

**LETCHWORTH-LOVE MOUNDS  
ARCHAEOLOGICAL STATE PARK  
UNIT MANAGEMENT PLAN**

**APPROVED PLAN**

**STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
Division of Recreation and Parks**

**DECEMBER 8, 2006**



Jeb Bush  
Governor

# Department of Environmental Protection

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Colleen Castille  
Secretary

December 21, 2006

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

Re: Letchworth-Love Mounds Archaeological State Park ..... Lease #4089

Dear Ms. White:

On December 8, 2006, the Acquisition and Restoration Council recommended approval of the Letchworth-Love Mounds Archaeological State Park management plan. Therefore, the Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, approved the management plan for the Letchworth-Love Mounds Archaeological State Park. Pursuant to Sections 253.034 and 259.032, Florida Statutes, and Chapter 18-2, Florida Administrative Code this plan's ten-year update will be due on December 8, 2016.

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

Sincerely,

A handwritten signature in black ink that reads "Paula L. Allen". The signature is written in a cursive style with a large, sweeping loop at the end.

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

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## **INTRODUCTION**

Letchworth-Love Mounds Archaeological State Park is located in Jefferson County (see Vicinity Map). Access to the park is from Sunray Road directly off U.S. Highway 90; seven miles west of Monticello (see Reference Map). The vicinity map also reflects significant land and water resources existing near the park.

On June 30, 1992, the Board of Trustees of the Internal Improvement Trust Fund (Trustees) obtained title to the property that became Letchworth-Love Mounds Archaeological State Park. The property was purchased under P2000/CARL program. On October 21, 1996, Trustees conveyed management authority of Letchworth-Love Mounds Archaeological State Park to the Department of Environmental Protection, Division of Recreation and Parks (Division), under Lease No. 4089. Currently the park contains 188.20 acres.

At Letchworth-Love Mounds Archaeological State Park, public outdoor recreation and conservation is the designated single use of the property. There are no legislative or executive directives that constrain the use of this property. The park was acquired using funds/or donation (see Addendum 1).

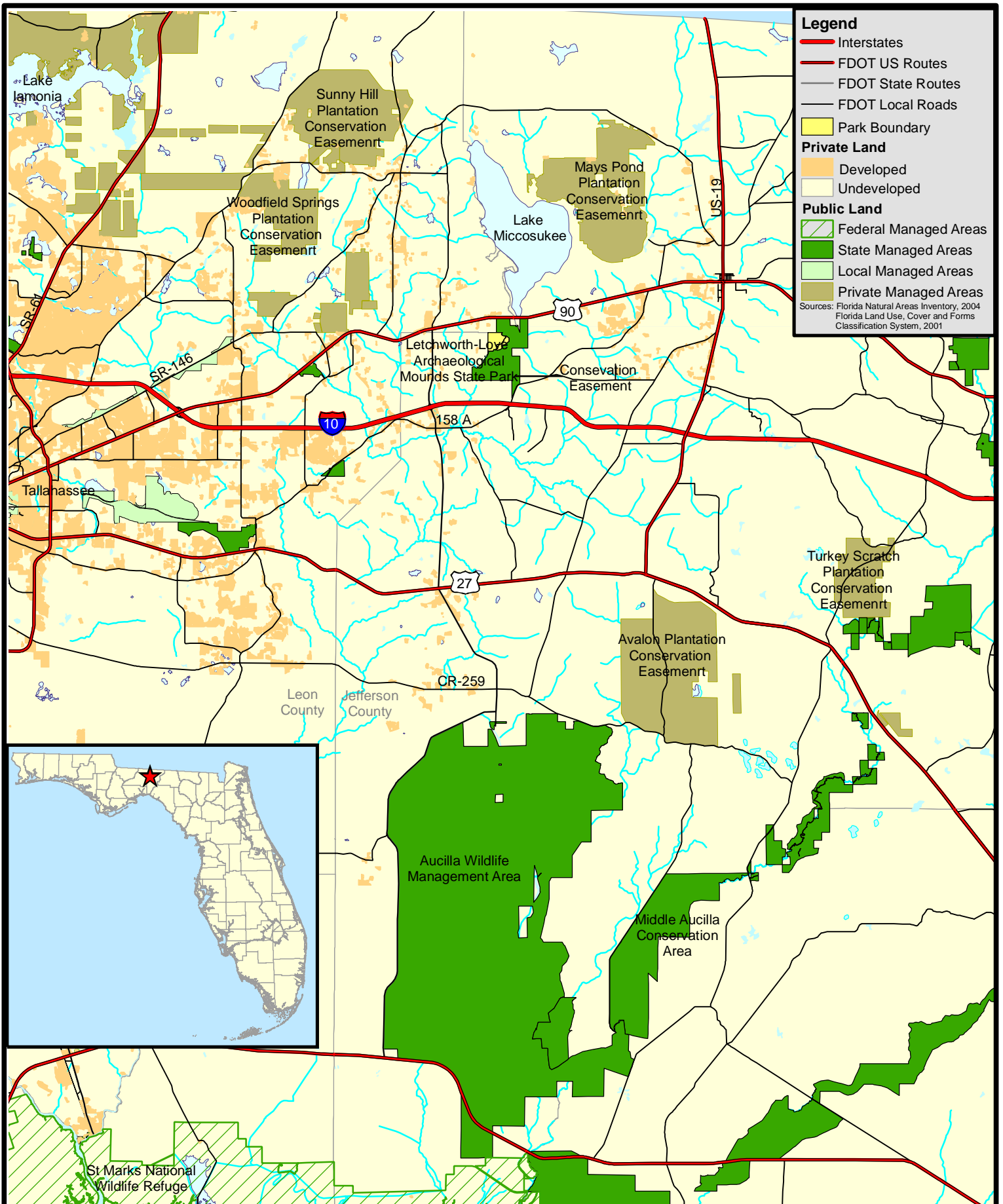
### **PURPOSE AND SCOPE OF THE PLAN**

This plan serves as the basic statement of policy and direction for the management of Letchworth-Love Mounds Archaeological State Park as a unit of Florida's state park system. It identifies the objectives, criteria and standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and intended to be consistent with the State Lands Management Plan. With approval, this management plan will replace the September 5, 2003 approved plan. All development and resource alteration encompassed in this plan is subject to the granting of appropriate permits; easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state or federal agencies. This plan is also intended to meet the requirements for beach and shore preservation, as defined in Chapter 161, Florida Statutes and Chapters 62B-33, 62B-36 and 62R-49, Florida Administrative Code.

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

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

In the development of this plan, the potential of the park to accommodate secondary management purposes ("multiple uses") was analyzed. These secondary purposes were



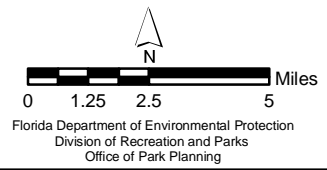
**Legend**

- Interstates
- FDOT US Routes
- FDOT State Routes
- FDOT Local Roads
- Park Boundary
- Private Land**
  - Developed
  - Undeveloped
- Public Land**
  - Federal Managed Areas
  - State Managed Areas
  - Local Managed Areas
  - Private Managed Areas

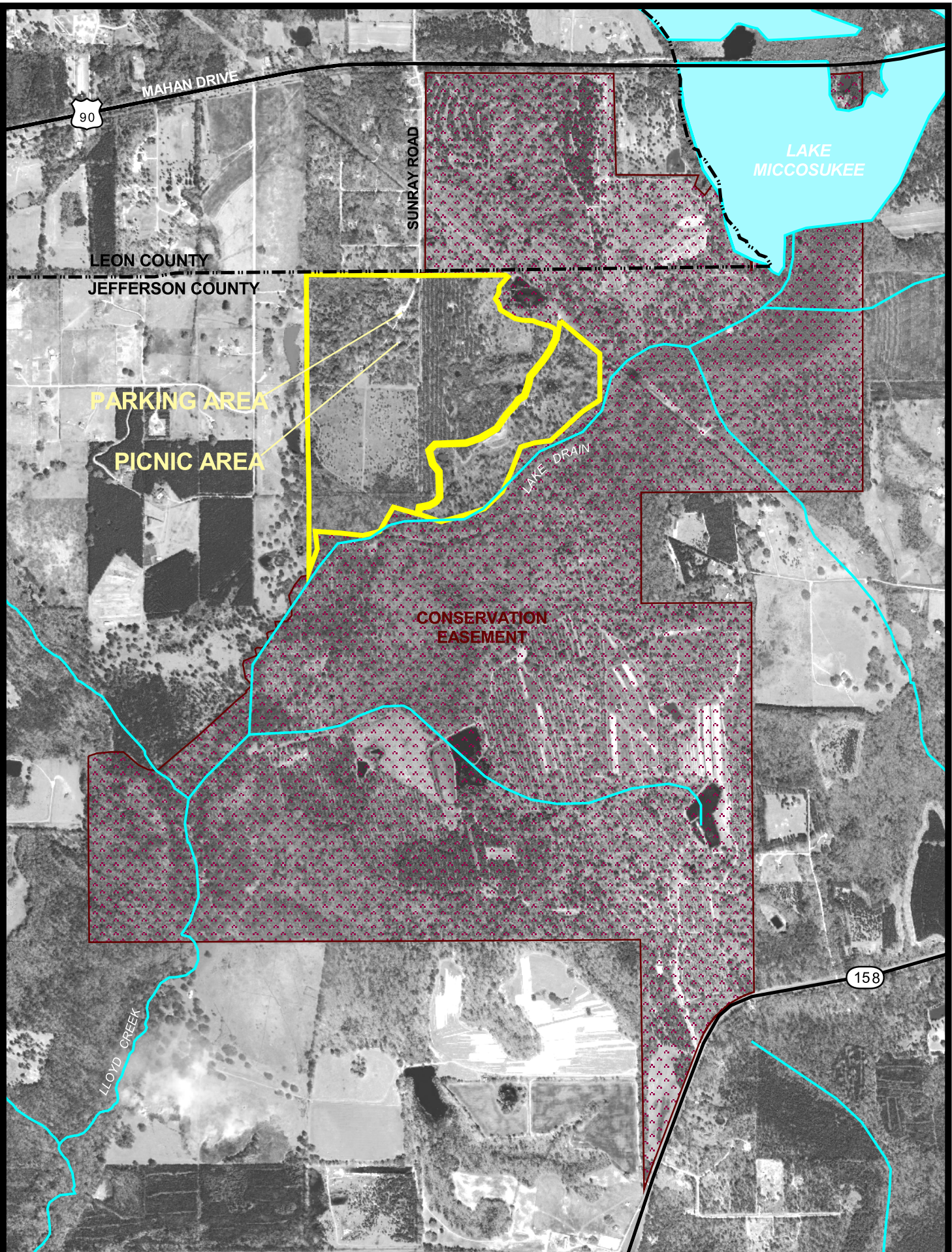
Sources: Florida Natural Areas Inventory, 2004  
Florida Land Use, Cover and Forms Classification System, 2001



**LETCHWORTH-LOVE  
MOUNDS ARCHAEOLOGICAL  
STATE PARK**



**VICINITY  
MAP**



**LETCHWORTH-LOVE MOUNDS  
ARCHAEOLOGICAL STATE PARK**



**REFERENCE MAP**

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

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

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

## **MANAGEMENT PROGRAM OVERVIEW**

### **Management Authority and Responsibility**

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

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

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

impact public recreational uses.

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

In the management of Letchworth-Love Mounds Archaeological State Park, protection and preservation of the cultural resources is all important. Resource considerations are given priority over user considerations and development is restricted to the minimum necessary for ensuring its protection, limited access, user safety and convenience, and appropriate interpretation. Permitted uses are primarily of a passive nature, related to the education and interpretation of the archaeological sites, although other compatible uses are permitted in limited amounts. Program emphasis is placed on interpretation of the cultural attributes of the park.

### **Park Goals and Objectives**

The following park goals and objectives express the Division's long-term intent in managing the state park. At the beginning of the process to update this management plan, the Division reviewed the goals and objectives of the previous plan to determine if they remain meaningful and practical and should be included in the updated plan. This process ensures that the goals and objectives for the park remain relevant over time.

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

### **Natural and Cultural Resources**

1. Manage and protect known historical and archaeological sites in accordance with Florida Statutes.
  - A. Obtain a DHR compliance review and required permits before conducting ground-disturbing activities associated with all park development projects. Ideally, this level of site-specific survey should be incorporated into the planning and cost analysis for all development projects.
  - B. Refer to the Archaeological Resource Management Compliance Review Matrix before conducting any daily activities that require ground disturbance. Monitor activities and request DHR review of such daily activities as required by the matrix, and follow proper reporting procedures both when artifacts are and are not encountered.
  - C. Consult with BNCR for assistance with restoration and reconstruction work, and information on appropriate cultural resource management practices.

- D.** Monitor the condition of historic sites and features on a regular basis to measure the impact of visitors and outside influences.
  - E.** With the assistance of BNCR and DHR, nominate Letchworth-Love Mounds Archaeological State Park to the National Register of Historic Places.
  - F.** Establish a filing system specific to cultural resource management, including maintaining records of site files, compliance reviews, research permits, research reports, and collections files.
  - G.** Train staff to be able to properly manage the known archaeological sites, including Archaeological Resource Monitoring training, and any other cultural resource training opportunities that become available.
- 2.** Document sites on newly acquired property, and continue thorough documentation of original parcel.
    - A.** Coordinate with BNCR and DHR to pursue an archaeological survey of the newly acquired property, including the development of a topographic map and site boundaries consistent with survey methodologies from the original park property.
    - B.** To the extent possible, document all unrecorded sites in the vicinity.
    - C.** Readjust archaeological site boundaries to reflect testing results, keeping in mind that plazas surrounding the large mound often contain few (if any) artifacts, but would still be considered a significant part of the site.
    - D.** Coordinate with BNCR and DHR to assemble a comprehensive synthesis of all previous surveys of the site to gain a better perspective of the whole site and to use as a tool for planning future research.
  - 3.** Pursue scholarly research projects that will provide a greater understanding of the past lifeways of the people of the Letchworth Mounds site complex and their connection to other areas.
    - A.** Coordinate with BNCR and DHR to consult with professional archaeologists to strategically design a research project that will produce more detailed information about the site, including strategies to identify local lifeways and connections to other areas.
    - B.** Coordinate with BNCR and DHR to conduct a continuous core study of Mound I, including radiocarbon dating, and obtaining other data that will shed light on how the mound was constructed.
  - 4.** In coordination with both natural and cultural resource experts, maintain the cultural landscape of the Letchworth Mounds site complex in a way that will best preserve the mound features and surrounding spaces.
    - A.** Develop a cultural landscape management plan with objectives that complementarily address the best management practices for both the natural and cultural features of the park.
    - B.** Develop recreational access (i.e. trails, parking, etc.) in a manner that is sensitive to the cultural landscape, as well as interprets this resource to park visitors.
    - C.** Address the management of woody vegetation throughout the cultural landscape. Explore the possibility of tree removal from some areas and limiting the growth of woody vegetation to the extent possible, allowing only herbaceous plants to help in stabilization efforts.
    - D.** Use prescribed fire as a tool to manage both the cultural and natural features and employ fire management techniques that are sensitive to the cultural landscape, such as including information about culturally sensitive areas in burn plans, using foam lines and mowed lines as firelines in order to avoid disturbing the most sensitive areas.

