

CALADESI ISLAND STATE PARK
UNIT MANAGEMENT PLAN

APPROVED

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

June 15, 2007



Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

June 18, 2007

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

Re: Caladesi Island State Park

Lease #2385

Dear Ms. White:

On June 15, 2007, the Acquisition and Restoration Council recommended approval of the Caladesi Island State Park management plan. Therefore, the Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, approved the management plan for the Caladesi Island State Park. Pursuant to Sections 253.034 and 259.032, Florida Statutes, and Chapter 18-2, Florida Administrative Code this plan's ten-year update will be due on June 15, 2017.

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

Sincerely,

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

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

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INTRODUCTION

Caladesi Island State Park is located in Pinellas County about two miles and west of the town of Dunedin (see Vicinity and Reference Maps). The park is accessible by private boat or watercraft and a ferry service is provided from nearby Honeymoon Island State Park, at the western terminus of State Road 586. The entrance to Honeymoon Island State Park is five miles west of U.S. Highway 19. The vicinity map also reflects significant land and water resources existing near the park.

Technically, Caladesi is no longer an island. Dunedin Pass, that once separated it from Clearwater Island to the south, has in recent years filled with sand, joining the two islands. Visitors can now reach the park by walking north from Clearwater Beach.

Currently the park contains approximately 2,470.32 acres. The initial acquisition was a donation by the City of Dunedin in 1966. From 1967 through 1969, additional acquisitions were made using funds for the Land Acquisition Trust Fund and the Federal Land and Water Conservation Fund. The last acquisition was a donation in 1983.

At Caladesi Island State Park public outdoor recreation and conservation of the property is the designated single use (see Addendum 1). There are no legislative or executive directives that constrain the use of this property.

Caladesi Island is one of Florida's few remaining intact, undeveloped barrier islands and less than ten percent of the uplands have been disturbed to provide visitor and support facilities. Further disturbance has been in the form of invasive exotic plants and by a network of small canals dug throughout the mangroves for mosquito control in the late 1960s and early 1970s. The island is three-quarters of a mile wide at its broadest point. In length, it stretches about four miles; the length includes three small satellite mangrove islands. Cultural resources are evident in the remains of a Pre-Columbian burial mound, a shell scatter site and of a nineteenth century homestead.

Caladesi Island is a favored destination for boaters, tourists and a popular site for beach recreation. An annual survey of U.S. recreational beaches by the University of Maryland's Laboratory for Coastal Research, consistently places Caladesi Island in the top ten (2006, 2007 ranking was number 2). The ranking rests on 50 criteria including width, softness of sand, water temperature, pollution and crowding.

PURPOSE AND SCOPE OF THE PLAN

This plan serves as the basic statement of policy and direction for the management Caladesi Island State Park as a unit of Florida's state park system. It identifies the objectives, criteria and standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives.

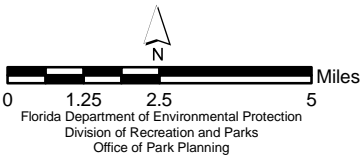


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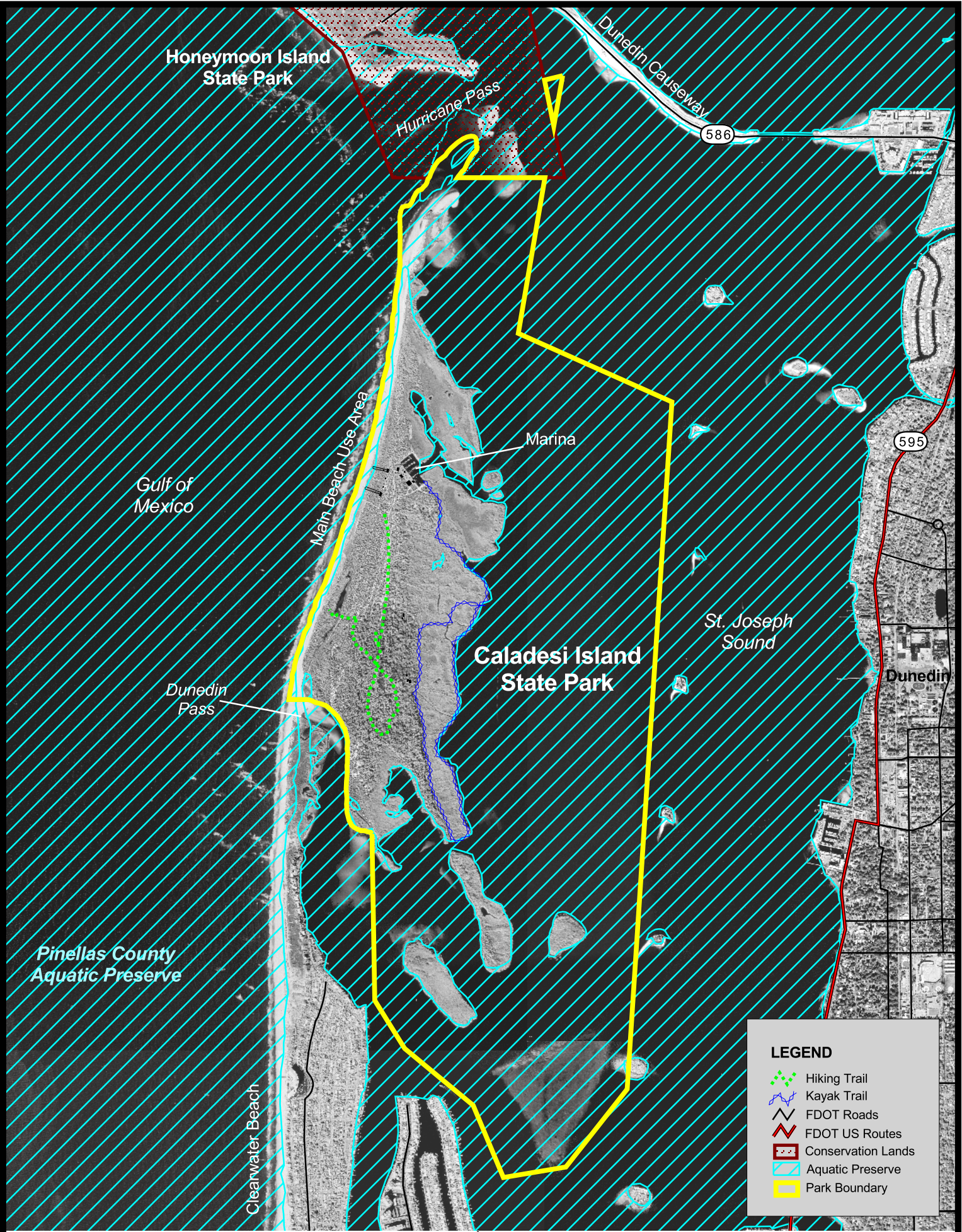
- Interstates
- FDOT US Routes
- FDOT State Routes
- FDOT Local Roads
- Park Boundary
- Private Lands**
- Developed
- Undeveloped
- Public Lands**
- Federal Managed Areas
- State Managed Areas
- Local Managed Areas
- Private Managed Areas
- Aquatic Preserves

Sources: Florida Natural Areas Inventory, 2004
Florida Land Use, Cover and Forms Classification System, 2007

**CALADESI ISLAND
STATE PARK**



**VICINITY
MAP**



Honeymoon Island State Park

Hurricane Pass

Dunedin Causeway

586

Gulf of Mexico

Main Beach Use Area

Marina

595

St. Joseph Sound

Caladesi Island State Park

Dunedin

Dunedin Pass

Pinellas County Aquatic Preserve

Clearwater Beach

LEGEND

-  Hiking Trail
-  Kayak Trail
-  FDOT Roads
-  FDOT US Routes
-  Conservation Lands
-  Aquatic Preserve
-  Park Boundary

CALADESI ISLAND STATE PARK



REFERENCE MAP

The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and intended to be consistent with the State Lands Management Plan. With approval, this management plan will replace the October 25, 2001, approved plan. All development and resource alteration encompassed in this plan is subject to the granting of appropriate permits; easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state or federal agencies. This plan is also intended to meet the requirements for beach and shore preservation, as defined in Chapter 161, Florida Statutes and Chapters 62B-33, 62B-36 and 62R-49, Florida Administrative Code.

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

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

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

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

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

MANAGEMENT PROGRAM OVERVIEW

Management Authority and Responsibility

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

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

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

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

In the management of Caladesi Island State Park, a balance is sought between the goals of maintaining and enhancing natural conditions and providing various recreational opportunities. Natural resource management activities are aimed at management of

natural systems. Development in the park is directed toward providing public access to and within the park, and to providing recreational facilities, in a reasonable balance, that are both convenient and safe. Program emphasis is on interpretation on the park's natural, aesthetic and educational attributes.

Park Goals and Objectives

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

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

Natural and Cultural Resources

1. Continue to remove all invasive exotic plants from the park.
 - A. Utilize a plan, which includes a map and a schedule for ongoing elimination of Brazilian pepper.
 - B. Continue to monitor the archaeological sites (8Pi9) and (PI00009) for exotic infestation, and revisit the sites annually to control reentrants.
 - C. Continue to eliminate St. Augustine, and cogon grass, and other invasive exotic plants including Australian pine, white leadtree, rosary pea and carrotwood.
2. Continue prescribed burning in the mesic flatwoods.
 - A. Burn the mesic flatwoods as often as possible and at least every three years.
 - B. Select at least one burn zone and evaluate the feasibility of mechanical treatment of saw palmetto.
3. Continuing monitoring and protecting nesting marine turtles.
 - A. Patrol the beach daily during the nesting season to monitor nesting and to act as needed to protect the nests.
4. Continue to protect shorebird nesting and resting sites including wintering site, some of which occur on high-use beach.
 - A. Be alert for the reestablishment of sites suitable for nesting and post

- immediately for colony protection.
 - B. Be alert to identify and protect sites important to aggregations of resting birds, particularly migrants or winter residents including the federally protected piping plover.
 - C. Continue to prevent disturbance of nesting and wintering shorebirds by recreational users through education, interpretation, signs, barriers and law enforcement.
 - D. Monitor the effects recreational activities such as the fast-growing new sport of kite surfing, kite flying, personal watercraft and other actions that may harm birds.
5. Protect marine grass bed community.
 - A. Coordinate with appropriate law enforcement authorities to prevent entry to the motorized exclusion zone by combustion motor propelled vessels.
 - B. Continue to coordinate with Pinellas County Environmental Services and South Florida Water Management District to monitor the status of the marine grass beds.
 6. Continue to identify and protect cultural resources.
 - A. Conduct a Level I archaeological survey to determine the locations of prehistoric and historic sites.
 - B. Continue to protect existing archaeological sites and their assemblage of artifacts from vandalism, erosion and other forms of encroachment.
 - C. To interpret cultural resources in their context to educate visitors about Florida's earlier inhabitants.

Recreation

7. Continue to provide quality resource based outdoor recreational and interpretive programs and facilities at the state park.
 - A. Continue to support the concessionaire-operated ferry service and food service.
 - B. Continue to provide opportunities for beach recreation, fishing, picnicking, hiking, kayaking, boating, birding and nature appreciation.
 - C. Maintain the trail system of the park, including routine maintenance of trail markers and interpretive materials.
8. Seek funding to expand recreational and interpretive opportunities through the improvement of programs and the development of new use areas and facilities, as outlined in this management plan.
 - A. Improve interpretive program by constructing an open-air interpretive facility and providing additional signage and displays.
 - B. Provide a bathhouse and additional office space in the marina area.
 - C. Build a new shop and residence and replace the existing boathouse.

Park Administration/Operations

9. Continue and expand interpretation.

- A. Give off-site programs whenever possible.
 - B. Create historical interpretive displays that can be used on or off site.
 - C. Expand volunteer interpretive programs on history and maritime ecosystem.
10. Continue and expand appropriate recreational uses.
 - A. Promote ecotourism programs through partnerships.
 - B. Conduct appropriate recreational programs with rentals: for example, kayaking and canoeing in the nearshore or bay waters.
 11. Increase operational effectiveness.
 - A. Expand the current volunteer program.
 - B. Continue to build partnerships with local governments and environmental groups.
 12. Continue and expand partnerships.
 - A. To promote appropriate recreational uses: for example, fishing contests.
 - B. To promote environmental education in the park.

Management Coordination

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

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

In cooperation with the FFWCC, shorebird nesting and resting areas are posted, monitored, and results are evaluated yearly. In addition, sea turtle nesting and stranding data from the parks are submitted to FFWCC. The Pinellas County Environmental Services monitor seagrass beds in the area with the assistance of the Southwest Florida Water Management District and annual results are submitted to the

parks. Various research studies conducted by students and faculty from universities are permitted in the parks. Florida Audubon volunteers assist with monitoring bird nesting colonies and bird sightings. The Friends of the Island Parks, a citizen support organization, local service, and philanthropic groups assist with fundraising, volunteer support, and public awareness of the parks.

Public Participation

The Division provided an opportunity for public input by conducting a public workshop and an advisory group meeting. A public workshop was held on February 9, 2005. The purpose of this meeting was to present this draft management plan to the public. An Advisory Group meeting was held on February 10, 2005. The purpose of this meeting was to provide the Advisory Group members the opportunity to discuss this draft management plan.

Other Designations

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

Surface waters in this unit are classified as Class III waters by DEP. This unit is within the Pinellas County Aquatic Preserve.

