include longleaf and slash pines and mixed hardwoods – white oak, live oak, laurel oak, sweetgum, hickory, dogwood, and persimmon trees. The understory consists of native grasses and shrubs including huckleberry, briers, and pineland threeawn.

The soil has severe limitations for cultivated crops because of periodic wetness and droughtiness in the root zone. With adequate water control, such crops as corn, soybeans, and peanuts are moderately well suited. Management includes close growing, soil improving crops in rotation with row crops. The close growing crops should be used two thirds of the time. To help improve the soil tilth, cover crops and crop residues should be used to protect the soil from erosion. Fertilizer and lime are needed. The soil is moderately suited for pastures and hay crops. Coastal bermudagrass, bahiagrasses, and clovers are well suited to this soil. These plants respond well to fertilizers and lime. Drainage removes excess internal water in wet seasons. Controlled grazing maintains vigorous plants. The potential is moderately high for pine trees on this soil. Moderate equipment use limitations, seedling mortality, and plant competition are management concerns. Slash and loblolly pines are the best suited trees to plant for commercial woodland production. This Albany soil is in capability subclass IIIw.

**25 – Lucy fine sand, 5 to 8 percent slopes.** This sloping, well-drained soil is on upland hillsides. Typically, the surface layer is dark brown fine sand about 5 inches thick. The next 8 inches is brown fine sand; extending to a depth of 30 inches is reddish yellow and strong brown fine sand. The subsoil extends to a depth of 80 inches or more – the upper 6 inches is yellowish red fine sandy loam, the next 39 inches is red sandy clay loam, and the lower 5 inches is yellowish red fine sandy loam. Included with these soils are small areas of Orangeburg and Troup soils. These inclusions make up less than 20 percent of the map unit. This Lucy soil has a water table below depths of 80 inches throughout the year. The available water capacity is low in the surface and subsurface layers and medium in the subsoil.



## Lake Jackson Mounds State Park Soil Descriptions

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Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. Natural fertility is low.

Native trees include slash pine, longleaf pine, live oak, post oak, red oak, and dogwood trees. The understory consists of native shrubs and grasses, including huckleberry, southern dewberry, smilax, Virginia creeper, American beautyberry, muscadine grape, yaupon, and pineland threeawn.

This soil has severe limitations for cultivated crops. Droughtiness and rapid leaching of plant nutrients from the thick sandy surface layer severely limit the suitability of this soil for most row crops. The steepness of slopes further limits the suitability by making cultivation more difficult and by increasing the hazard of erosion. Row crops should be planted on the contour. The crop rotation should keep the soil under close-growing crops at least two thirds of the time. All crops respond to fertilizer and lime. Soil improving cover crops and crop residue should be used to protect the soil from erosion. The soil is moderately well suited for pasture. Deep rooting plants such as coastal bermudagrass and bahiagrasses are well suited to this soil. Steepness of slope increases the erosion hazard and reduces the potential yields. Grasses respond to fertilizer and lime. Controlled grazing permits the plants to maintain their vigor and to provide good protective cover. The potential is moderately high for pine trees. Equipment limitations, seedling mortality, and plant competition are management concerns. Slash and loblolly pine are the best suited trees to plant for commercial woodland protection. This Lucy soil is in capability subclass IIIs.

**33 – Orangeburg fine sandy loam, 2 to 5 percent slopes.** This is a well drained, gently sloping soil that occurs on uplands. Typically, the surface and subsurface layers are fine sandy loam about 10 inches thick. The upper 5 inches is brown and the lower 5 inches is yellowish red. The subsoil that extends to a depth of 80 inches or more is yellowish red and red sandy clay loam. Included with this soil are small areas of Blanton, Lucy, and Troup soils. These inclusions make up about 20 percent of the map unit. The water table of this Orangeburg soil is below 72 inches throughout the year. The available water capacity is low in the surface layer and medium in the subsoil. Permeability is moderately rapid in the surface layer and moderate in the subsoil. Natural fertility is moderate.

Native trees include longleaf pine, slash pine, and loblolly pine, and mixed hardwoods – white oak, red oak, live oak, laurel oak, sweetgum, hickory, dogwood, and persimmon. The understory is native grasses and shrubs including huckleberry, briers, and pineland threeawn. Many areas have been cleared and are used for crops and pasture.

This soil has moderate limitations for cultivated crops. The hazard of erosion can be reduced by well designed terraces that have stabilized outlets and by row crops planted on the contour. Such crops as corn and soybeans are well suited when properly managed. The crop rotation should include cover crops at least half the time. Soil improving cover crops and crop residue should be used to protect the soil from erosion. A good seedbed, fertilizer, and lime are necessary.

## Lake Jackson Mounds State Park Soil Descriptions

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The soil is well suited to pasture and hay crops. Pasture crops such as tall fescue, coastal bermudagrass, and improved bahiagrasses are well suited. Clover and other legumes are suited. These grasses and legumes require fertilizing, liming, and controlled grazing to maintain vigorous plants and a good soil cover. The soil has high potential for pine trees. Plant competition is a management concern. Slash and loblolly pine are the best suited trees to plant for commercial woodland production. This Orangeburg soil is in capability subclass IIe.