5. Conduct natural resource management practices in a manner that protects the archaeological record and facilitates site interpretation.
  - A. Burning of vegetation around the large mound should be done with care to preserve the archaeological record. There is evidence that unrecorded sites are in the vicinity.
  - B. Continue routine prescribed burning of the former agricultural fields south of the ranger residence
  - C. Develop and implement routine burn plans for the 26 acre area of planted slash pine.
  - D. Develop long-term pineland management objectives and associated measures for the planted pine area, consistent with paragraph 4 under of the description of Upland Mixed Forest.
  - E. Develop long-term upland hardwood management objectives and associated measures for park uplands located east of the planted pines. These measures should be consistent with paragraph 5 under the description of Upland Mixed Forest.
  - F. Coordinate investigation and any necessary hazard abatement work associated with the former hog farm retention pond with DEP Bureau of Waste Cleanup. If any abatement is necessary, include BNCR in the review process to assure the protection of cultural resources.
  - G. Vegetation and erosion on the large mound should be regularly monitored. Low, herbaceous ground cover should be encouraged, and shrubs and new tree growth should be discouraged
  - H. Archaeological sites should be monitored on a regular basis for evidence of damaging activity by burrowing or digging animals and vandalism.
6. Develop an interpretive program for Letchworth-Love Mounds Archaeological State Park.
  - A. With the assistance of BNCR and DHR, support the funding of an archaeological survey of the entire park to gain a better understanding of the nature and function of the site.
  - B. With assistance from BOS Interpretive Section, seek funding for the design and fabrication of an interpretive signage system; incorporate the results of archaeological research.
  - C. Create a brochure.
7. Implement a collections management program.
  - A. The park should develop a Scope of Collections Statement and a collection management plan in coordination with BNCR.
  - B. Collection management records should be located in permanent files at the park, district office, and BNCR for recovery in the event of lost records.
8. Consult with an advisory committee to develop a framework and implement strategies for investigation and interpretation of the Letchworth Mounds site.
  - A. Solicit membership of park service personnel, DHR personnel, professional archaeologists and other individuals with perspectives that would significantly contribute to the park.
  - B. Work within the committee to develop a comprehensive archaeological site management plan specific to the management, preservation, and interpretation of the Letchworth Mounds site.
  - C. Whenever feasible, seek and take into consideration the committee's recommendations on any cultural resource management objective outlined in this plan, particularly in the development of large scale research projects and interpretive plans.

## **Recreational Goals**

1. Continue to provide quality resource based outdoor recreational and interpretive programs and facilities at the state park.
  - A. Review and design for the best use of park facilities to manage visitor use of the park and park facilities, and to minimize the impact to the cultural resources.
  - B. Continue to provide recreational opportunities such as interpretive programs and picnicking.
  - C. Maintain the existing path and boardwalk to the large mound and prevent visitors from walking directly on the mound.
2. Seek funding to expand recreational and interpretive opportunities through the improvement of programs and the development of new use areas and facilities, as outlined in this management plan.
  - A. Develop an interpretive plan.
  - B. Construct a visitor center.
  - C. Enhance the picnic area.
  - D. Develop an interpretive trail.
  - E. Promote and market Letchworth-Love Mounds as part of a heritage tour of Tallahassee that includes area state parks and other significant archaeological/historical sites.

## **Park Administration/Operations**

1. Provide a new shop area.

### **Management Coordination**

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

The Department of Agriculture and Consumer Services, Division of Forestry (DOF), assists Division staff in the development of wildfire emergency plans and provides the authorization required for prescribed burning. The Florida Fish and Wildlife Conservation Commission (FFWCC), assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within park boundaries. In addition, the FFWCC aids the Division with wildlife management programs, including the development and management of Watchable Wildlife programs. The Department of State, Division of Historical Resources (DHR) assists staff to assure protection of archaeological and historical sites. The Department of Environmental Protection (DEP), Office of Coastal and Aquatic Managed Areas (CAMA) aids staff in aquatic preserves management programs. The DEP, Bureau of Beaches and Wetland Resources aids staff in planning and construction activities seaward of the Coastal Construction Line. In addition, the Bureau of Beaches and Wetland Resources aid the staff in the development of erosion control projects. Emphasis is placed on protection of existing resources as well as the promotion of compatible outdoor recreational uses.

### **Public Participation**

The Division provided an opportunity for public input by conducting a public workshop and an advisory group meeting. A public workshop was held on August 15, 2006. The purpose of this meeting was to present this draft management plan to the public. An Advisory Group meeting was held on August 16, 2006. The purpose of this meeting was to provide the Advisory Group members the opportunity to discuss the draft management plan.

### **Other Designations**

Letchworth-Love Mounds Archaeological State Park is not within an Area of Critical State Concern as defined in section 380.05, Florida Statutes. Currently it is not under study for such designation. The park is a component of the Florida Greenways and Trails System.

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



## **RESOURCE MANAGEMENT COMPONENT**

### **INTRODUCTION**

The Division of Recreation and Parks has implemented resource management programs for preserving for all time the representative examples of natural and cultural resources of statewide significance under its administration. This component of the unit plan describes the natural and cultural resources of the park and identifies the methods that will be used to manage them. The stated management measures in this plan are consistent with the Department's overall mission in ecosystem management. Cited references are contained in Addendum 2.

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

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

Because park units are often components of larger ecosystems, their proper management is often affected by conditions and occurrences beyond park boundaries. Ecosystem management is implemented through a resource management evaluation program (to assess resource conditions, evaluate management activities, and refine management actions), review of local comprehensive plans, and review of permit applications for park/ecosystem impacts.

### **RESOURCE DESCRIPTION AND ASSESSMENT**

#### **Natural Resources**

##### **Topography**

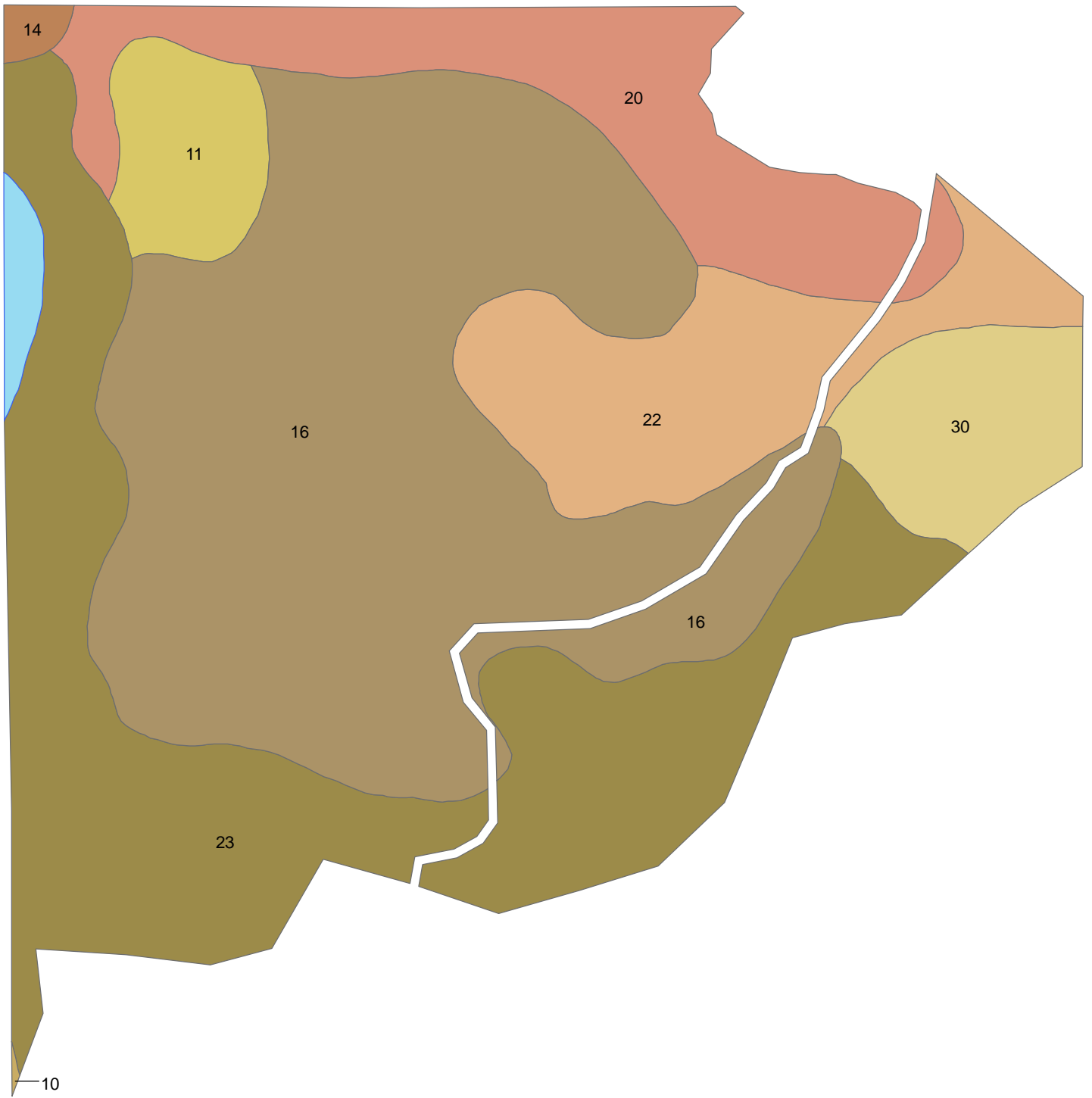
At this unit the major topographic feature is the main Native American mound. Surrounding the main mound are slight depressions or low-lying areas. Otherwise, the property is relatively flat. Elevation of the general area is approximately 80 feet above sea level.

##### **Geology**

Jefferson County encompasses a transitional geologic area that separates the thick Tertiary carbonate sediment characteristic of the Florida peninsula from the predominant age-equivalent clastic sediment of western Florida. This area is underlain by thick limestone, dolomites, sands, and clays in the northern half of the county.

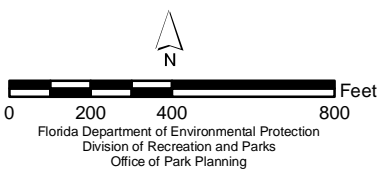
##### **Soils**

Soils that occur on this site include: Blanton fine sands, Albany sands, Plummer fine sands, Pelham fine sands, and Pamlico-Dorovan mucks (see Soils Map). Generally, these soils range from slightly to extremely acidic soils that are poorly drained and rather level. Effort will be given to the conservation of soils. Management measures will be taken to encourage the growth of native groundcover. Addendum 3 contains detailed soil descriptions.



**LEGEND**

- 10-Rains fine sandy loam
- 11-Lucy loamy fine sand, 0 to 5 percent slopes
- 14-Orangeburg sandy loam, 5 to 8 percent slopes
- 16-Blanton fine sand, 0 to 5 percent slopes
- 20-Albany sand
- 22-Plummer fine sand
- 23-Pelham fine sand
- 30-Pamlico-Dorovan mucks
- Water



**LETCHWORTH-LOVE MOUNDS  
ARCHAEOLOGICAL STATE PARK**

**SOILS  
MAP**

## **Minerals**

There appear to be no known deposits of commercially valuable minerals within the Letchworth-Love Mounds Archaeological State Park.

## **Hydrology**

The Floridian Aquifer is the principal water-bearing unit in Jefferson County. It includes all of the Middle Eocene to Early Miocene Formations. This aquifer is believed to be recharged by Lake Miccosukee through sinkholes in addition to recharge along the Aucilla River. In the northeastern part of the county, leakage occurs from swamp areas through the overlying sediment of the Hawthorne and Miccosukee formations.

Secondary artesian aquifers are in northern Jefferson County. These aquifers occur within discontinuous units of limestone, dolomite, and sand that formed the Hawthorne formation. The amount of water obtained from the secondary aquifers is minimal in comparison to the underlying Floridian Aquifer.

The entire park property, with exception of the mounds, is relatively flat. Therefore significant sheet flow at ground surface is usually limited to the far southern edge of the property. Here surface hydrology is generally in the form of small ephemeral streamlets and more permanent seepage areas that flow into the black water stream known as Lake Drain.

There are four shallow wetlands, east of the management easement access corridor that have, at least ephemeral, connection to Lake Drain. All of these wetlands are at least partially surrounded by a typical quail plantation landscape that is best described as a relatively open oak savannah. Three of the wetlands are shallow depression areas characteristic of karst topographies. The southern most wetland is relatively void of typical aquatic and semi-aquatic vegetation, aside from a scattering of smartweed. This may indicate a seasonal dry period. However, the presence of a small number of mosquito fish probably indicates that this wetland does not completely dry up in most years. The second small wetland area is located just to the north and appears to have at least ephemeral connection to the afore mentioned. This second wetland is ringed by mature live oaks, and appears to be slightly deeper at the center. Deciduous woody shrubs observed prior to spring leaf-out are believed to be buttonbush. Mosquito fish were observed here as well. The other two shallow wetlands are located farther north, nearer the power line right-of-way. These two appear to have at least ephemeral connection, and both have more permanent seepage connections flowing into Lake Drain. Both wetlands have a grassy meadow-like appearance, and species diversity appears higher. Plant species include sedge *Carex sp.*, mermaid weed, maidencane, soft rush, primrose, smartweed and scattered sweetgum trees. Animal species observed included large numbers of mosquito fish, water beetles, bronze frog, cricket frog, tadpoles (probably cricket frog), little blue heron, great white egret, pileated woodpecker and marsh rabbit. The observed wading birds, in areas of deeper water, may indicate the presence of larger fish species such as sunfish.