RESOURCE MANAGEMENT COMPONENT

INTRODUCTION

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

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

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

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

RESOURCE DESCRIPTION AND ASSESSMENT

Natural Resources

Topography

The barrier islands along the coast of west-central Florida originated as sandbars, expanded laterally as a series of accreting, linear ridges of quartz sand, and pulverized shell. Wave action is subdued along this stretch of Florida's coast, a fact reflected in the modest height of its sand dunes and in the relatively flat topography of its islands. Spoil piles next to canals dug through the mangroves form sharply elevated features. Occasionally, escarpments of four to six feet form on the west-facing portion of the island (Elko 2001).

Geology

Underlying the island is the Hawthorne Formation, a geologic formation of the Lower Miocene Period. It consists of interbedded sand, clay, marl, limestone, lenses of Fuller's Earth, and land-pebble phosphate.

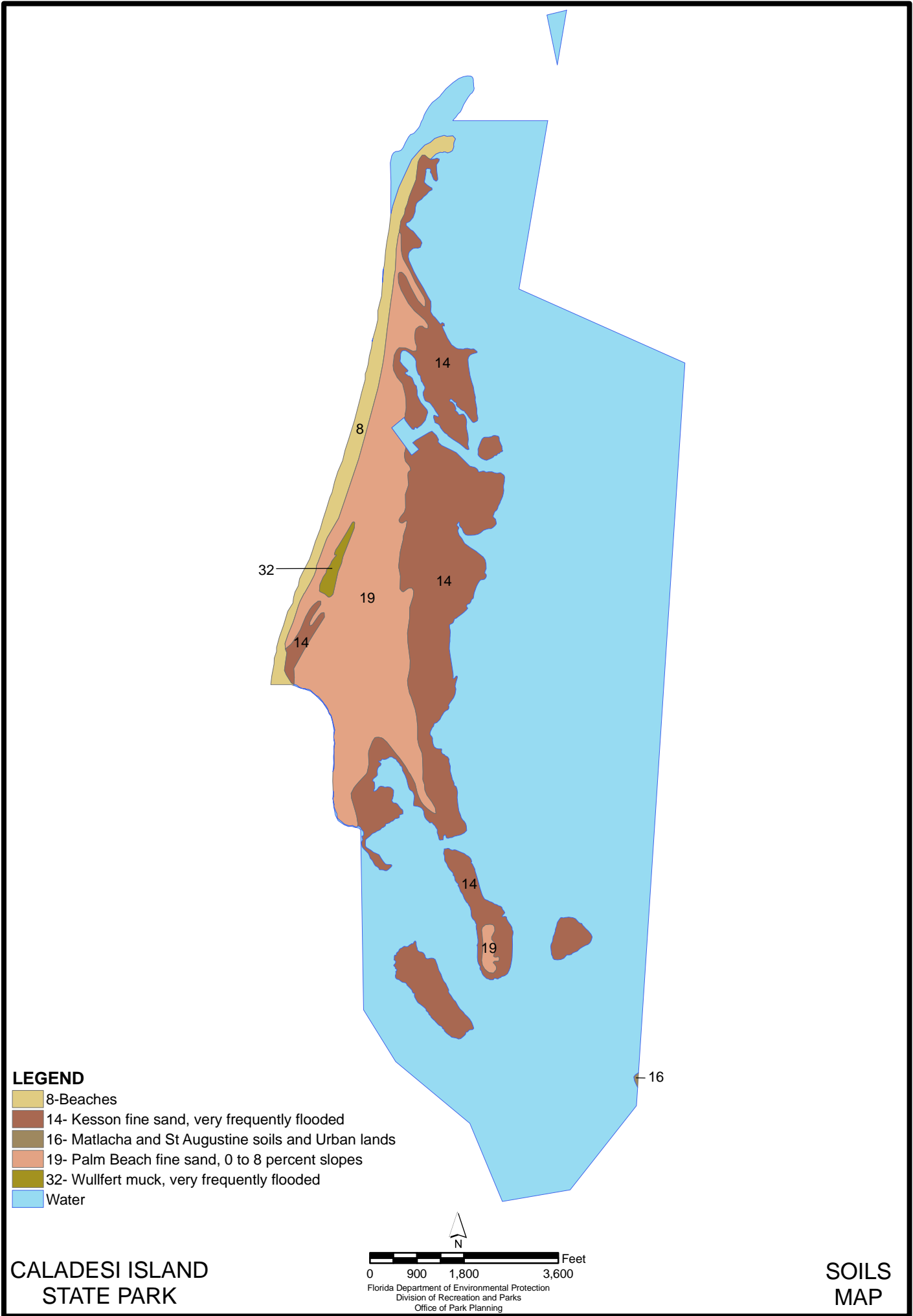
The island evolved by upward aggregation of an offshore bar between 4,800 and 7,000 years ago when sea level rise slowed enough to allow sufficient sediment accumulation. Sand was supplied by longshore currents and sediment winnowing, perhaps aided by hurricane processes. It may have been part of a larger island. In the last century, it was part of Honeymoon Island to the north, both islands then being known as Hog Island. The two were separated by a Hurricane in 1921. About 4,000 years ago, the rate of sea-level rise began to exceed sedimentation rates, and the island was reduced by erosion. A reversal of these conditions occurred about 3,000 years ago making sedimentation dominant once more. Caladesi Island attained its modern configuration during this most recent period of slowly rising sea level (Brame 1976).

Caladesi Island has been typified as being in a class of landform known as a drumstick barrier island, which is characterized by the short length, wide prograding beach ridge development on the updrift end, and a low, narrow configuration of the downdrift end that is occasionally overwashed and more vulnerable to erosion. The shape of the island resembles the drumstick of a chicken; thus the name. The shape is the result of the combined force of waves and tidal currents at the ends of the island (Davis 1989). However, the combination of human modification to the back barrier environment and the impact of major hurricanes caused several significant morphologic changes to Caladesi Island. Overall, Caladesi Island is transforming from a drumstick barrier island into a wave-dominated barrier island (Elko 2001).

Soils

The natural portions of the island consist of undifferentiated sand, shell, clay, marl and peat mostly less than 4,500 years old. There are four soil types on Caladesi Island as described in the Soil Survey of Pinellas County by the Soil Conservation Service (see Soils Map). The soil types are coastal beaches, made land, St. Lucie fine sand with shell substratum, tidal swamp and tidal marsh. Addendum 3 contains the soil descriptions for this unit.

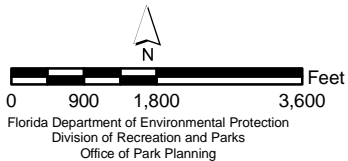
As explained in the geology section, Caladesi was once part of a larger island, now reduced in mass and divided in two, apparently due to sea level rise, a process not controllable by management measures. In the 1970s and 1980s, the southern end of Caladesi experienced severe erosion as a spit extended northward from Clearwater Island into a northwest-southeast orientation. However once the prograding spit sealed off the mouth of the pass, the erosion ended; shoreline stability has since prevailed at the site, though natural and anthropogenic processes continuously occur.



LEGEND

- 8-Beaches
- 14- Kesson fine sand, very frequently flooded
- 16- Matlacha and St Augustine soils and Urban lands
- 19- Palm Beach fine sand, 0 to 8 percent slopes
- 32- Wulfert muck, very frequently flooded
- Water

**CALADESI ISLAND
STATE PARK**



**SOILS
MAP**

The slender, north end of Caladesi is unstable due to the dynamics of Hurricane Pass and frequently shifts about, but this is normal for a barrier island and not regarded as an erosion problem. Management measures, if needed, will continue to follow generally accepted best management practices to prevent soil erosion and conserve soil and water resources on site.

Hydrology

The hydrology of Caladesi Island is characterized by a subterranean lens of fresh water sustained by rainfall. The lens is not affected by hydrological conditions on the mainland and it is undisturbed by human withdrawals on the island since the water used by visitors and staff is piped from municipal facilities. The groundwater is often manifested in surface depressions. One small basin is believed to be natural; nineteen others were excavated as part of a mosquito control project in the 1970s. Small fish were stocked in the basins to eat mosquito larvae. Surface water is also present seasonally in the swales between sediment ridges on the south end of the island. These features have been called Cat's-eye ponds because of their long, narrow configuration.

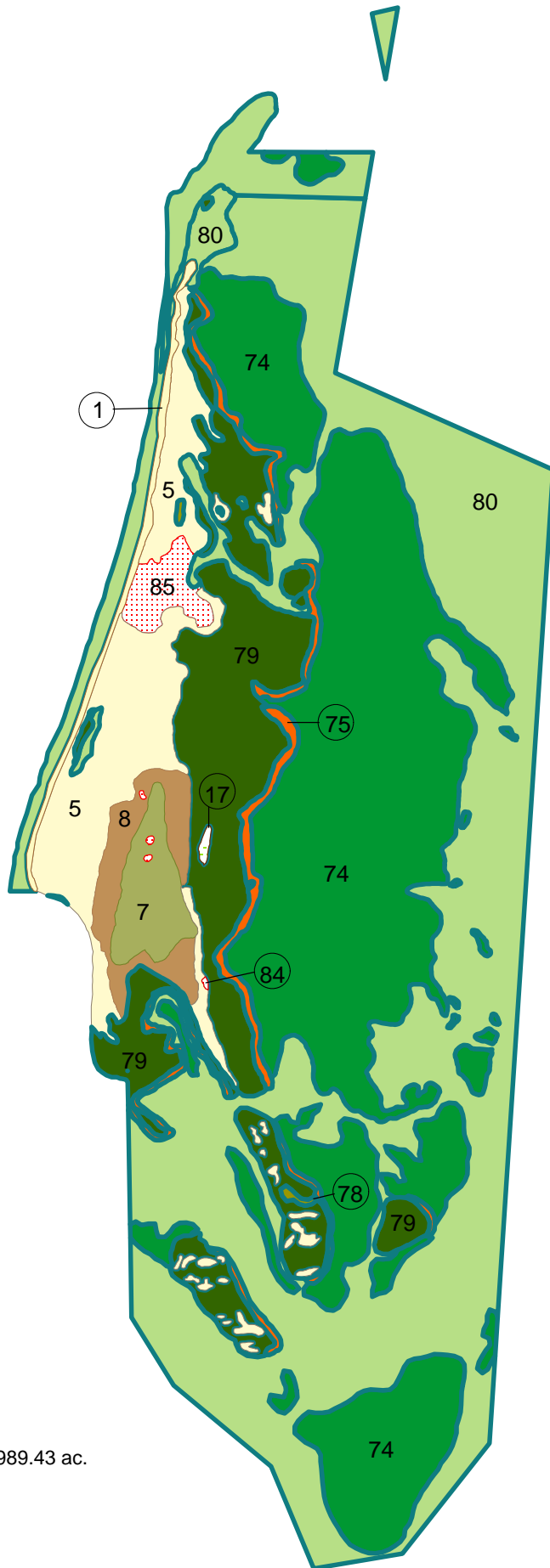
Natural Communities

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

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

Beach dune. On the Gulf side, the dunes extend the length of Caladesi Island. They are relatively low, reaching a maximum elevation of about five feet above mean sea level. Vegetation is characterized by the prevalence of pioneer species such as sea oats (*Uniola paniculata*) and beach elder (*Iva imbricata*), with occasional shrubs of inkberry (*Scaevola plumieri*). Beach cordgrass (*Spartina patens*), bitter panicum (*Panicum amarum*), seashore paspalum, (*Paspalum distichum*), sea purslane (*Sesuvium portulacastrum*), and sea rockets (*Cakile* spp.) occur as well.

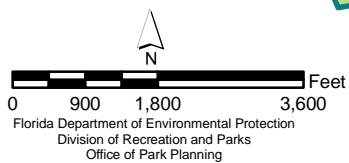
Johnson and Muller (1993) provide a map labeled "PINE-3" which states: "accreted,



LEGEND

- 1 - Beach Dune-17.23 ac.
- 5 - Coastal Strand-78.70 ac.
- 7 - Maritime Hammock-41.01 ac.
- 8 - Mesic Flatwoods-46.57 ac.
- 17 - Shell Mound-1.39 ac.
- 74 - Marine Grass Bed-773.86 ac.
- 75- Marine Mollusk Reef-56.14 ac.
- 78 - Marine Tidal Marsh-2.49 ac.
- 79 - Marine Tidal Swamp-297.62 ac.
- 80 - Marine Unconsolidated Substrate-989.43 ac.
- 84 - Ruderal-0.24 ac.
- 85 - Developed-23.82 ac.

**CALADESI ISLAND
STATE PARK**



**NATURAL COMMUNITIES
MAP**

1992" at the northern part of the island. At the time the map was made this newly deposited beach was covered by scattered dunelets of sea oats, beach elder and inkberry on the Gulf side, with evening primrose (*Oenothera humifusa*) and sandspur (*Cenchrus incertus*) on inner ridges and, in lower elevations, seashore paspalum (*Paspalum distichum*), and hurricane-grass (*Fimbristylis cymosa*). Although these species can be found nearby in similar habitats, the accreted acreage described in this plan has reverted to beach and mapped as such.

Human impact is kept to a minimum by development of over-the-dune boardwalks, signs indicating that an area is environmentally sensitive, and the selective use of a single-service road over the dune for park vehicle traffic. The dunes on Caladesi Island have a pristine appearance.

