FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

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SECRETARY

April 21, 2015

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

RE: Madira Bickel Mound State Archaeological Site - Lease #3633

Dear Ms. Carver:

The Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the Madira Bickel Mound State Archaeological Site management plan. The next management plan update is due April 21, 2025.

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,

Marianne S. Gengenbach
Office of Environmental Services
Division of State Lands

Madira Bickel Mound State Archaeological Site

APPROVED
Unit Management Plan

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks
April 21, 2015

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INTRODUCTION

Madira Bickel Mound State Archaeological Site is located in Manatee County (see Vicinity Map). Access to the park is from U.S. Highway 301 (see Reference Map). The Vicinity Map also reflects significant land and water resources existing near the park.

The initial park was acquired in 1948 as a donation from Karl A. Bickel and Madira Bickel. Soon after the initial donation, the Trustees received an additional donation of five acres from R.H. Prine and Shula D. Prine. After adjusting for the road right of way, the park is currently 9.18 acres.

At Madira Bickel Mound State Archaeological Site, public outdoor recreation and conservation is the designated single use of the property. There are no legislative or executive directives that constrain the use of this property.

Purpose and Significance of the park

The purpose of Madira Bickel Mound State Archaeological Site is to provide an archaeological monument for state park related uses. The park provides interpretive and research opportunities concerning archaeological features that are typical of Florida's prehistoric inhabitants and provides for low-impact resource-based recreation. The park protects significant archaeological sites that date from pre-Weeden Island through Early European Contact.

Park Significance

- The park protects the National Register listed Madira Bickel Mound, Florida's first designated state archaeological site
- The park protects features representative of Florida's temple mound tradition and provides opportunities for interpretation.
- The park protects Bickel Ceremonial Mound, a ceremonial substructure mound of the later Safety Harbor Period, and Prine Burial Mound, the site of thirty documented burials spanning several archaeological periods, significant to Florida's history.
- The park's shell mound natural community is recognized by FNAI as an exemplary example of this natural community type.

Madira Bickel Mound State Archaeological Site is classified as a "State Special Feature Site" in the DRP's unit classification system. A special feature is a discrete and well-defined object or condition that attracts public interest and provides recreational enjoyment through visitation, observation and study. A state special feature site is an area which contains such a feature, and which is set aside for controlled public enjoyment. Special feature sites for the most part are either historical or archaeological by type, but they may also have a geological, botanical,

zoological, or other basis. State special feature sites must be of unusual or exceptional character, or have statewide or broad regional significance.

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

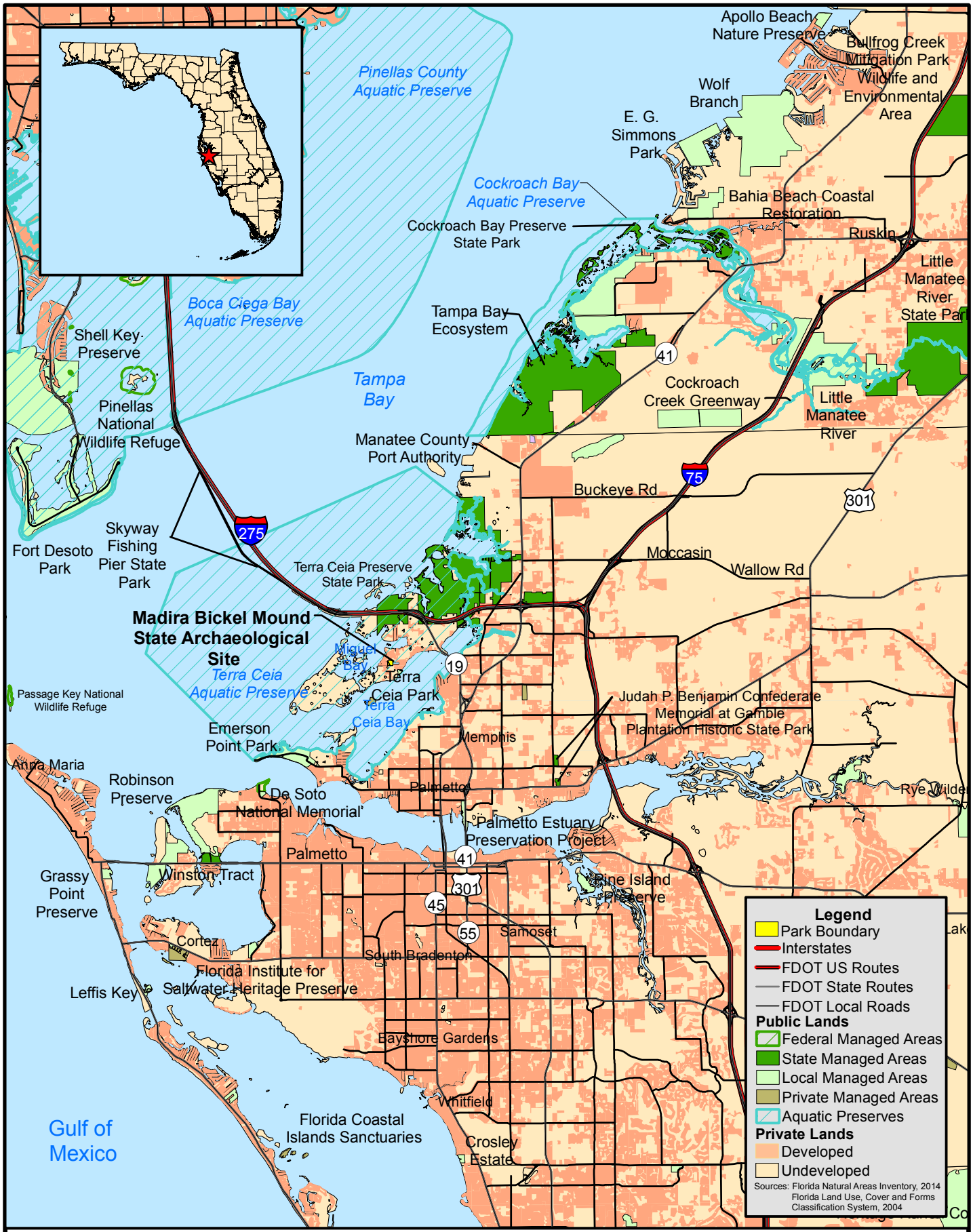
Purpose and Scope of the Plan

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

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

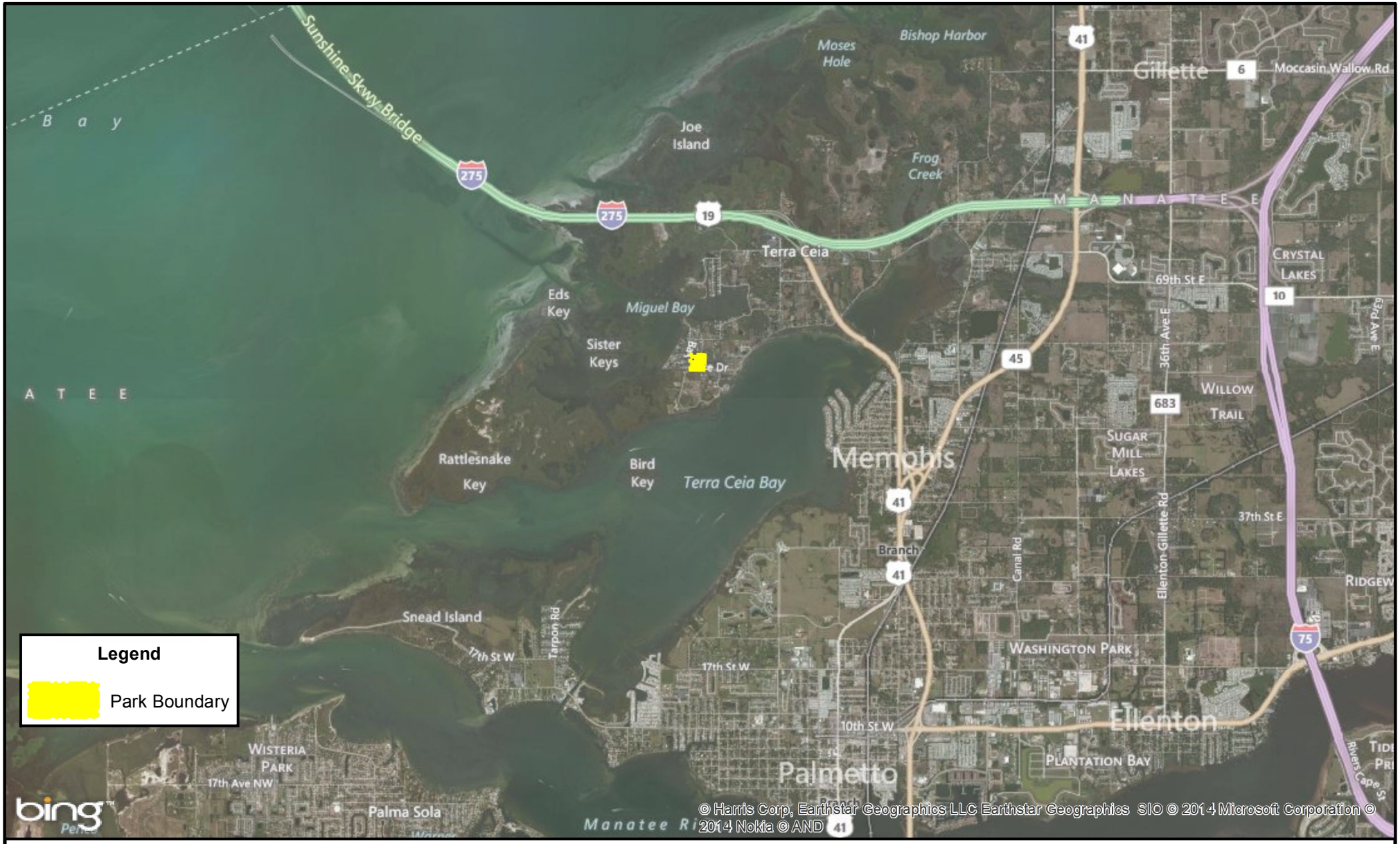
The Land Use Component is the recreational resource allocation plan for the park. Based on considerations such as access, population, adjacent land uses, the natural and cultural resource base of the park, current public uses and existing development, measurable objectives are set to achieve the desired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

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



MADIRA BICKEL MOUND STATE ARCHAEOLOGICAL SITE

VICINITY MAP



MADIRA BICKEL MOUND STATE ARCHAEOLOGICAL SITE

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0 1,900 3,800 7,600 Feet

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

REFERENCE MAP

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

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

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

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

Management Program Overview

Management Authority and Responsibility

In accordance with Chapter 258, Florida Statutes, and Chapter 62D-2, Florida Administrative Code, the Division of Recreation and Parks (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.

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

Park Management Goals

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

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

Management Coordination

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

The Florida Fish and Wildlife Conservation Commission (FWC) assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within the park. In addition, the FWC aids DRP with wildlife management programs, including imperiled species management. The Florida Department of State (FDOS), Division of Historical Resources (DHR) assists staff to ensure protection of archaeological and historical sites.

Public Participation

DRP provided an opportunity for public input by conducting a public workshop and Advisory Group meetings to present the draft management plan to the public. The first meetings were held on November 19 and 20, 2014, respectively. Meeting notices were included on the Department Internet Calendar, posted in clear view at the park, and promoted locally. The second joint meeting was held on January 7, 2015 and notices were published in the Florida Administrative Register, December 19, 2014, Volume 40/ Issue 246, included on the Department Internet Calendar, posted in clear view at the park, and promoted locally. The purpose of the Advisory Group meeting is to provide the Advisory Group members an opportunity to discuss the draft management plan (see Addendum 2).

Other Designations

Madira Bickel Mound State Archaeological Site is not within an Area of Critical State Concern as defined in Section 380.05, Florida Statutes, and it is not presently under study for such designation. The park is a component of the Florida Greenways and Trails System, administered by the Department's Office of Greenways and Trails.

RESOURCE MANAGEMENT COMPONENT

Introduction

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

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

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

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

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

Table 1: Madira Bickel Mound State Archaeological Site Management Zones			
Management Zone	**Acreage**	**Managed with Prescribed Fire**	**Contains Known Cultural Resources**
MBM-01	1.94	No	Y
MBM-02	7.24	No	Y

Resource Description and Assessment

Natural Resources

Topography

The park is near the coast of Miguel Bay where most of the land is less than five feet above sea level. Sharp relief is provided by the ceremonial mound which rises to a height of approximately 20 feet. The general topography is described as the Coastal Plain Province, which is characterized by coastal lowlands with progressively rolling terrain to the east (USDA 1983). Generally, the elevation on the Coastal Plain Province ranges from sea level to ten feet moving west to east.

Geology

Manatee County exists within part of the Terraced Coastal Lowlands, which is a subdivision of the Coastal Plain Province. At the beginning of the Pleistocene, most of southeast Georgia, a portion of southwest Georgia, and probably the entire Florida peninsula were beneath the sea and part of the continental shelf (New Georgia Encyclopedia 2006). The Pleistocene was a time of altering sea levels as the great continental glaciers of northern North America and Eurasia advanced and retreated, causing sea levels to rise and fall. During this time, five marine terraces and four shorelines were formed in Manatee County. These terraces are made up of sand, muck and alluvium deposits and were formed when sea level was approximately 20 feet above its current level.

The upper limestone formation is the Charlton, a division of the Choctawhatchee stage, part of a Miocene series of limestone. The park is near the western edge of a geomorphologic feature known as the Gulf Coastal Lowlands, an area of muted topography that extends inland several miles from the coast.