**34 – Orangeburg fine sandy loam, 5 to 8 percent slopes.** This well drained, sloping soil is on small areas on uplands. Slopes are irregularly shaped. Typically, the surface layer is very dark grayish brown fine sandy loam about 6 inches thick. The subsurface layer is yellowish brown fine sandy loam about 12 inches thick. The subsoil is yellowish red sandy clay loam that extends to 80 inches or more. Included with this soil in mapping are small areas of Troup, Lucy, and Blanton soils. These total inclusions make up about 20 percent of the map unit.

The water table of this Orangeburg soil is below 72 inches throughout the year. The available water capacity is low in the surface layer and medium in the subsoil. Permeability is moderately rapid in the surface layer and moderate in the subsoil. Natural fertility is moderate. Native trees include longleaf pine, slash pine, and loblolly pine and mixed hardwoods – white oak, red oak, live oak, laurel oak, sweetgum, hickory, dogwood, and persimmon. The understory is native grasses and shrubs including huckleberry, briers, and pineland threeawn. Many areas have been cleared and are used for crops and pasture.

This soil has severe limitations for cultivated crops. Such crops as corn and soybeans grow well when properly managed. The hazard of erosion is reduced by well designed terraces that have stabilized outlets and by row crops planted in the contour. The crop rotation should include cover crops at least two thirds of the time. Soil improving cover crops and crop residue should be used to protect soil from erosion. A good seedbed, fertilizer, and lime are needed. This soil is well suited to pasture and hay crops. Pasture grasses such as tall fescue, coastal bermudagrass, and improved bahiagrass are well suited. Clover and other legumes are suited. The grasses and legumes require fertilizer, lime, and controlled grazing to maintain vigorous plants and a good soil cover. This soil has high potential for pine trees. Plant competition is a management concern. Slash and loblolly pine are the best suited trees to plant for commercial woodland production. This Orangeburg soil is in capability subclass IIIe.

**35 – Orangeburg fine sandy loam, 8 to 12 percent slopes.** This well drained, strongly sloping soil is on upland hillsides. Typically, the surface layer is very dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer is yellowish brown fine sandy loam to a depth of about 19 inches. The subsoil is yellowish red sandy clay loam to about 64 inches. The substratum is mottled reddish yellow and red sandy clay loam that extends to 80 inches or more. Included with this soil in mapping are small areas of Troup, Lucy, and Blanton soils. These inclusions make up about 20 percent of the map unit. The water table of this Orangeburg soil is below 72 inches throughout the year. The available water

## Lake Jackson Mounds State Park Soil Descriptions

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capacity is low in the surface layer and medium in the subsoil. Permeability is moderately rapid in the surface layer and moderate in the subsoil. Natural fertility is moderately low.

Native trees include longleaf pine, slash pine, and loblolly pine and mixed hardwoods – white oak, red oak, live oak, sweetgum, hickory, dogwood, and persimmon. The understory is of native grasses and shrubs including huckleberry, briars, and pineland threeawn. Some areas have been cleared and used for crops and pasture.

This soil has severe limitations for cultivated crops. This soil is poorly suited for row crops because slopes are too steep to be safely cultivated. The slopes are too steep to be terraced, and erosion control is limited mainly to use of plant cover. If row crops are grown, they should be planted in narrow strips on the contour with alternating wider strips of close growing crops. The crop rotation should include close growing crops at least three fourths of the time. All crop residue should be left on the surface. For row crops and close growing crops, lime and fertilizer are needed. The soil is moderately well suited to improved pasture. Tall fescue, coastal bermudagrass, and improved bahiagrasses are well suited. Fertilizer, lime, and controlled grazing are needed to assure a plant cover to prevent severe erosion. The soil has high potential for pine trees. Plant competition is the main management concern. Slash and loblolly pine are the best suited trees to plant for commercial woodland production. This Orangeburg soil is in capability subclass IVe.

**41 – Plummer fine sand.** This poorly drained, nearly level soil is in low areas and in poorly defined drainageways. Slopes range from 0 to 2 percent. Typically, the surface layer is fine sand about 17 inches thick. The upper 6 inches is very dark grayish brown, and the lower 11 inches is dark grayish brown. The subsurface layer is fine sand to a depth of about 61 inches – the upper 11 inches is gray, the next 8 inches is gray that has strong brown mottles, and the lower 25 inches is light gray. The subsoil extending to 80 inches or more is light gray fine sandy loam that has yellowish red mottles. Included with this soil are small areas of Pelham soils. These inclusions make up less than 10 percent of the map unit. A water table of this Plummer soil is within 15 inches of the soil surface for 3 to 6 months in most years. The available water capacity is low to very low in the surface and subsurface layers and medium in the subsoil. Permeability is moderately rapid in the surface and subsurface layers and moderate in the subsoil. Natural fertility is low.

The native trees include loblolly pine and slash pine, sweetgum, blackgum, and cypress. The understory includes inkberry, waxmyrtle, ferns, and pineland threeawn. This soil has very severe limitations for cultivated crops. Because of wetness and thick sandy surface layers, a good water control system is needed before these soils are suitable for cultivated crops. The system should remove excess surface and subsurface water during heavy rainfall. Seedbed preparation should include bedding of rows. Row crops should be rotated with close growing crops at least three fourths of the time. Crop residue and cover crops should be used to protect the soil from erosion. Crops respond to fertilizer and lime. The soil is only fairly suited to pasture. Most improved grasses and legumes are poorly

## Lake Jackson Mounds State Park Soil Descriptions

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suited. Water control, controlled grazing, fertilizing, and liming help produce poor to moderate yields of pasture grasses. With adequate surface drainage, this soil has high potential for pine trees. Equipment use limitations, seedling mortality, and plant competition are management concerns. Slash and loblolly pine are the best suited trees to plant for commercial woodland production, but tree planting is feasible only on areas with surface drainage. This Plummer soil is in capability subclass IVw.