Coastal strand. The coastal strand community at this park is typical in being situated mostly between beach dunes and maritime hammock and shows some characteristics of both. It is generally in good condition. Typical plants include Florida privet (*Forestiera segregata*), cabbage palm (*Sabal palmetto*), white stopper (*Eugenia axillaris*), with snowberry (*Chiococca alba*), saffron plum (*Bumelia celastrina*), and Hercules' club (*Zanthoxylum clava-herculis*). Additional species include some coin vine (*Dalbergia ecastaphyllum*), seaside croton (*Croton punctatus*) with occasional individuals of earleaf greenbrier (*Smilax auriculata*), hairawn muhly grass (*Muhlenbergia capillaris*), and yellow necklace pod (*Sophora tomentosa*).

Smaller examples of this community occur to the south of the main island, on Malone Island and on Moonshine Island. Johnson and Muller (1993) describe the community on Malone Island as an example of maritime hammock, which is the end stage of succession for coastal strand communities in southwest Florida. However, in the present management plan, the Malone Island example, although it may eventually succeed to maritime hammock, is still considered to be a coastal strand because although tree species typical of this community are present, succession has not advanced so far as to produce a canopy. There are cabbage palms, southern red cedars (*Juniperus silicicola*), and small live oaks. If the oaks survive and grow to a size that will close the canopy, the community can be justifiably being called a hammock. Understory species include white stopper (*Eugenia axillaris*), snowberry (*Chiococca alba*), and saffron plum (*Bumelia celastrina*). A border of mangrove swamp surrounds both of these southern islands.

Maritime hammock. This community occurs on the higher, more centrally located part of the island. Canopy trees are live oak (*Quercus virginiana*) and cabbage palm (*Sabal palmetto*) with redbay (*Persea borbonia*) in the lower spots. The understory is composed of both tropical myrsine (*Rapanea punctata*) and temperate wax myrtle (*Myrica cerifera*) shrubs. In places, slash pine (*Pinus elliottii*) occurs singly or groups of two to three, and produces enough pine-needle litter to suppress the characteristic maritime hammock

elements and allow the growth of flatwoods species. These variations or intergrading patterns with mesic flatwoods, which occur mostly on the periphery of the maritime hammock, mean the boundary between them cannot be clearly delineated. The line of demarcation between maritime hammock and mesic flatwoods is therefore not as sharp as indicated on the natural communities' map. Humus build-up contributes to moisture retention, and a nearly complete canopy of cabbage palms and live oaks minimizes temperature fluctuations by reducing soil warming during the day and heat loss at night.

This community is generally in good condition. Occasional roads allow disturbance or non-native edge species to proliferate. Examples include St. Augustine grass and Natal grass that are encroaching into the hammock along such avenues, particularly in sunnier spots.

Mesic flatwoods. This community is best developed along a single ridge that occurs on the southwestern part of the main island, between the coastal strand and the maritime hammock. From this location, the community extends in less developed form, as a band that almost encircles the more centrally located maritime hammock. There is an understory of wax myrtle (*Myrica cerifera*), saw palmetto (*Serenoa repens*), Chapman's goldenrod (*Solidago odora*), and grasses. An emerging hypothesis, based on tree-ring analysis, is that mesic flatwoods formation on the barrier islands of southwest Florida correlates with the passage of hurricanes, but this requires further investigation and validation. This community is in good condition, and portions of it are in excellent condition although it was once dense with Brazilian pepper. The park staff has eliminated these plants and reentrants are taken out whenever they are found. This mesic flatwoods community is one of the few remaining on the Gulf Coast barrier islands of southwestern Florida.

Shell mound. There is a Pre-Columbian burial mound within the mangrove swamp. The natural vegetation that colonized this man-made feature fits the category of a shell mound community as described by FNAI. It is raised approximately four feet above the substrate of the surrounding swamp and is generally ellipsoid, with the longest axis running in a north-south direction. The mound has been disturbed twice: once by anthropologists and a second time by the digging of a mosquito control canal that bisected it. The most abundant plant in the overstory is Brazilian pepper, but a few cabbage palms (*Sabal palmetto*), saffron plums (*Sideroxylon celastrinum*), and live oaks (*Quercus virginiana*) are present. Most of the southern red cedar (*Juniperus silicicola*) has died. The understory is rich and contains white stopper (*Eugenia axillaris*), Spanish bayonet (*Yucca aloifolia*), yellow necklace pod (*Sophora tomentosa*), snowberry (*Chiococca alba*), sea-grape (*Coccoloba uvifera*), and beachbean (*Canavalia rosea*). Epiphytes present are typical for shell mound vegetation and include Spanish moss (*Tillandsia usenoides*) and ball moss (*T. recurvata*). There are several burrows on the mound, and the habitat is suitable for small animals like rodents, reptiles and amphibians. In all likelihood, this

natural community at Caladesi Island represents the northernmost example of its kind on the west coast of Florida.

Marine grass beds. This offshore natural community is the largest in the park. Dominant species are turtle grass (*Thalassia testudinum*), shoal grass (*Halodule wrightii*), and manatee grass (*Syringodium filiforme*). Ecologically, grass beds are important components of the estuary: they stabilize sediments and provide nurseries, food and shelter to many estuarine organisms. A study in 1992 showed that seagrass coverage for the nearshore areas of Honeymoon and Caladesi Islands has decreased by 20 percent during the previous 20 years and that propeller scars had increased dramatically. These impacts were correlated with an increase in boat traffic as indicated by the rise in statewide boat registrations (Bard 1992). Moreover, a statewide assessment of propeller scar damage, made by the Florida Marine Research Institute (FMRI) in 1992-93, made with an aerial survey, identified most of the marine grass beds adjacent to Caladesi as suffering moderate (5-20 percent) to light damage (5 percent). In response to this information, an exclusion zone for motorized watercraft was established. Fifty-one signs were placed around the perimeter of the grass beds. The park boundary, which at that time only included a portion of the grass beds, was extended to give complete protection.

Marine mollusk reefs. The marine mollusk reefs located near Caladesi Island were reported in the previous edition of this plan to have declined in the mid-80s. This was attributed to the two severe freezes of 1983 and 1984. Since that time, the reef acreage has remained stable. The reefs are composed of coon oysters (*Ostrea frons*) and are exposed at low tide. Other factors, which may account for the general poor condition of the reefs, include causeway construction to Honeymoon Island and Clearwater Beach, destruction of many acres of mangroves and grass flats near Clearwater, and the gradual shoaling and shifting northward of Dunedin Pass. All of these factors greatly alter the flow patterns and water quality in the area.

Marine tidal marsh. This community is sparsely represented in the park. It occurs in two situations. In the first, it is present as a narrow fringe of grass along low-energy shores where there is a sandy substrate. In this case, it is most conspicuous along the shoreline bordering the former Dunedin Pass.

The second situation can be observed at inland sites at the northern part of the island, where former tidal pools have been isolated by the dynamics of shifting sands. Salts become concentrated in these isolated pools by evaporation. The increase in salinity at first kills all vegetation, eventually however rainfall dilutes the salt, enabling the entry of saltwort or sea oxeye (*Borrchia frutescens*) in company with saltgrass (*Distichlis spicata*) and dropseed (*Sporobolus virginicus*). Stunted mangroves may also appear. When salt grass and dropseed are prominent, the term "salt meadow" is often used. At the northern part of Caladesi, these features are surrounded by the coastal strand

community. Another example can be found at the southern part of Malone Island.

Marine tidal swamp. This natural community, made up mainly of red mangrove (*Rhizophora mangle*) trees, is the largest on the island. In the 1960s and early 1970s, mosquito control ditches were cut through a large segment of the swamp; these present a reticulated pattern when seen on a map. The spoil from the ditches was deposited in a series of piles rather than as parallel berms, so the detrital transport function of the swamp seems relatively unimpaired. Aside from the ditches, another noteworthy feature of the swamp is a small, Pre-Columbian burial mound secluded within it. The mound is mentioned elsewhere in the management plan. Brazilian peppers are scattered throughout the swamp on slight elevations in the substrate, and before control efforts, were prominent on the spoil piles but are being eradicated.

Marine unconsolidated substrate. This term actually describes two different natural communities, one mainly along the Gulf shore and the other on the bay side of the park. Both forms of marine unconsolidated substrate are in excellent condition.

On the Gulf side, the community is commonly called a beach [which is the first synonym listed by FNAI (1990) for this natural community type]. It is made up of unconsolidated and unstable grains of sand, having a configuration that changes seasonally and from year to year. As a habitat, it can be classified as three zones: subtidal, intertidal, and supratidal, with subtidal being the zone which is always submerged, intertidal being the zone between low tide and high tide, and supratidal being the zone between high tide and the beach dune community. Each zone is associated with a characteristic suite of organisms.

On the bay side of the islands, the community is commonly called a mudflat [another FNAI (1990) synonym]. These flats are above the surface of the water at low tide. They support numerous organisms that constitute a rich source of food for several species of birds.

In 1994, the FFWCC identified the northern mudflats of Caladesi Island as one of the state's important winter residence sites for a wide diversity of shorebird species. Seven to eight hundred individual birds have been observed there during visits by agency biologists (Gore, 1994).

Ruderal and developed. These portions of the park consist of mowed visitor use areas with a predominance of native species of grasses, trees and shrubs. Johnson and Muller (1993) describe a natural community in this park known as coastal grassland. In southwest Florida, this community type reaches its best-developed form at Cayo Costa State Park farther south along this coast. This grass-dominated vegetation occurs mostly near the major park facilities, particularly those adjacent to the trails that provide beach access. In time, this acreage may more aptly fit the description of coastal grassland, but

in the present plan, it is considered a part of the developed property and mapped as such. Similar, smaller grass-dominated areas elsewhere are considered a variant of coastal strand vegetation.

Designated Species

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

At Caladesi Island State Park, there are seven designated species of plants and 44 designated species of animals.

Special Natural Features

There are no special natural features at Caladesi Island.

Cultural Resources

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

Prehistoric. The island's first inhabitants are believed to have been the local Safety Harbor culture, the Tocobago, a society sustained in large part by the abundant fish and shellfish of their estuarine environment. They may also have planted vegetables. A burial mound is situated in the tidal swamp. It was excavated in 1903 by C.B. Moore. It has been identified by the DHR, Florida Master Site File (FMSF) as site PI00009, Hog Island Mound.

Moore reported that the mound had been "woefully dug into, centrally and from the sides, previous to our visit, when it was completely demolished by us..." Moore removed 33 skeletons that he said were "owing to the infiltration of lime-salts, was in a state of preservation much superior to that usually met with." Moore thought the mound remarkable to the absence of artifacts and to the lack of unworked pebbles,

conch-shells or fragments of chert. Nothing permanent had been placed with the dead except powdered hematite in several instances.

A shell scatter site was recently document by a Carl Calhoun, a thirty-year veteran of the park service. The FMSF identification designation is PI111566, Lightning Whelk. Several large lightning whelks are visible under a small ledge and in cabbage palm roots.

The earliest maps upon which details of the coast are portrayed (around 1830) identify the Caladesi locale as Sand Island. Between 1830 and 1839, the name Hog Island was used. Attempts to homestead the island during this period failed. Hog Island was severed by a hurricane in 1921; the north portion became Honeymoon, the south portion became known as Caladesi. Henry Scharrer purchased land on the island in 1897 and built a cottage. After his wife died, he lived with his daughter Myrtle. His was the only permanent homestead on the island. After his death in 1934, the dwelling and outbuildings declined. Today only foundations and the cottage fireplace, made of tabby, remain. The site is identified by the DHR, FMSF as site PI09614, Scharrer Homestead (Foundation). It contains two small cabin foundations, a brick fireplace and chimney. Also remaining are several smaller foundations and building pilings believed to originate from service buildings. The large foundation of the main structure shows evidence of two adjoining rooms. Pieces of building metal, brick and other miscellaneous objects are present (Betz 1991).

RESOURCE MANAGEMENT PROGRAM

Special Management Considerations

Timber Management Analysis

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

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

Additional Considerations

An additional management consideration arises with the mosquito control ditches in the mangroves. Long-term management goals for natural communities usually aspire to eliminate evidence of such disturbances, but in this case, the prime ecological function of the natural community, which is the tidal flushing of organic detritus into the bay, seems unimpaired. Questions arise therefore about attempting restoration: questions about the relative improvement in ecological value, particularly when weighed against the great expense and the short-term impact by heavy machinery that would be required to fill the ditches. The goal in this plan will be to maintain the status quo unless scientific evidence emerges to justify refilling. Caladesi Island could offer a site for research on this matter.

Another management consideration is associated with osprey nesting. Raccoons have been observed climbing pine trees to prey on osprey eggs and young. Metal flashings were placed around the tree trunks -- a measure that foiled the raccoons. Flashings remain in place today, however at present only three osprey nests are active. It is not known why the number of active nests has declined.

Management Needs and Problems

Mesic flatwoods, before the arrival of Europeans, covered fifty percent of the land area of present day Florida. It was a natural community maintained by frequent fires, ignited by lightning, or by the aboriginal inhabitants of the peninsula. On barrier islands, however, the origin, maintenance and expansion of mesic flatwoods may have been influenced by other circumstances. Some investigators have hypothesized that frequent fires set by settlers were a controlling influence (Herwitz, 1977). Other investigators suspect that the passage of hurricanes is a formative factor (Huffman, 1998). However, unless scholarship can illustrate a clear case for doing things differently, management will go on using prescribed fire on the island as it is used in mesic flatwoods at mainland sites.