A much larger and fairly contiguous wetland occurs just east of the planted pine. Habitat conditions range from shallow marshy depressions to a dense closed canopy hardwood swamp of blackgum. Cricket frogs, bronze frogs, leopard frogs and spring peepers were either observed or heard, as well as large numbers of mosquito fish. It is presumed that these marshy depressions associated with the larger central wetland are breeding grounds for the afore mentioned species of frogs. There is a very small area of open water within the blackgum swamp. Netted Chain fern was the only numerous groundcover observed during a site visit in March 2006. No animal species were observed within the blackgum swamp except cricket frogs. This contiguous “U-

shaped” central wetland appears to have seasonal connection with Lake Drain via the two smaller wetlands nearer the power line right-of-way. There are a few low spots along the eastern segment of the easement corridor jeep trail where water appears to flow across during wet periods.

An expanse of floodplain forest, associated with Lake Drain, occurs in the southwestern corner of the park, and extends well beyond park boundaries. Surface and sub-surface hydrology within this wetland community is directed south towards the creek. Much of this portion of the park is inundated with standing water during very wet periods. A few small depression areas, ringed by chain ferns, appear to hold water throughout most of the year.

Other wetlands include a very small, isolated depression area in the northwest corner of the property, and a relatively isolated marsh located just outside of the park boundary, along the power line right-of-way.

### **Natural Communities**

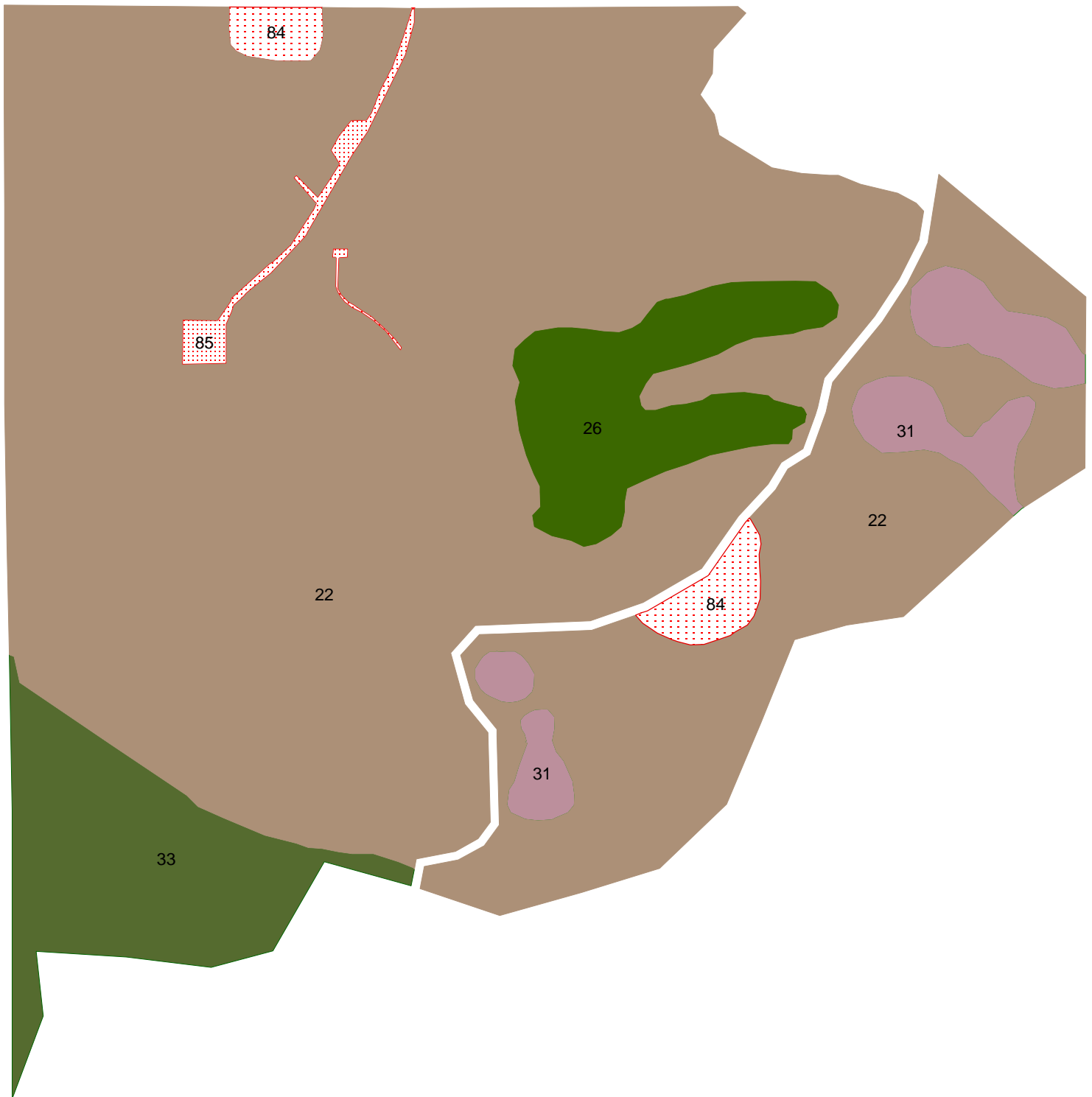
The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors, such as climate, geology, soil, hydrology and fire frequency generally determine the species composition of an area, and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

The park contains four natural communities (see Natural Communities Map) in addition to ruderal and developed areas. Park specific assessments of the existing natural communities are provided in the narrative below. A list of plants and animals occurring in the unit is contained in Addendum 4.

The Letchworth property is a unique site in many ways. The vegetation on and around the mound proper has the characteristics of an upland mixed forest natural community; however, since the mound is a manmade structure and has been cut over, the area has been deemed ruderal. The site has a long history of use, including being completely cleared at one time or another. The area has been succeeding toward a climax community and is probably in a transitional state. The present community types generally serve as a good indicator of the most recent time the area was disturbed. Loblolly pine, white oak, live oak, water oak, southern magnolia, etc. occur on the site.

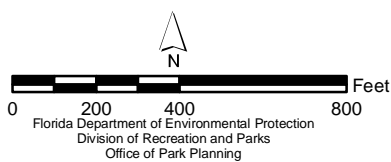
**Basin swamp.** A large “U-shaped” wetland just east of the planted pine is best described as basin swamp. Aside from a few narrow ephemeral connections through adjacent wetlands, the basin swamp is isolated from the floodplain of Lake Drain for the majority of most years. The eastern legs of this wetland are more open and marshy in appearance, while the western portion is more typical of a Basin Swamp, with blackgum forming a closed canopy. (See section on hydrology, above, for additional information on the park’s basin swamp.)

**Depression marsh.** The FNAI description of depression marsh most closely fits the characteristics of the four small wetlands located east of the easement corridor. The above section on Hydrology contains a more detailed description of these wetlands.



**LEGEND**

- 22 - Upland Mixed Forest-150.78 ac.
- 26 - Basin Swamp-10.76 ac.
- 31 - Depression Marsh-7.31 ac.
- 33 - Floodplain Forest-14.91 ac.
- 84 - Ruderal-2.95 ac.
- 85 - Developed-1.49 ac.



**LETCHWORTH-LOVE MOUNDS  
ARCHAEOLOGICAL STATE PARK**

**NATURAL COMMUNITIES  
MAP**

**Floodplain forest.** An expanse of floodplain forest, associated with Lake Drain, occurs in the southwestern corner of the park, and extends well beyond park boundaries. Plant species include sweetgum, ebony spleenwort, wild azalea, sweetleaf, water oak, laurel oak, hornbeam, red maple, Virginia willow and cypress nearer the creek. The dominant canopy forming trees throughout the majority of this natural community are laurel oak and water oak. This wetland community is an important buffer area for Lake Drain.

**Upland mixed forest.** The majority of the park is in various stages of very early succession, after centuries of agrarian land use. Although the lands surrounding the mound complex are currently believed to have been abandoned before the arrival European settlers, the long standing impacts by the past indigenous peoples certainly influenced the natural landscape, which can now be viewed as a cultural landscape, as well. Most recently, the park's uplands have been influenced by farming and silviculture activities during the 20<sup>th</sup> century. For the purpose of guiding and encouraging natural areas management, the majority of the park's upland areas will be lumped into the category of Upland Mixed Forest. This categorization should not preclude the use of routine prescribed fire in any area of this map unit. It is recommended that prescribed fire be continued in already delineated burn zones, and expanded into upland portions of the new property. Routine fire will be the most practical and effective tool for encouraging species diversity, and helping to delineate natural community divisions. Furthermore, if targeted natural community restoration is to be achieved in any upland portion of the property, then former natural components, long since extirpated or reduced in distribution, may need to be reintroduced. Species examples may include longleaf pine, red oak, bluejack oak, mockernut hickory, shortleaf pine and wiregrass in areas that may eventually appear to be best described as pinelands. Species such as American beech, flowering dogwood, southern magnolia, American holly, spruce pine, basket oak and pignut hickory may need to be reintroduced into areas that show eventual characteristics of Upland Hardwood Forest/Upland Mixed Forest.

In general, the portion of the park delineated as Upland Mixed Forest can currently be divided into four fairly distinct areas. The forested area in the northwest portion of the park is an early successional mixed forest of hardwoods and pines, where poison ivy flourishes. This area is dominated by aggressive colonizers like loblolly pine, laurel oak, blackberry, sweetgum and cherry. However, the reported occurrence of white oak and beech are encouraging signs that a more natural "hardwood-type" forest may eventually develop here.

The former pasture/old field south of the ranger residence is quickly being colonized by volunteer loblolly pines, laurel oak, broomsedge, dog fennel and, in places, a thick undergrowth of blackberry. Prescribed fires, in recent years, have encouraged more grasses and low herbaceous growth. This practice should be continued.

The roughly 26 acres of planted slash pine located in the middle of the property, can be managed towards a more natural state, with the introduction of more routine prescribed burning, and gradual development of a more uneven age distribution among overstory pines. A very general long-term objective should be to achieve and maintain a relatively low basal area "natural" pineland with an older growth component. This area occurs on one of the higher/better drained soil types, and may develop some characteristics of an upland pine forest with appropriate and sustained management actions.

The remaining uplands on the eastern portion of the park are best described as an open, "plantation-like" landscape with widely scattered live oaks, laurel oaks and water oaks. This area occurs on soil types that are slightly lower with reduced percolation. It is likely that this area

could eventually exhibit characteristics of an upland hardwood forest. If this is to be realized however, re-introduction of at least some of the hardwood species listed above should be seriously considered. The infrequent use of fire should still be considered as a management measure. Fire intensity and frequency would need to be sensitive to re-introduced hardwood saplings. However, until active restoration measures towards an Upland Hardwood community are initiated, this area should be routinely prescribed burned in order to discourage rapid colonization and overgrowth by early succession, “weedy” species.

In the management this State Park unit, protection and preservation of the cultural resources is all important. Restoration of any cultural features, once associated with the mounds, will take priority over natural areas management objectives in any portion of this map unit.

**Ruderal.** Ruderal areas include the former hog farm just west of the park entrance, a small semi-wetland area along the western boundary, and former food plots on the new property.

**Developed.** Developed areas include the main park entrance road, parking area, visitor support facilities, and ranger residence/support structures.

### **Designated Species**

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

At least one known active gopher tortoise burrow occurs on the park property, others likely occur in suitable habitat. Other listed animal species included in the park’s animal list are occasional flyovers.

### **Special Natural Features**

No special natural features are present at this unit.

## **Cultural Resources**

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

The cultural resources within Letchworth-Love Mounds Archaeological State Park currently consist of two archaeological sites that are recorded in the Florida Master Site File, and a vast cultural landscape of an ancient mound complex. The Sunray Road mound (8LE133) was recorded in 1972, and was identified as a smaller American Indian burial mound. The Letchworth Mounds site complex (8LE337) was recorded five years later and comprises a primary temple mound (often referred to as the Letchworth Mound or Mound I) and twenty to

twenty-eight associated small mounds. The Sunray Road burial mound is considered associated with the Letchworth Mounds site, thus, in addition to having its own site file and number; it is also included as a part of the Letchworth Mounds site complex.

The condition of these sites has been compromised by past agricultural activities before state acquisition. Although it appears to be relatively stable at the current time, the Sunray Road mound is considered to be in poor condition because it has been dramatically altered from the description recorded in the site file thirty years ago. Because of agricultural activities, it is now only a couple of feet high and an indeterminate diameter, whereas it was originally recorded as five feet high and fifty feet in diameter. The Letchworth Mounds site complex is considered in fair condition. Mound I of the mound complex is one of the tallest and most complex earthen mounds constructed by American Indians in Florida estimated at 40-50 feet high, with considerable architectural detail including wing-like platforms surmounted by a truncated pyramid, and flanked by a ramp and large apron. Besides predictable deterioration such as slumping, erosion and woody vegetation growth, this site has also been impacted by human alteration. Past looting activities have left behind open pits on Mound I, but there is no evidence of looting since 1977. Many of the twenty to twenty-eight smaller mounds associated with the mound complex are no longer observable due to agricultural activity, but the archaeological record may still hold valuable information, as many of the smaller mounds may still hold caches of artifacts and other features indicative of the past lifeways of the American Indian peoples who once utilized this site. The Letchworth Mounds site has been the focus of management recommendations from DHR, BNCR, and park and district staff, and efforts have been put forth to improve the stabilization of the temple mound, including removing woody vegetation and blocking access to unauthorized trails.

Due to the private ownership of this site until state acquisition in 1992, the Letchworth Mounds site and associated site components have not been known to archaeologists for very long. As a result, little research has been conducted and relatively little is known about the significance, cultural affiliation and time period of this mound complex. Archaeologist Ryan Wheeler (2005) suggests that the best way to understand the Letchworth Mounds site is to visualize it as a prehistoric city – the big mound served as the center, which was bordered by open plazas, smaller residence, and burial mounds that all together occupied over 200 acres within the Lake Miccosukee floodplain, and all of these were further surrounded by outlying homesteads. In essence, this vast cultural landscape once served the American Indians of Letchworth.

Archaeologists who have researched the Letchworth Mounds site have suggested a wide array of cultural affiliations, but have not yet uncovered enough definitive information to determine the cultural period(s) of the Letchworth Mounds site. In 1992, Chris Newman analyzed a collection of artifacts donated by the Letchworth family, and found that the majority of diagnostic pottery was associated with the highly distinctive Weeden Island culture of north central Florida and adjacent parts of Georgia and Alabama, which dates to the late Woodland Period (ca. AD 200-900). More recently, a survey conducted by the Bureau of Archaeological Research (Teser, et. al. 2003) confirmed that primary human occupation of the Letchworth Mounds site appears to be during the Late Swift Creek and Early Weeden Island times, thus supporting Newman's conclusions. However, Mound I appears more like temple mounds built by Mississippian peoples such as the Fort Walton culture of north Florida (ca. AD 1000-1550), which suggests a later cultural affiliation. Although much information about past human activity at the Letchworth Mounds site remains indefinite, it is clear that the site has the potential to provide a wealth of information to both researchers and park interpreters for outstanding recreational and educational opportunities for park visitors.