**51 – Wagram loamy fine sand, 5 to 8 percent slopes.** This well drained, sloping soil is on upland hillsides. Slopes are smooth to very rough. Typically, the surface layer is loamy fine sand about 6 inches thick and is dark gray. The subsurface layer is yellowish brown loamy fine sand to a depth of 33 inches. The subsoil is yellowish brown sandy clay loam to about 70 inches. Beneath the subsoil is mottled yellowish brown, light gray, and yellowish red sandy clay. Included with this soil in mapping are small areas of Blanton and Norfolk soils on the same slope position. Also included are small wet seepy areas usually at the bottom of slopes. These inclusions make up about 15 percent or less of the map unit. This Wagram soil does not have a water table within 80 inches of the surface. The available water capacity is low in the surface and subsurface layers and medium in the subsoil. Natural fertility is low. Native trees include upland hardwoods and shortleaf pines. Dominant understory plants include dogwood, honeysuckle, greenbrier, and Virginia creeper.

This soil has severe limitations for cultivated crops. Droughtiness and rapid leaching of plant nutrients from the thick sandy surface layers severely limits the suitability of this soil for most row crops. The steepness of slopes further limits the suitability because cultivation would be difficult and would increase the hazard of erosion. However, cultivated row crops could be planted in strips on the contour alternating with wider strips of close growing, soil improving crops. A crop rotation should keep the land under close growing crops at least two thirds of the time. Crops on this soil respond to fertilizer and lime. Soil improving cover crops and other crop residue should be used to protect the soil from erosion. The soil is moderately well suited to improved pasture. Deep rooting plants such as coastal bermudagrass and bahiagrasses are well suited. Steepness of slope increases the erosion hazard and reduces the potential yields. Good stands of grass can be produced by fertilizing and liming. Controlled grazing helps the plants to maintain vigor and to provide a good protective cover. The potential is moderately high for pine trees on this soil. Equipment use limitations and seedling mortality are management concerns. Slash and loblolly pine are the best suited trees to plant for commercial woodland production. This Wagram soil is in capability subclass IIIs.

**Addendum 5 – Plant and Animal List**

Lake Jackson Mounds Archaeological State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Red maple	<i>Acer rubrum</i>	
Red buckeye	<i>Aesculus pavia</i>	
Mimosa *	<i>Albizia julibrissin</i>	
Tung oil tree *	<i>Aleurites fordii</i>	
Broomsedge	<i>Andropogon</i> sp.	
Devil's walkingstick	<i>Aralia spinosa</i>	
Coral ardisia *	<i>Ardisia crenata</i>	
Jack-in-the-Pulpit	<i>Arisaema triphyllum</i>	
Green dragon	<i>Arisaema dracontium</i>	
Giant cane	<i>Arundinaria gigantea</i>	
Southern lady fern	<i>Athyrium felix-femina</i>	BF, SPF
White wild indigo	<i>Baptisia alba</i>	
Leatherleaf mahonia *	<i>Berberis bealei</i>	
Beggarticks	<i>Bidens alba</i>	
Cross vine	<i>Bignonia capreolata</i>	
Rattlesnake fern	<i>Botrichium virginianum</i>	
Gum bumelia	<i>Bumelia lanuginosa</i>	
American beautyberry	<i>Callicarpa americana</i>	
Sedge	<i>Carex</i> sp.	
Blue beech	<i>Carpinus caroliniana</i>	
Pignut hickory	<i>Carya glabra</i>	
Pecan	<i>Carya illinoensis</i>	
Mockernut hickory	<i>Carya tomentosa</i>	
Sandspur	<i>Cenchrus</i> sp.	
Butterfly-pea	<i>Centrosema virginianum</i>	
Buttonbush	<i>Cephalanthus occidentalis</i>	
Eastern-redbud	<i>Cercis canadensis</i>	
Spurge; Sandmat	<i>Chamaesyce</i> sp.	
Slender woodoats	<i>Chasmanthium laxum</i>	
Fringetree	<i>Chionanthus virginicus</i>	
Camphor tree *	<i>Cinnamomum camphora</i>	
Tread softly	<i>Cnidoscolus stimulosus</i>	
Wild taro *	<i>Colocasia esculenta</i>	
Dayflower	<i>Commelina diffusa</i>	
Flowering dogwood	<i>Cornus florida</i>	
Japanese false spleenwort *	<i>Deparia petersonii</i>	
Witchgrass	<i>Dichanthelium</i> sp.	
Florida yam	<i>Dioscorea floridana</i>	
Persimmon	<i>Diospyros virginiana</i>	
Elephant's foot	<i>Elephantopus</i> sp.	
Fleabane	<i>Erigeron</i> sp.	
Coral bean	<i>Erythrina herbacea</i>	
American beech	<i>Fagus grandifolia</i>	
Narrowleaf yellowtops	<i>Flaveria linearis</i>	
Bedstraw	<i>Galium</i> sp.	
Yellow Jessamine	<i>Gelsemium sempervirens</i>	