Soils

An analysis of the Soils Survey Geographic Database (SSURGO) revealed three soil types existing within the boundaries of the park (see Soils Map). The Chobee series consists of very deep, very poorly drained, slowly to very slowly permeable soils in depressions, flats, and occasionally on river plains in the lower Coastal Plain. The Wulfert series consists of very deep, very poorly drained, rapidly permeable soils in tidal areas along the Gulf Coast. The Bradenton series also consists of very deep,

MADIRA BICKEL MOUND STATE ARCHAEOLOGICAL SITE

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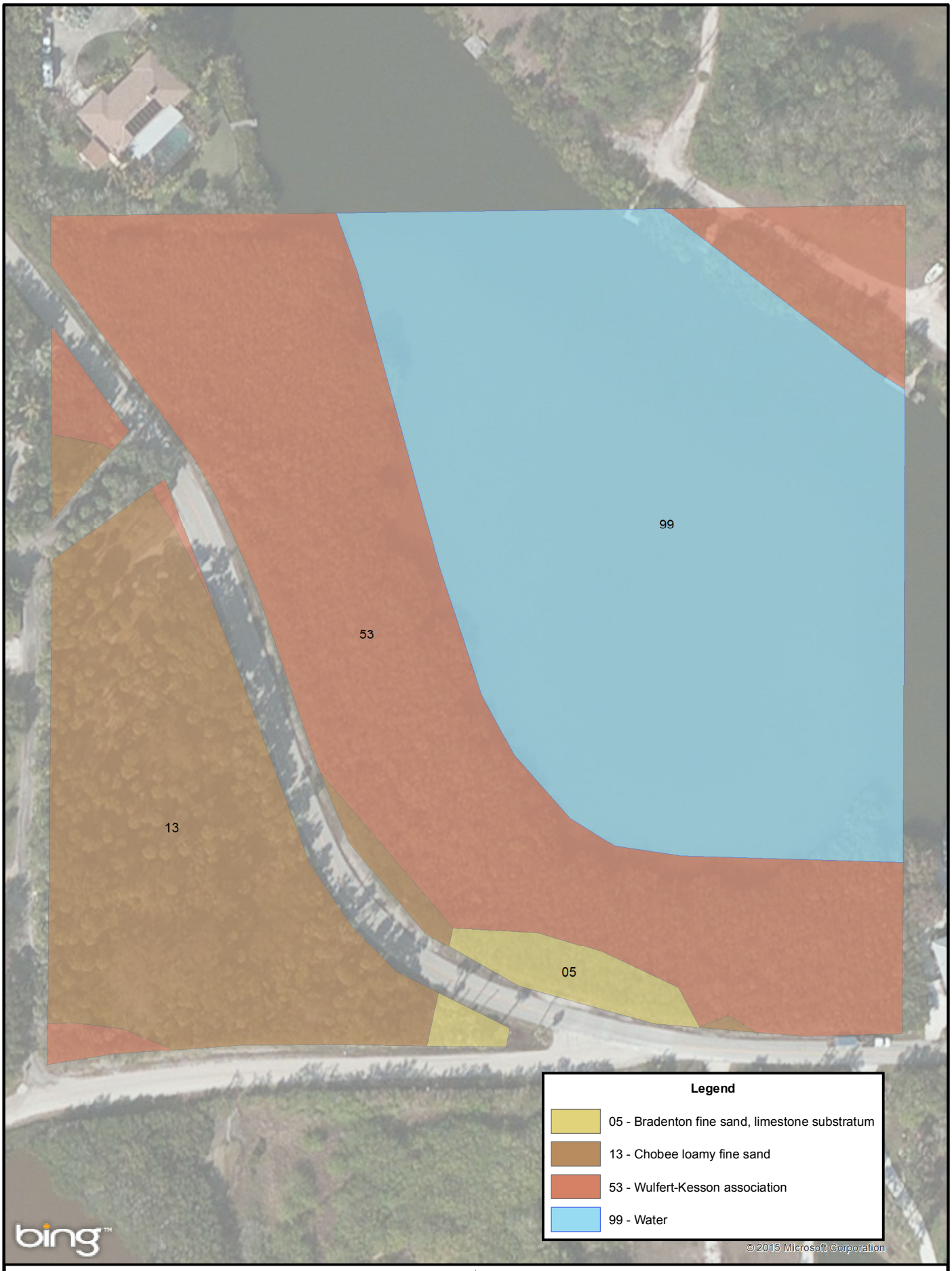
Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

MANAGEMENT ZONES MAP



MADIRA BICKEL MOUND STATE ARCHAEOLOGICAL SITE

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SOILS MAP

poorly drained, moderately permeable soils on low ridges and on flood plains. A more complete description of these soil types can be found in Addendum 3. There are no soil conservation issues at this park. Since the boundary fence and foot path were installed, there has been very little anthropogenic erosion.

Minerals

Before the establishment of this state park in 1949, sand, shell, and marl were mined for roadway construction. Although this product can be mined via excavation pits, evidence shows that it was regularly taken from shell middens or ceremonial mounds throughout the state.

“About 100 feet north of the Bickel Mound and included in the park’s area is the site of a small burial mound. It is now removed – some of the burials by archaeologist, but mostly by those wanting dirt for road building.” (R.E. Abel, June 1968)

No mineral resources are known to occur in the park.

Hydrology

In general, this is a very small site, on relatively flat land, which is only slightly elevated above sea level. Most fresh water drainage is internal, via percolation of ground water through the shell mound, or is conveyed via stormwater ditches to surrounding saltwater systems. Mosquito control ditches were incised into the substrate near the mounds years ago. This area floods periodically from seasonal high tides and heavy storm events and attention must be paid to culverts and drainage ditches associated with county roads at this site. These features become nonfunctional from time to time, causing water to be held around the base of the ceremonial mound. Appropriate county authorities must be notified when problems arise.

When the concrete walkway that leads from the parking area to the ceremonial mound was first installed, the active sheet-flow of this site was not adequately taken into account. Surface waters generally move from west to east at this site, and the walkway acted like a dike that prevented surface waters from moving through the site. Once this problem was revealed, park management installed two four-inch PVC pipes under the walkway, which alleviated some of the periodic flooding issues.

This park is surrounded by the Terra Ceia Aquatic Preserve. A hydrological assessment of the park is needed.

Natural Communities

This section of the management plan describes and assesses each of the natural communities found in the state park. It also describes of the desired future condition (DFC) of each natural community and identifies the actions that will be required to bring the community to its desired future condition. Specific

management objectives and actions for natural community management, exotic species management, imperiled species management and restoration are discussed in the Resource Management Program section of this component.

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

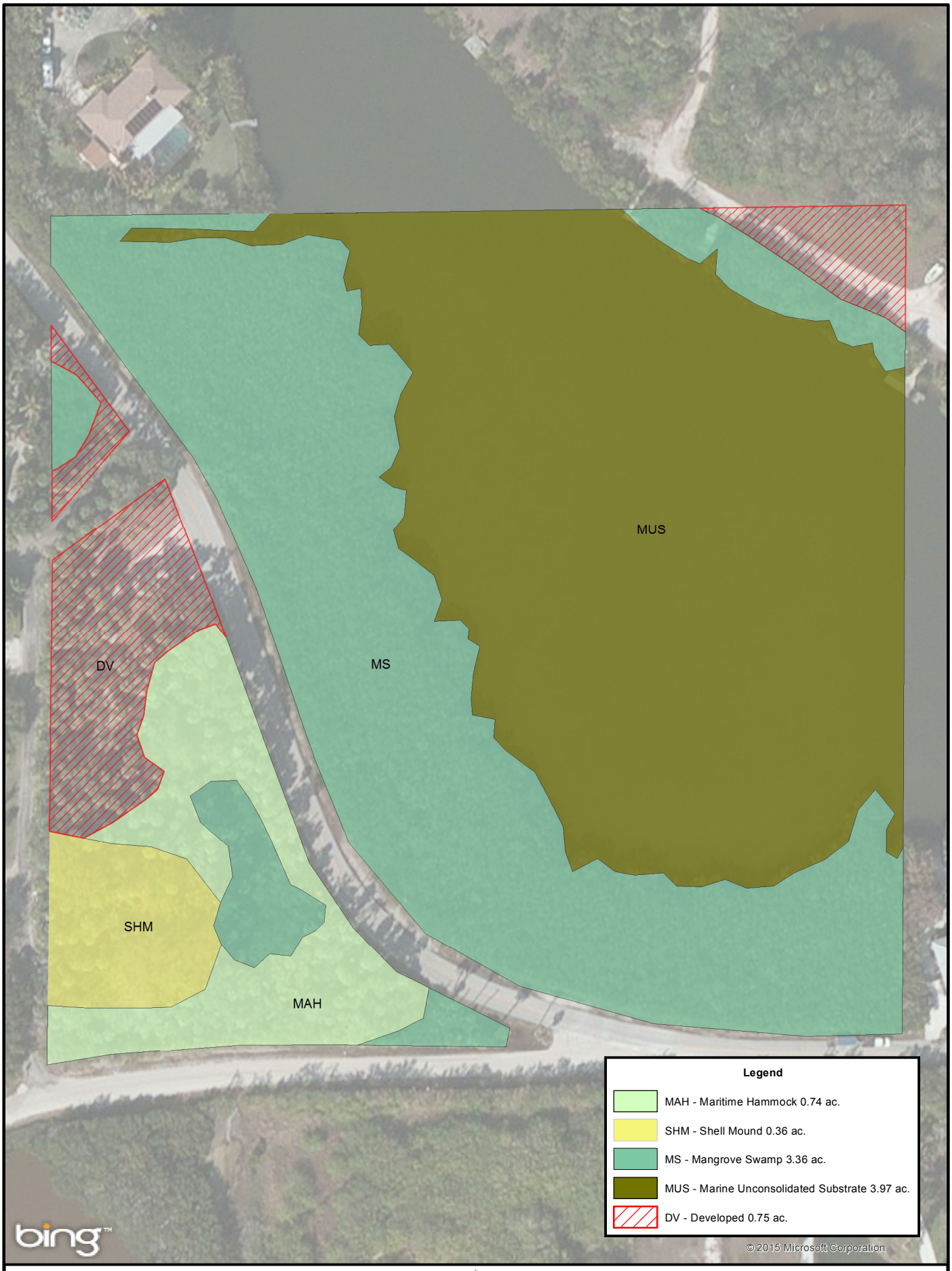
When a natural community within a park reaches the desired future condition, it is considered to be in "maintenance condition." Required actions for sustaining a community's maintenance condition may include, maintaining optimal fire return intervals for fire dependent communities, ongoing control of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

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

Maritime Hammock

Desired Future Condition: This is a coastal evergreen hardwood forest that occurs in narrow bands along stabilized coastal dunes. Canopy species consist of live oak (*Quercus virginiana*), red bay (*Persea borbonia*), and cabbage palm (*Sabal palmetto*). The canopy is typically dense with an understory of yaupon holly (*Ilex vomitoria*), myrsine (*Myrsine cubana*), and/or wax myrtle (*Myrica cerifera*). Very sparse or absent herbaceous groundcover will exist. The cover of invasive exotic plant species will be less than five percent.

Description and Assessment: At the park, this habitat type can be found on the flat terrain around the base of the ceremonial mound. Live oak and cabbage palm dominate the canopy, while stoppers (*Eugenia* spp.), snowberry (*Chiococca alba*), and juvenile canopy species make up the understory. Since the park is subject to periodic flooding, the ground cover is relatively sparse and comprised of various native and non-native grass species.



MADIRA BICKEL MOUND STATE ARCHAEOLOGICAL SITE

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0 50 100 200 Feet

Florida Department of Environmental Protection
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NATURAL COMMUNITIES MAP

Records from the early 1970s describe this community at the park as heavily invaded Brazilian pepper (Schinus terebinthifolius) hammock. In February 1973, a concerted effort was made to cut all “pepper bushes” down with a chainsaw crew of state park employees and a county tree chipper crew (Alvarez 1973). Since then, the hammock has been maintained with few Brazilian peppers. Brazilian pepper and carrotwood (*Cupaniopsis anacardioides*) trees are present in the hammock that will need to be treated.

In 2012 the red bay trees at the park were showing signs of laurel wilt disease; a fatal disease of tree species in the laurel family; caused by a fungus (*Raffaela lauricola*) introduced into the tree by non-native red bay ambrosia beetles (*Xyleborus glabratus*). Most of the red bay trees at the park succumbed to this disease, with only a few small shrub-sized ones persisting.

Cabbage palms are also in decline at the park with approximately one third of them dead, and the remaining ones appearing stressed. In 2008, Texas Phoenix Palm Decline was confirmed as causing mortality of cabbage palms in Manatee and Hillsborough Counties (IFAS 2013). The disease is caused by a phytoplasma bacteria. Planthoppers, treehoppers or psyllids are piercing/sucking insects and the most likely species to transmit the disease. This disease has not been confirmed at the park, but is a likely contributor to the dead and stressed cabbage palms at the park.

With the exception of unnaturally high mortality in red bays and cabbage palms, and a few exotic plants, this community is otherwise in good condition.

General Management Measures: Continue periodic visual inspections for invasive exotic plant species, and treat and remove as they are found. These periodic inspections are imperative because this natural community is frequented by local and migratory birds which have a tendency to distribute seeds from undesirable vegetation.

Shell Mound

Desired Future Condition: This community type is largely the result of human activities instead of natural and physical processes. Shell mounds are small hills or mounds made up almost entirely of mollusk shells discarded by Native Americans. The soils will be circumneutral to slightly alkaline, contain minimal organic material, and are very well drained. The shell mound will be undisturbed, and support a variety of hardwood trees and shrubs which include white stopper (*Eugenia axillaris*), live oak, cabbage palm, red cedar (*Juniperus virginiana*), wild lime (*Zanthoxylum fagara*), snowberry, and gumbo limbo (*Bursera simaruba*). Areas where there is evidence of more recent human disturbance (i.e. illegal pits dug by artifact collectors) will be repaired or improved to protect the integrity of the mound. Invasive exotic plant species will be less than five percent coverage.