The park maintains no collections of cultural materials, artifacts, or other objects. Materials collected in the park are forwarded to the Division of Historical Resources for curation, pursuant to Chapter 267, F.S.

## **RESOURCE MANAGEMENT PROGRAM**

### **Special Management Considerations**

#### **Timber Management Analysis**

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

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

A 26-acre stand of planted slash pine was heavily thinned before State acquisition of the property. The current density, distribution and species type are deemed compatible with long-term natural areas management of the site. No further harvest activities are foreseen at this time.

#### **Additional Considerations**

Geocaching is a new and increasingly popular sport. It is essentially a "high-tech" treasure hunt using GPS technology. Many times, caches are placed in sensitive natural or cultural sites by a well intentioned but uninformed public. Management should keep an eye out for caches placed in this park, as most of the caches are buried. Any ground disturbing activity in this park could damage very sensitive and in some cases sacred areas. Any Geocaching activities should be strictly regulated and monitored by park staff.

### **Management Needs and Problems**

The management needs and problems at Letchworth-Love Mounds Archaeological State Park primarily focus on the cultural resources. Any management of the natural resources will be done with this in mind. Management techniques will be evaluated for their impact on the cultural resource. Structures associated with the former hog farming facility have been removed. These building shells and farm objects were not considered a significant cultural resource. Associated with the former facilities is what appears to be a relict holding pond. This pond needs further review in order to evaluate safety considerations and the extent of impact, if any, to the surficial aquifer.

Management of the cultural resources at Letchworth-Love Mounds Archaeological State Park is informed by the essential fact that they are constructed of earth and are engaged in the natural process of eroding away to become part of the land around them. Erosion threats come from the actions of water and wind; however, the effects of those processes can be complicated by the activities of visitors, animals, and the life characteristics of plants. Ideally, the process of maintaining mounds' stability would be part of the annual rhythm of life, as it likely was during

the years of Native American activity at the site, and damage from erosion or slumping would be repaired in the ordinary course of things. Under prevailing circumstances, management of cultural resources is a protective or conservation activity. It consists of attempting to retain as great a measure of physical integrity as possible, assuming an identity of physical and historical integrity.

### **Management Objectives**

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

1. Manage and protect known historical and archaeological sites in accordance with Florida Statutes.
  - A. Obtain a DHR compliance review and required permits before conducting ground-disturbing activities associated with all park development projects. Ideally, this level of site-specific survey should be incorporated into the planning and cost analysis for all development projects.
  - B. Refer to the Archaeological Resource Management Compliance Review Matrix before conducting any daily activities that require ground disturbance. Monitor activities and request DHR review of such daily activities as required by the matrix, and follow proper reporting procedures both when artifacts are and are not encountered..
  - C. Consult with BNCR for assistance with restoration and reconstruction work, and information on appropriate cultural resource management practices
  - D. Monitor the condition of historic sites and features on a regular basis to measure the impact of visitors and outside influences.
  - E. With the assistance of BNCR and DHR, nominate Letchworth-Love Mounds Archaeological State Park to the National Register of Historic Places.
  - F. Establish a filing system specific to cultural resource management, including maintaining records of site files, compliance reviews, research permits, research reports, and collections files.
  - G. Train staff to be able to manage the known archaeological sites, including Archaeological Resource Monitoring training, and any other cultural resource training opportunities that become available.
2. Document sites on newly acquired property, and continue documentation of original parcel.
  - A. Coordinate with BNCR and DHR to pursue an archaeological survey of the newly acquired property, including the development of a topographic map and site boundaries consistent with survey methodologies from the original park property.
  - B. To the extent possible, document all unrecorded sites in the vicinity.
  - C. Readjust archaeological site boundaries to reflect testing results, keeping in mind that plazas surrounding the large mound often contain few (if any) artifacts, but would still be considered a significant part of the site.
  - D. Coordinate with BNCR and DHR to assemble a comprehensive synthesis of all previous surveys of the site to gain a better perspective of the whole site and to use as a tool for planning future research.
3. Pursue scholarly research projects that will provide a greater understanding of the past lifeways of the people of the Letchworth Mounds site complex and their connection to other areas.

- A. Coordinate with BNCR and DHR to consult with professional archaeologists to strategically design a research project that will produce more detailed information about the site, including strategies to identify local lifeways and connections to other areas.
  - B. Coordinate with BNCR and DHR to conduct a continuous core study of Mound I, including radiocarbon dating, and obtaining other data that will shed light on how the mound was constructed.
4. In coordination with both natural and cultural resource experts, maintain the cultural landscape of the Letchworth Mounds site complex in a way to preserve the mound features and surrounding spaces.
- A. Develop a cultural landscape management plan with objectives that complimentarily address the best management practices for both the natural and cultural features of the park.
  - B. Develop recreational access (i.e. trails, parking, etc.) in a manner that is sensitive to the cultural landscape, as well as interprets this resource to park visitors.
  - C. Address the management of woody vegetation throughout the cultural landscape. Explore the possibility of tree removal from some areas and limiting the growth of woody vegetation to the extent possible, allowing only herbaceous plants to help in stabilization efforts.
  - D. Use prescribed fire as a tool to manage both the cultural and natural features of the park and employ fire management techniques that are sensitive to the cultural landscape, such as including information about culturally sensitive areas in burn plans, using foam lines and mowed lines as firelines in order to avoid disturbing the most sensitive areas.
5. Conduct natural resource management practices in a manner that protects the archaeological record and facilitates site interpretation.
- A. Burning of vegetation around the large mound should be done with care to preserve the archaeological record. There is evidence that unrecorded sites are in the vicinity.
  - B. Continue routine prescribed burning of the former agricultural fields south of the ranger residence
  - C. Develop and implement routine burn plans for the 26 acre area of planted slash pine.
  - D. Develop long-term pineland management objectives and associated measures for the planted pine area, consistent with paragraph 4 under of the description of Upland Mixed Forest.
  - E. Develop long-term upland hardwood management objectives and associated measures for park uplands located east of the planted pines. These measures should be consistent with paragraph 5 under the description of Upland Mixed Forest.
  - F. Coordinate investigation and any necessary hazard abatement work associated with the former hog farm retention pond with DEP Bureau of Waste Cleanup. If any abatement is necessary, include BNCR in the review process to assure the protection of cultural resources.
  - G. Vegetation and erosion on the large mound should be regularly monitored. Low, herbaceous ground cover should be encouraged, and shrubs and new tree growth should be discouraged
  - H. Archaeological sites should be monitored on a regular basis for evidence of damaging activity by burrowing or digging animals and vandalism.
3. Develop an interpretive program for Letchworth-Love Mounds Archaeological State Park.
- A. With the assistance of BNCR and DHR, support the funding of an archaeological survey of the entire park to gain a better understanding of the nature and function of the site.

- B. With assistance from BOS Interpretive Section, seek funding for the design and fabrication of an interpretive signage system; incorporate the results of archaeological research.
- C. Create a brochure
- 4. Implement a collections management program.
  - A. The park should develop a Scope of Collections Statement and a collection management plan in coordination with BNCR.
  - B. Collection management records should be located in permanent files at the park, district office, and BNCR for recovery in the event of lost records.
- 5. Form an advisory committee to develop a framework and implement strategies for investigation and interpretation of the Letchworth Mounds site.
  - A. Solicit membership of park service personnel, DHR personnel, professional archaeologists and other individuals with perspectives that would significantly contribute to the park.
  - B. Work within the committee to develop a comprehensive archaeological site management plan specific to the management, preservation and interpretation of the Letchworth Mounds site.
  - C. Whenever feasible, seek and take into consideration the committee's recommendations on any cultural resource management objective outline in this plan, particularly in the development of large-scale research projects and interpretive plans.

### **Management Measures for Natural Resources**

#### **Hydrology**

Protection of the hydrological features is important. The southern end of the property is part of the Lake Miccosukee (Lake Drain Creek) drainage. Regular prescribed burns should enhance the native ground cover over former tilled adjacent soils. This vegetation and associated root mat will conserve and protect the hydrology of the drainage and its valuable water resource. In addition, investigation of the hog farming retention pond is recommended. Efforts to identify and correct any problems associated with remaining pesticides or other harmful chemicals should be coordinated through the DEP Bureau of Waste Cleanup.

#### **Prescribed Burning**

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

Prescribed fire is a management tool that can be used effectively to manage vegetation on and around cultural resources and features of this park. Burn plans will be developed and reviewed as necessary to manage vegetation and reduce hazardous fuel loads.

Since much of the understory vegetation is "weedy" and typical of ruderal sites, fuel reduction burns conducted under relatively dry, dormant season conditions will be most effective at managing fuel loads and maintaining aesthetic park-like vistas. It is therefore recommended that the former agriculture field, south of the ranger residence, be winter burned every 2-3 years.

A large portion of the 26-acre slash pine stand has a thick undergrowth of Bahia grass, a remnant

of former pasture use. Likewise, this pine stand should be burned in the dormant winter months, when the Bahia grass will readily carry understory fires. If the primary management objective is fuel reduction and improvement & maintenance of open understory conditions, then a 2-3 year fire return frequency is recommended for this site as well.

Similar to the aforementioned sites, the remainder of the property (between pine stand and power lines) will best burn in winter when understory grasses and weed-like growth are in a cured state. If any number of desirable hardwood saplings are re-introduced into this area, fire intensities in and around younger trees will need to be relatively low, at least for the first few years following planting.

The local park staff will coordinate and work with the local Division of Forestry staff regarding the development of a plan for addressing wildfire suppression within the park boundary. An element of the wildfire suppression plan should include rehabilitation of fire lines and any other related suppression impacts.

### **Designated Species Protection**

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

All native plants and animals, as well as other natural features, are protected on state park system lands. Some species, however, need special attention. Surveys should be conducted to record any FNAI tracked plant species within this property.

### **Exotic Species Control**

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

Few exotic species occur on this property. Herbicide, burning and hand pulling are control methods. Selection of control method at each specific site will be evaluated for consistency of management of cultural resources as well as native species.

Adjacent landowners should be contacted as necessary and encouraged to control domestic animals.

### **Problem Species**

Problem species are defined as native species whose habits create specific management problems or concerns. Occasionally, problem species are also a designated species, such as alligators. The Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species that are considered a threat or problem.

If problem species such as venomous snakes or rabid mammals pose a threat to visitors, Division Resource Management Policy #1 will be followed.

### **Management Measures for Cultural Resources**

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

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

Some vegetation removal has already taken place on the mounds. Based on park, district and BNCR consensus, it is recommended that all trees be removed from the mound. Trees and woody shrubs should be removed on a relatively short-term phased approach. Removal methods must be conducted in a manner that is of least impact to the mounds. All vegetation removal should be done after a final review by staff from the Bureau of Natural and Cultural Resources.

### **Research Needs**

#### **Natural Resources**

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

Currently there is not a need for natural resource related research at this unit.

#### **Cultural Resources**

1. A thorough archaeological survey needs to be conducted within the entire impact footprint for any park development project, such as the proposed visitor center. The planning and cost of such surveys needs to be included in the total cost of facility development.
2. An archaeological survey of the newly acquired property is needed, including the development of a topographic map and site boundaries. It is recommended that the surveyor considers extending survey methodologies from the original park property into the newly acquired property.
3. A comprehensive synthesis of all previous surveys will help gain a better perspective of the whole site and serve as a tool for planning future research.
4. A thorough research project strategically designed by professional archaeologists and FPS personnel is needed that will produce more detailed information about the site. Learning more about the local lifeways of the American Indians and Letchworth should be included in the strategic approach to such a research project.
5. Research that is more extensive is needed for a better understanding of Mound I. This research project should consider incorporating a continuous core study of Mound I, radiocarbon dating, and obtaining other data that will shed light on how the mound was constructed.

6. An archaeological site management plan is needed that addresses the management, preservation and interpretation of the site. This plan should include research on how to best preserve the cultural landscape of the mound complex, and include a maintenance schedule for the purpose of monitoring and minimizing the impact of natural and human processes.

#### **Resource Management Schedule**

A priority schedule for conducting all management activities that is based on the purposes for which these lands were acquired, and to enhance the resource values, is contained in Addendum 6. Cost estimates for conducting priority management activities are based on the most cost effective methods and recommendations currently available.

#### **Land Management Review**

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation, and recreation lands titled in the name of the Board of Trustees of the Internal Improvement Trust Fund (board) are being managed for the purposes for which they were acquired and in accordance with a land management plan adopted pursuant to s. 259.032, the board of trustees, acting through the Department of Environmental Protection (department). The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required update of its management plan.

No Land Management Review has been conducted for this property.



## **LAND USE COMPONENT**

### **INTRODUCTION**

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

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

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

### **EXTERNAL CONDITIONS**

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

Letchworth-Love Mounds Archaeological State Park is located within Jefferson County; about 8 miles west of Monticello and 12 miles east of Tallahassee in the Florida panhandle. The populations of Jefferson County and the adjacent Leon, Wakulla, and Madison Counties have grown 33 percent since 1990, and are projected to grow an additional 26 percent by 2020 (BEER, University of Florida, 2005). The median age for Jefferson County is 40.2 which is slightly older than the state average of 39.4; however, neighboring Leon County which is home to two major universities and a community college has a median age of 29.7 (BEER, University of Florida, 2005). Nearly 359,000 Floridians reside within 50 miles of the park, which includes the cities of Tallahassee, Monticello, Perry, Quincy, Madison, and St. Marks (Census, 2000).

The park recorded 14,664 visitors in FY 2005/2006. By DRP estimates, these park visitors contributed \$671,371 in direct economic impact and the equivalent of 13.4 jobs to the local economy (Florida Department of Environmental Protection, 2006).

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

The park is located in northwest Jefferson County and is bordered to the north by Leon County. The southern tip of Lake Miccosukee is less than one-mile northeast of the park. The

park itself, as well as lands immediately east and south of the park, is designated as conservation land due to the environmental and cultural sensitivity of the area. In August 2005, the state purchased an additional 109 acres and a conservation easement on another 1281 acres to the east and south of the initial 79-acre acquisition. The conservation easement protects the property from future development. The remaining land uses surrounding the park are primarily agricultural with scattered low-density residential development.