\* Non-native Species

Lake Jackson Mounds Archaeological State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Carolina cranesbill	<i>Geranium carolinianum</i>	
English ivy *	<i>Hedera helix</i>	
Bitterweed	<i>Helenium amarum</i>	
Camphorweed	<i>Heterotheca subaxillaris</i>	
Oakleaf hydrangea	<i>Hydrangea quercifolia</i>	
Tall gallberry	<i>Ilex coriacea</i>	
American holly	<i>Ilex opaca</i>	
Yaupon holly	<i>Ilex vomitoria</i>	
Southern red cedar	<i>Juniperus silicicola</i>	
Redroot	<i>Lachnanthese caroliniana</i>	
Henbit *	<i>Lamium amplexicaule</i>	
Japanese privet *	<i>Ligustrum japonicum</i>	
Glossy privet *	<i>Ligustrum lucidum</i>	
Chinese privet *	<i>Ligustrum sinense</i>	
Toadflax	<i>Linaria canadensis</i>	
Sweetgum	<i>Liquidambar styraciflua</i>	
Tulip tree	<i>Liriodendron tulipifera</i>	
Creeping liriope *	<i>Liriope spicata</i>	
Japanese honeysuckle *	<i>Lonicera japonica</i>	
Southern magnolia	<i>Magnolia grandiflora</i>	
Sweetbay	<i>Magnolia virginiana</i>	
Partridgeberry	<i>Mitchella repens</i>	
Red mulberry	<i>Morus rubra</i>	
Wax myrtle	<i>Myrica cerifera</i>	
Odorless wax-myrtle	<i>Myrica inodorata</i>	
Blackgum	<i>Nyssa sylvatica</i>	
Sensitive fern	<i>Onoclea sensibilis</i>	
Prickly-pear cactus	<i>Opuntia humifusa</i>	
Royal fern	<i>Osmunda regalis</i>	BF, SPF
Common yellow woodsorrel	<i>Oxalis corniculata</i>	
Maidencane	<i>Panicum hemitomom</i>	
Virginia creeper	<i>Parthenocissus quinquefolia</i>	
Bahiagrass *	<i>Paspalum notatum</i>	
Maypops, Passionflower	<i>Passiflora incarnata</i>	
Redbay	<i>Persea borbonia</i>	
Pokeweed	<i>Phytolacca americana</i>	
Shortleaf pine	<i>Pinus echinata</i>	
Slash pine	<i>Pinus elliotii</i>	
Loblolly pine	<i>Pinus taeda</i>	
Sycamore	<i>Platanus occidentalis</i>	
Yew plum pine *	<i>Podocarpus macrophyllus</i>	
Bachelor's button	<i>Polygala sp.</i>	
Resurrection fern	<i>Polypodium polypodioides</i>	
Christmas fern	<i>Polystichum acrosticoides</i>	
Pickernelweed	<i>Pontedaria cordata</i>	
Wild plum	<i>Prunus americana</i>	

\* Non-native Species

**Lake Jackson Mounds Archaeological State Park**

**Plants**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Primary Habitat Codes (for imperiled species)</b>
Black cherry	<i>Prunus serotina</i>	
Bracken fern	<i>Pteridium aquilinum</i>	
White oak	<i>Quercus alba</i>	
Laurel oak	<i>Quercus hemisphaerica</i>	
Swamp chestnut oak	<i>Quercus michauxii</i>	
Water oak	<i>Quercus nigra</i>	
Live oak	<i>Quercus virginiana</i>	
Sweet pinxter azalea	<i>Rhododendron canescens</i>	UHF
Ornamental azalea *	<i>Rhododendron formosa</i>	
Winged sumac	<i>Rhus copallina</i>	
Sawtooth blackberry	<i>Rubus argutus</i>	
Bluestem	<i>Sabal minor</i>	
Cabbage palm	<i>Sabal palmetto</i>	
Duck potato	<i>Sagittaria latifolia</i>	
Lyre leaved sage	<i>Salvia lyrata</i>	
Elderberry	<i>Sambucus canadensis</i>	
Sickle-pod	<i>Senna obtusifolia</i>	
Saw palmetto	<i>Serenoa repens</i>	
Greenbrier	<i>Smilax sp.</i>	
Sarsparilla vine	<i>Smilax pumila</i>	
Common chickweed *	<i>Stellaria media</i>	
Horse sugar	<i>Symplocos tinctoria</i>	
Spanish-moss	<i>Tillandsia usneoides</i>	
Small leaf spiderwort *	<i>Tradescantia flumenensis</i>	
Blue curls	<i>Trichostema setaceum</i>	
Spotted trillium	<i>Trillium maculatum</i>	
Venus' looking glass	<i>Triodanis perfoliata</i>	
Poison ivy	<i>Toxicodendron radicans</i>	
Elephant ear *	<i>Xanthosoma sagittifolium</i>	
Common mullein *	<i>Verbascum thapsus</i>	
Ironweed	<i>Vernonia sp.</i>	
Common blue violet	<i>Viola sororia</i>	
Muscadine	<i>Vitis rotundifolia</i>	
American wisteria	<i>Wisteria frutescens</i>	
Chinese wisteria	<i>Wisteria sinensis</i>	
Netted chain fern	<i>Woodwardia areolata</i>	
Oriental false hawksbeard *	<i>Youngia japonica</i>	
Adam's needle	<i>Yucca filamentosa</i>	