Description and Assessment: The large sand and shell mound, which was once used for ceremonial purposes, is covered with tropical vegetation outside of their normal distribution in Florida. There are some large and impressive gumbo limbo and

strangler fig (*Ficus aurea*) trees. Other species found on the mound include; marlberry (*Ardisia escallonioides*); sugarberry (*Celtis laevigata*), doctorbush (*Plumbago zeylanica*), red bay, and snowberry.

The shell mound and adjacent maritime hammock have been identified by USFWS and proposed as "critical habitat" for the federally-endangered aboriginal prickly-apple (*Harrisia aboriginum*), since it is in this cactus species historic range. In 1919 the first specimen ever collected, the one used to identify it as a new species, was found on the western side of Terra Ceia Island in shell mound and hammock communities, which places it in the general area of the park. During recent plant inventory work at the park, none have been observed.

The larger red bay trees on the mound have died from laurel wilt disease. A few small-shrub sized red bays are still present. There is a non-native weedy grass that looks like bamboo called climbing tibisee (*Lasiacis ruscifolia*). It is fairly abundant in the understory and should be treated as an invasive exotic species even though it is not recognized by EPPC. From herbarium collections, it appears that the only area where this grass has been collected and is a problem is Madira Bickel Mound, where it has been documented since the mid-1970s. At this park it should be removed and treated as an invasive exotic species.

Another recurring problem of the past has been physical damage to the mound in the form of foot (and occasionally trail bike) traffic. The construction of a fence around the park has eliminated trail bikes. Foot traffic away from the designated trail is an occasional problem, especially during summer when school is out. The mound can then become a temporary playground. Illegal digging has occurred in the past, but has not been a problem in recent years. In the FNAI Guide to the Natural Communities of Florida, 2010 Edition, Madira Bickel Mound is listed as an "Exemplary Site" for the shell mound natural community.

Because of its importance as a National Register archaeological site, preservation of the structural integrity of the mound and the vegetative cover needs to be a priority and actively managed in the interest of prolonging longevity of the mound. One of the greatest concerns is disturbance when large trees are uprooted and fall. When the land for the park was donated to state in 1948 the mound was already heavily vegetated, and it has been maintained that way with the exception of the removal of invasive exotic species as described above. To ensure preservation of the archaeological site, the existing conditions of the shell mound natural community should be assessed following National Park Service guidelines. At a minimum a thorough inventory of plant species; forest layers (groundcover through canopy); soils, duff and leaf-litter: areas of erosion; exposed shell areas; dead trees; and health of individual trees should be done. This assessment will be used to develop a management strategy for the shell mound natural community.

General Management Measures: This community should be maintained free of invasive exotic plants. Although there is an established trail with steps to the top of the main mound, erosion should continue to be monitored to ensure the survivorship of this unique habitat type. General management measures also

include minimizing erosion and protecting sites from illegal digging. A comprehensive assessment of the shell mound natural community should be done with the goal of producing a management strategy to preserve the longevity and integrity of archaeological resource.

Mangrove Swamp

Desired Future Condition: Mangrove swamp will be a dense forest occurring along relatively flat, low wave energy, estuarine shorelines. The dominant overstory includes red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and buttonwood (*Conocarpus erectus*). The understory is sparse with predominantly salt marsh species including the shrub species bushy seaside oxeye (*Borrichia frutescens*) and big-leaf marshelder (*Iva frutescens*); vines including gray nicker (*Caesalpinia bonduc*); and herbaceous species such as saltwort (*Batis maritima*), silverhead (Blutaparon vermiculare), and giant leather fern (*Acrostichum danaeifolium*). Soils are generally anaerobic and are saturated with brackish water at all times, becoming inundated at high tides. The cover of invasive exotic plant species should be less than two percent.

Description and Assessment: This community is predominately found along the shores of Terra Ceia Lake and is very healthy and self-sustaining. The landward edge is bounded by roads. Because of the relatively low topographic relief found in this area, during seasons of super high tides or storm events, mangrove species have been able to colonize some of the lower-lying areas within the fence line around the main mound. There are a few exotic species found within this community, but their total cover is approximately less than one percent of the total area. These species are: lead tree (*Leucaena leucocephala*), carrotwood (*Cupaniopsis anacardioides*), and Brazilian pepper (*Schinus terebinthifolia*).

General Management Measures: This community is in maintenance condition and requires little management. Staff will continue to monitor invasive exotic plants and conduct maintenance removal as needed.

Marine Unconsolidated Substrate

Desired Future Condition: Will consist of expansive un-vegetated, open areas of mineral based substrate composed of shell, coralgal, marl, mud, and/or sand. Desired conditions include preventing soil compaction, dredging activities, and disturbances such as propeller scars or the accumulation of pollutants.

Description and Assessment: This community type represents the bottom of the shallow lagoon which is sometimes exposed at low tide. This lagoon is locally known as Lake Terra Ceia. Although, the bottom of this lagoon has never been thoroughly inspected, it appears to be in good condition.

General Management Measures: Through periodic monitoring, these areas will be protected from detrimental actives such as illegal dumping, dredging, and excess erosion.

Developed

Desired Future Condition: The developed areas within the park will be managed to minimize the effect of the developed areas on adjacent natural areas. Priority invasive plant species (Florida Exotic and Pest Plant Council, Category I and II species) will be removed from all developed areas. All significant archaeological sites, historic structures and objects within the park that represent Florida's cultural periods, significant historic events or persons are preserved in perpetuity, protected from physical threats and interpreted to the public.

Description and Assessment: The developed land within the park boundary consists of a small parking lot, recreational area (maintained lawns, visitor informational kiosk, picnic tables, and a concrete walking path), and county-maintained local roads (including the shoulder and swale). There is also some filled-land that encroached on the park during the 1970s when the adjacent residential structures were constructed.

In July 2000, staff expressed concerns that the trail and steps leading to the top of the ceremonial mound was in need of improvement. The existing trail is constructed of wooden laths along the face of the mound; "stairs" are formed with shell fill. It was observed that some of the boards appeared to be buckling or bowing from erosion and/or slumping shell material; however, this condition did not warrant replacement of the entire structure. Rather, it was suggested that the placement of additional shell material constitutes a sufficient stabilization measure.

Also within the developed area is the remnants of the Prine Burial Mound that was excavated in the early twentieth century for road building material and later, archaeological research. Portions of this mound underlay the gravel parking area. This mound will be described in more detail in the Cultural Resource section. Many of the cabbage palms in the developed area of the park are dead and the remainder look stressed. This mortality is likely the result of Texas Phoenix Palm Decline bacterium described in the maritime hammock section. Many of the dead palms are being used by cavity nesting birds; with red-bellied woodpeckers (*Melanerpes carolinus*) and great-crested flycatchers (*Myiarchus crinitus*) observed on them. Because of this, some of the dead palm trees should remain unless they have lost structural integrity and pose a risk to visitor safety, or park improvements, including: interpretive displays, picnic tables, and fences.

General Management Measures: Monitor the park boundary where it is not fenced to ensure that adjacent properties do not encroach the park with fill or other debris. This community will also receive periodic inspections to ensure they are maintained free of exotic invasive plants. Monitor dead cabbage palms to improve visitor safety and protect park amenities.

Imperiled Species

Imperiled species are those that are (1) tracked by FNAI as critically imperiled (G1, S1) or imperiled (G2, S2); or (2) listed by the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC) or the Florida

Department of Agriculture and Consumer Services (FDACS) as endangered, threatened or of special concern.

The only imperiled plant species observed at the park are two epiphytes that are fairly common in this region. The cardinal airplant (*Tillandsia fasciculata*) and giant airplant (*Tillandsia utriculata*) are endangered because of the introduction of the Mexican bromeliad weevil (*Metamasius callizona*) to Florida. The weevil and its larvae kill the plants by consuming leaf tissue. A biological control for the weevil is being investigated, but has not been successfully established where released. Other than monitoring these species of airplants and signs of a weevil infestation, there are no practical ways to protect wild airplants from attack by this weevil.

Historically the mounds, middens, and maritime hammock on the western side of Terra Ceia Island was habitat for the now federally-endangered aboriginal prickly-apple (*Harrisia aboriginum*). The plant was discovered and the original specimen collected used to identify this cactus as a new species was found in hammock and shell mound in or near the park by John K. Small on April 29, 1919.This original herbarium specimen is in the collection of The New York Botanical Gardens. In the 2004 *Status Survey of the Aboriginal Prickly-apple* (Bradley et.al, 2004) they reference Austin (1984) reporting that this cactus was extirpated from Terra Ceia Island in the 1970s. The Bradley status report also identifies Madira Bickel Mound State Archaeological Site as a potential reintroduction location. To aid in the recovery of this species the USFWS is in the process of designating critical habitat for this species in its historic range, which as proposed would include the Madira Bickel Shell Mound and the adjacent maritime hammock in the park. Part of the recovery strategy would be to reintroduce this species to areas with protected critical habitat. If the habitat in the park is suitable for reintroduction, it might be considered in the future.

The listed wading bird species observed at the park are occasional visitors to the mangrove swamp and unconsolidated substrate (Lake Terra Ceia), but are more likely to be seen flying over the park. The list includes little blue heron (*Egretta caerulea*), reddish egret (*Egretta rufescens*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), white ibis (*Eudocimus albus*), wood stork (*Mycteria americana*), and roseate spoonbill (*Platalea ajaja*). No special management measures are needed for the wading birds, since their use of the park is ephemeral, and there is no record of them nesting in the park.

The Florida manatee (*Trichechus manatus*) have also been observed in Lake Terra Ceia. There are no special management measures that need to be taken for these infrequent visits

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

table. Explanations for federal and state status, as well as FNAI global and state rank, are provided in Addendum 6.

Table 2: Imperiled Species Inventory						
Common and *Scientific Name*	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
PLANTS						
Cardinal airplant *Tillandsia fasciculata*			LE		10	Tier 1
Giant airplant *Tillandsia utriculata*			LE		10	Tier 1
BIRDS						
Little blue heron *Egretta caerulea*	LS			G5,S4	10	Tier 1
Reddish egret *Egretta rufescens*	LS			G4,S2	10	Tier 1
Snowy egret *Egretta thula*	LS			G5,S3	10	Tier 1
Tricolored heron *Egretta tricolor*	LS			G4,G5	10	Tier 1
White ibis *Eudocimus albus*	LS			G5,S2	10	Tier 1
Wood stork *Mycteria americana*	FT	LT		G4,S2	10	Tier 1
Roseate spoonbill *Platalea ajaja*	LS			G5,S2	10	Tier 1
MAMMALS						
Florida manatee *Trichechus manatus*	FE	LE		G2,S2	10	Tier 1

Management Actions:

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

13. Outreach and Education
14. Other

Monitoring Level:

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

Tier 2. Targeted Presence/Absence: Includes monitoring methods/activities that are specifically intended to document presence/absence of a particular species or suite of species.

Tier 3. Population Estimate/Index: An approximation of the true population size or population index based on a widely accepted method of sampling.

Tier 4. Population Census: A complete count of an entire population with demographic analysis, including mortality, reproduction, emigration, and immigration.

Tier 5. Other: May include habitat assessments for a particular species or suite of species or any other specific methods used as indicators to gather information about a particular species.

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

Exotic and Nuisance Species

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

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

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

Control of exotic plants at the park is an ongoing maintenance activity. One of most pressing resource management challenges will be keeping the park free of Brazilian pepper. An exotic plant removal program was initiated in 1973. Since then, control has been maintained by the use of herbicides and pulling seedlings.

One exotic plant species that is not listed in Table 3, and is unique to this park is climbing tibisee (*Lasiacis ruscifolia*). They have been found growing at the park

since 1975, on and around the ceremonial mound. Although, they are not viewed as Category I or II invasive species, because of their localized distribution, this species shows a tendency for being invasive in the natural communities at the park, and should be removed by herbicide treatment to prevent its spread to other natural areas.

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

Table 3 contains a list of the Florida Exotic Pest Plant Council (FLEPPC) Category I and II invasive, exotic plant species found within the park (FLEPPC 2013). The table also identifies relative distribution for each species and the management zones in which they are known to occur. An explanation of the codes is provided following the table. For an inventory of all exotic species found within the park, see Addendum 5.

Table 3: Inventory of FLEPPC Category I and II Exotic Plant Species

Common and *Scientific Name*	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
PLANTS			
Rosary pea *Abrus precatorius*	I	2	MBM-01
Australian-pine *Casuarina equisetifolia*	I	1	MBM-01
Carrotwood *Cupaniopsis anacardioides*	I	2	MBM-01 MBM-02
Durban crowfootgrass *Dactyloctenium aegyptium*	II	3	MBM-01 MBM-02
Laurel fig *Ficus microcarpa*	I	2	MBM-01
Lantana *Lantana camara*	I	2	MBM-01 MBM-02
Lead tree *Leucaena leucocephala*	II	2	MBM-01 MBM-02
Guinea grass *Panicum maximum*	II	2	MBM-01 MBM-02
Browne's blechum *Ruellia blechum*	II	2	MBM-01
Brazilian pepper *Schinus terebinthifolia*	I	2	MBM-01 MBM-02

Distribution Categories:

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

1 Single plant or clump: One individual plant or one small clump of a single species.
2 Scattered plants or clumps: Multiple individual plants or small clumps of a single species scattered within the gross area infested.
3 Scattered dense patches: Dense patches of a single species scattered within the gross area infested.
4 Dominant cover: Multiple plants or clumps of a single species that occupy a majority of the gross area infested.
5 Dense monoculture: Generally, a dense stand of a single dominant species that not only occupies more than a majority of the gross area infested, but also covers/excludes other plants.
6 Linearly scattered: Plants or clumps of a single species generally scattered along a linear feature, such as a road, trail, property line, ditch, ridge, slough, etc. within the gross area infested.