As with most coastal parks in southern Florida, invasive exotic plants have been a principal threat to natural communities at Caladesi. In the past 30 years, great strides have been made in reclaiming the island from exotic plants. Australian pines have been eliminated, and Brazilian peppers nearly so, particularly in the mesic flatwoods where they were once dense but are now rarely seen. The remaining concentrations of Brazilian peppers are around the wastewater treatment plant and in a low-lying zone between the beach dunes and the mesic flatwoods, and in the shell mound community. There are also scattered plants on spoil piles in the mangroves. Another plant -- rosary pea -- can be seen near the Scharrer homestead where there is also a scattering of white leadtrees. St. Augustine grass is beginning to grow thickly and it has spread in the southern end of the park. All these species need to be eliminated in the next few years.

The impact of motorized watercraft upon the marine grass beds at this park had been a

problem. After damage to this community was documented, the Florida Park Service responded by establishing an exclusion zone for motorized watercraft in 1994. Fifty-one signs were posted at the edge of the zone, and information was made available at local marinas. The exclusion zone worked very well for about two years. Motor boats, which had been causing the damage, stayed out of the zone. Unfortunately, there then ensued a rapid increase in jet skis. In the past, several hundred of these machines were sometimes active around the park on weekends. The impact of jet skis is not as immediately severe as that caused by propeller-driven boats, but in water less than two feet deep the passage of a jet ski exposes rhizomes of the plants and suspends sediment in the water column – to the detriment of the light-sensitive species of the grass beds (Smith and Calleson, 1999). The effect of frequent disturbance in such a manner will be pernicious. Operators of jet skis frequently disregard the exclusion zone, but law enforcement personnel were not often available to deter them. Increased law enforcement in the last five years has resulted in decreased intrusion into the exclusion zones by jet skis. There is still a need for a greater law enforcement presence to enforce exclusion. It is unlawful for jet skis to be in the motorized exclusion zone.

A new and rapidly growing sport is kite boarding or kite sailing. A large parasail propels the participant on a board. The sails are large and create a large moving shadow. Birds have been observed repeatedly scattering into the air when the boards pass near. Monitoring the disturbance should be conducted and exclusion areas should be considered.

In the past, shorebirds nested at the north end of Caladesi Island. Nesting by least terns and black skimmers has resumed due to early identification and posting of colonies. In addition, due to the dynamics of currents and sand deposition at Hurricane Pass, suitable nesting substrate has increased. Periodically, a small island forms off the north end and has been used by black skimmers, least terns and American oystercatchers. High tides from storms have destroyed the colonies the last three years. Posting areas off limits all year has been conducted the last three years and protection of nesting birds will continue.

Management Objectives

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

1. Most mesic flatwoods communities today, even those in a preservation status, are much altered in structure and presumably in function, from those present at the

beginning of the historic period. Changes occurred rather rapidly after frequent fires began to be excluded. In the absence of fire, saw palmetto plants increase in number and in density, competing strongly with other vegetative constituents of the community. Even when frequent fire is reintroduced as a tool of management, these changed conditions are not reversed. Only by using mechanical treatment to reduce saw palmettos can an aspect be created that resembles scenes in historic photographs, or which mimics conditions of low, sparse saw palmetto growth at rare sites where burning has been uninterrupted to the present day. As stated in a preceding section of this plan, the situation with mesic flatwoods on barrier islands is less clear than at mainland sites, but a research project is needed at Caladesi Island in which mechanical treatment is applied to a mesic flatwoods site and the results assessed. That is the management objective for the mesic flatwoods.

2. The management objective for invasive exotic plants is to eliminate the standing crop of all targeted species and maintain that status.
3. The management objective in the case of the motorized exclusion zone for marine grass beds at the park is to sustain a law enforcement presence adequate to keep jet skis out of the zone, so that the beds can continue to recover from damage caused by motorized watercraft, and subsequently to monitor them to insure no recurrence of damage.
4. The management objective for shorebirds is to post areas early or as off limits all year to ensure that nesting sites will be safe and available Resting sites will also be protected where identified.

Management Measures for Natural Resources

Hydrology

As explained in the hydrology section, there is no depletion of groundwater resources on this island, thus no need for management measures.

Prescribed Burning

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

Caladesi Island is currently divided into 11 burn zones. These zones use roads, fire lanes and ecotones between natural communities as boundaries. CI-1, 2, 4, 5, and 6 are zones in a mesic flatwoods community. The dominant overstory tree is the South Florida slash pine. These zones have a variety of vegetative types and fuel densities.

Saw palmetto is the most abundant fuel. It varies from high, dense, to low and scattered, depending on the site.

The season of frequent lightning strikes in spring and early summer is the preferred time of burning. Burns will be as frequent as possible, but will be carried out at least once every three years.

Precautions must be taken to protect osprey nest trees. Before burning, fuel should be raked away from the base of nest trees. Burning should not be done when nests are active. Smoke dispersal is an important consideration on the island and extreme care must be taken to avoid smoke dispersal towards Island Estates and Clearwater Beach to the south. An ongoing public relations effort will continue in the surrounding communities before burning.

Designated Species Protection

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

Recent studies of the effects of human activity on breeding bird colonies in Florida have quantified setback distances for different species. Human approach closer than these distances is ill advised and should be prohibited because it forces birds to expend energy required for successful reproduction. A similar situation exists for wintering shorebirds. In the latter case, human disturbance causes expenditure of critical energy reserves required for migration, or the next nesting season (Helmert 1992). Minimum setback distance from nesting shorebirds is 590 feet (180 m) (Rodgers and Smith 1995). Ideally, this should be the distance from signs and barriers to the outermost nests and individuals in the colony. Wintering shorebird sites should be posted similarly. An interpretive display may be included where the barrier is implemented. The Regional Nongame Biologist of the Florida Fish and Wildlife Conservation Commission, Lakeland, Florida, is available to provide assistance with the implementation of protective measures (Douglass, pers. comm.).

In the past, beach-nesting species had nested each year at the north end of the island and to the south at Dunedin Pass. Species have included snowy plovers, American oystercatchers, willets, least terns and black skimmers. The Dunedin Pass site has

declined in importance as the pass has filled in, allowing increased access to the island. Other nesting species include ospreys, mourning doves, common ground-doves, and several songbirds including gray kingbirds, the local race of the prairie warbler, possibly the mangrove cuckoo and formerly the black-whiskered vireo. Surveys for beach-nesting birds are carried out between February and July to determine the kinds and numbers of nesting land birds present, and to identify potential threats to nesting. Caladesi Island is also used by migrant and wintering birds. Monthly censuses of beach, upland and mangrove habitats are very helpful in determining the importance of the island to these species and in identifying management concerns.

Marine turtles are another animal requiring continuous, direct management by the park staff. Turtle nesting activity is very light; about six to eight nests are found each year. The park staff patrols the beach each morning during the nesting season. Nests are covered with wire cages to protect them from marauding raccoons.

Exotic Species Control

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

The situation with exotic plants is covered under the “Management Needs and Problems” portion of this plan. The principal problem plant is Brazilian pepper (*Schinus terebinthifolius*). Most of it is gone, but the staff will continue to remove the exotic. St. Augustine grass (*Stenotaphrum secundatum*) has emerged as a threat. It escaped from the back yard of a ranger residence, and has spread to several sites. Cogon grass has been found in several places in the park and is treated when discovered. Rosary pea (*Abrus precatorius*) and white leadtree (*Leucanea leucocephala*) are two additional species that are being treated.

Problem Species

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

On occasion, raccoon numbers increase to such an extent that hunger motivates them to defeat the wire cages used to protect turtle nests and to depredate shorebird nests. When that happens, numbers are reduced in accord with agency policy.

Management Measures for Cultural Resources

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

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

The inaccessibility of both 8PI00009 (Hog Island Mound) PI111566, Lightening Whelk site afford them effective protection. Although 8PI09614 (Scharrer Homestead Foundation) is partially obscured by vegetation, the park manager has reported the occurrence of vandalism in the past. Loose metal objects will be removed from the site vicinity, catalogued and stored in park facilities until the objects can be transferred to the DHR, Bureau of Archaeological Research (BAR). The Bureau of Natural and Cultural Resources (BNCR) collections manager should be consulted regarding collection management protocol. The use of interpretive signage is in place and may help lessen the incidence of vandalism. The area should be visited and photopoints taken at regular intervals by park staff.

Research Needs

Natural Resources

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

As discussed under "Management Objectives," a research project is needed to document the results of mechanical reduction of saw palmettos in mesic flatwoods; this to learn if years of fire exclusion caused undesirable changes in the vegetative structure of this community—change that management might reverse.

Cultural Resources

Arrangement should be made for a Phase I archaeological survey to be conducted at the park. Phase I surveys focus on evaluating known resources, locating new resources, and making some general statements about significance and recommendations for

management. More information is needed for both the prehistoric uses of the area as well as historic settlement activities, particularly during the latter half of the nineteenth century.

Resource Management Schedule

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

Land Management Review

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

Caladesi Island State Park was subject to a land management review on November 5, 2003. The review team made the following determinations:

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

LAND USE COMPONENT

INTRODUCTION

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

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

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

EXTERNAL CONDITIONS

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

Caladesi Island State Park is located within Pinellas County, approximately 2 miles northwest of the town of Dunedin within the Greater Tampa Bay Area. This area is one of Florida's most populous regions, and it continues to experience growth. The populations of Pinellas County and the adjacent Hillsborough and Pasco Counties have grown 24 percent since 1990, and are projected to grow an additional 24 percent by 2020 (BEBR, University of Florida, 2005). The median age of Pinellas County is 44.2 years old, which is older than the state average of 39.6 years (BEBR, University of Florida, 2005). Nearly 2.7 million people reside within 50 miles of the park, which includes the cities of Brooksville, New Port Richey, Tarpon Springs, Dunedin, Tampa, Brandon, Zephyrhills, Plant City, Lakeland, Clearwater, St. Petersburg,

Bradenton and Sarasota (Census, 2000).

Caladesi Island State Park recorded 250,549 visitors in fiscal year 2005/2006 which is a significant increase in recent years. The park is only accessible by ferry service from Honeymoon Island State Park and private boat. In recent years, walk-in access to Caladesi Island State Park has been allowed from Clearwater Beach since Dunedin Pass has filled with sand. By Division estimates, visitors have contributed \$10.5 million in direct economic impact and the equivalent of 210 jobs to the local economy (Florida Department of Environmental Protection, 2006).

Existing Use of Adjacent Lands

The primary effects of adjacent land uses on the park derive from the heavy, and essentially unregulated, recreational uses of the surrounding waters for boating, fishing, jet skiing, canoeing and kayaking. Future increases in the recreational boating population are expected. The anticipated future impacts from increased demand for recreation include continued crowding and safety problems in the surrounding waterways, and the potential disturbances to wildlife along the park's shorelines. Land adjacent to the southern boundary of Caladesi Island is currently managed for conservation. Further south are single family residences.

There are numerous resource-based recreation opportunities near Caladesi Island State Park. Two other state parks are located nearby and are managed by the same staff as Caladesi Island. Just across Hurricane Pass to the north is Honeymoon Island State Park. This park offers beach activities such as swimming and sunbathing, picnicking, fishing, boating, canoe/kayaking, wildlife viewing, birding, and hiking trails. In addition, Honeymoon Island serves as the land base for Caladesi Island providing a dock and ferry service to transport park visitors across Hurricane Pass. To the north of Honeymoon Island is Anclote Key Preserve State Park. Visitors are welcome to swim, picnic, fish, view wildlife, and primitive camp. This park is only accessible by private watercraft.

In addition, Pinellas County maintains 23 county parks comprising more than 4000 acres. These parks are situated in a variety of natural settings and collectively offer opportunities for beach activities, swimming, fishing, boating, canoe/kayaking, wildlife observation, picnicking, hiking, biking, horseback riding and camping.

Planned Use of Adjacent Lands

Adjacent land uses on Clearwater Beach are not expected to change significantly in the future. The impacts from anticipated future increase in demand for beach recreation include boat traffic congestion in the marina area, continued crowding and safety problems in the surrounding waterways, and the potential disturbances to wildlife along the shorelines of the park.

The Future Land Use Map for the City of Dunedin (1997) designates Caladesi Island State Park, neighboring Honeymoon Island State Park, and the Dunedin Causeway as "Recreation/Open Space." The purpose of this designation is to retain open space and conserve environmentally sensitive areas. The property immediately south of Caladesi Island is preservation land and single family residential (City of Clearwater, 2001). The coastline visible from Caladesi Island is primarily lined with single family residential with some multi-family residential, commercial, and recreation/open space.

PROPERTY ANALYSIS

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

Recreation Resource Elements

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

Land Area

It is one of the few undeveloped barrier islands on the Gulf Coast. Dunes occur along the gulf shoreline. The strength and direction of the winds determines the dune height. Ten of Florida's natural communities are found in this park. The upland natural communities include beach dune, coastal strand, maritime hammock, mesic flatwoods, and shell mound. These communities provide rich and diverse examples of barrier island flora and fauna, and provide a broad array of recreational and educational opportunities for the park visitors.

The main use area was developed within the coastal strand and beach dune communities that fringe the marine tidal swamp, allowing the visitor access to the major point of interest: the beach. Hiking along the three miles of nature trail allows visitors to experience the other natural communities.

Along the boardwalk to the beach, the vegetation changes. Cabbage palms become the dominant tree over a thick understory of saw palmettos. As the boardwalk approaches the beach, the palmetto growth prevents users from trampling the dunes and coastal strand vegetation.