\* Non-native Species



# Lake Jackson Mounds Archaeological State Park

## Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
<b>ANNELIDA</b>		
Earthworm	<i>Lumbricus terrestris</i>	
<b>ARTHROPODS</b>		
Crab-like spiny orb weaver	<i>Gasteracantha cancriformis</i>	
Black widow spider	<i>Latrodectus mactans</i>	
Carolina wolf spider	<i>Lycosa carolinensis</i>	
Golden-silk spider	<i>Nephila clavipes</i>	
Daddy-long-legs	<i>Leiobunum sp.</i>	
Deer tick	<i>Ixodes scapularis</i>	
Common green-darter dragonfly	<i>Anax junius</i>	
Ebony jewelwing damselfly	<i>Calopteryx maculata</i>	
Regal darner dragonfly	<i>Coryphaeschna ingens</i>	
Palmetto walkingstick	<i>Anismorpha buprestoides</i>	
Southeast lubber grasshopper	<i>Romalea microptera</i>	
Broad-winged katydid	<i>Microcentrum rhombifolium</i>	
House cricket	<i>Acheta domestica</i>	
Northern mole cricket	<i>Gryllotalpa hexadactyla</i>	
Field cricket	<i>Gryllus pennsylvanicus</i>	
Carolina mantid praying mantis	<i>Stagmomantis carolina</i>	
German cockroach	<i>Blattella germanica</i>	
American cockroach	<i>Periplaneta americana</i>	
Eastern subterranean termite	<i>Reticulitermis flavipes</i>	
Two-spotted lady beetle	<i>Adalia bipunctata</i>	
Pyralis firefly	<i>Photinus pyralis</i>	
Gulf fritillary butterfly	<i>Agraulis vanillae</i>	
Orange sulphur butterfly	<i>Colias eurytheme</i>	
Monarch butterfly	<i>Danaus plexippus</i>	
Little yellow butterfly	<i>Eurema lisa</i>	
Zebra swallowtail butterfly	<i>Eurytides marcellus</i>	
Common buckeye butterfly	<i>Junonia coenia</i>	
Viceroy butterfly	<i>Limenitis archippus</i>	
Giant swallowtail butterfly	<i>Papilio cresphontes</i>	
Eastern tiger swallowtail	<i>Papilio glaucus</i>	
Palamedes swallowtail butterfly	<i>Papilio palamedes</i>	
Black swallowtail butterfly	<i>Papilio polyxenes</i>	
Cloudless sulphur butterfly	<i>Phoebis sennae</i>	
Common checkered skipper	<i>Pyrgus communis</i>	
Deer Fly	<i>Chrysops sp.</i>	
House Fly	<i>Musca domestica</i>	
Black Horse Fly	<i>Tabanus atratus</i>	
Love Bug	<i>Plecia nearctica</i>	
Summer Mosquitoes	<i>Aedes sp.</i>	
House Mosquitoes	<i>Culex pipiens</i>	
Cow Killer "Velvet Ant"	<i>Dasymutilla occidentalis</i>	
Red Fire Ant	<i>Solenopsis invicta</i>	

\* Non-native Species

# Lake Jackson Mounds Archaeological State Park

## Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Honey Bee	<i>Apis mellifera</i>	
American Bumble Bee	<i>Bombus pennsylvanicus</i>	
Eastern Yellow Jacket	<i>Vespula maculifrons</i>	
Oak Gallmaking Cynipids	<i>Amphibolips quercusracemaria</i>	
	<i>Andricus quercusfoliatus</i>	
	<i>Andricus quercuspetiolicola</i>	
	<i>Belonocnema quercussvirens</i>	
	<i>Callirhytis cornigera</i>	
	<i>Callirhytis quercusbatatoides</i>	
	<i>Callirhytis quercusrugosa</i>	
	<i>Callirhytis quercusventricosa</i>	
	<i>Callirhytis seminator</i>	
	<i>Dryocosmus nova</i>	
	<i>Dryocosmus quercuslaurifoliae</i>	
	<i>Dryocosmus quercusnotha</i>	
	<i>Disholcaspis quercusglobulus</i>	
	<i>Disholcaspis quercussuccinipes</i>	
	<i>Disholcaspis quercusvirens</i>	
	<i>Neuroterus nova</i>	
	<i>Neuroterus quercusbatatus</i>	
	<i>Xystoteras sp.</i>	
<b>FISH</b>		
Mosquitofish	<i>Gambusia holbrooki</i>	
Least Killifish	<i>Heterandria formosa</i>	
<b>AMPHIBIANS</b>		
Southern cricket frog	<i>Acris crepitans blanchardi</i>	
Southern toad	<i>Bufo terrestris</i>	
Eastern narrowmouth toad	<i>Gastrophryne carolinensis</i>	
Green treefrog	<i>Hyla cinerea</i>	
Squirrel treefrog	<i>Hyla squirella</i>	
Slimy salamander	<i>Plethodon glutinosus</i>	
Spring peeper	<i>Pseudacris crucifer</i>	
Southern leopard frog	<i>Rana utricularia</i>	
<b>REPTILES</b>		
American alligator	<i>Alligator mississippiensis</i>	Lake Jackson
Gopher tortoise	<i>Gopherus polyphemus</i>	ABP
Alligator snapping turtle	<i>Macrochelys temminckii</i>	
Common musk turtle	<i>Sternotherus odoratus</i>	
Box turtle	<i>Terrapene carolina</i>	
Green anole	<i>Anolis carolinensis carolinensis</i>	
Six-lined racerunner	<i>Cnemidophorus sexlineatus sexlineatus</i>	
Southeastern five-lined skink	<i>Eumeces inexpectatus</i>	
Eastern glass lizard	<i>Ophisaurus ventralis</i>	