There are two exotic animals of concern at the park. The Mexican bromeliad weevil is attacking the state-listed cardinal and giant air-plants at the park. Evidence of weevil damage will be monitored, but the best chance for the air-plants is the successful introduction of a weevil biological control.

Laurel wilt is a fatal disease of trees in the Laurel family, which includes redbay, swamp bay and avocado. This disease is an example of an exotic pathogen (a *Raffaelea lauricola*, a species of fungus) introduced into trees by an exotic pest species, the redbay ambrosia beetle (*Xyleborus glabratus*). This disease has already infested and killed large redbays at the park beginning in 2012, when laurel wilt was first detected in Manatee County. At this time, management steps are limited to reducing spread by preventing movement of wood, leaving the infected wood in place and not selling it for firewood where it might be transported to another area. To date, there are no known successful management techniques for stopping the disease in Florida. Research is being done by USDA Agricultural Research Scientists to evaluate redbay ambrosia beetle attractants through field trapping. This study could lead to more efficient trapping methods to reduce this pest's populations.

Park staff will monitor for other exotic or nuisance animals at the park, with an emphasis for removal of species that damage the archaeological resources.

Special Natural Features

The park was the first archaeological site in Florida to be designated as a State Historical Memorial (March 16th, 1949). The park contains a large ceremonial mound, a burial mound, and unique shell mound natural community that is recognized as an exemplary site by FNAI.

Cultural Resources

This section addresses the cultural resources present in the park that may include archaeological sites, historic buildings and structures, cultural landscapes and collections. The Florida Department of State (FDOS) maintains the master inventory of such resources through the Florida Master Site File (FMSF). State law requires that all state agencies locate, inventory and evaluate cultural resources that appear to be eligible for listing in the National Register of Historic Places. Addendum 7 contains the FDOS, Division of Historical Resources (DHR) management procedures for archaeological and historical sites and properties on state-owned or controlled properties; the criteria used for evaluating eligibility for listing in the National

Register of Historic Places, and the Secretary of Interior's definitions for the various preservation treatments (restoration, rehabilitation, stabilization and preservation). For the purposes of this plan, significant archaeological site, significant structure and significant landscape means those cultural resources listed or eligible for listing in the National Register of Historic Places. The terms archaeological site, historic structure or historic landscape refer to all resources that will become 50 years old during the term of this plan.

Condition Assessment

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

Level of Significance

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

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

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

Prehistoric and Historic Archaeological Sites

Desired Future Condition: All significant archaeological sites within the park that represent Florida's cultural periods or significant historic events or persons are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public. The shell mound and burial mound, outside of the area designated for visitor use, show no signs of human or environmental disturbance.

Description: The Madira Bickel Mound (8MA83) site, also referred to as the Terra Ceia Site, is listed on the National Register of Historic Places and constitutes an archaeological district composed of three recorded contributing sites: the Abel Shell Midden (8MA83A), the Madira Bickel Mound (8MA83B), also known as the Bickel Ceremonial Mound and the Prine Mound (8MA83C). Two of these sites, the Madira Bickel Ceremonial Mound and the Prine Mound, are located within the park boundary. The third site, the Abel Shell Midden, is located outside of the park boundary. (Collins 2014) A fourth site, the Johnson Bickel Mound, is also mentioned within the National Register nomination for the larger Madira Bickel Mound site (8MA83) as a component of the Terra Ceia site, but it is located outside the park boundary and is not recorded separately in the FMSF.

The larger of the two contributing sites located on park property, the Madira Bickel Mound or the Bickel Ceremonial Mound (8MA83B), is a raised oblong mass that is composed of shells, sand, animal bones and village debris (presumably from the former surrounding village of ancient times). This flat-topped mound is 20-feet high with basal dimensions of 170 feet northeast-southwest and 100 to 115 feet northwest-southeast (Bullen 1951). It is believed that this structure was constructed as the substructure for either the Chief's residence or a temple. From the center of the flat top, which was originally about 70 feet by 25 feet in size, a sloping ramp approximately ten feet wide extends west-northwestward in the direction of the extensive shell midden along the shoreline of Miguel Bay. Two holes in the top of the mound, one small one in the center, and a larger one southwest in the center, indicate modern disturbance by treasure seekers or pot hunters (Bullen 1951). According to Dr. Bullen, sometime between 1919 and 1920, a Mr. Rowell cored the ceremonial mound from the very top, all the way to the bottom. It is estimated that this activity damaged about one-half of the mound's original top (Burger 1987).

The Madira Bickel Ceremonial Mound is also identified as a shell mound natural community, with a dense cover of trees, shrubs, with sparse groundcover. Since acquiring the property though donation the Division's management strategy for the mound has been to perpetuate a healthy shell mound natural community through invasive exotic plant removal, and reduce human caused disturbance and damage to the mound. The natural community likely helped protect the archaeological site by deflecting rain and minimizing erosion because of the duff soils and leaf litter on the mounds surface. Large trees in the natural community can threaten the integrity of the mound by having large roots and damage caused by toppling. The shell mound natural community discussion on an assessment of the existing conditions of this natural community and mound is proposed with the intent to preserve the archaeological resource. In conjunctions with the shell mound

community assessment and earthworks a management guidance plan for the site should be developed and implemented. The mound has also received some damage from amateurs in search of pottery and/or remains, neighborhood kids riding bicycles over the mound, and local development activities.

A much smaller feature, composed predominately of sand, is located a short distance north of the Madira Bickel Ceremonial Mound. This burial mound, also known as the Prine Mound (8MA83C), is approximately 100 feet in diameter and only about 18 inches high. It has been considerably disturbed over the years, not only by amateur digging, but also with road construction when the sand was used for road fill (Bullen 1951). Remnants of the Prine Mound are currently vegetated with grass that is mowed, and portions may fall under the existing parking area for the park. Information regarding the exact location of the mound from past archaeological investigations is inconclusive. The level cleared area currently used for parking was present when the property became a park in 1951. Further archaeological investigation is needed to determine the location of the mound and the future redesign of the parking area.

There has been some speculation by historians and early archaeologists about the possibility of the Terra Ceia site being the village Ucita, where DeSoto moved his forces immediately after landing in 1539. However, there is no concrete evidence to support this; only one Spanish olive jar shard has been found at the site (Bullen 1951). A few other questionable Spanish artifacts have reportedly come from the vicinity, but according to Bullen, "these finds are not well substantiated." The considerable excavations carried out here by Bullen in 1950 should have uncovered more Spanish material if the Spanish were in residence for any length of time. However, since none was found, Bullen was led to conclude, "….that the large site at Terra Ceia is not the Utica of the DeSoto narratives," (Bullen 1951).

Archaeological resource sensitivity modelling was completed in 2014 for this site as part of a larger DRP statewide effort. All of the uplands within the park boundary were identified as “High Sensitivity for Archaeological Resources” (Collens, et al. 2014).

Condition Assessment: The condition is good. Naturally there is some erosion, but since the installation of the boundary fence, anthropogenic erosion has been minimized.

Level of Significance: Madira Bickel Mound State Archaeological Site contains the ceremonial platform mound, Madira Bickel Ceremonial Mound and the burial mound, Prine Mound, two of three archaeological components of Madira Bickel Mound, an archaeological site listed on the National Register of Historic Places on August 12, 1970. This site is significant as a central west coast of Florida expression of the temple mound tradition that dominated much of the Southeast in the late prehistoric period and at time of European contact. The park is also significant as the first site in Florida to be designated as an official state archaeological site.

General Management Measures: Monitor the mound for environmental or human caused disturbance and take corrective actions as needed. In conjunction with the shell mound natural community assessment, develop a site specific earthworks management guide for the two mounds on this site. The earthworks management guide should identify maintenance activities, restoration or rehabilitation needs, and other measures to preserve the site. DHR, archaeologists, and others will be consulted in developing the management guidance document. Redesign the parking area to enhance the protection of the Prine Mound.

Historic Structures

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

There are no historic structures at this park.

Collections

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

There are no collections in the park itself. In 1950, Bullen excavated the site, and all that he collected is held at the Florida Museum of Natural History.

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

Table 4: Cultural Sites Listed in the Florida Master Site File

Site Name and FMSF #	Culture / Period	Description	Significance	Condition	Treatment
8MA83B Bickel Ceremonial Mound	Safety Harbor	Archaeological Site	NRL	G	P

Table 4: Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture / Period**	**Description**	**Significance**	**Condition**	**Treatment**
8MA83C Madira Bickel Burial Mound/ Prine Mound	Pre-Weedon Island thru Safety Harbor	Archaeological Site	NE	G	P

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

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

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

Resource Management Program

Management Goals, Objectives and Actions

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

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

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

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

Natural Resource Management

Hydrological Management

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

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

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

Action 1 Conduct Hydrological assessment of the park.

The park is relatively small site that is located near the coast of Tampa Bay and the Gulf of Mexico. This site is surrounded by residential structures, related infrastructure and mosquito/drainage ditches. Consequently, the entire area is subject to periodic flooding. An assessment of the hydrological functions could reveal how to alleviate or reduce the amount and duration of flooding. Nevertheless, the natural communities that have evolved at this site are adapted to withstand temporary flooding. The PVC culvert running under the sidewalk, and the culvert that connects the south part of the park to Terra Ceia Lake, under Bayshore Drive, should be monitored and maintained free of debris.

The potential to restore natural hydrological function at the park is severely limited due to the amount of surrounding development. Re-establishing any hydrological function to this area would likely occur outside of the park's boundaries. Therefore, there are no hydrological restoration needs in the park. Nevertheless, it would still benefit the park to have a hydrological assessment.

Natural Communities Management

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

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

Prescribed Fire Management

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

There are no fire-dependent natural communities at Madira Bickel Mound State Archaeological Site.

Natural Community Improvement

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

Objective A: Conduct natural community/habitat improvement activities on one acre of maritime hammock and shell mound natural communities.

Action 1 Assess the health of the shell mound natural community to protect and preserve the archaeological site.

Action 2 Develop a vegetation management plan (If the results of the above assessment determine a need for native vegetation management).

Currently there is not a need for natural community restoration at this park, and all natural community improvements can be accomplished with routine resource management practices. Outside of the exotic plant species management goals described later, there are no restoration projects or natural community improvement projects identified. The shell mound and adjacent maritime hammock have been identified by USFWS and proposed as "critical habitat" for the federally-endangered aboriginal prickly-apple, since it is in this cactus species historic range. The park may be a candidate for reintroduction of this cactus and actions related to this species are in the imperiled species management section of this plan.

As a recommendation along with the development of an earthworks management guidance document, the shell mound natural community needs to be assessed for

the following: community health; dead trees; vegetative structure; inventory of plant species; soils, duff and leaf litter; areas of erosion; trees greater than 12 inches diameter at breast height (DBH); individual tree health and locations; invasive exotic plant species; animal burrows or damage; and exposed shell areas.

A vegetation management plan should be developed to promote the preservation of the shell mound natural community, while protecting the integrity of the archaeological site. This plan could address items such as tree thinning, snag removal, invasive exotic species management, or other priorities identified through the assessment.

Imperiled Species Management

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

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

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

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

Objective A: Develop/Update baseline imperiled species occurrence inventory lists for plants and animals.

Action 1 Park staff will annually review the imperiled species list plant and animal lists on an annual basis and update as needed.

The first imperiled plant species list was compiled in 1998 by District biological staff. This list was updated in 2014 during the process of updating the park's ten-year management plan. The imperiled species plant list will be verified to insure it is current. This list will be reviewed annually and updated as necessary. In addition, any observations of listed plant and animal species new to the park, will be recorded and entered into DRP's statewide biological inventory database. Efforts will be made to provide listed species records to FNAI for species on their tracking list.

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

Action 1 Continue to monitor the seven listed imperiled birds and Florida Manatee during the course of normal park duties (Tier 1 monitoring).

There are seven imperiled wading birds and the Florida Manatee listed in Table 2 that have been observed in or near the park. Because of the ephemeral use of the park by these species no additional research or monitoring is required outside of recording casual observations as Tier 1 monitoring.

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

Action 1 Implement monitoring protocols for the cardinal and giant air-plant.

Action 2 Park staff will be trained to monitor and report any damage from the Mexican bromeliad weevil on the two imperiled air-plants

There are two known imperiled epiphytic air-plant species (cardinal and giant) identified within the park. These plants are being negatively impacted elsewhere in the state by non-native Mexican bromeliad weevil. The epiphytes in the park will receive Tier 1 monitoring. As a part of the monitoring program, the occurrence of these species in the park will be documented, and park staff will be educated to the warning signs of a weevil infestation. If weevil-caused damage and mortality is detected, then the district biologists should be notified, and a plan of action will be developed.

Objective D: Monitor the USFWS recovery strategy and critical habitat designation for the federally-listed endangered aboriginal prickly-apple and investigate habitat suitability for reintroduction

Action 1 Continue to work with USFWS in the recovery of the aboriginal prickly-apple.

Action 2 If the recovery strategies includes reintroduction of the aboriginal prickly-apple to its historic range, discuss the potential for reintroduction with USFWS at the park.

Action 3 Determine if the maritime hammock and shell mound natural communities at the park are suitable for the reintroduction of the aboriginal prickly-apple, or identify habitat improvement needs that would not degrade the cultural resources at the park.

Action 4 If habitat is suitable and reintroduction desired, develop and implement a reintroduction and monitoring plan.

The reintroduction of the aboriginal prickly-apple (cactus) should be considered, if there is enough suitable shell mound and maritime hammock habitat at the park to sustain a reintroduced population and the park is identified as part of the species recovery strategy. There are still many steps that need to happen prior to considering the park for reintroduction, including: development of a recovery plan and implementation strategy; approval of the final rule for "critical habitat" designation; determining if the park meets the criteria for reintroduction; identifying suitable habitat or habitat improvement project needs; gaining all DRP and other approvals; and setting up monitoring protocols and developing a reintroduction plan for the park. Reintroduction is not advisable if it would damage the sensitive archaeological resources at the park.