Limited resource-based recreation opportunities are available within 15 miles of the park. Lake Miccosukee provides a boat ramp for freshwater fishing and recreational boating. Canoeing and kayaking is available nearby on the Aucilla and Wacissa Rivers. The 100-mile Canopy Loop bicycle trail, which connects Tallahassee and Monticello, passes within a mile of the park entrance road on US-90. In addition, hunting and off-road vehicle use are popular pursuits on neighboring private lands. Within a broader radius, there are numerous recreational opportunities and many prehistoric and historic sites under state management. Lake Jackson Mounds, DeSoto Site, San Marcos de Apalachee, Natural Bridge Battlefield, Maclay Gardens, and Edward Ball Wakulla Springs State Parks as well as Mission San Luis de Apalachee and the Tallahassee-St. Marks Historic Railroad State Trail collectively offer interpretive programs and special events, multi-use trails, swimming, picnicking, and lodging.

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

Land adjacent to the east and south border of the park is designated “Conservation” on the Jefferson County Future Land Use Map (Jefferson County, 1999). In accordance with this designation, passive recreation is appropriate if consistent with the protection of the area. The recent conservation easement will keep neighboring land to the east and south of the park from ever becoming developed. Lands to the west and north are designated as “Agriculture 5” (Jefferson County, 1999) and “Rural/Agriculture” (Leon County, 2005). These land use designations serve to maintain a rural landscape that is compatible with the maintenance of resources and a quality visitor experience at the park. Development is limited to low-density single-family homes and associated accessory farm buildings with a maximum density of one dwelling per five acres within Jefferson County and one unit per ten acres in Leon County. Some additional low-density residential development is expected for this area in the future.

### **PROPERTY ANALYSIS**

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

#### **Recreation Resource Elements**

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

#### **Land Area**

Thanks to the 109-acre acquisition in 2005, the park now contains 188 acres protecting one of

the state's most important archaeological sites. Most of the land is in various stages of early succession following centuries of agrarian land uses. The property also protects a hardwood swamp and a creek that flows in a deep ravine along the eastern and southern park boundary. Appropriate recreational uses include interpretation, hiking and picnicking.

### **Water Area**

The park is bounded to the east and south by a creek that serves as the Lake Miccosukee drainage, which flows south to Lloyd Creek. This lake drain is not considered navigable.

### **Archaeological and Historical Features**

The park contains the largest single and, arguably, most significant eastern ceremonial mound built by prehistoric native inhabitants of Florida. This 46-foot mound is relatively undisturbed and is considered to have high archaeological value. Nearly all visits to the park are focused on this large earthen mound and the interpretation of the prehistoric culture(s) that constructed it.

Results from recent archaeological surveys demonstrate that humans may have visited this site as early as 10,000 years ago, however, the primary human occupation and most significant time period at this site appears to be during the Late Swift Creek and Early Weeden Island times, circa A.D. 200-900 (Tesar *et al.*, 2003). Therefore, this site predates the occupation of Lake Jackson Mounds located in nearby Tallahassee. It is anticipated that other archaeological features will be discovered through additional research. According to a report by archaeologist Calvin Jones, the area around the large mound once contained numerous smaller mounds, but many of these have probably been destroyed by agriculture or looting. In 2005, in an effort to protect the remaining known extent of the cultural site, the state acquired 109 acres adjacent to the east and south boundary of the park as well as a conservation easement on an additional 1281 acres.

This park offers the opportunity to provide a glimpse into the life of the Weeden Island Culture and protects the mounds from development.

### **Assessment of Use**

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

### **Past Uses**

The majority of the property was previously used for agricultural purposes, including livestock production. The previous owners constructed a modern residence, hog farming structures, metal silos and miscellaneous sheds. The silos and hog farming structures were removed in the summer of 2006. The property was also divided into grazing areas with wire fencing. Past agricultural uses have negatively impacted the site's natural and cultural resources.

### **Recreational Uses**

The park was not opened to the public on a daily basis until 1998. Now visitors can walk around the base of the ceremonial mound, picnic at the newly constructed shelter, and arrange an interpretive visit with the park ranger.

SUNRAY RD

HOLDING POND

BATHROOM

PICNIC SHELTER

RESIDENCE

SHOP

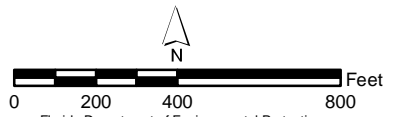
SHEDS

INDIAN MOUND

BOARDWALK

LEGEND

- Park Boundary
- == County Road
- - - Park Road Unpaved
- == Boardwalk
- Structure
- Parking Lots



LETCHWORTH-LOVE MOUNDS  
ARCHAEOLOGICAL STATE PARK

BASE MAP

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

### **Other Uses**

The state purchased a conservation easement on 1,281 acres that border the park to the east and south. This area contains the remaining known extent of the cultural site and includes an occupation area, a quarry site and possibly a Spanish mission. This easement protects the property from future development and allows year-round research and guided tours from June through September.

### **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. Due to the archaeological significance of the site, the entire park is treated as a protected zone. The Division will coordinate all “moderate” and “major” ground disturbing activities with the DHR in accordance with established archaeological resource compliance review procedures.

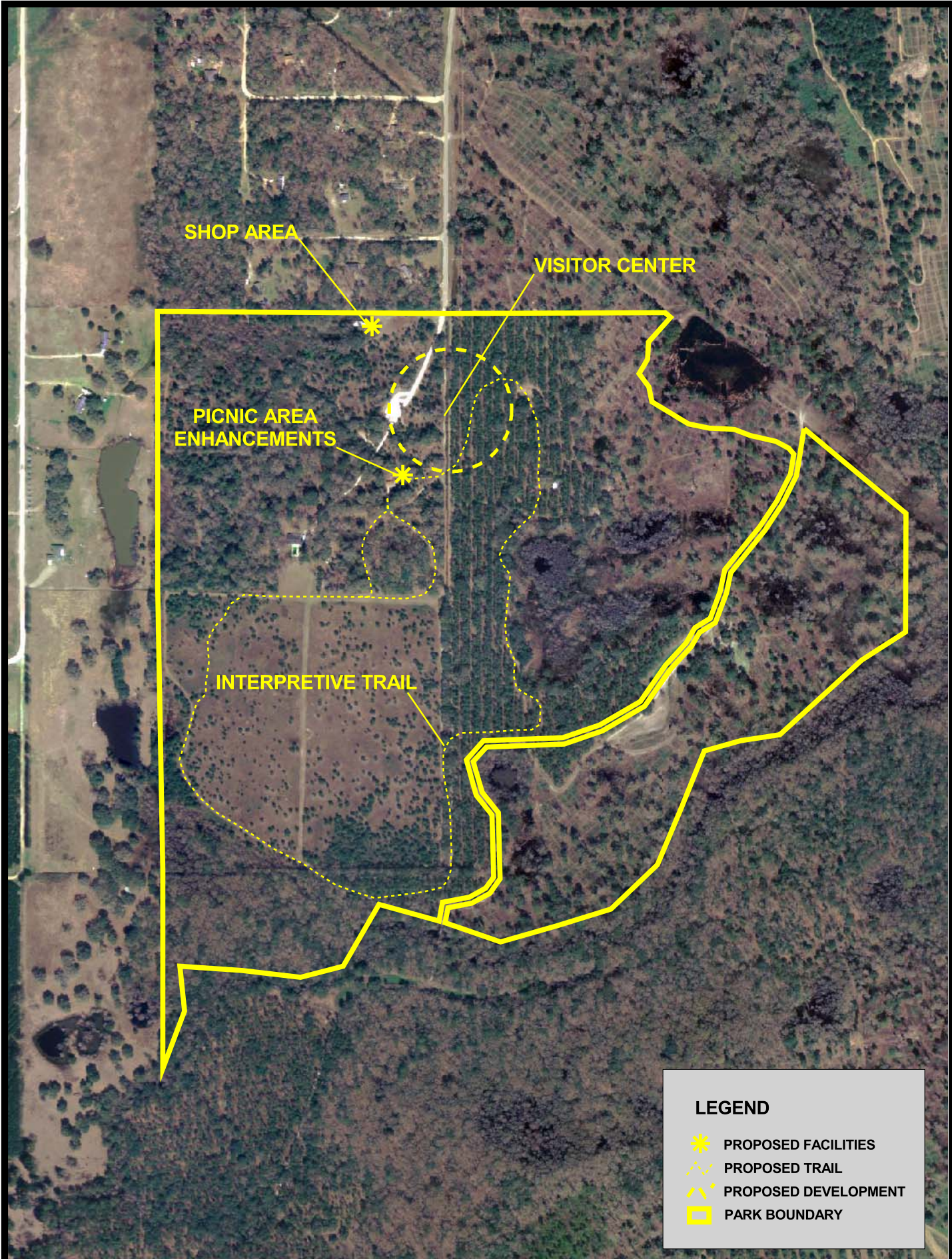
### **Existing Facilities**

**Support facilities.** Support facilities at the park consist of a stabilized entrance road, a 20-car parking lot, one staff residence and a composting toilet. The staff residence was the home of the previous owner and is located to the west of the large mound. Miscellaneous sheds next to the house currently serve as the maintenance shop and equipment storage area. The farm structures near the northern boundary have been removed but the associated retention pond still needs to be addressed.

### **CONCEPTUAL LAND USE PLAN**

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

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







SHOP AREA

VISITOR CENTER

PICNIC AREA ENHANCEMENTS

INTERPRETIVE TRAIL

**LEGEND**

-  PROPOSED FACILITIES
-  PROPOSED TRAIL
-  PROPOSED DEVELOPMENT
-  PARK BOUNDARY

**LETCHWORTH-LOVE MOUNDS  
ARCHAEOLOGICAL STATE PARK**



**CONCEPTUAL  
LAND USE PLAN**

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

### **Potential Uses and Proposed Facilities**

The primary management goal of Letchworth-Love Mounds Archaeological State Park is to preserve its archaeological features. There is potential to improve the interpretation of the site's cultural resources. Most visitors want to view the large earthen mound and learn about its builders. Other limited recreational activities such as picnicking and nature study can be accommodated at the park as long as they are compatible with resource management objectives.

Recent acquisition of lands previously identified as optimum boundary provides the opportunity to expand the recreational and interpretive activities offered at the park. The following park development is recommended:

#### **Recreation Facilities**

**Develop an interpretation program.** In recent years, archaeologists have completed an auger and topographical survey of the initial 79-acres as well as an archaeological reconnaissance survey for the new property from which many questions concerning the history and significance of the site are beginning to be answered.

The results of these archaeological surveys and future research should be used to develop programs and plan facilities for interpreting this significant cultural site. Interpretive topics should include the culture of the mound builders, the construction of the mounds, ongoing archaeological research, mound preservation and other cultural resource management strategies. Interpretive programs should be developed to deliver the information to visitors in creative and effective ways. It is recommended that an interpretive trail be established starting at the ceremonial mound and then meandering through the property passing by the smaller mounds and the perceived plaza and village areas before looping back to the start. A series of interpretive signs should be placed at points of interest along the trail. Ranger led presentations should also be considered.

It is also suggested that the significance and uniqueness of the Letchworth Mounds complex and other Native American prehistoric sites within the region that have significance to Letchworth Mounds be incorporated into the interpretive program. The Letchworth Mounds are a part of the Weeden Island culture, which is best known for its wide range of well-made ceramic vessels, and for undertaking the construction of some of the earliest temple mounds. Since there are not many Weeden Island sites, not only is the uniqueness of this site important, but it would also be meaningful for a visitor to know how the Letchworth Mounds fit within a larger regional context and result in a greater understanding of the interconnectedness of known Native American sites within the region.

**Construct a Visitor Center.** A visitor center is recommended to anchor the interpretive programming at the park. The proposed visitor center would provide a central location to educate park visitors about the mound complex, display artifacts found at the site, host a variety of interpretive programs and support ongoing research at the park. The recommended location for this proposed visitor center is east of the existing parking lot and north of the existing picnic area. The exact location and size of this facility will depend on the results of

future research and archaeological monitoring. The alignment of the access road as well as the size and location of the parking area will be reevaluated during this process in order to find a location that best supports the proposed visitor center while being sensitive to the cultural site. And, this new facility should meet the standards established by the ADA. The design of the building and the development of ideas for exhibits and programming will be determined through future meetings between appropriate Division staff and outside consultants.

**Picnic Area Enhancements.** Two additional picnic shelters are recommended near the existing lone picnic shelter located between the proposed visitor center area and the large mound. And, a new restroom with flush toilets should be placed near the picnic area to replace the composting toilet. The restroom needs to be able to support the expected increase in park visitation. If the proposed visitor center is located within a reasonable walking distance from the picnic area, the restroom provided in the visitor center will serve both use areas.

**Promote/Market Tallahassee Heritage Tour.** There is an opportunity to capitalize on the close proximity of numerous prehistoric and historic sites under state management. Letchworth-Love Mounds, Lake Jackson Mounds, DeSoto Site, San Marcos de Apalachee, Natural Bridge Battlefield, Maclay Gardens, and Edward Ball Wakulla Springs State Parks as well as Mission San Luis de Apalachee and the Tallahassee-St. Marks Historic Railroad State Trail collectively convey the long history of habitation of the Tallahassee area. Promoting these sites as stops along a Heritage Tour should increase visitation while providing a more thorough and accurate depiction of the history of the area. Publication of a brochure to be made available at each site is recommended to market the Heritage Tour. In preparation of this effort, each site should revisit their interpretation program to ensure they are adequately telling their portion of the story of Tallahassee's heritage. This effort is already underway.

### **Support Facilities**

**Develop a new shop area.** A new maintenance shop building, equipment shelter, and flammable storage building is recommended for the northern boundary of the park where the farm structures were recently removed. This area is an ideal location for the shop facilities since it is a previously disturbed area and not visible from the visitor use areas. This site was subjected to archaeological testing in June 2006 and all test units were negative for archaeological material.

### **Facilities Development**

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

Due to the sensitive nature of this cultural site, the Division will coordinate all "moderate" and "major" ground disturbing activities with the Division of Historical Resources in accordance with established archaeological resource compliance review procedures. Preconstruction archaeological surveys are likely to be necessary on major ground disturbing activities in order to minimize impacts to cultural resources.

**Recreation Facilities**

Visitor Center & Exhibits  
 Interpretive Display/Kiosk  
 Interpretive Signs (10)

Interpretive Trail (1.5 miles)  
 Picnic Shelters (2 small)  
 Small Picnic Restroom

**Support Facilities**

3 Bay Shop Building  
 Equipment Shelter

Flammable/Small Storage Building

**Existing Use and Optimum Carrying Capacity**

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 1).

The optimum carrying capacity for this park is a preliminary estimate of the number of users the unit could accommodate after the current conceptual development program has been implemented. When developed, the proposed new facilities would approximately increase the unit's carrying capacity as shown in Table 1.