# Lake Jackson Mounds Archaeological State Park

## Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Eastern fence lizard	<i>Scleroporos undulatus</i>	
Florida cottonmouth	<i>Agkistrodon piscivorus</i>	
Southern black racer	<i>Coluber constrictor priapus</i>	
Eastern diamondback rattlesnake	<i>Crotalus adamanteus</i>	
Yellow rat snake	<i>Elaphe obsoleta quadrivittata</i>	
Eastern coachwhip	<i>Masticophis flagellum flagellum</i>	
Dusky pigmy rattlesnake	<i>Sistrurus miliarius barbouri</i>	
<b>BIRDS</b>		
Pied-billed grebe	<i>Podilymbus podiceps</i>	
Horned Grebe	<i>Podiceps auritus</i>	
American white pelican	<i>Pelecanus erythrorhynchos</i>	
Double-crested cormorant	<i>Phalacrocorax auritus</i>	
Anhinga	<i>Anhinga anhinga</i>	
Great blue heron	<i>Ardea herodias</i>	
Green heron	<i>Butorides virescens</i>	
Cattle egret	<i>Bubulcus ibis</i>	
Great egret	<i>Casmerodius albus</i>	
Little blue heron	<i>Egretta caerulea</i>	Lake Jackson
Reddish egret	<i>Egretta rufescens</i>	Lake Jackson
Snowy egret	<i>Egretta thula</i>	Lake Jackson
Tricolored heron	<i>Egretta tricolor</i>	Lake Jackson
Yellow-crowned night heron	<i>Nycticorax violaceus</i>	
Wood duck	<i>Aix sponsa</i>	
Northern pintail	<i>Anas acuta</i>	
American wigeon	<i>Anas americana</i>	
Northern shoveler	<i>Anas clypeata</i>	
Green-winged teal	<i>Anas crecca</i>	
Cinnamon teal	<i>Anas cyanoptera</i>	
Blue-winged teal	<i>Anas discors</i>	
Gadwall	<i>Anas strepera</i>	
Lesser scaup	<i>Aythya affinis</i>	
Redhead	<i>Aythya americana</i>	
Ring-necked duck	<i>Aythya collaris</i>	
Canvasback	<i>Aythya valisineria</i>	
Canada goose	<i>Branta canadensis</i>	
Bufflehead	<i>Bucephala albeola</i>	
Common goldeneye	<i>Bucephala clangula</i>	
Red-breasted merganser	<i>Mergus serrator</i>	
Ruddy duck	<i>Oxyura jamaicensis</i>	
Turkey vulture	<i>Cathartes aura</i>	
Black vulture	<i>Coragyps atratus</i>	
Cooper's hawk	<i>Accipiter cooperii</i>	
Sharp-shinned hawk	<i>Accipiter striatus</i>	
Red-tailed hawk	<i>Buteo jamaicensis</i>	
Red-shouldered hawk	<i>Buteo lineatus</i>	

\* Non-native Species

# Lake Jackson Mounds Archaeological State Park

## Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Broad-winged hawk	<i>Buteo platypterus</i>	
Northern harrier	<i>Circus cyaneus</i>	
Southern bald eagle	<i>Haliaeetus leucocephalus</i>	
Osprey	<i>Pandion haliaetus</i>	
Merlin	<i>Falco columbarius</i>	
American kestrel	<i>Falco sparverius</i>	Overflying
Northern bobwhite	<i>Colinus virginianus</i>	
Wild turkey	<i>Meleagris galopavo</i>	
Black-necked stilt	<i>Himantopus mexicanus</i>	
Least sandpiper	<i>Calidris minutilla</i>	
Long-billed dowitcher	<i>Limnodromus scolopaceus</i>	
Common snipe	<i>Gallinago gallinago</i>	
Lesser yellowlegs	<i>Tringa flavipes</i>	
Greater yellowlegs	<i>Tringa melanoleuca</i>	
Black tern	<i>Chlidonias niger</i>	
Laughing gull	<i>Larus atricilla</i>	
Ring-billed gull	<i>Larus delawarensis</i>	
Bonaparte's gull	<i>Larus philadelphia</i>	
Least tern	<i>Sterna antillarum</i>	
Forster's tern	<i>Sterna forsteri</i>	
Killdeer	<i>Charadrius vociferous</i>	
Common ground-dove	<i>Columbina passerina</i>	
Mourning dove	<i>Zenaida macroura</i>	
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	
Great horned owl	<i>Bubo virginianus</i>	
Eastern screech-owl	<i>Otus asio</i>	
Barred owl	<i>Strix varia</i>	
Chuck-will's-widow	<i>Caprimulgus carolinensis</i>	
Common nighthawk	<i>Chordeiles minor</i>	
Northern flicker	<i>Colaptes auratus</i>	
Pileated woodpecker	<i>Dryocopus pileatus</i>	
Red-bellied woodpecker	<i>Melanerpes carolinus</i>	
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	
Yellow-bellied sapsucker	<i>Sphyrapicus varius</i>	
Downy woodpecker	<i>Picoides pubescens</i>	
Great crested flycatcher	<i>Myiarchus crinitus</i>	
Eastern phoebe	<i>Sayornis phoebe</i>	
Eastern kingbird	<i>Tyrannus tyrannus</i>	
Barn swallow	<i>Hirundo rustica</i>	
Purple martin	<i>Progne subis</i>	
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	
Tree swallow	<i>Tachycineta bicolor</i>	
American crow	<i>Corvus brachyrhynchos</i>	
Fish crow	<i>Corvus ossifragus</i>	
Blue Jay	<i>Cyanocitta cristata</i>	
Marsh wren	<i>Cistothorus palustris</i>	