Exotic and Nuisance Species Management

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

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

Objective A: Annually treat one acre of exotic plant species in the park.

Action 1 Annually review exotic plant management work plan, update as needed.

Action 2 Implement annual work plan by treating one acre in the park annually, continue maintenance and follow-up treatments as needed.

The maritime hammock, mangrove swamp and shell mound communities will continue to receive exotic control maintenance as needed. Invasive exotic trees and shrubs will be targeted first, with an emphasis on treating all Brazilian pepper and carrotwood tree infestations. A plan will need to be developed to control the climbing tribisee, a sprawling bamboo-like grass that is not on the EPPC lists because the invasion of this species is unique to this park. Herbicide treatment or manual removal protocols will need to be developed to determine a course of action to reduce or eliminate this species at the park. The effects of exotic plant removal on the shell mound will need to be considered prior to a course of action.

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

Currently there are no known nuisance animal issues at the park. However, if any of these species are observed, staff will deal with any issues according to DRP policy on a case-by-case basis.

One exotic insect species the Mexican bromeliad weevil is present. Monitoring for the Mexican bromeliad weevil that kills two large air-plant species in the park was identified as an action in the imperiled species section and will not be discussed here.

Cultural Resource Management

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

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

Objective A: Assess and evaluate one of two recorded cultural resources in the park.

Action 1	Complete one assessment and evaluation of Madira Bickel Mound archaeological site.
Action 2	Complete an Earthworks Management Guidance Document for the Site in conjunction with the shell mound natural community assessment.

There is a plan to assess the vegetation cover on the Madira Bickel Mound (8Ma83B) in relationship to protecting the structural integrity of the archaeological site. The vegetation assessment described in the Natural Community section, and recommendations from it, can be used in the development of a site specific earthworks management guidance document. The earthworks management guidance document will also include the Prine Mound (8Ma83C).

The earthworks management guide should identify maintenance activities, restoration or rehabilitation needs, and other measures to preserve the site. DHR, Archaeologists, and others will be consulted in developing the management guidance document. Additional survey needs and site file updates may be identified through this process.

Objective B: Maintain two of two recorded cultural resources in good condition.

Action 1 Monitor the Madira Bickel Mound and Prine Mound for disturbance or erosion with the goal of preserving both mounds in good condition.

Action 2 Conduct further archaeological investigations of the Prine Mound.

The two archaeological sites in the park are in good condition according to the condition assessment definition with “Good describes a condition of structural stability and physical wholeness, where no obvious deterioration other than normal occurs”. The sites will be monitored with the goal of preserving the good condition. Damage to the archaeological sites at the park occurred in the 1950s and earlier, restoring these areas will be identified in the earthworks management guidance document as described previously. DRP will conduct further archaeological investigations and review all available information to determine the location of the Prine Mound. The parking area will be redesigned to enhance protection of the Prine Mound.

Special Management Considerations

Timber Management Analysis

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

A timber management analysis was not conducted for this park since its total acreage is below the 1,000-acre threshold established by statute.

Arthropod Control Plan

All DRP lands are designated as "environmentally sensitive and biologically highly productive" in accordance with Ch. 388 and Ch. 388.4111 Florida Statutes. If a local mosquito control district proposes a treatment plan, DRP responds within the allotted time and reaches consensus with the mosquito control district. By policy of DEP since 1987, aerial adulticiding is not allowed, but larviciding and ground adulticiding (truck spraying in public use areas) is typically allowed. DRP does not authorize new physical alterations of marshes through ditching, or water control structures. Mosquito control plans temporarily may be set aside under declared threats to public or animal health, or during a Governor's Emergency Proclamation.

There is an arthropod control plan for this park that was approved in July 1987, and some comments were added to it in May 1991. Park management, in coordination with the district and central office (BNCR) mosquito control coordinators, should contact the Manatee County Mosquito Control District, and develop an updated control plan based on the current Department of Agricultural and Consumer Services DACS forms.

Sea Level Rise

Potential sea level rise is now under study and will be addressed by Florida's residents and governments in the future. The DRP will stay current on existing research and predictive models, in coordination with other DEP programs and federal, state and local agencies. The DRP will continue to observe and document the changes that occur to the park's shorelines, natural features, imperiled species populations, and cultural resources. This ongoing data collection and analysis will inform the Division's adaptive management response to future conditions, including the effects of sea level rise, as they develop.

Resource Management Schedule

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

Land Management Review

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation and recreation lands titled in the name of the Trustees are being managed for the purposes for which they were acquired and in accordance with their approved land management plans. DRP considered recommendations of the land management review team and updated this plan accordingly. At less than 1,000 total acres, Madira Bickel Mound State Archaeological Site does not meet the size threshold for the land management review requirement; and, thus, has not been subject to a land management review.

LAND USE COMPONENT

Introduction

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

The Madira Bickel Mound State Archaeological Site is located in northwest Manatee County, north of the town of Palmetto surrounded by the Terra Ceia Aquatic Preserve. It is centrally located in the Tampa-St. Petersburg- Bradenton area in southwest Florida. The park is located approximately 35 miles south of Tampa and 20 miles east of St Petersburg across Tampa Bay. According to the Bureau of Economic and Business Research (BEBR) 2013 population estimate update of the 2010 Census, both Hillsborough and Manatee County’s residential populations have increased more than 3 percent, with Pinellas County Population increasing by approximately 1 percent. Currently the Bureau of Economic and Business Research projects a population increase in Manatee County from 322,833 in 2010 to 333,880 in 2013, an increase of more than 3

percent. The scenic coastal location and strategic position on the Gulf of Mexico and Tampa Bay serves as a draw for increasing numbers of residents and visitors.

There are a number of resource-based recreation opportunities such as, aquatic preserves, local parks and museums in proximity to the Madira Bickel Mound Archaeological State Park. These include Cockroach Bay Aquatic Preserve, Terra Ceia Aquatic Preserve, and Pinellas County Aquatic Preserve. There are a number of local parks in proximity to the park which include Emerson Point Park, E.G. Simmon Park, and Terra Ceia Park. Within a few miles of Madira Bickel Mound Archaeological State Park are other state parks ,such as Terra Ceia Preserve State Park, Skyway Fishing Pier State Park and Judah P. Benjamin Confederate Memorial at Gamble Plantation Historic State Park, just to name a few. These parks and preserves offer picnicking, swimming, fishing, paddling, camping, birding and hiking, as well as excellent educational opportunities related to area ecosystems, history, and archaeological sites. The Madira Bickel Mound Archaeological State Park is a designated a component of the Florida Greenways and Trails System.

Existing Use of Adjacent Lands

The park is located north of the City of Bradenton, a few miles from Interstate 275, and is surrounded by the Terra Ceia Aquatic Preserve. The park is adjacent to Miguel Bay, which adjoins Tampa Bay. The park is located in an older residential area that consists of large lot single family residential structures with some newer infill residential development. New residential development directly adjoins the park. This area is within the 100 year floodplain and subject to flooding in storm events.

Planned Use of Adjacent Lands

This park is located adjacent to Miguel Bay and is within an older established residential neighborhood generally referred to as Terra Ceia Island. This area is zoned for and currently supports single family residential use. This zoning category requires development to be reviewed by the County and limits the amount and type of development to lower intensity uses; it is also subject to a historical overlay that requires review by the County’s Historic Preservation Board and a certificate of appropriateness prior to development. It is anticipated that additional single family residential use may be developed, but no major large development is anticipated in the Terra Ceia Island area.

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.

MADIRA BICKEL MOUND STATE ARCHAEOLOGICAL SITE

N

0 50 100 200 Feet

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

BASE MAP

MADIRA BICKEL MOUND STATE ARCHAEOLOGICAL SITE

N

0 37.5 75 150 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2014

CONCEPTUAL LAND USE PLAN

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

Madira Bickel Mound Archaeological site is surrounded by the Terra Ceia Bay Aquatic Preserve. The park is near the coast of Miguel Bay where most of the land is less than five feet above sea level. Sharp relief is provided by the ceremonial mound which rises to a height of approximately 20 feet. The park landscape is dominated by maritime hammock and shell mound natural communities. The shell mound and adjacent maritime hammock have been identified by US Fish and Wildlife Service (USFWS) and proposed as "critical habitat" for the federally-endangered Aboriginal prickly-apple (*Harrisia aboriginum*), since it is in the home range this cactus species. Mangrove swamp is predominantly found along the low-lying areas within the fence line of the park. The park is subject to flooding during high water spring tide events and storm events

Natural Scenery

Terra Ceia Bay, maritime hammock, mangrove swamps and height of the ceremonial mound create and unexpected scenic quality within this small archaeological park. The scenic vistas from the top of the mound is somewhat limited by the vegetation but still gives visitors the sense of the importance of this Native American archaeological site.

Significant Habitat

The park provides habitat for two imperiled plant species and seven imperiled wading birds. Florida manatees have been observed in Lake Terra Ceia adjoining the park. The mounds, middens, and maritime hammock on the western side of Terra Ceia Island are historic habitat for the now federally-endangered Aboriginal prickly-apple (*Harrisia aboriginum*).

Natural Features

The park is dominated by a large pre-historic ceremonial mound. It is accessible by a stairway and is the primary interpretive feature in the park.

Archaeological and Historical Features

The park contains the Madira Bickel Mound State Archaeological Site (8MA83B & C) which is listed on the National Register of Historic Places and consists of two major features. The larger of the two mounds is the Madira Bickel Mound or the Bickel Ceremonial Mound (8MA83B). This flat-topped mound is 20-feet high with basal dimensions of 170 feet northeast-southwest and 100 to 115 feet northwest-southeast (Bullen 1951). It is believed that this structure was

constructed as the substructure for either the Chief's residence or a temple. A much smaller feature, composed predominately of sand, is located a short distance north of the Bickel Ceremonial Mound. This burial mound, also known as the Prine Mound (8MA83C), is approximately 100 feet in diameter and only about 18 inches high. It has been considerably disturbed over the years. It was excavated in 1950, uncovering over 30 burials representing different archaeological time periods.

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

This site was donated to the State in 1948 by Karl and Madira Bickel, following their donation, R.H. and Shula Prine donated an adjoining parcel that makes up the park site of today.

Karl Bickel was the president of United Press Association when he retired to the Sarasota Florida area. He had a love for Florida and was a member of various groups including the Sarasota Park Board, the Everglades National Park Commission, the Florida Board of Parks and Historic Memorials, and the Florida Historical Society. In 1948, he learned that the mound containing archaeological relics dating back two thousand years, located on ten acres on Terra Ceia Island, was to be destroyed for a new housing development. When an appeal to the state and local authorities proved useless, he bought the property himself, named the mound after his wife Madira and gave it to the state of Florida. Mr. Bickel had a love for local history which became a hobby for him and in 1942 resulted in the book "The Mangrove Coast."

Future Land Use and Zoning

The Division works with local governments to establish designations that provide both consistency between comprehensive plans and zoning codes and permit typical state park uses and facilities necessary for the provision of resource-based recreation opportunities.

The park is currently designated R-OS, Recreation Open Space on the future land use map in the Manatee County Comprehensive Land Use Plan. This category restricts allowable uses in the park to recreational and open space use, state parks, historic sites, regional parks and significant recreation and open space areas.

The zoning on the parcels of land is currently CON-Conservation. This zoning category is intended to preserve and protect large areas of open space, vegetated habitat, natural drainage systems, aquifer recharge areas, soils and wildlife habitats in areas of major public or privately held lands as desired by the property owner which are intended primarily for the purpose of preserving natural resources. All commercial agricultural operations within CON Districts

must possess approved conservation plans consistent with the comprehensive plan, and which incorporate site specific Best Management Practices (BMP) approved by Manatee County.

Current Recreational Use and Visitor Programs

Natural and cultural resource interpretation and picnicking are the primary recreational use at the Madira Bickel Mound Archaeological Site. The historic interpretation of Madira Bickel Mound and the park's natural and cultural environs are a priority for the park.

Madira Bickel Mound Archaeological Site recorded approximately 4,461 visitors to the park in Fiscal Year 2013-2014. By DRP estimates, the FY 2013-2014 visitors contributed over $329,817 in direct economic impact and the equivalent of three jobs to the local economy (Florida Department of Environmental Protection 2014).

Other Uses

This site has not been used for any purpose other than a pre-historic archaeological site.

Protected Zones

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

At Madira Bickel Mound Archaeological Site all wetlands and floodplains as well as shell mound and maritime hammock and known imperiled species habitat have been designated as protected zones. The protection zone encompasses the Madira Bickel Mound State Archaeological Site (8MA83B & C) which consists of the Bickel Ceremonial Mound (8MA83B) and the smaller burial mound or the Prine Mound (8MA83C). Because of the size of the park, archaeological sites and natural communities in the park, the entire park is within the protection zone. Facility development would be limited to very low impact. The park's current protected zone is delineated on the Conceptual Land Use Plan.

Existing Facilities

Recreation Facilities

The recreation facilities at Madira Bickel Mound Archaeological Site include a shared use trail to the mound, picnic table and an interpretive sign at the base

of the mound. Because of the small size of the park and cultural and natural features in the park, recreation facilities are limited. The interpretation of the history of Madira Bickel Mound and the park's natural and cultural environs are a priority for the park.