**Table 1--Existing Use And Optimum Carrying Capacity**

<b>Activity/Facility</b>	<b>Existing Capacity</b>		<b>Proposed Additional Capacity</b>		<b>Estimated Optimum 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>	20	80	50	200	70	280
<b>Picnicking</b>	20	40	16	32	36	72
<b>TOTAL</b>	<b>40</b>	<b>120</b>	<b>66</b>	<b>232</b>	<b>106</b>	<b>352</b>

**Note:** The capacity of the proposed interpretive trail is included in the interpretive programming numbers.

**Optimum Boundary**

As additional needs are identified through park use, development, research, and as adjacent land uses change on private properties, modification of the unit's optimum boundary may occur for the enhancement of natural and cultural resources, recreational values and management efficiency. At this time, no additional lands are identified for acquisition and no lands are considered surplus to the needs of the park.



**Addendum 1—Acquisition History and Advisory Group Report**



## **Letchworth-Love Mounds Archaeological State Park Acquisition History**

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### **Purpose of Acquisition**

The State of Florida Board of Trustees of the Internal Improvement Trust Fund of the (Trustees) has acquired Letchworth-Love Mounds Archaeological State Park to manage the property in such a way as to protect and restore the natural and cultural values of the property and provide the greatest benefit to the citizens of the state.

### **Sequence of Acquisition**

On June 30, 1992, the Trustees obtained title to a 79.20-acre property that later became Letchworth-Love Mounds Archaeological State Park. The property was purchased from Larry R. Letchworth and Rosa C. Letchworth for \$400,000. The purchase was funded under CARL program. Since this initial acquisition, the Trustees has purchased a 109-acre parcel and added to the park. The two acquisitions constitute the current area of the park, which is 188.20 acres.

### **Lease Agreement**

On October 21, 1996, the Trustees leased Letchworth-Love Mounds Archaeological State Park to the Division of Recreation and Parks (Division) under Lease No. 4089. This lease is for a period of fifty (50) years, which will expire on October 20, 2046.

According to Lease No. 4089, the Division manages Letchworth-Love Mounds Archaeological State Park only for the conservation and protection of natural and historical resources and resource-based public outdoor recreation, which is compatible with the conservation, and protection of the property.

### **Title Interest**

The Trustees hold fee simple title to Letchworth-Love Mounds Archaeological State Park.

### **Special Conditions on Use**

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

### **Outstanding Reservations**

There are no outstanding rights, reservations and encumbrances that apply to Letchworth-Love Mounds Archaeological State Park.

## **Letchworth-Love Mounds Archaeological State Park Acquisition History**

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## Letchworth-Love Mounds Archaeological State Park Advisory Group List

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The Honorable Danny Monroe, III  
Chairman  
Jefferson County Board of County  
Commissioners  
10685 Waukeenah Highway  
Monticello, Florida 32344

Barry Burch, Park Manager  
Letchworth-Love Mounds State Park  
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Ken Weber, Manager  
Tallahassee Forestry Center  
Florida Division of Forestry  
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Tallahassee, Florida 32304

Mac Finlayson, Chair  
Jefferson Soil and Water Conservation  
District  
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Greenville, Florida 32331

Dr. John Himes, Non-Game Biologist  
Northwest Region  
Florida Fish and Wildlife Conservation  
Commission  
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**Represented by:**

Paige Martin, Biologist  
Same contact information as Dr. Himes

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Joe Quetone, Executive Director  
Florida Governor's Council on  
Indian Affairs, Inc.  
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Florida Trail Association  
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Kimberly Munro, President  
Panhandle Archaeological Society at  
Tallahassee  
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Linda Jamison, Group Chair  
Sierra Club, Big Bend Group  
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Apalachee Audubon Society  
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Greg Vowell  
4542 Sunray Road South  
Tallahassee, Florida 32309

## **Letchworth-Love Mounds Archaeological State Park Advisory Group List**

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## **Letchworth-Love Mounds Archaeological State Park Advisory Group Staff Report**

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The Advisory Group meeting to review the proposed land management plan for Letchworth-Love Mounds State Park was held at the Jefferson County Public Library in Monticello, Florida on August 16, 2006 at 9am. Dr. John Himes (Florida Fish and Wildlife Conservation Commission) was represented by Paige Martin. Ken Weber (Florida Division of Forestry), Julie Brashears Wraithmell (Apalachee Audubon Society) and Kimberly Munro (Panhandle Archaeological Society at Tallahassee) did not attend. All other appointed Advisory Group members were present. Attending staff from the Division of Recreation and Parks included Barry Burch, Eric Kiefer, John McKenzie, Steve Martin, Bill Stanton, Robert Wilhelm, Matt Mitchell and Brian Burket.

Mr. Burket began the meeting by explaining the purpose of the Advisory Group and reviewing the meeting agenda. He provided a brief overview of the Division's planning process and summarized public comments received during the previous evening's public workshop. He also discussed the Division's unit classification system and intention to designate the property as a "state archaeological site." He then asked each member of the advisory group to express his or her comments on the plan.

### **Summary of Advisory Group Comments**

**Mike Wisenbaker (Florida Division of Historical Resources)** thanked the Division for the opportunity to comment on the draft management plan. He encouraged the nomination of Letchworth-Love Mounds State Park to the National Register of Historic Places. He recommended that future archaeological investigations proceed with caution and emphasized minimal ground disturbance.

**Joe Quetone (Florida Governor's Council on Indian Affairs, Inc.)** stated the management priority for the park should be the protection of the mounds, especially the burial sites. He requested that ground disturbance be limited and encouraged archaeological research that does not involve digging. He recommended that the park focus on the interpretation of this important cultural site. He commented that public access actually supports protective efforts. He agreed with the policy of not allowing visitors to walk directly on the mounds. He offered to send a list of contacts within the Native American community that could provide guidance on future research and interpretive efforts at the park.

**Richard Graham (Florida Trail Association)** requested that the proposed trail be at least one mile in length and offer a trail brochure. He suggested that the surface of the proposed trail be stabilized with hard-packed material or paved in order to prevent erosion and help keep visitors on the designated path.

**Paige Martin (Florida Fish and Wildlife Conservation Commission)** recommended surveying the property for gopher tortoises. She asked if there are known wading bird nests on the property. John McKenzie replied no. She recommended signage to warn visitors of the presence of venomous snakes and possibly alligators on the property. She offered the assistance of FWC to help with any wildlife issues. She suggested that birding opportunities be incorporated along the proposed trail. John McKenzie replied that Neotropical birds are found on the property and that a bird checklist could be developed.

## **Letchworth-Love Mounds Archaeological State Park Advisory Group Staff Report**

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**Linda Jamison (Sierra Club, Big Bend Group)** expressed her approval of the draft management plan as well as the priority given to cultural resource management. She voiced support for non-ground disturbing archaeological research, the proposed trail and the use of foam lines during prescribed burns. She suggested the possibility of hosting special cultural events at the park. She recommended maintaining a dense vegetative screen to shield areas where visitors should not go. She also recommended a gopher tortoise survey and educating visitors about how to help keep exotic species out of the park. She commented that she might be able to supply bat houses in order to encourage bats to stay on the property. She asked how the park would deal with stormwater retention for the proposed visitor center area. Brian Burket replied that this issue would be addressed during the planning and design process. Chairman Monroe commented that Jefferson County might not require a retention pond since the soils drain well in this area.

**Chairman Danny Monroe (Jefferson County Board of County Commissioners)** thanked the state for a well-conceived plan. He stated that cultural research and history of the area is important to him and the county. He suggested that the local historical society and area schools could be contacted to help develop educational/interpretive programs at the park. In addition, he expressed support for the interpretive enhancements proposed for the park.

**Mac Finlayson (Jefferson Soil and Water Conservation District)** expressed his support for the resource management goals and conceptual plans outlined in the draft management plan. He stated that this is a nice park to visit.

**Greg Vowell (adjacent landowner)** commented that he has lived next to the park since 1992. He voiced concern over trespassers and their use of four-wheelers and bikes on the large mound over the years; however, he stated that this problem has dramatically decreased since a park ranger has been living on-site. He suggested fencing around the large mound as a further protective measure. Eric Kiefer replied that this issue is being closely monitored and that appropriate management will be adapted over time. Mr. Vowell stated that alligators are present in a pond adjacent to the northern boundary of the park. He said that he is fine with the placement of the new shop area. He recommended stabilizing the proposed trails to prevent erosion and to keep visitors away from numerous hornet nests in the ground. He then asked about tree removal from the large mound. Steve Martin responded that the Division is working towards this goal cautiously and it would involve removing some trees at first to allow sunlight through in order encourage ground cover to help stabilize the mound before removing the rest of the trees. Mac Finlayson suggested that grass seed be broadcasted over the mound to encourage ground cover. Paige Martin commented that the ability to take a slow, cautious approach to restoration is a luxury and will result in a better product. Barry Burch added that effort is also underway to open the cultural landscape vista around the mounds. Mr. Vowell then mentioned the presence of a geocache under the boardwalk. Barry Burch responded that geocaching is monitored by park staff and that permission was granted for this particular cache. Mr. Vowell concluded by mentioning that he is supportive of the park and that he has enjoyed watching it grow.

## **Letchworth-Love Mounds Archaeological State Park Advisory Group Staff Report**

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Upon conclusion of the advisory group comments, Brian Burket discussed the Division's unit classification system and the intention to classify this park as a "state archaeological site," thus changing the name of the park to Letchworth-Love Mounds Archaeological State Park. All advisory group members in attendance supported this recommendation.

### **Staff Recommendations**

The staff recommends approval of the proposed management plan for Letchworth-Love Mounds State Park with no major changes.

# **Letchworth-Love Mounds Archaeological State Park Advisory Group Staff Report**

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## **Addendum 2—References Cited**



## **Letchworth-Love Mounds Archaeological State Park References Cited**

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## Letchworth-Love Mounds Archaeological State Park References Cited

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### **Addendum 3—Soils Descriptions**



## Letchworth-Love Mounds Archaeological State Park Soils Descriptions

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**11 – Lucy loamy fine sand** – This soil is well drained and nearly level to gently undulating. It is on summits and foot slopes of uplands. Individual areas of this soil are irregular in shape and range from 5 to 150 acres.

Typically, the surface layer is dark grayish brown and brown loamy fine sand about 13 inches thick. The subsurface layer is yellowish brown, strong brown and yellowish red loamy fine sand to a depth of about 34 inches. The subsoil extends to a depth of at least 80 inches. It is yellowish red fine sandy loam to a depth of 42 inches and red sandy clay loam below that.

Included in mapping are small areas of Albany, Orangeburg, and Troup soils. Also included are areas of soils that have a thicker surface layer. The included soils make up less than 15 percent of the map unit.

This Lucy soil does not have a high water table within a depth of 80 inches. The available water capacity is low in the surface and subsurface layers and moderate in the subsoil. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. Natural fertility is low.

The natural vegetation consists of slash pine, longleaf pine, live oak, post oak, red oak, and dogwood. The understory consists of native shrubs and grasses including huckleberry, southern dewberry, smilax, Virginia creeper, American beautyberry, muscadine grape, and sparse wiregrass.

**16 - Blanton Fine Sand** - The Blanton series consists of moderately well drained, nearly level to gently sloping soils that formed in sandy and loamy marine or eolian deposits of the Coastal Plain. The soils are on low knolls, foot slopes, and toe slopes on uplands. A perched high water table is above the subsoil during wet seasons and below a depth of 72 inches throughout the remainder of the year. Slopes range from 0 to 5 percent. The soils are loamy, siliceous, thermic Grossarenic paleudults.

Blanton soils are associated with Albany, Lucy, and Troup soils.

The natural vegetation is dominantly slash pine, loblolly pine, longleaf pine, bluejack oak, red oak, and live oak with and understory of dwarf huckleberry and wiregrass.

**20 - Albany Fine Sand** - The Albany series consists of somewhat poorly drained, nearly level soils that formed in deposits of sandy and loamy marine sediments for the Coastal Plain. The soils are on low knolls on uplands and flatwoods. A seasonal high water table is within a depth of 12 to 30 inches for 2 to 4 months in most years. Slopes range from 0 to 2 percent. The soils are loamy siliceous, thermic Grossarenic Paleudults. Albany soils are extremely acid to slightly acid.

The natural vegetation is loblolly, longleaf, and slash pines and mixed hardwoods including water oak, red oak, sweetgum, and hickory. The understory is native grasses and shrubs including huckleberry, briers, and wiregrass.

**22 - Plummer Fine Sand** - The Plummer series consists of poorly drained, nearly level soils that formed in sandy and loamy marine or fluvial sediments of the Coastal Plain. The soils are in poorly defined drainageways on uplands and flatwoods. The high water table is at the surface or within 15 inches from 3 to 6 months in most years. The soils are subject to brief flooding after

## **Letchworth-Love Mounds Archaeological State Park Soils Descriptions**

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heavy rains. Slopes range from 0 to 2 percent. The soils are loamy, siliceous, thermic Grossarenic Paleudults. Plummer soils range from extremely acid to strongly acid in all horizons.

The natural vegetation on this soil is mainly water oak, loblolly pine, slash pine, sweetgum, and blackgum. The understory is inkberry, waxmyrtle, ferns, and wiregrass.

**23 - Pelham Fine Sand** - The Pelham series consists of poorly drained, nearly level soils that formed in loamy marine sediment of the Coastal Plain. The soils are on broad flats and in drainageways on uplands and flatwoods. A seasonal high water table is within 15 inches of the surface for 3 to 6 months in most years. The soils are subject to brief flooding after heavy rains. Slopes range from 0 to 2 percent. The soils are loamy, siliceous, thermic Arenic Paleaquults. Pelham soils are strongly acid.

The natural vegetation is slash pine, loblolly pine, sweetgum, blackgum, and water oak. The understory includes greenbriers, waxmyrtle, and inkberry (gallberry).

**30 – Pamlico-Dorovan mucks** – The Pamlico and Dorovan soils are very poorly drained and nearly level. The individual areas of these soils are too mixed to conform to the scale used for maps in the Jefferson County Soil Survey Publication. These soils are on the flatwoods, along some flood plains, and along the edges of gently sloping to sloping uplands. Individual areas are irregular in shape and range from 20 to 200 acres. Slopes range from 0 to 1 percent.

Pamlico muck makes up about 40 to 60 percent of the map unit. Typically, this soil is very dark brown muck to a depth of about 4 inches and black muck to a depth of 27 inches. The underlying material is dark grayish brown sand to a depth of at least 80 inches.

Pamlico soils have a high water table within a depth of 15 inches throughout most years and at or above the surface for 5 to 8 months in some years. The available water capacity is very high in the organic layers and low in the underlying material. Permeability is moderate in the organic layers and rapid in the underlying material.