\* Non-native Species

# Lake Jackson Mounds Archaeological State Park

## Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Sedge wren	<i>Cistothorus platensis</i>	
Carolina wren	<i>Thryothorus ludovicianus</i>	
House wren	<i>Troglodytes aedon</i>	
Winter wren	<i>Troglodytes troglodytes</i>	
Gray catbird	<i>Dumetella carolinensis</i>	
Northern mockingbird	<i>Mimus polyglottos</i>	
Brown thrasher	<i>Toxostoma rufum</i>	
Hermit thrush	<i>Catharus guttatus</i>	
Wood Thrush	<i>Hylocichla mustelina</i>	
Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>	
Eastern bluebird	<i>Sialia sialis</i>	
American robin	<i>Turdus migratorius</i>	
European starling *	<i>Sturnus vulgaris</i>	
Yellow-throated vireo	<i>Vireo flavifrons</i>	
White-eyed vireo	<i>Vireo griseus</i>	
Red-eyed vireo	<i>Vireo olivaceus</i>	
Solitary vireo	<i>Vireo solitarius</i>	
Red-winged blackbird	<i>Agelaius phoeniceus</i>	
Northern cardinal	<i>Cardinalis cardinalis</i>	
Yellow-rumped warbler	<i>Dendroica coronata</i>	
Yellow-throated warbler	<i>Dendroica dominica</i>	
Blackpoll warbler	<i>Dendroica striata</i>	
Prairie warbler	<i>Dendroica discolor</i>	
Palm warbler	<i>Dendroica palmarum</i>	
Common yellowthroat	<i>Geothlypis trichas</i>	
Northern oriole	<i>Icterus galbula</i>	
Orchard oriole	<i>Icterus spurius</i>	
Brown-headed cowbird	<i>Molothrus ater</i>	
Black and white warbler	<i>Mniotilta varia</i>	
Scarlet tanager	<i>Piranga olivacea</i>	
Summer tanager	<i>Piranga rubra</i>	
Boat-tailed grackle	<i>Quiscalus major</i>	
Common grackle	<i>Quiscalus quiscula</i>	
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>	
Ovenbird	<i>Seiurus aurocapillus</i>	
American redstart	<i>Setophaga ruticilla ruticilla</i>	
Eastern meadowlark	<i>Sturnella magna</i>	
Tennessee warbler	<i>Vermivora peregrina</i>	
Orange-crowned warbler	<i>Vermivora celata</i>	
House finch *	<i>Carpodacus mexicanus</i>	
American goldfinch	<i>Carduelis tristis</i>	

### MAMMALS

Virginia opossum	<i>Didelphis virginiana</i>
Nine-banded armadillo *	<i>Dasyus novemcinctus</i>

\* Non-native Species

**Lake Jackson Mounds Archaeological State Park**  
**Animals**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Primary Habitat Codes</b> (for imperiled species)
Marsh rabbit	<i>Sylvilagus palustris</i>	
Eastern cottontail	<i>Sylvilagus floridanus</i>	
House mouse *	<i>Mus musculus</i>	
Black rat *	<i>Rattus rattus</i>	
Gray squirrel	<i>Sciurus carolinensis</i>	
Hispid cotton rat	<i>Sigmodon hispidus</i>	
Coyote *	<i>Canis latrans</i>	
Bobcat	<i>Felis rufus</i>	
River otter	<i>Lutra canadensis</i>	
Raccoon	<i>Procyon lotor</i>	
Gray fox	<i>Urocyon cinereoargenteus</i>	
Red fox	<i>Vulpes vulpes</i>	

\* Non-native Species

## Primary Habitat Codes

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### TERRESTRIAL

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

### PALUSTRINE

Alluvial Forest.....	AF
Basin Marsh.....	BM
Basin Swamp.....	BS
Baygall.....	BG
Bottomland Forest.....	BF
Coastal Interdunal Swale.....	CIS
Depression Marsh.....	DM
Dome Swamp.....	DS
Floodplain Marsh.....	FM
Floodplain Swamp.....	FS
Glades Marsh.....	GM
Hydric Hammock.....	HH
Keys Tidal Rock Barren.....	KTRB
Mangrove Swamp.....	MS
Marl Prairie.....	MP
Salt Marsh.....	SAM
Seepage Slope.....	SSL
Shrub Bog.....	SHB
Slough.....	SLO
Slough Marsh.....	SLM
Strand Swamp.....	STS