Water Area

The marine communities surrounding Caladesi Island include marine grass bed, marine mollusk reef, marine tidal marsh, marine tidal swamp and marine unconsolidated substrate. These communities provide substantial opportunities for interpretation and recreation including swimming, fishing, shelling, boating/paddling, snorkeling, nature observation, birding and educational programming. Boaters can enjoy the 108-slip bayside marina which recently received the Clean Marina designation from the Florida Department of Environmental Protection, Division of Law Enforcement.

Shoreline

Caladesi Island provides approximately 3 miles of undisturbed beach along the Gulf of Mexico. This beach attracts beachgoers seeking a more natural setting than the highly developed beaches of Clearwater Beach to the south. Red mangroves line the remainder of the island's shoreline along St. Joseph Sound. A three-mile kayak trail meanders through this tidal swamp area.

Natural Scenery

The beautiful beach of Caladesi Island was ranked the second best natural beach in the nation for 2006 by the University of Maryland's Laboratory for Coastal Research. This annual survey ranks beaches based on width of beach, softness of sand, water temperature, pollution, and crowding.

Significant Wildlife Habitat

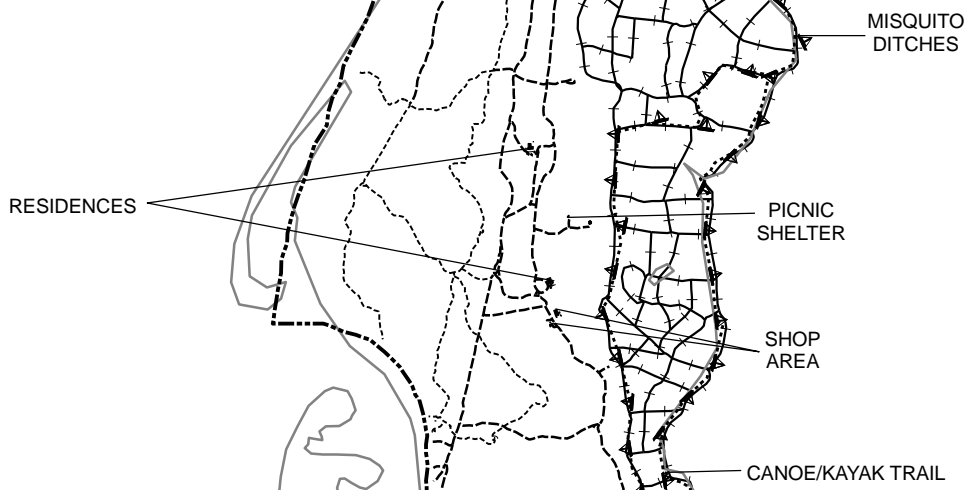
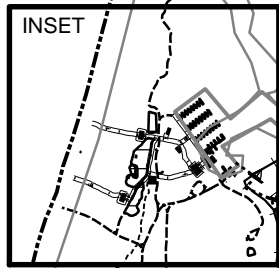
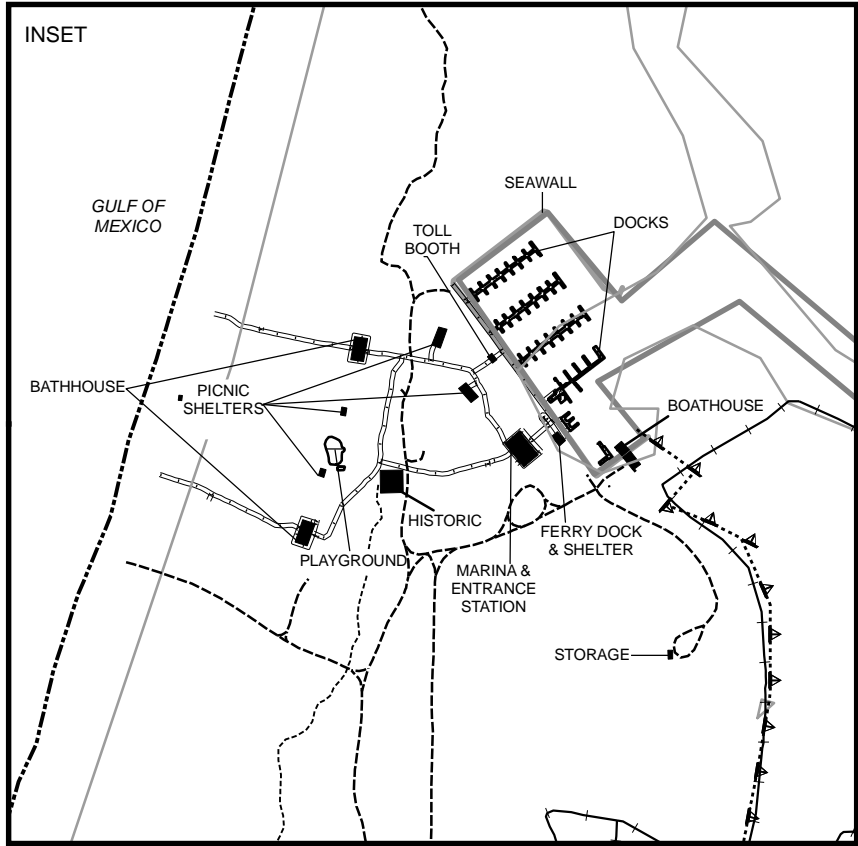
Virtually undisturbed natural communities, along with relative isolation and controlled access, make Caladesi Island State Park a valuable, and increasingly rare, wildlife habitat in urban Pinellas County. Osprey, American oystercatcher, piping plover, Wilson's plover, least tern, gopher tortoise and Atlantic loggerhead turtles are among more than 50 listed plant and animal species found at the park. All designated species are protected under established Division management policies.

Archaeological and Historical Features

As noted previously, several sites of pre-historic and historic importance are included in the Florida Site File for Caladesi Island State Park including Hog Island Mound and the Scharrer Homestead. A comprehensive survey of this park has never been conducted. Additional research and a cultural resource survey are recommended for the entire property. The information gathered should be incorporated into the interpretive and educational programs in the park.

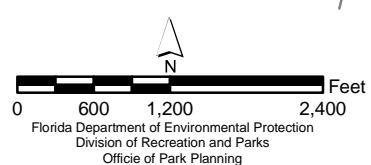
Assessment of Use

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.



- LEGEND**
- Park Boundary
 - Roads
 - Hiking Trail
 - ▲--- Canoe/Kayak Trails
 - Shore Lines
 - Misquito Ditches
 - Structures
 - ▣ Marine Structures

CALADESI ISLAND
STATE PARK



BASE MAP

Past Uses

The first inhabitants of the island are believed to have been the Tocobagos, the local Safety Harbor culture. There are also indications that Europeans used the island: maps dating to the 1830s refer to the area as Sand Island, and between 1830 and 1939, it was known as Hog Island. In 1921, a nine-foot storm surge from a hurricane breached Hog Island into two separate sections: Honeymoon Island and Caladesi Island.

From 1892 to 1934, the island supported the Henry Scharrer homestead. When the State acquired Caladesi Island in 1967, it was owned by 15 separate landowners.

Recreational Uses

Picnicking, swimming, fishing, beach activities, boating, hiking, bird watching and nature study are the recreational uses currently accommodated at the Caladesi Island State Park. The marina is available for both day-use and overnight guests. A primitive group camp is currently being developed north of the shop area.

Other Uses

Overnight docking is allowed in the park marina. Electric and water hook-ups are provided. During the busy season, a standard camping fee is charged to allow for dock space for day-use visitors.

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 Caladesi Island State Park, all undeveloped areas have been designated as protected zones as delineated on the Natural Communities Map.

Existing Facilities

Recreation Facilities

Marina Area

Boat marina (108 slips on 4 floating docks; including 2 slips w/ ADA access)
Concession Operation (within Marina building)

Ferry service waiting shelter
Ferry service floating dock
Picnic shelters (2, large)

Beach Area

Picnic shelters (2, small)
 Playground

Beach access boardwalks (2)

Trails

Nature Trail (3 miles)

Kayak Trail (3 miles)

Group Camp (under development)

Support Facilities**Marina Area**

Marine pump-out station
 Boathouse
 Equipment pole shelter
 Park office (within Marina building)

Restrooms (within Marina building)
 Tollbooth
 Floating service dock

Sewage Treatment Plant

Maintenance pole barn

Storage compound

Beach Area

Restrooms w/changing areas (2)

Shop and Residence Areas

Shop building
 Residences (2)

Vehicle pole shelters (2)

CONCEPTUAL LAND USE PLAN

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

During the development of the unit management plan, the Division assesses potential impacts of proposed uses on the resources of the property. Uses that could result in unacceptable impacts are not included in the conceptual land use plan. Potential impacts are more thoroughly identified and assessed through the site planning process once funding is available for the development project. At that stage, design elements, such as sewage disposal and stormwater management, and design constraints, such as designated species or cultural site locations, are more thoroughly investigated. Advanced wastewater treatment or best available technology systems are applied for

ENLARGED AREA

LEGEND

-  PROPOSED FACILITIES
-  EXISTING FACILITIES



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RECREATION AND PARKS
OFFICE OF PARK PLANNING

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 and Proposed Facilities

Caladesi Island State Park is one of many recreational and natural areas in the Florida that attracts large numbers of visitors. Resource-based outdoor recreation in Florida continually increases in popularity. The growth of Florida's resident and tourist populations brings increasing pressure for access that is more widespread and for denser levels of public use in the natural areas available to the public. Consequently, one of the greatest challenges for public land managers is the balancing of reasonable levels of public access with the need to preserve and enhance the natural and cultural resources of the protected landscapes.

The existing recreational activities provided to the public at Caladesi Island State Park are appropriate and should continue. Improvements to park facilities and infrastructure are needed for the Division to fulfill its responsibilities to provide outdoor recreation, and protect the resources of the park.

Recreation Facilities

Interpretive improvements. The education of recreational users will become an issue of critical importance in the management of Caladesi Island State Park as population pressure continues to bring large numbers of visitors to the park. Environmental stewardship issues, therefore, need to be brought to the attention of park's recreational users to balance recreation with protection and management of the park's natural and cultural resources. Toward this end, additional interpretative facilities are proposed that would complement the other environmental education and interpretive activities already occurring at the park. An open-air interpretive facility is proposed for the picnic area near the beach area restrooms. This pavilion would house weather resistant panels and exhibits. If feasible, the design of this structure may include an observation platform on its roof providing a scenic panorama of the island's natural communities.

Interpretive stations are recommended at each of the locations where visitors gain access to natural or cultural resources through the park's facilities or landscapes. For example, displays regarding gopher tortoises and rattlesnakes, and the sensitivity of their habitat would be located along the pathway between the marina and beach use areas. Aquatic fauna and submerged natural communities protection will be highlighted along the shorelines and marina use area. Also proposed are interpretive

graphics and text displays at each of the proposed water access points, recreational use areas and at locations throughout the existing trail system. Interpretive displays along the Nature Trail would seek to raise the awareness of visitors regarding the maritime hammock and mesic flatwoods landscape. All of these displays would identify the types of behavior that are encouraged in the park, and would discourage perennial problem activities, such as littering. In addition, the existing interpretive exhibits should be updated to complement the proposed outdoor activities and exhibits.

Marina Office and Bathhouse. Currently, the marina building on Caladesi Island houses the registration/fee collection office, park offices, concession operations and two small restrooms for visitors. However, there is no bathhouse for the guests staying overnight in the marina and the office space is insufficient for the park's needs. Therefore, a bathhouse and additional office space is recommended within the developed area adjacent to the marina. The exact location and configuration of these proposed facilities will be determined with future site planning.

Support Facilities

Boat House. The existing boathouse is old and too small to meet the current management needs of the state park. A larger boathouse is recommended to replace the existing structure with its height and width matching that of the attached equipment shelter.

Shop Building. A new shop building is recommended to support the maintenance activities of the state park. It should be located adjacent to the existing maintenance structures within the sewage treatment plant area.

Residence. One additional ranger residence is recommended to manage the state park. It should be located near the existing residences.