Dorovan muck makes up about 20 to 50 percent of the map unit. Typically, this soil is very dark brown muck to a depth of about 65 inches. The underlying material is dark grayish brown sand to a depth of at least 80 inches.

Dorovan soils have a high water table within a depth of 10 inches throughout most years and at or above the surface for 5 to 8 months in some years. Permeability is moderate, and the available water capacity is very high. Natural fertility is low.

The natural vegetation is mainly cypress and an understory of ferns, various shrubs, and vines.

**Addendum 4—Plant And Animal List**



Letchworth-Love Mounds Archaeological State Park—Plants

Common Name	Scientific Name	Primary Habitat (For Designated Species)
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**Pteridophytes**

Spleenwort .....	<i>Asplenium platyneuron</i>
Bracken fern.....	<i>Pteridium aquilinum</i>
Virginia chain fern .....	<i>Woodwardia virginica</i>

**Gymnosperms**

Shortleaf pine .....	<i>Pinus echinata</i>
Loblolly pine.....	<i>Pinus taeda</i>
Spruce pine.....	<i>Pinus glabra</i>
Slash pine .....	<i>Pinus elliottii</i>

**Angiosperms - Monocots**

Broomsedge .....	<i>Andropogon sp.</i>
Beargrass.....	<i>Nolina atopocarpa</i>
Maidencane.....	<i>Panicum hemitomon</i>
Saw palmetto.....	<i>Serenoa repens</i>
Wool grass .....	<i>Scirpus cyperinus</i>
Catbrier .....	<i>Smilax bona-nox</i>
Wild Sasparilla.....	<i>Smilax glauca</i>
Bamboo-vine.....	<i>Smilax lauiifolia</i>
Wild Sasparilla.....	<i>Smilax pumila</i>
Greenbrier .....	<i>Smilax rotundifolia</i>
Jackson brier .....	<i>Smilax smallii</i>
Hogbrier .....	<i>Smilax tamnoides</i>
Goldenrod .....	<i>Solidago sp.</i>
Spanish-moss .....	<i>Tillandsia usneoides</i>

**Angiosperms - Dicots**

Red Maple.....	<i>Acer rubrum</i>
Groundsel Tree.....	<i>Baccharis glomeruliflora</i>
Salt Bush .....	<i>Baccharis halimifolia</i>
False nettle .....	<i>Boehmeria cylindrica</i>
American beautyberry.....	<i>Callicarpa americana</i>
Mockernut hickory.....	<i>Carya tomentosa</i>
Hackberry.....	<i>Celtis laevigata</i>
Buttonbush .....	<i>Cephalanthos occidentalis</i>
Leatherflower.....	<i>Clematis sp.</i>
Flowering dogwood .....	<i>Cornus florida</i>
Hawthorn.....	<i>Crataegus pulcherrima</i>
White ti-ti.....	<i>Cyrilla racemiflora</i>
Persimmon .....	<i>Diospyros virginiana</i>

\* Non-native Species

## Letchworth-Love Mounds Archaeological State Park—Plants

Common Name	<i>Scientific Name</i>	Primary Habitat (For Designated Species)
Silverthorn.....	<i>Eleagnus pungens</i>	
Elephant's foot.....	<i>Elephantopus</i> sp.	
Plumgrass.....	<i>Erianthus</i> sp.	
Dog Fennel.....	<i>Eupatorium compositifolium</i>	
American beech.....	<i>Fagus grandifolia</i>	
Bedstraw.....	<i>Galium</i> sp.	
Yellow Jessamine.....	<i>Gelsimium sempervirens</i>	
Innocence.....	<i>Hedyotis procumbens</i>	
Hawk's beard.....	<i>Hieracium gronovii</i>	
Marsh Pennywort.....	<i>Hydrocotyle umbellata</i>	
St. Johns Wort.....	<i>Hypericum brachyphyllum</i>	
St. Johns Wort.....	<i>Hypericum galioides</i>	
St. Andrew's Cross.....	<i>Hypericum hypericoides</i>	
Carolina cranesbill.....	<i>Geranium carolinianum</i>	
American holly.....	<i>Ilex opaca</i>	
Virginia willow.....	<i>Itea virginica</i>	
Japanese privet.....	<i>Ligustrum japonicum</i> *	
Sweetgum.....	<i>Liquidambar styraciflua</i>	
Ludwigia.....	<i>Ludwigia</i> sp.	
Lonicera japonica.....	<i>Japanese honeysuckle</i>	
Southern Magnolia.....	<i>Magnolia grandiflora</i>	
Crab apple.....	<i>Malus angustifolia</i>	
Partridgeberry.....	<i>Mitchella repens</i>	
Indian pipe.....	<i>Monotropa uniflora</i>	
Wax myrtle; Southern bayberry.....	<i>Myrica cerifera</i>	
Blackgum.....	<i>Nyssa biflora</i>	
Wild olive.....	<i>Osmanthus americanus</i>	
Hop-hornbeam.....	<i>Ostrya virginiana</i>	
Redbay.....	<i>Persea borbonia</i>	
Mistletoe.....	<i>Phoradendron leucarpum</i>	
Pokeweed.....	<i>Phytolacca americana</i>	
No common name.....	<i>Pleopeltis polypodoides</i> var. <i>michauxiana</i>	
Smartweed.....	<i>Polygonum</i> sp.	
Mermaid-weed.....	<i>Proserpinaca palustris</i>	
Laurel cherry.....	<i>Prunus caroliniana</i>	
Wild black cherry.....	<i>Prunus serotina</i>	
Red chokeberry.....	<i>Pyrus</i> sp.	
White oak.....	<i>Quercus alba</i>	
Southern red oak.....	<i>Quercus falcata</i>	
Laurel oak.....	<i>Quercus laurifolia</i>	
Laurel oak.....	<i>Quercus hemisphaerica</i>	
Swamp chestnut oak.....	<i>Quercus michauxii</i>	
Water oak.....	<i>Quercus nigra</i>	
Post oak.....	<i>Quercus stellata</i>	
Black oak.....	<i>Quercus velutina</i>	

\* Non-native Species

## Letchworth-Love Mounds Archaeological State Park—Plants

Common Name	<i>Scientific Name</i>	Primary Habitat (For Designated Species)
Live oak .....	<i>Quercus virginiana</i>	
Wild azalea .....	<i>Rhododendron canescens</i>	
Winged sumac.....	<i>Rhus copallina</i>	
Highbush blackberry.....	<i>Rubus betulifolius</i>	
Sand blackberry .....	<i>Rubus cuneifolius</i>	
Dewberry.....	<i>Rubus trivialis</i>	
Greenbrier; Catbrier .....	<i>Smilax sp.</i>	
Dock.....	<i>Rumex sp.</i>	
Carolina willow.....	<i>Salix caroliniana</i>	
Dwarf Gray willow .....	<i>Salix humilis</i>	
Elderberry .....	<i>Sambucus canadensis</i>	
Black snakeroot.....	<i>Sanicula sp.</i>	
Sebastian bush.....	<i>Sebastiania fruticosa</i>	
Sweetleaf.....	<i>Symplocos tinctoria</i>	
Clover.....	<i>Trifolium sp.</i>	
Poison ivy.....	<i>Toxicodendron radicans</i>	
Sparkleberry .....	<i>Vaccinium arboreum</i>	
Elliotts blueberry.....	<i>Vaccinium elliotii</i>	
Vervain.....	<i>Verbena brasiliensis</i>	
Southern Arrow-wood .....	<i>Viburnum dentatum</i>	
Vetch.....	<i>Vicia sp.</i>	
Primrose-leaved violet .....	<i>Viola primulifolia</i>	
Violet.....	<i>Viola sp.</i>	
Violet.....	<i>Viola villosa</i>	
Muscadine.....	<i>Vitis rotundifolia</i>	
Youngia.....	<i>Youngia japonica</i>	

Letchworth-Love Mounds Archaeological State Park—Plants

Common Name	<i>Scientific Name</i>	Primary Habitat (For Designated Species)
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## Letchworth-Love Mounds Archaeological State Park—Animals

Common Name	<i>Scientific Name</i>	Primary Habitat (For All Species)
<b>Frogs and Toads</b>		
Florida cricket frog .....	<i>Acris gryllus dorsalis</i>	26,31,33
Southern toad .....	<i>Bufo terrestris</i>	22
Green treefrog .....	<i>Hyla cinerea</i>	26,31,33
Southern leopard frog .....	<i>Rana sphenocephala</i>	26,31,33
Bronze frog .....	<i>Rana clamitans clamitans</i>	31
Spring peeper .....	<i>Hyla crucifer bartramiana</i>	26,31
Squirrel treefrog .....	<i>Hyla squirella</i>	22
<b>Salamanders</b>		
Slimy salamander .....	<i>Plethodon glutinosus</i>	22,26
<b>REPTILES</b>		
<b>Crocodylians</b>		
American alligator .....	<i>Alligator mississippiensis</i>	33
<b>Turtles</b>		
Gopher tortoise.....	<i>Gopherus polyphemus</i>	22
Florida box turtle.....	<i>Terrapene carolina</i>	22,26
<b>Lizards</b>		
Green anole .....	<i>Anolis carolinensis</i>	22,26
Southeastern five-lined skink .....	<i>Eumeces inexpectatus</i>	22
Broadhead skink .....	<i>Eumeces laticeps</i>	22
Eastern glass lizard .....	<i>Ophisaurus ventralis</i>	22
Eastern fence lizard.....	<i>Scleropus undulatus</i>	22,84
<b>Snakes</b>		
Florida cottonmouth.....	<i>Agkistrodon piscivorus floridanus</i>	33
Southern black racer .....	<i>Coluber constrictor priapus</i>	22
Eastern diamondback rattlesnake.....	<i>Crotalus adamanteus</i>	22
Yellow rat snake .....	<i>Elaphe obsoleta quadrivittata</i>	22
Eastern coachwhip .....	<i>Masticophis flagellum flagellum</i>	22
Dusky pigmy rattlesnake .....	<i>Sistrurus miliarius barbouri</i>	22
Eastern garter snake .....	<i>Thamnophis sirtalis sirtalis</i>	22
<b>BIRDS</b>		
<b>Hérons and Bitterns</b>		
Great Egret.....	<i>Ardea alba</i>	26,31,33
Great Blue Heron.....	<i>Ardea herodias</i>	26,31,33
Cattle Egret .....	<i>Bubulcus ibis</i>	22,84
Little Blue Heron .....	<i>Egretta caerulea</i>	26,31,33

\* Non-native Species

## Letchworth-Love Mounds Archaeological State Park—Animals

Common Name	<i>Scientific Name</i>	Primary Habitat (For All Species)
<b>Ibises and Spoonbills</b>		
White Ibis.....	<i>Eudocimus albus</i>	31
<b>Storks</b>		
Wood Stork.....	<i>Mycteria americana</i>	OF
<b>Ducks and Geese</b>		
Wood Duck.....	<i>Aix sponsa</i>	26,31,33
<b>Hawks, Eagles and Kites</b>		
Cooper's Hawk.....	<i>Accipiter cooperii</i>	OF
Sharp-shinned Hawk.....	<i>Accipiter striatus</i>	OF
Red-tailed Hawk.....	<i>Buteo jamaicensis</i>	OF
Red-shouldered Hawk.....	<i>Buteo lineatus</i>	OF
Broad-winged Hawk.....	<i>Buteo platypterus</i>	OF
Northern Harrier.....	<i>Circus cyaneus</i>	OF
Osprey.....	<i>Pandion haliaetus</i>	OF
<b>Caracaras, Falcons</b>		
Merlin.....	<i>Falco columbarius</i>	OF
American kestrel.....	<i>Falco sparverius</i>	OF
<b>Vultures</b>		
Turkey Vulture.....	<i>Cathartes aura</i>	OF
Black Vulture.....	<i>Coragyps atratus</i>	OF
<b>Turkey and Quail</b>		
Northern Bobwhite.....	<i>Colinus virginianus</i>	22
Wild Turkey.....	<i>Meleagris gallopavo</i>	22
<b>Doves</b>		
Common Ground-Dove.....	<i>Columbina passerina</i>	22
Mourning Dove.....	<i>Zenaida macroura</i>	22
<b>Cuckoos</b>		
Yellow-billed Cuckoo.....	<i>Coccyzus americanus</i>	26
<b>Owls</b>		
Great Horned Owl.....	<i>Bubo virginianus</i>	22
Eastern Screech Owl.....	<i>Otus asio</i>	22
Barred Owl.....	<i>Strix varia</i>	22
<b>Goatsuckers</b>		
Chuck-will's-willow.....	<i>Caprimulgus carolinensis</i>	22
Common Nighthawk.....	<i>Chordeiles minor</i>	22

\* Non-native Species

Letchworth-Love Mounds Archaeological State Park—Animals

Common Name	Scientific Name	Primary Habitat (For All Species)
<b>Hummingbirds</b>		
Ruby-throated Hummingbird.....	<i>Archilochus colubris</i>	22
<b>Woodpeckers</b>		
Northern Flicker.....	<i>Colaptes auratus</i>	22
Pileated Woodpecker.....	<i>Dryocopus pileatus</i>	22,26,31
Red-bellied Woodpecker.....	<i>Melanerpes carolinus</i>	22
Red-headed Woodpecker.....	<i>Melanerpes erythrocephalus</i>	22
Downy Woodpecker.....	<i>Picoides pubescens</i>	22
<b>Flycatchers</b>		
Eastern Wood-Pewee.....	<i>Contopus virens</i>	22
Eastern Phoebe.....	<i>Sayornis phoebe</i>	22
Eastern Kingbird.....	<i>Tyrannus tyrannus</i>	OF
<b>Jays and Crows</b>		
American Crow.....	<i>Corvus brachyrhynchos</i>	OF
Blue Jay.....	<i>Cyanocitta cristata</i>	22
<b>Martins</b>		
Purple Martin.....	<i>Progne subis</i>	OF
<b>Swallows</b>		
Barn Swallow.....	<i>Hirundo rustica</i>	OF
<b>Titmice</b>		
Tufted Titmouse.....	<i>Baeolophus bicolor</i>	22
Carolina Chickadee.....	<i>Poecile carolinensis</i>	22
<b>Nuthatches</b>		
Red-breasted Nuthatch.....	<i>Sitta canadensis</i>	22
Brown-headed Nuthatch.....	<i>Sitta pusilla</i>	22
<b>Wrens</b>		
Carolina Wren.....	<i>Thryothorus ludovicianus</i>	22
<b>Gnatcatchers and Kinglets</b>		
Ruby-crowned Kinglet.....	<i>Regulus calendula</i>	22
Golden-crowned Kinglet.....	<i>Regulus satrapa</i>	22
Blue-gray gnatcatcher.....	<i>Polioptila caerulea</i>	22
<b>Thrushes</b>		
Hermit Thrush.....	<i>Catharus guttatus</i>	22
Wood Thrush.....	<i>Catharus mustelinus</i>	22
Eastern Bluebird.....	<i>Sialia sialis</i>	22