## Primary Habitat Codes

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Wet Prairie ..... WP

### LACUSTRINE

Clastic Upland Lake ..... CULK

Coastal Dune Lake ..... CDLK

Coastal Rockland Lake ..... CRLK

Flatwoods/Prairie ..... FPLK

Marsh Lake ..... MLK

River Floodplain Lake ..... RFLK

Sandhill Upland Lake ..... SULK

Sinkhole Lake ..... SKLK

Swamp Lake ..... SWLK

### RIVERINE

Alluvial Stream ..... AST

Blackwater Stream ..... BST

Seepage Stream ..... SST

Spring-run Stream ..... SRST

### SUBTERRANEAN

Aquatic Cave ..... ACV

Terrestrial Cave ..... TCV

### ESTUARINE

Algal Bed ..... EAB

Composite Substrate ..... ECPS

Consolidated Substrate ..... ECNS

Coral Reef ..... ECR

Mollusk Reef ..... EMR

Octocoral Bed ..... EOB

Seagrass Bed ..... ESGB

Sponge Bed ..... ESPB

Unconsolidated Substrate ..... EUS

Worm Reef ..... EWR



## Primary Habitat Codes

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### MARINE

Algal Bed .....	MAB
Composite Substrate .....	MCPS
Consolidated Substrate .....	MCNS
Coral Reef .....	MCR
Mollusk Reef .....	MMR
Octocoral Bed .....	MOB
Seagrass Bed .....	MSGB
Sponge Bed .....	MSPB
Unconsolidated Substrate .....	MUS
Worm Reef .....	MWR

### ALTERED LANDCOVER TYPES

Abandoned field .....	ABF
Abandoned pasture .....	ABP
Agriculture .....	AG
Canal/ditch .....	CD
Clearcut pine plantation .....	CPP
Clearing .....	CL
Developed .....	DV
Impoundment/artificial pond .....	IAP
Invasive exotic monoculture .....	IEM
Pasture - improved .....	PI
Pasture - semi-improved .....	PSI
Pine plantation .....	PP
Road .....	RD
Spoil area .....	SA
Successional hardwood forest .....	SHF
Utility corridor .....	UC

### MISCELLANEOUS

Many Types of Communities .....	MTC
Overflying .....	OF



## **Addendum 6—Imperiled Species Ranking Definitions**



## **Imperiled Species Ranking Definitions**

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

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

Federal and State status information is from the U.S. Fish and Wildlife Service; and the Florida Fish and Wildlife Conservation Commission (animals), and the Florida Department of Agriculture and Consumer Services (plants), respectively.

### **FNAL GLOBAL RANK DEFINITIONS**

- G1 ..... Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or fabricated factor.
- G2 ..... Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
- G3 ..... Either very rare or local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
- G4 ..... apparently secure globally (may be rare in parts of range)
- G5 ..... demonstrably secure globally
- GH ..... of historical occurrence throughout its range may be rediscovered (e.g., ivory-billed woodpecker)
- GX ..... believed to be extinct throughout range
- GXC ..... extirpated from the wild but still known from captivity or cultivation
- G#? ..... Tentative rank (e.g., G2?)
- G#G# ..... range of rank; insufficient data to assign specific global rank (e.g., G2G3)
- G#T# ..... rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)

## Imperiled Species Ranking Definitions

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

### LEGAL STATUS

#### **FEDERAL**

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

- LE ..... Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.
- PE ..... Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.
- LT ..... Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.

## **Imperiled Species Ranking Definitions**

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- PT ..... Proposed for listing as Threatened Species.
- C ..... Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.
- E(S/A) ..... Endangered due to similarity of appearance.
- T(S/A) ..... Threatened due to similarity of appearance.
- EXPE, XE..... Experimental essential population. A species listed as experimental and essential.
- EXPN, XN.... Experimental non-essential population. A species listed as experimental and non-essential. Experimental, nonessential populations of endangered species are treated as threatened species on public land, for consultation purposes.

### **STATE**

#### **ANIMALS .. (Listed by the Florida Fish and Wildlife Conservation Commission - FWC)**

- FE ..... Federally-designated Endangered
- FT ..... Federally-designated Threatened
- FXN..... Federally-designated Threatened Nonessential Experimental Population
- FT(S/A) ..... Federally-designated Threatened species due to similarity of appearance
- ST..... Listed as Threatened Species by the FWC. Defined as a species, subspecies, or isolated population, which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat, is decreasing in area at a rapid rate and therefore is destined or very likely to become an endangered species within the near future.
- SSC..... Listed as Species of Special Concern by the FWC. Defined as a population which warrants special protection, recognition or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance or substantial human exploitation that, in the near future, may result in its becoming a threatened species.

## Imperiled Species Ranking Definitions

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

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

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



## **Addendum 7—Cultural Information**



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

**A. General Discussion**

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

**B. Agency Responsibilities**

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

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

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

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

**C. Statutory Authority**

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

**D. Management Implementation**

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

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

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

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

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

**E. Minimum Review Documentation Requirements**

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at:

[http://www.flheritage.com/preservation/compliance/docs/minimum\\_review\\_documentation\\_requirements.pdf](http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf) .

\* \* \*

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

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

Phone: (850) 245-6425

Toll Free: (800) 847-7278

Fax: (850) 245-6435

## Eligibility Criteria for National Register of Historic Places

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

- 1) Districts, sites, buildings, structures, and objects may be considered to have significance in American history, architecture, archaeology, engineering, and/or culture if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
  - a) are associated with events that have made a significant contribution to the broad patterns of our history; and/or
  - b) are associated with the lives of persons significant in our past; and/or
  - c) embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and/or
  - d) have yielded, or may be likely to yield, information important in prehistory or history.
  
- 2) Ordinarily cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years shall not be considered eligible for the *National Register*. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:
  - a) a religious property deriving its primary significance from architectural or artistic distinction or historical importance; or
  - b) a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
  - c) a birthplace or grave of an historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; or
  - d) a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, distinctive design features, or association with historic events; or

## Eligibility Criteria for National Register of Historic Places

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

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

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

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

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

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