Facilities Development

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

Recreation Facilities

Open-Air Interpretive Facility
w/Observation Platform
Interpretive Displays
Marina Office/Bathhouse

Support Facilities

Boat House
Shop Building
Residence (1)

Existing Use and Optimum Carrying Capacity

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

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

Table 1--Existing Use And Optimum Carrying Capacity

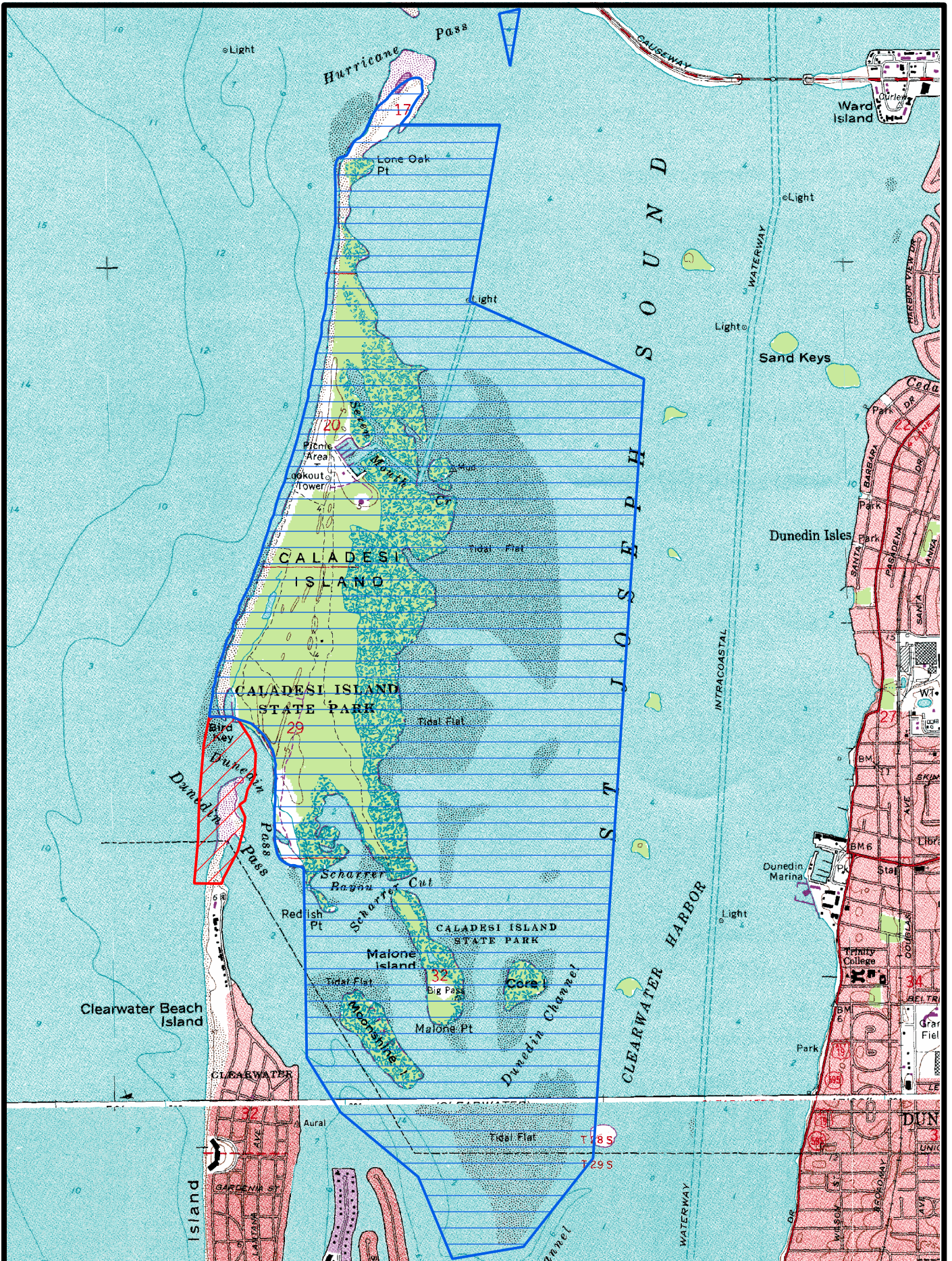
Activity/Facility	Existing Capacity		Proposed Additional Capacity		Estimated Optimum Capacity	
	One Time	Daily	One Time	Daily	One Time	Daily
Beach Use/Picnickin	1681	3362			1681	3362
Camping						
Marina	324	324			324	324
Group Camp	30	30			30	30
Trails						
Nature	30	60			30	60
Kayak	15	30			15	30
Shoreline Fishing	35	70			35	70
TOTAL	2115	3876	0	0	2115	3876

Note: Beach Use/Picnicking capacity includes visitors arriving by ferry, private boat, and walk-ins from Clearwater Beach.

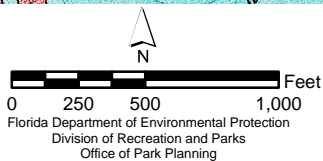
Optimum Boundary

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

At this time, no lands are considered surplus to the needs of the park. Additional lands adjacent to the southern boundary of the park have been identified as optimum boundary. The identified land (see Optimum Boundary Map) became connected to Caladesi Island when the Dunedin Pass was closed by accreting sand. Acquisition of this property would help buffer the park from expansive development along Clearwater Beach.



**CALADESI ISLAND
STATE PARK**



LEGEND

- Park Boundary
- Optimum Boundary

OPTIMUM BOUNDARY MAP

Addendum 1 – Acquisition History and Advisory Group Documentation

Caladesi Island State Park Acquisition History

Purpose of Acquisition

The State of Florida acquired Caladesi Island State Park to preserve, develop, operate and maintain said property for outdoor recreational, park, conservation and related purposes.

Sequence of Acquisition

On April 18, 1966, the Board of Trustees of the Internal Improvement Trust Fund (Trustees), obtained title to the property which became Caladesi Island State Park. The property was donated by the City of Dunedin, Florida. Since this initial acquisition, additional land has been acquired, through donation as well as LATF and LWCF programs.

On October 6, 1969, the Trustees conveyed management authority of Caladesi Island State Park to the state agency presently known as Department of Environmental Protection, Division of Recreation and Parks (Division) under lease No. 2385. The Division manages the park for outdoor recreational, park, conservation, and related purposes. The lease is for a period of ninety-nine (99) years, and it will expire on September 15, 2068.

Title Interest

The Trustees hold fee simple title to Caladesi Island State Park.

Special Conditions on Use

In accordance with the Division's lease agreement with the Trustees, the property must be utilized for public outdoor recreation and related purposes. 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.

Outstanding Reservations

The lease stipulates that all the property be utilized for public recreation and related purposes. Following is a listing of outstanding rights, reservations, and encumbrances, which apply to the Caladesi Island State Park.

Caladesi Island State Park Acquisition History

Instrument:.....Special Warranty Deed
Instrument Holder:.....William E. Crown
Beginning Date:December 24, 1983
Ending Date:Not Given
Outstanding Rights, Uses, Etc.:.....The property must be used only for nature preserve and parkland, and a letter of consent must be obtained from the Florida Audubon Society before placing any temporary or permanent improvements on the property.

Caladesi Island and Honeymoon Island State Parks Advisory Group List

The Honorable Susan Latvala
Pinellas County Board of
County Commissioners
Pinellas County Courthouse
5th Floor
315 Court Street
Clearwater, Florida 33756

The Honorable John A. Doglione, Mayor
City Hall
542 Main Street
Dunedin, Florida 34698

Represented by:
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903 Michigan Boulevard
Dunedin, Florida 34698

Mr. Peter Krulder, Park Manager
Honeymoon Island State Park
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Dunedin, Florida 34698

Ms. Nancy Douglass, Wildlife Biologist
Florida Fish and Wildlife Conservation
Commission
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Lakeland, Florida 33811

Mr. Gary Zipprer, District Manager
Lakeland District Office
Florida Division of Forestry
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Tampa Bay Aquatic Preserves
P.O. Box 309
Terra Ceia, Florida 34250

Mr. Hugh Grambling, Chair
Hillsborough Soil and Water
Conservation District
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Seffner, Florida 33584-4573

Ms. Sally Hess, President
Friends of the Island Parks, Inc.
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Mr. David Carson, Chairman
Dunedin Chamber of Commerce
440 Douglas Avenue
Dunedin, Florida 34698

Mr. Hank Brooks, President
Tampa Bay Sea Kayakers
107 Marshall Street
Safety Harbor, Florida 34695

Mr. Joe Lopez
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Dunedin, Florida 34698

Mr. Ray Kingsbury
2440 State Road 580, Suite 14
Clearwater, Florida 33761

Ms. Cathy Harrelson, Group Chair
Sierra Club - Suncoast Group
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St. Petersburg, Florida 33703

Represented by:
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Clearwater, Florida 33756

Ms. Ann Paul
Florida Coastal Island Sanctuaries
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Tampa, Florida 33619

Caladesi Island and Honeymoon Island State Parks Advisory Group List

Mr. William Sanders, Executive Director
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Clearwater, Florida 33762

Mr. Socrates Red, President
Royal Stewart Arms Homeowner's Association
9 Haig Place, Apartment 701
Dunedin, Florida 34698

Represented by:
John McGillicuddy
5 Gateshead Drive
Dunedin, Florida 34698

Ms. Carolyn Hunter-Colby
1198 Mandalay Point
Clearwater, Florida 33767

Caladesi Island and Honeymoon Island State Parks Advisory Group Staff Report

The Advisory Group meeting to review the proposed land management plans for Honeymoon Island State Park and Caladesi Island State Park was held at the Hale Activity Center on February 10, 2005. Harry Gross represented Mayor Doglione (City of Dunedin), Michael Miller represented Cathy Harrelson (Sierra Club) and John McGillicuddy represented Socrates Red (Royal Stewart Arms). Nancy Douglass (Florida Fish and Wildlife Conservation Commission), Hugh Grambling (Hillsborough Soil and Water Conservation District), Gary Zipprer (Florida Division of Forestry), Randy Runnels (Tampa Bay Aquatic Preserves), William Sanders (Keep Pinellas Beautiful, Inc.) and Carolyn Hunter-Colby (adjacent landowner) did not attend. All other appointed Advisory Group members were present. Attending staff were Scott Robinson, Sally Braem, Robert Wilhelm, Shawn Yeager, Don Bergeron, Lew Scruggs and Brian Burket.

Mr. Burket began the meeting by explaining the purpose of the Advisory Group and reviewing the meeting agenda. He also provided a brief overview of the Division's planning process and summarized public comments received during the previous evening's public workshop. He then asked each member of the advisory group to express his or her comments on the plan.

Summary of Advisory Group Comments

Michael Miller (Sierra Club) stated that boat ramps should only be constructed in appropriate locations. He said the Sierra Club is not in favor of a boat ramp at Honeymoon Island State Park because of unacceptable impacts to critical habitat. He also stated that creating more nearshore boat traffic should be avoided around Honeymoon Island. He offered to assist the county in finding an alternative location to build a boat ramp.

Sally Hess (Friends of the Island Parks) expressed concern over the special events building and asked for clarification on its cost and purpose. Scott Robinson replied that the building's main purpose would be for visitor use and could support special park events, weddings, meetings, etc. and that funding may be provided by the concessionaire. Ms. Hess stated that the Friends group could not support the special events building without more information about the plans and use of this building. She added that the original plan for the nature center was to keep the building at its current location on the beach, but plans were modified because of erosion concerns.

Commissioner Susan Latvala (Pinellas County) described the county's loss of six boat ramps in recent years and their search for waterfront lands to construct additional ramps. She stated that Pinellas County would continue to pursue permission to do an environmental impact study for a boat ramp at Honeymoon Island State Park. She mentioned her support for the canoe/kayak launch and paved bike path. She expressed concerns over removing parking spaces from the "oasis" parking lot. Lew Scruggs replied that the Division is looking at options that would not involve the

Caladesi Island and Honeymoon Island State Parks Advisory Group Staff Report

removal of pavement.

Hank Brooks (kayaking representative) expressed his general approval of boat ramps, but does not support the construction of ramps that cause unacceptable environmental impacts. He voiced his appreciation for the proposed canoe/kayak launch but stated that some users may continue to launch from the causeway because it is free. He, then, asked for clarification about the optimum boundary for Caladesi Island. Brian Burket responded that the land identified on the optimum boundary map is for planning purposes only and that it would require a willing seller to acquire.

John McGillicuddy (Royal Stewart Arms) expressed concern that the proposed bike path would result in trespassing within Royal Stewart Arms. Mr. Robinson replied that the Honeymoon Spur of the Pinellas Trail already comes to the entrance of the park and that the plan addresses the need to provide a safer route within the park for those arriving on foot or bicycle. Mr. McGillicuddy requested consideration for discounts for Royal Stewart Arms residents.

Joe Lopez (boating representative) stated his appreciation for the wonderful job done by the park staff. He said he enjoys the new kayaking trail on Caladesi Island, appreciates the water/electric hook-ups at the boat slips and supports the idea for a bathhouse for the marina area. He recommended expanding the volunteer program.

David Carson (Dunedin Chamber of Commerce) stated that he cannot speak officially for the Chamber, but shared his personal views. He expressed his appreciation to Pinellas County for their search for an appropriate location to construct a boat ramp, but recommended that launching boats from the Dunedin Causeway be eliminated. He mentioned that he regularly rides his bike along the park road and supports the proposal for a separate bike path as well as the kayak launch.

Ann Paul (National Audubon) acknowledged the fine work of the park staff and the quality of the draft plans. She stated her approval for keeping the proposed facilities within the developed areas of the parks, thus protecting the wild areas. She recognized these parks as outstanding birding areas and that the efforts to protect shorebirds are first rate. She stated that the interpretive improvements are very important and should be incorporated with local school programs. She stated her approval of the terrestrial predator control program and said the exotic plant removal efforts are exemplary. She recommends consideration for creating freshwater wetlands within the ruderal areas. She expressed concern about the environmental impacts of a boat ramp in the ferry cove and offered to help the county find a more suitable location. She also said she was glad to see that cabins are not proposed for Honeymoon Island State Park. She stated that the optimum boundary property should be pursued to help buffer Caladesi Island State Park from

Caladesi Island and Honeymoon Island State Parks Advisory Group Staff Report

potential development along Clearwater Beach. She suggested that the park buy jet skis to aid enforcement of the motor exclusion zones. She also recommended that the special events building be a temporary/removable structure.

Ray Kingsbury (fishing representative) stated that fishermen are most concerned with environmental impacts on the marine grass beds and is therefore opposed to the boat ramp in the ferry cove. He said the boat ramp would ruin the cove and that boating congestion in the area is already excessive. He recommended more trash cans be placed in high use areas. He supported the kayak launch as long as the grass beds are not impacted. He also supported the proposed nature center and its educational use. He stated that enforcement of fishing regulations and jet skis use needs to be improved. He then asked if any studies have looked at the environmental impact of special events at the state parks. Sally Braem responded that biologists review the proposals for new events to ensure there are no significant impacts.