\* Non-native Species

## Letchworth-Love Mounds Archaeological State Park—Animals

Common Name	<i>Scientific Name</i>	Primary Habitat (For All Species)
American Robin.....	<i>Turdus migratorius</i>	22
<b>Thrashers</b>		
Gray Catbird.....	<i>Dumetella carolinensis</i>	22,84
Northern Mockingbird.....	<i>Mimus polyglottos</i>	22,84
Brown Thrasher.....	<i>Toxostoma rufum</i>	22
<b>Waxwings</b>		
Cedar Waxwing.....	<i>Bombycilla cedrorum</i>	OF
<b>Warblers</b>		
Yellow-rumped Warbler.....	<i>Dendroica coronata</i>	22
Yellow-throated Warbler.....	<i>Dendroica dominica</i>	22
Palm Warbler.....	<i>Dendroica palmarum</i>	22
Common Yellowthroat.....	<i>Geothlypis trichas</i>	22
American Redstart.....	<i>Setophaga ruticilla</i>	22
Orange-crowned Warbler.....	<i>Vermivora celata</i>	22
Tennessee Warbler.....	<i>Vermivora peregrina</i>	22
Black and white Warbler.....	<i>Mniotilta varia</i>	22
<b>Tanagers</b>		
Summer Tanager.....	<i>Piranga rubra</i>	22
<b>Sparrows</b>		
House Sparrow *.....	<i>Passer domesticus</i>	22
Eastern Towhee.....	<i>Pipilo erythrophthalmus</i>	22
Field Sparrow.....	<i>Spizella pusilla</i>	22
<b>Meadowlarks, Blackbirds and Orioles</b>		
Red-winged Blackbird.....	<i>Agelaius phoeniceus</i>	22
Orchard Oriole.....	<i>Icterus spurius</i>	22
Brown-headed Cowbird *.....	<i>Molothrus ater</i>	22
Common Grackle.....	<i>Quiscalus quiscula</i>	22
Eastern Meadowlark.....	<i>Sturnella magna</i>	22
<b>Cardinals, Grosbeaks, and Buntings</b>		
Northern Cardinal.....	<i>Cardinalis cardinalis</i>	MTC
Indigo Bunting.....	<i>Passerina cyanea</i>	22
Rose-breasted Grosbeak.....	<i>Pheucticus ludovicianus</i>	22
<b>Finches</b>		
American Goldfinch.....	<i>Carduelis tristis</i>	22
Purple Finch.....	<i>Carpodacus mexicanus</i>	22

\* Non-native Species

Letchworth-Love Mounds Archaeological State Park—Animals

Common Name	Scientific Name	Primary Habitat (For All Species)
<b>MAMMALS</b>		
<b>Didelphids</b>		
Opossum .....	<i>Didelphis virginiana</i>	22,26
<b>Moles</b>		
Eastern mole.....	<i>Scalopus aquaticus</i>	22,84
<b>Bats</b>		
Eastern pipistrelle.....	<i>Pipistrellus subflavus</i>	22,33,OF
<b>Edentates</b>		
Nine-banded armadillo *.....	<i>Dasybus novemcinctus</i>	22
<b>Lagomorphs</b>		
Eastern cottontail .....	<i>Sylvilagus floridanus</i>	22
Marsh rabbit.....	<i>Sylvilagus palustris</i>	22,26,31
<b>Rodents</b>		
House mouse * .....	<i>Mus musculus</i>	85
Gray squirrel .....	<i>Sciurus carolinensis</i>	22,84,85
Hispid cotton rat.....	<i>Sigmodon hispidus</i>	22
<b>Carnivores</b>		
Coyote * .....	<i>Canis latrans</i>	22
Bobcat.....	<i>Felis rufus</i>	22,33
Raccoon .....	<i>Procyon lotor</i>	22,26
Gray fox .....	<i>Urocyon cinereoargenteus</i>	22
Red fox.....	<i>Vulpes vulpes</i>	22
<b>Artiodactyls</b>		
White-tailed deer.....	<i>Odocoileus virginianus</i>	22

\* Non-native Species

**Letchworth-Love Mounds Archaeological State Park—Animals**

<b>Common Name</b>	<b><i>Scientific Name</i></b>	<b>Primary Habitat (For All Species)</b>
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## Habitat Codes

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### Terrestrial

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

### Palustrine

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

### Lacustrine

43. Clastic Upland Lake
44. Coastal Dune Lake
45. Coastal Rockland Lake
46. Flatwood/Prairie Lake
47. Marsh Lake
48. River Floodplain Lake
49. Sandhill Upland Lake

### Lacustrine—Continued

50. Sinkhole Lake
51. Swamp Lake

### Riverine

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

### Estuarine

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

### Marine

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

### Subterranean

79. Aquatic Cave
80. Terrestrial Cave

### Miscellaneous

81. Ruderal
82. Developed

**MTC** Many Types Of Communities

**OF** Over Flying

## Habitat Codes

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**Addendum 5—Designated Species List**



## **Rank Explanations— For FNAI Global Rank, FNAI State Rank, Federal Status And State Status**

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

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

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

### **FNAI GLOBAL RANK DEFINITIONS**

- G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
- G2 = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
- G3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
- G4 = apparently secure globally (may be rare in parts of range)
- G5 = demonstrably secure globally
- GH = of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
- GX = believed to be extinct throughout range
- GXC = extirpated from the wild but still known from captivity or cultivation
- G#? = tentative rank (e.g., G2?)
- G#G# = range of rank; insufficient data to assign specific global rank (e.g., G2G3)
- G#T# = rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)
- G#Q = rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
- G#T#Q = same as above, but validity as subspecies or variety is questioned.
- GU = due to lack of information, no rank or range can be assigned (e.g., GUT2).
- G? = not yet ranked (temporary)
- S1 = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
- S2 = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
- S3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
- S4 = apparently secure in Florida (may be rare in parts of range)
- S5 = demonstrably secure in Florida
- SH = of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
- SX = believed to be extinct throughout range
- SA = accidental in Florida, i.e., not part of the established biota
- SE = an exotic species established in Florida may be native elsewhere in North America
- SN = regularly occurring, but widely and unreliably distributed; sites for conservation hard to determine
- SU = due to lack of information, no rank or range can be assigned (e.g., SUT2).
- S? = not yet ranked (temporary)
- N = Not currently listed, nor currently being considered for listing, by state or federal agencies.

## **Rank Explanations— For FNAI Global Rank, FNAI State Rank, Federal Status And State Status**

### **LEGAL STATUS**

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

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

#### **STATE**

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

- LE = Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.
- LT = Listed as Threatened Species by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
- LS = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species.

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

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

## Letchworth-Love Mounds Archaeological State Park Designated Species—Animals

Common Name/ <i>Scientific Name</i>	<u>Designated Species Status</u>		
	FFWCC	USFWS	FNAI
<b>REPTILES</b>			
American alligator <i>Alligator mississippiensis</i>	LS	T(S/A)	G5, S4
Eastern diamondback rattlesnake <i>Crotalus adamanteus</i>			G5, S3
Gopher tortoise <i>Gopherus polyphemus</i>	LS		G3, S3
<b>BIRDS</b>			
Great egret <i>Ardea alba</i>			G5, S4
Little blue heron <i>Egretta caerulea</i>	LS		G5, S4
White ibis <i>Eudocimus albus</i>	LS		G5, S4

**Letchworth-Love Mounds Archaeological State Park Designated Species—Animals**

<b>Common Name/ <i>Scientific Name</i></b>	<b>FFWCC</b>	<b><u>Designated Species Status</u></b>		
		<b>USFWS</b>	<b>FNAI</b>	

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**Addendum 6—Priority Schedule And Cost Estimates**



**Letchworth-Love Mounds Archaeological State Park Priority Schedule And Cost  
Estimates**

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

**Resource Management**

1. Test and evaluate the retention pond for any contaminants and begin clean up as necessary. Estimated Cost: \$ 75, 000
2. Continue with vegetation removal project from the mound complex. Estimated Cost: \$25,000
3. Continue development of interpretive displays for the park. Interim cost of \$10,000.00. As the site is researched, the interpretation should expand to a more advanced program, costs could be much greater with building etc.
4. Establishment of survey monuments consistent with work already accomplished on the original tract. Estimated Cost: \$50,000
5. Systematic shovel test survey of the new property. Estimated Cost: \$60,000
6. Implementation and maintenance of park burn program. Materials, Equipment/tools purchase and replacement, Equipment maintenance. Planning and burn zone preparation: Estimated Annual Cost: \$2,500

**Capital Improvements**

<b>Development Area or Facilities</b>	<b>Cost</b>
Interpretive Facilities.....	\$817,000.00
Trails.....	\$16,000.00
Picnic Area Enhancements.....	\$137,000.00
Support Facilities.....	<u>\$310,000.00</u>
 <b>Total w/contingency .....</b>	 <b>\$1,536,000.00</b>

**Letchworth-Love Mounds Archaeological State Park Priority Schedule And Cost  
Estimates**

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**Additional Information**

**FNAI Descriptions**

**DHR Cultural Management Statement**



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## Descriptions Of Natural Communities Developed By FNAI

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

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

The levels of the hierarchy are:

**Natural Community Category** - defined by hydrology and vegetation.

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

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

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### TERRESTRIAL COMMUNITIES

XERIC UPLANDS  
COASTAL UPLANDS  
MESIC UPLANDS  
ROCKLANDS  
MESIC FLATLANDS

### PALUSTRINE COMMUNITIES

WET FLATLANDS  
SEEPAGE WETLANDS  
FLOODPLAIN WETLANDS  
BASIN WETLANDS

### LACUSTRINE COMMUNITIES

### RIVERINE COMMUNITIES

### SUBTERRANEAN COMMUNITIES

### MARINE/ESTUARINE COMMUNITIES

### Definitions of Terms Used in Natural Community Descriptions

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

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

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

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

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

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

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

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

## Descriptions Of Natural Communities Developed By FNAI

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**Coastal Grassland** - coastal flatland with sand substrate; xeric-mesic; subtropical or temperate; occasional fire; grasses, herbs, and shrubs with or without slash pine and/or cabbage palm.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## Descriptions Of Natural Communities Developed By FNAI

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## Descriptions Of Natural Communities Developed By FNAI

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Flatwoods/Prairie Lake** - generally shallow basin in flatlands with high water table; frequently with a broad littoral zone; still water or flow-through; sand or peat substrate; variable water chemistry, but characteristically colored to clear, acidic to slightly alkaline, soft to moderately hard water with moderate

## Descriptions Of Natural Communities Developed By FNAI

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mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

**Marsh lake** - generally shallow, open water area within wide expanses of freshwater marsh; still water or flow-through; peat, sand or clay substrate; occurs in most physiographic regions; variable water chemistry, but characteristically highly colored, acidic, soft water with moderate mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

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

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

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

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

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

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

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

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

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

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

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

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

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

## Descriptions Of Natural Communities Developed By FNAI

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

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

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

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

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

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

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

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

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

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

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

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

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

**DEFINITIONS OF TERMS Terrestrial and Palustrine Natural Communities**

**Physiography**

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

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

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

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

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

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

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

**Hydrology**

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

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

**usually inundated** - surface water present except during droughts

**Climatic Affinity of the Flora**

**tropical** - community generally occurs in practically frost-free areas

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

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

**Fire**

**annual fire** - burns about every 1-2 years

**frequent fire** - burns about every 3-7 years

**occasional fire** - burns about every 8-25 years

**rare fire** - burns about every 26-100 years

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

**LATIN NAMES OF PLANTS MENTIONED IN NATURAL COMMUNITY DESCRIPTIONS**

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

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**A. GENERAL DISCUSSION**

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

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

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

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

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

**B. STATUTORY AUTHORITY**

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

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

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1. Provide leadership in the preservation of the state's historic resources; [and]
2. Administer state-owned or state-controlled historic resources in a spirit of stewardship and trusteeship;...

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

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

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

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

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4. Each state agency of the executive branch shall assume responsibility for the preservation of historic resources that are owned or controlled by such agency. Prior to acquiring, constructing, or leasing buildings for the purpose of carrying out agency responsibilities, the agency shall use, to the maximum extent feasible, historic properties available to the agency. Each agency shall undertake, consistent with preservation of such properties, the mission of the agency, and the professional standards established pursuant to paragraph (3)(k), any preservation actions necessary to carry out the intent of this paragraph.
5. Each state agency of the executive branch, in seeking to acquire additional space through new construction or lease, shall give preference to the acquisition or use of historic properties when such acquisition or use is determined to be feasible and prudent compared with available alternatives. The acquisition or use of historic properties is considered feasible and prudent if the cost of purchase or lease, the cost of rehabilitation, remodeling, or altering the building to meet compliance standards and the agency's needs, and the projected costs of maintaining the building and providing utilities and other services is less than or equal to the same costs for available alternatives. The agency shall request the division to assist in determining if the acquisition or use of a historic property is feasible and prudent. Within 60 days after making a determination that additional space is needed, the agency shall request the division to assist in identifying buildings within the appropriate geographic area that are historic properties suitable for acquisition or lease by the agency, whether or not such properties are in need of repair, alteration, or addition.
6. Consistent with the agency's mission and authority, all state agencies of the executive branch shall carry out agency programs and projects, including those under which any state assistance is provided, in a manner which is generally sensitive to the preservation of historic properties and shall give consideration to programs and projects which will further the purposes of this section.

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

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

**C. MANAGEMENT POLICY**

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

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

It should be noted that while many archaeological and historical sites are already recorded within state--owned or controlled--lands, the majority of the uplands areas and nearly all of the inundated areas have

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not been surveyed to locate and assess the significance of such resources. The known sites are, thus, only an incomplete sample of the actual resources - i.e., the number, density, distribution, age, character and condition of archaeological and historic sites - on these tracts. Unfortunately, the lack of specific knowledge of the actual resources prevents formulation of any sort of detailed management or use plan involving decisions about the relative historic value of individual sites. For this reason, a generalized policy of conservation is recommended until the resources have been better addressed.

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

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

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

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

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

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

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

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compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

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

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

**D. MANAGEMENT IMPLEMENTATION**

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

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

**A. Historic Sites**

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

**B. Archaeological Sites**

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

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

**E. ADMINISTERING AGENCY**

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

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

**Contact Person**

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