Shared use trail
Interpretive sign
Picnic table (one)

Conceptual Land Use Plan

The following narrative represents the current conceptual land use proposal for this park. As new information is provided regarding the environment of the park, cultural resources, recreational use, and as new land is acquired, the conceptual land use plan may be amended to address the new conditions (see Conceptual Land Use Plan). A detailed development plan for the park and a site plan for specific facilities will be developed based on this conceptual land use plan, as funding becomes available. During the development of the management plan, the Division assessed potential impacts of proposed uses or development on the park resources and applied that analysis to decisions on the future physical plan of the park as well as the scale and character of proposed development. Potential impacts are more thoroughly identified and assessed as part of the site planning process once funding is available for facility development. At that stage, design elements (such as existing topography and vegetation, sewage disposal and stormwater management) and design constraints (such as imperiled species or cultural site locations) are more thoroughly investigated. Municipal sewer connections, advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Stormwater management systems are designed to minimize impervious surfaces to the greatest extent feasible, and all facilities are designed and constructed using best management practices to avoid impacts and to mitigate those that cannot be avoided. Federal, state and local permit and regulatory requirements are met by the final design of the projects. This includes the design of all new park facilities consistent with the universal access requirements of the Americans with Disabilities Act (ADA). After new facilities are constructed, the park staff monitors conditions to ensure that impacts remain within acceptable levels.

Potential Uses

Public Access and Recreational Opportunities

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

Objective A: Maintain the park's current recreational carrying capacity of 80 users per day.

Historic interpretation, picnicking and bird watching are the primary recreational use at the Madira Bickel Mound Archaeological Site. Natural and cultural resource interpretation and resource based recreation are the primary recreational uses at the park.

Objective B: Expand the park's recreational carrying capacity by 24 users per day.

Currently there are no covered facilities in the park. There is one picnic table in the grass for visitor use. A small picnic pavilion with two tables should be added to the park. This will provide shade and an area to enjoy a break or picnic while learning about the history, natural communities, birds and other animals that frequent the park.

Objective C: Continue to provide the current repertoire of 1 interpretive, educational and recreational programs on a regular basis.

The park currently contains a sign along the shared use trail leading to the mound that explains the nature of the mound site and the occupation by Native Americans in the area.

Objective D: Develop 2 new interpretive, educational and recreational programs.

Two additional interpretive signs are proposed in the park. One is proposed on top of ceremonial mound using a method sensitive to the nature of the mound, this will enhance visitor understanding and appreciation of the actual mound. The other is proposed at the site of the Prine burial mound. The existing sign is small and gives little information about the significance of the mound. New signage will better inform visitors of the significance of the mound.

Brochures should be made available that conveying the history, archaeological importance and natural communities in the park. They may be paper or web based brochures.

Proposed Facilities

Capital Facilities and Infrastructure

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

The existing facilities of this state park are appropriate to the natural and cultural resources contained in the park and should be maintained. New

construction, as discussed further below, is recommended to improve the quality and safety of the recreational opportunities that visitors enjoy while in the park, to improve the protection of park resources, and to streamline the efficiency of park operations. The following is a summary of improved and new facilities needed to implement the conceptual land use plan for Madira Bickel Mound Archaeological Site.

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

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

Objective C: Construct 1 new facility in the park.

Provide a small picnic pavilion in the park. This will provide a shaded area for park visitors to rest and relax in the park. Add two new additional interpretive kiosks/panels

Facilities Development

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

Park-wide Facilities
Small picnic pavilion (1)
Interpretive kiosk/panels within the park (2)

Recreational Carrying Capacity

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 5).

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

TABLE 5

Recreational Carrying Capacity

	Existing Capacity		Proposed Additional Capacity		Future Capacity	
Activity / Facility	**One Time**	**Daily**	**One Time**	**Daily**	**One Time**	**Daily**
Picnicking			12	24	12	24
Interpretive Programs	20	80			20	80
TOTALS	**20**	**80**	**12**	**24**	**32**	**104**

*Existing capacity was revised from 2003 plan to better represent DRP carrying capacity guildlines.

Optimum Boundary

The optimum boundary map reflects lands considered desirable for direct management by the DRP as part of the state park. These parcels may include public or privately owned land that would improve the continuity of existing parklands, provide the most efficient boundary configuration, improve access to the park, provide additional natural and cultural resource protection or allow for future expansion of recreational activities. Parklands that are potentially surplus to the management needs of DRP are also identified. As additional needs are identified through park use, development, and research, and as land use changes on adjacent property, modification of the park's optimum boundary may be necessary.

At this time, no additional property is needed to support the resources or operations of the park. There are no lands considered surplus.

IMPLEMENTATION COMPONENT

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

Management Progress

Since the approval of the last management plan for Madira Bickel Mound State Archaeological Site in 2002, significant work has been accomplished and progress made towards meeting the DRP's management objectives for the park. These accomplishments fall within three of the five general categories that encompass the mission of the park and the DRP.

Acquisition

On April 16, 1948, the State obtained title to a 5-acre property which later became Madira Bickel Mound State Archaeological Site. Karl A. Bickel and Madira Bickel donated the property to the State. On May 7, 1948, an additional parcel was donated and added to Madira Bickel Mound State Archaeological Site. No additional lands have been added to the park. After adjusting for the road right of way, the park is currently 9.18 acres.

Park Administration and Operations

- The Park continues to actively work with organizations and members of the public that wish to volunteer their time.
- The Park does not have a Citizen Support Organization (CSO) but maintains an ongoing relationship with the local organizations such as Keep Manatee Beautiful and Terra Ceia Village Improvement Association and the St. Petersburg Bicycle Club.

Resource Management

Natural Resources

- Park staff has worked to maintain the natural resources in the park through protection, enhancement and public education.
- Staff has worked to protect the remnant natural communities such as maritime hammock and shell mound, by removing invasive exotic plants and monitoring for invasive pest.
- Staff has worked to maintain the imperiled species in the park by monitoring and tracking sightings of imperiled birds.

- Exotic plant work days are carried out several times a year at this park to keep it in maintenance mode.
- Once a week in the summer the park is mowed and picked up by the staff from Gamble Plantation or volunteers. During winter time the handrail and signs are cleaned or painted and trees trimmed as needed, boundary fence mended where needed.

Cultural Resources

- Staff has worked to protect and maintain the two archaeological sites, Madira Bickel Ceremonial Mound and the Prine Mound.
- Staff and volunteers have replaced the stairs that lead up the mound and continue to monitor and keep them in safe working order.
- An interpretive panel has been installed near the mound that educates visitors about the history of the mound and Native Americans who lived in the area.
- The handrail on top of the mound was replaced due to age.

Recreation and Visitor Services

- A shared use trail that leads from the parking area to mound has been installed in order to make the site more accessible to visitors with mobility issues.
- Drainage issues in the park caused by the installation of the paved walkway were addressed and resolved.
- A picnic table was installed in the park.
- A bicycle race is held yearly on Terra Ceia Island and the park's parking lot is used for spectators and as a watering station for the riders. A ranger or volunteer is assigned to work the event to interpret the mound to the visitors.

Park Facilities

- An entrance sign was added at the entrance to the park, near the parking area.
- Parking curb stops were added to the parking lot to give parking spaces definition. An ADA parking space has been installed.

Management Plan Implementation

This management plan is written for a timeframe of ten years, as required by Section 253.034 Florida Statutes. The Ten-Year Implementation Schedule and Cost Estimates (Table 5) summarizes the management goals, objectives and actions that are recommended for implementation over this period, and beyond. Measures are identified for assessing progress toward completing each objective and action. A time frame for completing each objective and action is provided. Preliminary cost estimates for each action are provided and the estimated total costs to complete each objective are computed. Finally, all costs are consolidated under the following five standard land management categories: Resource Management, Administration

and Support, Capital Improvements, Recreation Visitor Services and Law Enforcement.

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

Statewide priorities for all aspects of land management are evaluated each year as part of the process for developing the DRP's annual legislative budget requests. When preparing these annual requests, the DRP considers the needs and priorities of the entire state park system and the projected availability of funding from all sources during the upcoming fiscal year. In addition to annual legislative appropriations, the DRP pursues supplemental sources of funds and staff resources wherever possible, including grants, volunteers and partnerships with other entities. The DRP's ability to accomplish the specific actions identified in the plan will be determined largely by the availability of funds and staff for these purposes, which may vary from year to year. Consequently, the target schedules and estimated costs identified in Table 5 may need to be adjusted during the ten-year management planning cycle.

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

Goal I: Provide administrative support for all park functions.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Continue day-to-day administrative support at current levels.**	Administrative support ongoing	C	**$13,209**
Objective B	**Expand administrative support as new lands are acquired, new facilities are developed, or as other needs arise.**	Administrative support expanded	C	**$3,960**
Goal II: Protect water quality and quantity in the park, restore hydrology to the extent feasible, and maintain the restored condition.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Conduct hydrological assessment of the park**	Assessment conducted	ST	**$1,500**
Goal III: Restore and maintain the natural communities/habitats of the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Conduct habitat improvement on one acre acre of maritime hamock and shell mound natural communites.**			**10,000**
Action 1	Assess the health of the shell mound natural community to protect and preserve the archaeological site	Assessment conducted	UFN	10,000
Action 2	Develop a vegetation management plan (If the results of the above assessment determine a need for native vegetation management)	Plan developed	UFN	Unknown

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

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

Goal IV: Maintain, improve or restore imperiled species populations and habitats in the park.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	**Develop/update baseline imperiled species occurance inventory listed for plants and animals**	List updated	C	**$2,500**
Action 1	Park staff will annually review the imperiled plant lists and update as needed.	List updated	C	$2,500
Objective B	**Monitor and document selected imperiled animal species in the park.**	# Species monitored	C	**$2,500**
Action 1	Continue to monitor the seven listed imperiled birds and Florida Manatee during the course of normal park duties (Tier 1 Monitoring).	# Species monitored	C	$2,500
Objective C	**Monitor and document two selected imperiled plant species in the park.**	# Species monitored	C	**$3,000**
Action 1	Implement monitoring protocals for the cardinal and giant air-plant.	Protocal developed and implemented	C	$2,500
Action 2	Train park staff to monitor and report any damage from bromeliad weevil on two imperiled air-plants.	Staff trained	C	$500
Objective D	**Monitor the USFWS recovery strategy and critical habitat designation for the federally-listed endangered Aboriginal prickly-apple /investigate suitability for reintroduction**	Monitoring/investigation complete		**$7,500**
Action 1	Continue to work with USFWS in the recovery of the Aboriginal prickly-apple	Coordinate with USFWS	C	$2,500
Action 2	If the recovery strategies includes the reintroduction of the Aboriginal prickly-apple to its historic range, discuss potential reintroduction with USFWS at the park	Coordinate with USFWS	C	$2,500
Action 3	Determine if the maritime hammock and shell mound natural communities at the park are suitability for the re-introduction of the Aboriginal prickly-apple, or identify habitat improvement needs that would not degrade the cultural resources at the park.	Suitability determined	UFN	$2,500
Action 4	If habitat is suitable, and reintroduction is desired, develop and implement a re-introduction and monitoring plan	Plan developed/implemented	UFN	Unknown
Goal V: Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Annually treat one acre of exotic plant species in the park.**	# Acres treated	C	**$12,500**
Action 1	Annually review exotic plant management work plan, update as needed.	Plan developed/updated	C	$5,000
Action 2	Implement annual work plan by treating one acre in park, annually, and continue maintenance and follow-up treatments, as needed.	Plan implemented		$7,500
Objective B	**Implement control measures on exotic and nuisance animal species in the park, as necessary.**	# Species for which control measures implemented	C	**$2,000**

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

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

Goal VI: Protect, preserve and maintain the cultural resources of the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Assess and evaluate one of two recorded cultural resources in the park.**	Assesment completed	ST	**$15,500**
Action 1	Complete one assessment/evaluation of Madira Bickel Mound (8MA83B) archaeological site.	Assessments completed	ST	$500
Action 2	Complete earthworks management guidance document for the site in conjunction with the shell mound natural community assesment.	Guidance document completed	LT	$15,000
Objective B	**Bring two of two recorded cultural resources into good condition.**	Sites in good condition	C	**$23,920**
Action 1	Monitor the Madira Bickel and Prine Mound for disturbance or erosion with the goal of preserving both mounds in good condition.	Sites monitored	C	$15,920
Action 2	Conduct further archaeological investigations of the Prine Mound.	Investigation Complete	UFN	$8,000

Goal VII: Provide public access and recreational opportunities in the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Maintain the park's current recreational carrying capacity of 80 users per day.**	# Recreation/visitor	C	**$39,627**
Objective B	**Expand the park's recreational carrying capacity by 24 users per day.**	# Recreation/visitor	LT	**$11,880**
Objective C	**Continue to provide the current repertoire of 1 interpretive, educational and recreational programs on a regular basis.**	# Interpretive/education programs	C	**$0**
Objective D	**Develop 1 new interpretive, educational and recreational programs.**	# Interpretive/education programs	ST	**$1,000**

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

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

Goal VIII: Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Maintain all public and support facilities in the park.**	Facilities maintained	C	**$92,463**
Objective B	**Continue to implement the park's transition plan to ensure facilities are accessible in accordance with the American with Disabilities Act of 1990.**	Plan implemented	LT	**$0**
Objective D	**Construct 1 new facility**	Facility constructed	LT	**$31,725**
Objective E	**Expand maintenance activities as existing facilities are improved and new facilities are developed.**	Facilities maintained	C	**$27,744**

Summary of Estimated Costs

Management Categories	**Total Estimated Cost* (10-years)**		
Resource Management			**78,220**
Administration and Support			**$17,169**
Capital Improvements			**$31,725**
Recreation Visitor Services			**$172,714**
Law Enforcement Activities***	***Law enforcement activities in Florida State Parks are conducted by the DEP Division of Law Enforcement and by local law enforcement agencies.		

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

Addendum 1—Acquisition History

Purpose of Acquisition:

The State of Florida has acquired Madira Bickel Mound State Archaeological Site to develop, operate, and maintain the property for outdoor recreational, park, conservation, historic and related purposes.

Sequence of Acquisition:

On April 16, 1948, the State obtained title to a 5-acre property, which later became Madira Bickel Mound State Archaeological Site. Karl A. Bickel and Madira Bickel donated the property to the State. On May 7, 1948, the State acquired another 5-acre property and added it to Madira Bickel Mound State Archaeological Site. Presently the archaeological site comprises 9.18 acres, which excludes the existing county road.