Harry Gross (City of Dunedin) stated that the City of Dunedin supports Pinellas County's request to study the environmental impact of a boat ramp at Honeymoon Island State Park. He said the city supports all efforts to place sand on the beach at Honeymoon Island State Park. He mentioned the city/county effort to solicit public input for their Dunedin Causeway Master Plan. He requested that the park-specific annual pass be reinstated. He also voiced concern that the city may not be able to provide support services for additional special events at Honeymoon Island if a special events building is constructed.

Scott Robinson (Park Manger) thanked the advisory group for their comments and their support of these state parks.

Summary of Public Comments

Jack McNichols congratulated the staff for doing an excellent job in managing the state parks. He stated that the primary goal should be to keep development at a minimum in order to preserve natural Florida. He said the ferry cove is too shallow for a boat ramp and that it would ruin the cove. He also mentioned that he does not believe Honeymoon Island State Park needs a special events building.

Aydelette Kelsey requested that the public have an opportunity to review the advisory group drafts of the management plans and recommended that the Acquisition and Restoration Council hold their final review of these plans locally. She also stated that a boat ramp would have unacceptable environmental impacts and encouraged the Division stay firm on their decision not to support its construction.

Richard Selleg suggested, "Less is more" and encouraged the park to restrict further

Caladesi Island and Honeymoon Island State Parks Advisory Group Staff Report

development. He voiced his support for the kayak launch and denial of the boat ramp. He suggested an alternative location for a boat ramp on the Dunedin Causeway. He also recommended that a temporary structure be used for special events instead of constructing the proposed special events building.

James Richter agreed with Mr. McNichols' statements. He mentioned that he rides his bicycle in Honeymoon Island but does not support the proposed bike path because of potential impacts to birds. He recommended, instead, increasing signage and visitor education about sharing the roadway.

Gabrielle Mullins expressed concern over the proposed special events building. She stated that exclusive uses should not be allowed in the state parks.

Staff Recommendations

The staff recommends approval of the proposed management plans for Honeymoon Island State Park and Caladesi Island State Park as presented with the following changes:

Honeymoon Island State Park

Boat Ramp. After careful consideration, the Division has determined that constructing a boat ramp at Honeymoon Island State Park would damage endangered mangroves and sensitive sea grasses, which provide important wildlife habitat. A park boat ramp would also increase traffic and road congestion for our neighbors living outside the park.

Special Events Building. The proposal for a special events building, as discussed in the management plan, has been removed.

Beach Bathhouses. The Division has made a commitment to finding a long-term solution to keep sand on the developed beach areas. Unfortunately, the Division cannot guarantee a permanent sandy beach in front of all the existing beach use facilities. Consequently, existing restrooms and food concessions may need to be relocated, modified or expanded over time to match the visitor use patterns and needs. In addition, a new bathhouse may also be needed in the future. At this time, the Division has decided to renovate bathhouse #1, the southernmost bathhouse, to improve visitor services that may include a food concession operation with a kitchen and service area, a large covered deck, in addition to the necessary restroom facilities it currently provides.

Bike Path. The Division has discussed and supports a separate bicycle path because of safety concerns and believes it can be constructed in a way that minimizes impact to nesting birds.

Canoe/Kayak Launch. The recommendation for a canoe/kayak launch on St. Joseph Sound has been removed from the conceptual plan for Honeymoon Island State Park. After further analysis, it was determined that a canoe/kayak launch anywhere along this shoreline would result in significant impact to mangroves, sea grasses, and resting shorebirds. The launching of canoes and kayaks is available along the park's gulf shoreline as well as on Dunedin Causeway.

Caladesi Island State Park

Observation Platform. If feasible, the design of the proposed open-air interpretive pavilion could include an observation platform to provide a scenic panorama of the island's natural communities.

Caladesi Island and Honeymoon Island State Parks Advisory Group Staff Report

Addendum 2 – References Cited

Caladesi Island State Park References Cited

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Addendum 3 – Soil Descriptions

Caladesi Island State Park Soil Descriptions

(Co) Coastal beaches. Coastal beaches consist of narrow strips of tide-washed sand. Most areas are covered during storms and daily at high tide. Depth to the water table varies with the tide. Waves deposit, mix and rework the sand which is firm or compact when moist and loose when dry. The sand is light gray to white and consists mainly of fine quartz particles with varying quantities of medium to coarse shell fragments. The sand contains a few, fine, rounded, weakly cemented very dark gray to very dark brown particles.

(Su) St. Lucie fine sand, shell substratum. St. Lucie fine sand with a shell substratum is a nearly level soil occurring on low ridges on Caladesi Island. In most places the surface layer is very dark gray fine sand about three inches thick. Below this is light-gray loose fine sand that extends to a depth of 40 inches or more. This is underlain by layers of mixed light-gray or white sand, seashells and shell fragments. The water table is at a depth of 40 to 60 inches for six-months or more in most years. It is within 40 inches for less than 60 days.

(Ts) Tidal swamp. Tidal swamp occurs in low, broad coastal areas that are covered with sea water. Water is several inches deep at low tide and one to two feet deep at high tide. It has a thick growth of mangrove trees and a few patches of salt-tolerant plants. It is subject to wave action. This land type consists mainly of sand, peaty sand, a few organic soils, seashells and shell fragments.

(Tm) Tidal marsh. Tidal marsh occurs in low coastal areas that are alternately covered and out of the water due to tidal action. It has a thick growth of rushes and spartina. In this location there are only small patches, the majority of this similar area is covered with tidal swamp.

Caladesi Island State Park Soil Descriptions

Addendum 4 – Plants And Animals List

Caladesi Island State Park (Plants)

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Rosary pea*	<i>Abrus precatorius</i>	
Slender copperleaf	<i>Acalypha gracilens</i>	
Golden leather fern	<i>Acrostichum aureum</i>	75, 76
Giant leather fern	<i>Acrostichum danaeifolium</i>	75, 76
False sisal	<i>Agave decipiens</i>	
Hammock thoroughwort	<i>Ageratina jucunda</i>	
Common ragweed	<i>Ambrosia artemisiifolia</i>	
Toothcups	<i>Ammannia latifolia</i>	
Pepper-vine	<i>Ampelopsis arborea</i>	
Bushy bluestem	<i>Andropogon glomeratus</i> var. <i>pumilus</i>	
Coral vine *	<i>Antigonon leptopus</i>	
Broomsedge	<i>Andropogon virginicus</i>	
Tall threeawn	<i>Aristida patula</i>	
Arrowfeather threeawn	<i>Aristida purpurascens</i>	
Sprenger's asparagus fern*	<i>Asparagus aethiopicus</i>	
Common asparagus fern *	<i>Asparagus setaceus</i>	
Crested saltbush	<i>Atriplex pentandra</i>	
Black mangrove	<i>Avicennia germinans</i>	
Big carpetgrass	<i>Axonopus furcatus</i>	
Saltwater false willow	<i>Baccharis angustifolia</i>	
Saltbush	<i>Baccharis halimifolia</i>	
Coastal water-hyssop	<i>Bacopa monnieri</i>	
Saltwort	<i>Batis maritima</i>	
Beggar-ticks	<i>Bidens alba</i> var. <i>radiata</i>	
Toothed mid-sorus fern	<i>Blechnum serrulatum</i>	
Samphire	<i>Blutaparon vermiculare</i>	
Red spiderling	<i>Boerhavia diffusa</i>	
Seaside oxeye	<i>Borrichia frutescens</i>	
American bluehearts	<i>Buchnera americana</i>	
Capillary hairsedge	<i>Bulbostylis ciliatifolia</i>	
Gray nicker	<i>Caesalpinia bonduc</i>	
Searocket	<i>Cakile edentula</i> subsp. <i>harperi</i>	
Coastal searocket	<i>Cakile lanceolata</i>	
American beautyberry	<i>Callicarpa americana</i>	
Seaside jackbean	<i>Canavalia rosea</i>	
Australian-pine*	<i>Casuarina equisetifolia</i>	
Love vine	<i>Cassytha filiformis</i>	
Madagascar periwinkle*	<i>Catharanthus roseus</i>	
Southern sandspur	<i>Cenchrus echinatus</i>	
Coast sandspur	<i>Cenchrus spinifex</i>	

* Non-native Species

Caladesi Island State Park (Plants)

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Spurred butterfly-pea	<i>Centrosema virginianum</i>	
Partridge pea	<i>Chamaecrista fasciculata</i>	
Sensitive pea	<i>Chamaecrista nictitans</i> var. <i>aspera</i>	
Dixie sandmat	<i>Chamaesyce bombensis</i>	
Hyssopleaf sandmat	<i>Chamaesyce hyssopifolia</i>	
Coastal-beach sandmat	<i>Chamaesyce mesembrianthemifolia</i>	
Snowberry	<i>Chiococca alba</i>	
Yellow thistle	<i>Cirsium horridulum</i>	
Nuttall's thistle	<i>Cirsium nuttallii</i>	
Sawgrass	<i>Cladium jamaicense</i>	
Tread-softly	<i>Cnidocolus stimulosus</i>	
Seagrape	<i>Coccoloba uvifera</i>	
Dayflower	<i>Commelina diffusa</i>	
Erect dayflower	<i>Commelina erecta</i>	
Buttonwood	<i>Conocarpus erectus</i>	
Dwarf Canadian horseweed	<i>Conyza canadensis</i> var. <i>pusilla</i>	
Rabbit-bells	<i>Crotalaria rotundifolia</i>	
Seaside croton	<i>Croton punctatus</i>	
Gulf coast swallowwort	<i>Cynanchum angustifolium</i>	
Poorland flatsedge	<i>Cyperus compressus</i>	
Baldwin's flatsedge	<i>Cyperus croceus</i>	
Swamp flatsedge	<i>Cyperus ligularis</i>	
Fragrant flatsedge	<i>Cyperus odoratus</i>	
Manyspike flatsedge	<i>Cyperus polystachyos</i>	
Low flatsedge	<i>Cyperus pumilus</i>	
Pinebarren flatsedge	<i>Cyperus retrorsus</i>	
Fourangle flatsedge	<i>Cyperus tetragonus</i>	
Crowfootgrass*	<i>Dactyloctenium aegyptium</i>	
Coin-vine	<i>Dalbergia ecastaphyllum</i>	
Western tansy mustard	<i>Descurainia pinnata</i>	
Zarabacoa comun *	<i>Desmodium incanum</i>	
Threflowered ticktrefoil *	<i>Desmodium triflorum</i>	
Dixie ticktrefoil *	<i>Desmodium tortuosum</i>	
Needle-leaf witchgrass	<i>Dichantherium aciculare</i>	
Variable witchgrass	<i>Dichantherium commutatum</i>	
Asian crabgrass *	<i>Digitaria bicornis</i>	
False daisy	<i>Eclipta prostrata</i>	
Indian goosegrass *	<i>Eleusine indica</i>	
Florida tasselsflower*	<i>Emilia fosbergii</i>	
Tampa butterfly orchid	<i>Encyclia tampensis</i>	7

* Non-native Species

Caladesi Island State Park (Plants)

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (for designated species)
Scouring rush	<i>Equisetum hyemale</i>	
Gophertail lovegrass	<i>Eragrostis ciliaris</i>	
Elliott lovegrass	<i>Eragrostis elliottii</i>	
Fireweed	<i>Erechtites hieraciifolius</i>	
Oakleaf fleabane	<i>Erigeron quercifolius</i>	
Baldwin's eryngo	<i>Eryngium baldwinii</i>	
Golden beach creeper	<i>Ernodea littoralis</i>	
Southeastern coralbean	<i>Erythrina herbacea</i>	
White stopper	<i>Eugenia axillaris</i>	
Yankeeweed	<i>Eupatorium capillifolium</i>	
Semaphore thoroughwort	<i>Eupatorium mikanioides</i>	
Saltmarsh fingergrass	<i>Eustachys glauca</i>	
Fourspike fingergrass	<i>Eustachys neglecta</i>	
Pinewoods fingergrass	<i>Eustachys petraea</i>	
Marshgentian	<i>Eustoma exaltatum</i>	
Flat-topped goldenrod	<i>Euthamia caroliniana</i>	
Florida strangler fig	<i>Ficus aurea</i>	
Cuban laurel *	<i>Ficus microcarpa</i>	
Hurricane-grass	<i>Fimbristylis cymosa</i>	
Marsh fimbry	<i>Fimbristylis spadicea</i>	
Florida yellowtops	<i>Flaveria floridana</i>	
Florida privet	<i>Forestiera segregata</i>	
Cottonweed	<i>Froelichia floridana</i>	
Eastern milkpea	<i>Galactia regularis</i>	
Downy milkpea	<i>Galactia volubilis</i>	
Coastal bedstraw	<i>Galium hispidulum</i>	
Southern gaura	<i>Gaura angustifolia</i>	
Tooth-petal false rein orchid	<i>Habenaria floribunda</i>	
Shoal-grass; Shoalweed	<i>Halodule wrightii</i>	
Pine-barren frostweed	<i>Helianthemum corymbosum</i>	
Hairy beach sunflower	<i>Helianthus debilis</i> subsp. <i>vestitus</i>	1
Seaside heliotrope	<i>Heliotropium curassavicum</i>	
Pineland heliotrope	<i>Heliotropium polyphyllum</i>	
Camphorweed	<i>Heterotheca subaxillaris</i>	
Coastal plain hawkweed	<i>Hieracium megacephalon</i>	
Round-leaf bluet	<i>Houstonia procumbens</i>	
Water pennywort	<i>Hydrocotyle bonariensis</i>	
Whorled pennywort	<i>Hydrocotyle verticillata</i>	
Pineweed	<i>Hypericum gentianoides</i>	
John Charles bittermint *	<i>Hyptis verticillata</i>	