Title Interest:

The Trustees hold fee simple title interest in Madira Bickel State Archaeological Site.

Lease Agreement:

On January 23, 1968, the State conveyed its management authority of Madira Bickel Mound State Archaeological Site to the Department of Environmental Protection, Division of Recreation and Parks (DRP) under Lease No. 2324. The lease is for a period of ninety-nine (99) years, and it expires on January 23, 2067. In 1988, the State assigned a new lease number, Lease No. 3633, to Madira Bickel State Archaeological Site without making any changes to the terms and conditions of Lease No. 2324. A copy of the lease is available upon request.

According to the lease agreement, the DRP will manage the property for the specific purposes of resource-based public outdoor recreational, park, conservation, historic and related purposes.

Special Conditions on Use:

Madira Bickel State Archaeological Site is designated single-use to provide resource-based public outdoor recreation and other related uses.

Outstanding Reservations:

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

Instrument:.....Indenture
Instrument Holder: .....Karl A. Bickel and Madira Bickel
Beginning Date: .....April 16, 1948

Ending Date:	There is no specific ending date given.
Outstanding Rights, Uses, Etc.:.....	The property was conveyed to the State to be used as a state park archaeological monument and be named “Madira Bickel Mound State Monument”. If the property ceases to be used for state park archaeological monument, the title and interest shall revert to the instrument holders.
Instrument:	Warranty Deed
Instrument Holder:	R. H. Prine and Sula G. Prine
Beginning Date:.....	May 7, 1948
Ending Date:	There is no specific ending date given.
Outstanding Rights, Uses, Etc.:	The property was conveyed to the state as an addition to Madira Bickel Mound State Monument and to be used as a state park archaeological monument. If the property ceases to be used for state park archaeological monument, the title and interest shall revert to the instrument holders.

Addendum 2—Advisory Group Members and Report

Madira Bickel Mound State Archaeological Site

Judah P. Benjamin Confederate Memorial at Gamble Plantation Historic State Park

Advisory Group and Report

Local Government Representatives

The Honorable Larry Bustle
Manatee County Board of County Commissioners
112 Manatee Avenue West
Bradenton, FL 34205
P.O. Box 1000
Bradenton Fl. 34206-1000

John O'Conner
Manatee Soil and Water Conservation District
1107 Paylor Grade Road
Duette, FL 34219-6866
(863)-860-3307

Agency Representatives

Kevin Kiser, Park Manager
Judah P. Benjamin Confederate Memorial at Gamble Plantation Historic State Park
3708 Patten Avenue
Ellenton, FL 32459

Chad Allison
Regional Biologist
Florida Fish and Wildlife Conservation Commission
Southwest Regional Office, 3900 Drane Field Road
Lakeland, FL 33811

Mike Wisenbaker
Archaeology Supervisor, Public Lands
Bureau of Archaeological Research
Division of Historical Resources
1001 De Soto Park Drive
Tallahassee, FL 32301

Tourism / Economic Development Representatives

Monica Luff-contact
Manatee County Tourism Development Council
Bradenton Area Convention & Visitors Bureau
1 Haben Boulevard
Palmetto, FL 34221
(941) 729-9177 Ext. 231
Monica.Luff@mymanatee.org

Marilyn Hett, AICP
Tourism Development Manager
Economic Development
Hillsborough County BOCC
County Center, 20th floor
601 E Kennedy Blvd.
Tampa, FL 33602

Recreational User Representatives

Bob Griendling, Vice-President
St. Petersburg Bicycling Club Inc.
126 15th Avenue Northeast
St. Petersburg, FL 33734
Bob@griendling.com

Historical Resources Representative

Liz Boling, United Daughters of the Confederacy, JP Benjamin Chapter
1103 39th Street West
Bradenton, FL 34205-1645

Sonya R. Setty, President
Judah P. Benjamin 1545 Chapter
United Daughters of the Confederacy
2708 22nd Street West
Bradenton, FL 44205-5212

Pamela Gibson, President
Manatee County Historical Society
6207 Red River Cove, #304
Bradenton, FL 34202

Environmental and Conservation Representatives

Devon Higginbotham
Suncoast Chapter of the Native Plant Society
6322 Barton Road
Plant City, FL 33565

Citizens Support Organization Representatives

Gail Jesse, President
CSO Chairman
Gamble Plantation Preservation Alliance
3942 Saddle Creek Road
Lakeland, FL 33801-9693

Adjacent Land Owners

Jon Goings, President
Terra Ceia VIA (Village Improvement Association)
P O Box 261
Terra Ceia, FL 32250-0261

Two Advisory Group meetings were held to review the proposed land management plan for Madira Bickel Mound State Archaeological Site and Judah P. Benjamin Confederate Memorial at Gamble Plantation Historic State Park. The first meeting was a joint advisory group for three parks: Cockroach Bay Preserve State Park, Madira Bickel Mound State Archaeological Site, and Judah P. Benjamin Confederate Memorial at Gamble Plantation Historic State Park. The joint advisory group meeting was held at the Visitors Center at the Judah P. Benjamin Confederate Memorial at Gamble Plantation Historic State Park on November 20, 2014. A summary of the advisory group discussion regarding Cockroach Bay Preserve State Park can be found in the Cockroach Bay Preserve State Park management plan (Addendum 2). In order to present additional information on the Patten House at Gamble Plantation, a second joint public workshop and advisory group meeting for Madira Bickel Mound State Archaeological Site and Judah P. Benjamin Confederate Memorial at Gamble Plantation Historic State Park was held at the Palmetto City Hall on January 7, 2015.

Stephen Raymond and Marcus Campion represented Manatee County Commission Chairman Larry Bustle, and Josh Agee represented Chad Allison. Hillsborough County Commissioner Sandra L. Murman, Roy Davis, John O'Conner, Monica Luff, Devon Higginbotham, Sonia R. Setty were not in attendance. Mike Weisenbaker from the Division of Historic Resources (DHR) did not attend but provided written comments. All other appointed Advisory Group members were present. Attending staff were Sine Murray, Valinda Subic, Chris Becker, Kevin Kiser, Tracy Telatyki, Piper Ferriter, and Enid Ehrbar. Staff began the meeting by explaining the purpose of the Advisory Group and reviewing the meeting agenda. Staff provided a brief overview of the planning process and summarized the comments received during the previous evening's public workshop. Staff then asked each member of the Advisory Group to express his or her comments on the draft plans.

Summary of Advisory Group Comments for November 20, 2014 Meeting

Gail R. Jessee (Gamble Plantation Preservation Alliance - Citizens Support Organization) stated that her interest was mainly related to the Judah P. Benjamin Confederate Memorial at Gamble Plantation Plan and thought the plan was fine.

Bob Griendling (St. Petersburg Bicycling Club, Inc.) stated that he reviewed the plans and noticed there was no discussion of bicycling in the plans. Mr. Griendling note that his cycling club had used Madira Bickel Mound Park for a rest and water stop during organized bike rides.

Jon Goings (Terra Ceia Village Improvement Association) noted that he represented the neighborhood group, Terra Ceia VIA, the Madira Bickel Mound Archaeological Site was a part of their community. His major concern was invasive plants and asked when the park was checked for exotic invasive plants. Staff stated

they checked the park several times a year, and it was last checked on September 30, 2014. He also noted there was some erosion on the steps leading to the mound. Staff stated that was a constant issue, it was addressed in the plan and they were aware and would be adding shell to the steps. Mr. Goings stated that he thought members of the VIA would be glad to volunteer for workdays in the park if they were given advanced notice.

Wayne Douchkoff (Florida Paddling Trails Association) stated his interest was largely with the Cockroach Bay Plan. His paddling group was most concerned with access and safety, having a good safe place to access the park.

Pamela Gibson (Manatee County Historical Society) stated her concern regarding the need for better directions to help tourists find the parks. She stated that Google is not helpful in getting people correct directions to the area parks. Staff noted that the park would soon have a revamped website up that should help with this issue. Ms. Gibson stated that she was very concerned about the Patten House, what was going to happen to it, and funding for restoration. Staff explained that an assessment on the house is currently underway and additional information would be presented at the Public Workshop and Advisory Group Meeting in January. Ms. Gibson noted that the Patten House is an example of a more “normal” house for the community, not a mansion or working class house, but an example of a structure for a large family who were well known in the community. She reiterated that the house should be preserved. There was discussion about past interior repairs done to the house by the United Daughters of the Confederacy (UDC). Park staff asked if they could get a list of these repairs, and Ms. Gibson and Ms. Boling stated they would review their records for this information.

Elizabeth Boling (United Daughters of the Confederacy) stated that the UDC saved the Gamble Mansion, and the Patten House serves as their Chapter House. They want to see the Patten House saved. The Chapter does have some money to assist. She stated that according to the lease, the UDC is responsible for the inside of the house, and the state is responsible for the outside. She feels that the UDC has done their part to maintain the house.

Randy Runnels (Florida Coastal Office (FCO)/Tampa Bay Aquatic Preserves) asked if the old sugar mill equipment in the park was part of the Gamble Sugar Mill. Staff stated that the press and roller equipment was on loan from the Manatee County Historical Society. He asked about water flow/flushing in the area around Madira Bickel Mound. Since staff stated there were manatee sightings, he was concerned about them being caught in culverts and if culvert guards were needed. Staff stated that there were no flow restrictions. Dr. Runnels had questions about sheet flow and the new sidewalk; if the pipe under the walkway was adequate. Staff stated they had to clean debris from the area periodically. Dr. Runnels asked about the situation with the parking area potentially being on the Prine Burial Mound. Staff explained that there were different opinions about just where the remaining mound

was and it was determined that the parking lot would not be moved at this time because of potential impacts to other natural and cultural resources. Staff noted that DHR had made comments on the Madira Bickel Plan and commended the DRP for formulating and writing a plan that protects one of Florida's significant archaeological sites. Dr. Runnels suggested staff look at the Emerson Point Park and how they handled signage on the mound and that staff might want to tie the information to the region and other mounds in the area.

Stephen Raymond (Manatee County Department of Natural Resources, Parks and Natural Resources Division) questioned the listing of wood storks in the appendix of the plan and suggested there were no imperiled species in the park. Staff explained that most of the birds noted at Gamble Plantation were birds that fly over the park and are sighted, but do not use the park for habitat. Mr. Raymond questioned why there is no mention of current staff levels in the plan. Staff explained that staffing is considered an operational activity and is not explicitly included in the plans. In regard to Madira Bickel Mound, Mr. Raymond noted that there was a reference to a topographical map that was not in the plan. Mr. Raymond questioned whether the maritime hammock should be listed as Mesic or Hydric hammock. Mr. Raymond questioned the plan not having an optimum boundary map. Staff explained that there had been discussions about an optimum boundary map, but it was determined that the park would remain in the current configuration.

Marcus Campion (Manatee County Department of Natural Resources, Parks and Natural Resources Division) stated that the issues in the park seem to be well addressed. He thought the plans were going in a positive direction. He was pleased to see the sugar mill issues were being addressed. He was glad to see the hydrological issues at Madira Bickel Mound were being addressed. He asked how often the air plants were being monitored. Staff stated they were out there often. He stated he was interested in the wetland/pond at the Gamble Sugar Mill site.

Captain John Hand (Adjacent Property Owner, Cockroach Bay Preserve State Park) noted that his interest was mainly with the Cockroach Bay Preserve Plan. During the discussion of the Patten House, Captain Hand asked about the cost of renting the big pavilion at Gamble Mansion and about who received the money from the Patten House tour. Staff stated that the rental from the pavilion goes to the state; any funds from the Patten House tour go to the UDC.

Marilyn Hett (Hillsborough Tourism Development Council) stated that the park staff might want to work with Visit Florida regarding park directions and better publicity for the park. DRP staff noted that the central office in Tallahassee works very closely with Visit Florida. She also noted that a more regional approach to getting visitors to parks should be considered. Tourists don't usually just come to an area to see one place, but what the whole area has to offer. A regional approach regarding what is offered in parks would be something to consider. Staff noted that the DRP is currently looking at the gateway park concept: one park in a region

directing visitors to other parks in the area, serving as a gateway. She also asked if the there was a hurricane plan in the park plan, such as a plan to keep all the artifacts and collections safe in a hurricane. Staff stated that that there is a chapter in the larger operations manual that all parks follow regarding protection of collections and artifacts. A webinar is also available that shows how collections and artifacts can be protected during storm events. The new division intranet site will have links to this information for staff's reference.

Josh Agee (Florida Fish and Wildlife Conservation Commission (FWC)) stated that he looked at the plans and they looked okay, were practical, and discussed management in the parks. Mr. Agee was interested in the feral hog situation at the sugar mill portion of the Gamble Park. Staff members discussed the past and current situation stating that they have seen and trapped hogs over the last few years; the hogs seem to come from a neighboring pasture and show up now and then. Staff has not seen hogs at the sugar mill for about a year, however, suddenly in the last month, there have been signs of hog activity. DRP staff monitors for hogs and deals with them when they enter the park.

Summary of Written Comments

Mike Wisenbaker (Division of Historical Resources (DHR)) reviewed the cultural section of the plans and addenda for the plans.

Madira Bickel Mound State Archaeological Site:
Mr. Wisenbaker stated that it was unfortunate that parts of the mounds were used for road construction. He commended the park service for taking steps to lessen the impact on the mounds in the park while allowing the public access to these cultural resources. He wondered if the park would consider adding the Able Shell Midden and Jackson Bickel Mound to the park if it were to become feasible. He stated that the DHR supported the park's action to expand interpretation of the archaeological sites. He stated he thought it was beneficial to remove larger trees and shrubs from the mounds and middens to lessen storm impacts from falling trees and better protect the integrity of the site. He commended the park for formulating and writing the plan.
Judah P. Benjamin Confederate Memorial at Gamble Plantation Historic State Park
Mr. Wisenbaker states that DHR encourages park staff to pursue National Register listing for the sugar mill site (MA713) and offers DHR technical assistance. They also urge park staff to pursue the National Register nomination of the Patten House (MA2023). He noted DHR is pleased to see the hardwood hammock at the sugar mill site being maintained; this will more closely resemble the original cultural landscape of the property. He recommends the park service continue to follow the recommendations in the Bland & Associates and Renker-Erich-Parks Architects study regarding the Gamble Mansion and the sugar mill site. He also recommends the establishment of a citizens support organization (CSO) for the park.

Stephen Raymond (Manatee County Department of Natural Resources, Parks and Natural Resources Division) provided a written version of his comments that were stated at the Advisory Group meeting.

Summary of Advisory Group Comments for January 7, 2015 Meeting

There were no additional comments from advisory group members.

Summary of Public Comments

George Garcia (American Indian Movement) stated he was concern that historic information is lost and history is rewritten every day. He would like to see something done regarding the parking on the Prine Mound. He discussed concerns of Native Americans in general regarding burial areas and thought the idea of remaking the mound so people could see what used to be there would be good for the park and attract visitors.

Bill Burger (Consultant, Archaeology, Anthropology and Cultural Resource Management) stated that any ground-disturbing activities at Madira Bickel Mound should be supervised by an archaeologist. He did not think there was a need for a hydrologic study. He noted that the two County culverts did not function and are in need of repair. He stated the area was low, and the sidewalk to the mound blocked the water flow and needed to be fixed. He also stated that he had been working to address the issues in the park and the parking lot location since 1987. He thought several things should be done in the park: there should be shovel testing south of the current parking area to help determine if it was a suitable location for a new parking lot, use shell fill from a project at Port Manatee for the new parking area, and reconstruct the burial mound to a semblance of its original appearance. He also suggested moving 12 cabbage palms and bringing in sterile soil to place around existing palms that had root balls exposed. He discussed how the work he was proposing could be paid for. He suggested he could get materials for free, offered his time and expertise at no cost, and suggested staff redirect money for a proposed picnic pavilion and earthworks management guidance plan to pay for his proposed plan. Although he understood that the parking lot was placed in its current location before the area became a state park, he felt it was disrespectful not to address the issue of the parking lot and the burial mound.

Evelyn Hoskins (Member of United Daughters of the Confederacy (UDC)) stated that the UDC really missed having the Patten House open for use. All the winter visitors are anxious to get it fixed. She was concerned that the state was asking a lot of little old ladies in regard to raising money to fix the house. They had sold some items and they will do the best they can do, but if they can't raise all the money needed, they still want to see the house fixed.

Summary of Written Comments

Bill Burger (Consultant, Archaeology, Anthropology and Cultural Resource Management) provided a written version of his comments that were stated at the Advisory Group meeting.

Staff Recommendations

The staff recommends approval of the proposed management plans for Madira Bickel Mound State Archaeological Site and Judah P. Benjamin Confederate Memorial at Gamble Plantation Historic State Park as presented, with the following changes:

- Revise language in the Madira Bickel Mound plan to reflect the 2012 DHR revisions to the ARM training and standards regarding pre-testing at archaeological and historic sites.
- Revise the cultural resources section of the Madira Bickel Mound plan under general management measures to reflect the potential of reducing the size of the parking area and moving it further to the eastern edge of the park, away from the area thought to be part of the Prine Mound.
- As noted in the plan, park staff will work with Manatee County officials to alleviate periodic issues with blocked culverts that impact drainage at the park.

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

Notes on Composition of the Advisory Group

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

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

Advisory groups that are composed in compliance with these requirements complete the review of State park management plans. Additional members may be appointed to the groups, such as a representative of the park's Citizen Support Organization (if one exists), representatives of the recreational activities that exist in or are planned for the park, or representatives of any agency with an ownership interest in the property. Special issues or conditions that require a broader

representation for adequate review of the management plan may require the appointment of additional members. The DRP's intent in making these appointments is to create a group that represents a balanced cross-section of the park's stakeholders. Decisions on appointments are made on a case-by-case basis by DRP staff.

Addendum 3—References Cited

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Burger, B.W. *Man in the Coastal Zone*. Manatee County, Florida. Honors Thesis New College. 1979.

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Addendum 4—Soil Descriptions

(5) Bradenton fine sand, limestone substratum – This is a nearly level, poorly drained soil on low-lying ridges and hammocks. Slopes are smooth and range from 0 to 2 percent.

Typically, the surface layer is very dark gray fine sand 6 inches thick. The subsurface layer in the upper part is grayish brown fine sand 11 inches thick and the lower part is brown fine sand 2 inches thick. The subsoil is fine sandy loam to a depth of 47 inches. In the upper part if is grayish brown to a depth of 30 inches, and below hat, it is mottled grayish brown, light brownish gray, and yellowish brown. Below the subsoil, there is hard limestone that has fractures and solution holes.

Many areas are used for citrus or urban development. Some areas are used for vegetables. The native vegetation consists of slash pine, laurel and live oak, cabbage palm, wax myrtle, magnolia, bluestems, saw palmetto, and various vines.

(13) Chobee loamy fine sand - This is a nearly level, very poorly drained soil that is in small to large depressions, poorly defined drainage ways, and on broad, low flats. Slopes are smooth to concave and range from 0 to 2 percent.

Typically, the surface layer is black loamy fine sand about 8 inches thick. The subsoil is sandy clay loam 43 inches thick. In the upper part it is very dark gray to a depth of 44 inches, and below that, it is dark gray. The substratum to a depth of 80 inches or more is calcareous gray loamy fine sand and fine sand.

Included with this soil in mapping are small areas of Floridana, Gator, Delray, Manatee, and Felda soils. Also included are small areas of soils that are similar to the Chobee soils except that organic material 6 to 16 inches thick is on the surface and a few areas where the surface layer is loamy fine sand or sandy loam.

In most years, the water table is above the surf ace or within a depth of 10 inches for 6 to 9 months or more out of the year. It is at a depth of 10 to 30 inches for short periods during dry seasons. The available water capacity is medium in all layers. Permeability is moderately rapid in the surface layer and slow or very slow in the subsoil and substratum. Natural fertility is medium.

(53) Wulfert-Kesson association - This map unit consists of nearly level, very poorly drained Wulfert and Kesson soils. It is about 45 percent Wulfert soils, 35 percent Kesson soils, and 20 percent other soils. These soils occur in a regular and repeating pattern in mangrove swamps along the Gulf Coast and on coastal islands. Generally, Kesson soils are in the outer parts of areas of this complex near the water's edge, and Wulfert soils are in the inner parts. Areas of the individual soils are large enough to map separately, but in

considering the present and predicted use, they are mapped as one unit. Slopes are less than 1 percent.

The composition of this map unit is more variable than that of most other map units in the county; nevertheless, valid interpretations for the expected uses of the soils can still be made.

Typically, the surface layer of Wulfert soils is dark reddish brown and dark brown muck, that extends to a depth of about 36 inches. Below that, there is gray fine sand to a depth of 60 inches or more.

Wulfert soils are flooded daily by high tides. Permeability is rapid throughout. The available water capacity is medium to high in the muck layers and very low-to-low in the sandy layers.

Typically, the surface layer of Kesson soils is black fine sand 6 inches thick. Below the surface layer, there is pale brown, light gray, and white fine sand to a depth of 80 inches or more. Shell fragments are few to common in these layers.

Kesson soils are flooded daily by high tides. Permeability is moderately rapid to rapid throughout. The available water capacity is medium in the surface layer and low to medium in the other layers.

The natural vegetation consists mostly of mangrove, but in some places, it also consists of seashore saltgrass, batis, and oxeye daisy. Some places are bare.

Addendum 5—Plant and Animal List

Madira Bickel Mound State Archaeological Site Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Rosary pea*	*Abrus precatorius*	
Leather fern	*Acrostichum danaeifolium*	MS
Ragweed	*Ambrosia artemisifolia*	
Marlberry	*Ardisia escallonioides*	
Black mangrove	*Avicennia germinans*	
Saltbush	*Baccharis* sp.	
Spanish needle	*Bidens pilosa*	
Sea oxeye	*Borrchia frutescens*	
Gumbo limbo	*Bursera simaruba*	
Gray nicker	*Caesalpinia bonduc*	
Canna	*Canna flaccida*	
Sugar hackberry	*Celtis laevigata*	
Snowberry	*Chiococca alba*	
Citrus Sp.*	*Citrus* sp.	
Sea grape	*Coccoloba uvifera*	
Buttonwood	*Conocarpus erectus*	
Sedge	*Cyperus ligularis*	
Butterfly orchid	*Encyclia tampensis*	
White stopper	*Eugenia axillaris*	
Spanish stopper	*Eugenia foetida*	
Dog fennel	*Eupatorium* sp.	
Strangler fig	*Ficus aurea*	
Florida privet	*Forestieria segregata*	
Yaupon	*Ilex vomitoria*	
Morning glory	*Ipomea* sp.	
Southern red cedar	*Juniperus virginia*	
White mangrove	*Languncularia racemosa*	
Lantana*	*Lantana camara*	
Wax myrtle	*Myrica cerifera*	
Virginia creeper	*Parthenocissus quinquefolia*	
Passion flower	*Passiflora suberosa*	
Red bay	*Persea borbonia*	
Golden polypody	*Phlebodium aureum*	
Cat's claw	*Pithecellobium unguis-cati*	
Marsh fleabane	*Pluchea rosea*	
Wild poinsetta	*Poinsettia* sp.	
Resurrection fern	*Polypodium Polypodioidesvar. michauxianum*	
Wild coffee	*Psychotria nervosa*	
Laurel oak	*Quercus laurifolia*	
Water oak	*Quercus nigra*	
Live oak	*Quercus virginiana*	
Myrsine	*Rapanea punctata*	
Red mangrove	*Rhizopora mangle*	

* Non-native Species

Madira Bickel Mound State Archaeological Site Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Winged sumac	*Rhus copallina*	
Cabbage palm	*Sabal palmetto*	
Brazilian pepper*	*Schinus terebinthifolius*	
Greenbriar	*Smilax* sp.	
Goldenrod	*Solidago* sp.	
St. Augustine grass*	*Stenotaphrum secundatum*	
Common air plant	*Tillandsia fasciculate*	MAH
Ball moss	*Tillandsia recurvata*	
Giant air plant	*Tillandsia utriculata*	MAH
Poison ivy	*Toxicodendron radicans*	
Ironweed	*Vernonia* sp.	
Cow pea	*Vigna luteola*	
Grape Sp.	*Vitis* sp.	
Spanish bayonet	*Yucca aloifolia*	
Hercules club	*Zanthoxylum clava-herculis*	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
ANTS, BEES AND WASPS		
Honey bee	*Apis mellifera**	
SPIDERS		
Spiny orb-weaver	*Gasteracantha cancriformis*	
REPTILES		
Lizards		
Green anole	*Anolis carolinensis*	
Brown anole	*Anolis sagrei**	
BIRDS		
Bitterns and Herons		
Great blue heron	*Ardea herodias herodias*	MS
Great white heron	*Ardea herodias occidentalis*	MS
Cattle egret	*Bubulcus ibis*	MS,DV
Little blue heron	*Egretta caerulea*	MS
Snowy egret	*Egretta thula*	MS
Tricolored heron	*Egretta tricolor*	MS
Black-crowned night-heron	*Nycticorax nycticorax*	MS, MAH
Yellow-crowned night-heron	*Nyctanassa violacea*	MS, MAH
Ibises and Spoonbills		
Roseate Spoonbill	*Ajaia ajaja*	MS
White ibis	*Eudocimus albus*	MS
Storks		
Wood stork	*Mycteria americana*	MS
Vultures		
Turkey vulture	*Cathartes aura*	
Black vulture	*Coragyps atratus*	
Ospreys		
Osprey	*Pandion haliaetus*	DV, SHM
Hawks, Eagles and Kites		
Red-shouldered hawk	*Buteo lineatus*	DV, SHM

* Non-native Species

Madira Bickel Mound State Archaeological Site Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
MAMMALS		
Didelphids		
Virginia opossum	*Didelphis virginiana*	CS, DV, MAH
Rodents		
Eastern gray squirrel	*Sciurus carolinensis*	DV, MAH
Carnivores		
Raccoon	*Procyon lotor*	MTC
Sirens		
Florida manatee	*Trichechus manatus*	MUS

***** **Non-native Species**

Addendum 6—Imperiled Species Ranking Definitions

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

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

Federal and State status information is from the U.S. Fish and Wildlife Service; and the Florida Fish and Wildlife Conservation 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 fabricated factor.

G2 ..... Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.

G3 ..... Either very rare or local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.

G4 ..... apparently secure globally (may be rare in parts of range)

G5 ..... demonstrably secure globally

GH ..... of historical occurrence throughout its range may be rediscovered (e.g., ivory-billed woodpecker)

GX ..... believed to be extinct throughout range

GXC ..... extirpated from the wild but still known from captivity or cultivation

G#? ..... Tentative rank (e.g.,G2?)

G#G# ..... range of rank; insufficient data to assign specific global rank (e.g., G2G3)

G#T# ..... rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)

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

LEGAL STATUS

FEDERAL

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

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

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

STATE

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

FE ..... Federally-designated Endangered

FT ..... Federally-designated Threatened

FXN..... Federally-designated Threatened Nonessential Experimental Population

FT(S/A) ..... Federally-designated Threatened species due to similarity of appearance

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

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

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

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

Addendum 7—Cultural Information

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

A. General Discussion

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

B. Agency Responsibilities

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

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

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

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

C. Statutory Authority

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

D. Management Implementation

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

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

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

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

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at: http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

* * *

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

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

Phone: (850) 245-6425

Toll Free: (800) 847-7278
Fax: (850) 245-6435

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

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

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

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

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

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

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

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

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

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

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