* Non-native Species

Caladesi Island State Park (Plants)

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Beach morning glory	<i>Ipomoea imperati</i>	
Railroad-vine	<i>Ipomoea pes-caprae</i> subsp. <i>brasiliensis</i>	
Juba's bush	<i>Iresine diffusa</i>	
Big-leaf marsh-elder	<i>Iva frutescens</i>	
Beach-elder	<i>Iva imbricata</i>	
Piedmont marshelder	<i>Iva microcephala</i>	
Grassleaf rush	<i>Juncus marginatus</i>	
Bighead rush	<i>Juncus megacephalus</i>	
Needle rush	<i>Juncus roemerianus</i>	
Eastern redcedar	<i>Juniperus virginiana</i>	
Life plant*	<i>Kalanchoe pinnata</i>	
Saltmarsh mallow	<i>Kosteletzkya virginica</i>	
Shortleaf spikesedge *	<i>Kyllinga brevifolia</i>	
White mangrove	<i>Laguncularia racemosa</i>	
Shrub verbena *	<i>Lantana camara</i>	
Thyme-leaf pinweed	<i>Lechea minor</i>	
Valdivia duckweed	<i>Lemna valdiviana</i>	
Virginia pepperweed	<i>Lepidium virginicum</i>	
White leadtree *	<i>Leucaena leucocephala</i>	
Carolina sea-lavender	<i>Limonium carolinianum</i>	
Florida toadflax	<i>Linaria floridana</i>	
Seaside primrosewillow	<i>Ludwigia maritima</i>	
Sky-blue lupine	<i>Lupinus diffusus</i>	
Christmasberry	<i>Lycium carolinianum</i>	
Slender clubmoss	<i>Lycopodiella caroliniana</i>	
Texas wax-mallow*	<i>Malvaaviscus penduliflorus</i>	
Florida mayten	<i>Maytenus phyllanthoides</i>	
Axil-flower	<i>Mecardonia acuminata</i> subsp. <i>peninsularis</i>	
Melaleuca*	<i>Melaleuca quinquenervia</i>	
Climbing hempvine	<i>Mikania scandens</i>	
Swamp hornpod	<i>Mitreola sessilifolia</i>	
Wild balsam-apple*	<i>Momordica charantia</i>	
Horsemint	<i>Monarda punctata</i>	
Shoregrass	<i>Monoanthochloe littoralis</i>	
Milkweed-vine*	<i>Morrenia odorata</i>	
Hairgrass	<i>Muhlenbergia capillaris</i>	
Nakedstem dewflower	<i>Murdannia nudiflora</i>	
Wax myrtle	<i>Myrica cerifera</i>	
Seaside evening-primrose	<i>Oenothera humifusa</i>	
Prickly-pear cactus	<i>Opuntia humifusa</i>	

* Non-native Species

Caladesi Island State Park (Plants)

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (for designated species)
Erect prickly-pear cactus	<i>Opuntia stricta</i>	1
Royal fern	<i>Osmunda regalis</i> var. <i>spectabilis</i>	76
Bitter panicum	<i>Panicum amarum</i>	
Switchgrass	<i>Panicum virgatum</i>	
Clustered pellitory-of-the-wall	<i>Parietaria praetermissa</i>	
Virginia creeper	<i>Parthenocissus quinquefolia</i>	
Seashore paspalum	<i>Paspalum distichum</i>	
Seashore paspalum	<i>Paspalum vaginatum</i>	
Corky-stemmed passionflower	<i>Passiflora suberosa</i>	
Spreading cinchweed	<i>Pectis prostrata</i>	
Red bay	<i>Persea borbonia</i>	
Swamp bay	<i>Persea palustris</i>	
Golden polypody	<i>Phlebodium aureum</i>	
Senegal date palm *	<i>Phoenix reclinata</i>	
Carpetweed	<i>Phyla nodiflora</i>	
Drummond's leafflower	<i>Phyllanthus abnormis</i>	
Starry-hair ground-cherry	<i>Physalis walteri</i>	
Pokeberry	<i>Phytolacca americana</i>	
Slash pine	<i>Pinus elliottii</i>	
Grass-leaved goldenaster	<i>Pityopsis graminifolia</i>	
Resurrection fern	<i>Pleopeltis polypodioides</i> var. <i>michauxianum</i>	
Wing-stem camphorweed	<i>Pluchea carolinensis</i>	
Shrubby camphorweed	<i>Pluchea odorata</i>	
Rosy camphorweed	<i>Pluchea rosea</i>	
Wild poinsettia	<i>Poinsettia cyathophora</i>	
Showy milkwort	<i>Polygala grandiflora</i>	
Procession flower	<i>Polygala incarnata</i>	
Pink purslane	<i>Portulaca pilosa</i>	
Black cherry	<i>Prunus serotina</i>	
Whisk fern	<i>Psilotum nudum</i>	
Tailed bracken	<i>Pteridium aquilinum</i> var. <i>pseudocaudatum</i>	
Rabbit-tobacco	<i>Pterocaulon pycnostachyum</i>	
Mock bishopsweed	<i>Ptilimnium capillaceum</i>	
Live oak	<i>Quercus virginiana</i>	
White indigo-berry	<i>Randia aculeata</i>	
Myrsine	<i>Rapanea punctata</i>	
Red mangrove	<i>Rhizophora mangle</i>	
Winged sumac	<i>Rhus copallina</i>	
Red Natalgrass*	<i>Rhynchelytrum repens</i>	
Star rush	<i>Rhynchospora colorata</i>	

* Non-native Species

Caladesi Island State Park (Plants)

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Sandy-field beaksedge	<i>Rhynchospora megalocarpa</i>	
Rouge plant	<i>Rivina humilis</i>	
Southern dewberry	<i>Rubus trivialis</i>	
Cabbage palm	<i>Sabal palmetto</i>	
Perennial glasswort	<i>Salicornia virginica</i>	
Carolina willow	<i>Salix caroliniana</i>	
Southern river sage	<i>Salvia misella</i>	
Water spangles *	<i>Salvinia minima</i>	
Water pimpernel	<i>Samolus ebracteatus</i>	
Lizard's-tail	<i>Saururus cernuus</i>	
Inkberry	<i>Scaevola plumieri</i>	1
Brazilian pepper*	<i>Schinus terebinthifolius</i>	
Tall nutgrass	<i>Scleria triglomerata</i>	
Sweetbroom; licorice-weed	<i>Scoparia dulcis</i>	
Saw palmetto	<i>Serenoa repens</i>	
Shoreline sea-purslane	<i>Sesuvium portulacastrum</i>	
Giant bristlegrass	<i>Setaria magna</i>	
Knotroot foxtail	<i>Setaria parviflora</i>	
Common wireweed	<i>Sida acuta</i>	
Saffron-plum	<i>Sideroxylon celastrinum</i>	
Milk-buckthorn; Florida bully	<i>Sideroxylon reclinatum</i>	
Scrub-buckthorn	<i>Sideroxylon tenax</i>	
Narrow-leaf blue-eyed grass	<i>Sisyrinchium angustifolium</i>	
Ear-leaf greenbrier	<i>Smilax auriculata</i>	
Common nightshade	<i>Solanum americanum</i>	
Chapman's goldenrod	<i>Solidago odora</i> var. <i>chapmanii</i>	
Seaside goldenrod	<i>Solidago sempervirens</i>	
Wand goldenrod	<i>Solidago stricta</i>	
Common sowthistle *	<i>Sonchus oleraceus</i>	
Yellow necklace pod	<i>Sophora tomentosa</i> var. <i>truncata</i>	
Saltmarsh cordgrass	<i>Spartina alterniflora</i> var. <i>glabra</i>	
Beach cordgrass	<i>Spartina patens</i>	
Woodland false-buttonweed	<i>Spermacoce assurgens</i>	
Coral dropseed	<i>Sporobolus domingensis</i>	
Smutgrass *	<i>Sporobolus indicus</i> var. <i>indicus</i>	
Seashore dropseed	<i>Sporobolus virginicus</i>	
St. Augustine grass	<i>Stenotaphrum secundatum</i>	
Pineland scaly-pink	<i>Stipulicida setacea</i>	
Annual saltmarsh aster	<i>Symphotrichum subulatum</i>	
Manatee-grass	<i>Syringodium filiforme</i>	

* Non-native Species

Caladesi Island State Park (Plants)

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (for designated species)
Sea blite	<i>Suaeda linearis</i>	
Turtle-grass	<i>Thalassia testudinum</i>	
Spanish moss	<i>Tillandsia usneoides</i>	
Florida giant air plant	<i>Tillandsia x floridana</i>	
Ballmoss	<i>Tillandsia recurvata</i>	
Eastern poison ivy	<i>Toxicodendron radicans</i>	
Forked bluecurls	<i>Trichostema dichotomum</i>	
Purple sandgrass	<i>Triplasis purpurea</i>	
Common cattail	<i>Typha latifolia</i>	
Sea oats	<i>Uniola paniculata</i>	
Tree sparkleberry	<i>Vaccinium arboreum</i>	
White crownbeard	<i>Verbesina virginica</i>	
Four-leaf vetch	<i>Vicia acutifolia</i>	
Piedmont cow-pea	<i>Vigna luteola</i>	
Summer grape	<i>Vitis aestivalis</i>	
Southern fox grape	<i>Vitis rotundifolia</i> var. <i>munsoniana</i>	
Shoestring fern	<i>Vittaria lineata</i>	
Sleepy morning	<i>Waltheria indica</i>	
Washington palm*	<i>Washingtonia robusta</i>	
Columbian watermeal	<i>Wolffia columbiana</i>	
Netted chain fern	<i>Woodwardia areolata</i>	
Virginia chain fern	<i>Woodwardia virginica</i>	
Tallowwood; hog-plum	<i>Ximenia americana</i>	
Spanish dagger	<i>Yucca aloifolia</i>	
Hercules-club	<i>Zanthoxylum clava-herculis</i>	
Soldier's orchid*	<i>Zeuxine strateumatica</i>	

* Non-native Species

Caladesi Island State Park (Animals)

Common Name	Scientific Name	Primary Habitat Codes (for all species)
FISHES		
Bonnethead shark	<i>Sphyrna tiburo</i>	77
Tarpon	<i>Megalops atlantica</i>	77
Atlantic needlefish	<i>Strongylura marina</i>	71, 77
Whitespotted filefish	<i>Cantherhines macrocerus</i>	77
AMPHIBIANS		
Green treefrog	<i>Hyla cinerea</i>	8
REPTILES		
Florida box turtle	<i>Terrapene carolina bauri</i>	7, 8
Peninsula cooter	<i>Pseudemys floridana peninsularis</i>	81
Gopher tortoise	<i>Gopherus polyphemus</i>	5, 8, 81
Atlantic green turtle	<i>Chelonia mydas</i>	77
Atlantic hawksbill	<i>Eretmochelys imbricata imbricata</i>	77
Atlantic loggerhead	<i>Caretta caretta</i>	77
Atlantic ridley	<i>Lepidochelys kempii</i>	77
Cuban brown anole*	<i>Anolis sagrei sagrei</i>	MTC
Southern fence lizard	<i>Sceloporus undulatus undulatus</i>	81
Eastern glass lizard	<i>Ophisaurus ventralis</i>	81
Five-lined skink	<i>Eumeces fasciatus</i>	5
Eastern garter snake	<i>Thamnophis sirtalis sirtalis</i>	81
Peninsula ribbon snake	<i>Thamnophis sauritus sackeni</i>	82
Southern black racer	<i>Coluber constrictor priapus</i>	MTC
Eastern coachwhip	<i>Masticophis flagellum flagellum</i>	5
Eastern indigo snake	<i>Drymarchon corais couperi</i>	5
Corn snake	<i>Elaphe guttata guttata</i>	81
Yellow rat snake	<i>Elaphe obsoleta quadrivittata</i>	81
Common kingsnake	<i>Lampropeltis getulus</i>	8, 81
Dusky pigmy rattlesnake	<i>Sistrurus miliarius barbouri</i>	1
Eastern diamondback rattlesnake	<i>Crotalus adamanteus</i>	8, 81
BIRDS		
Common loon	<i>Gavia immer</i>	77
Red-throated loon	<i>Gavia stellata</i>	77
Horned grebe	<i>Podiceps auritus</i>	77

* Non-native Species

Caladesi Island State Park (Animals)

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Eared grebe	<i>Podiceps nigricollis</i>	81
Pied-billed grebe	<i>Podilymbus podiceps</i>	77
Sooty shearwater	<i>Puffinus griseus</i>	OF
American white pelican	<i>Pelecanus erythrorhynchos</i>	OF
Eastern brown pelican	<i>Pelecanus occidentalis carolinensis</i>	OF, 77
Brown booby	<i>Sula leucogaster</i>	OF
Northern gannet	<i>Sula bassanus</i>	OF
Double-crested cormorant	<i>Phalacrocorax auritus</i>	OF
Anhinga	<i>Anhinga anhinga</i>	OF
Magnificent frigatebird	<i>Fregata magnificens</i>	OF
Great blue heron	<i>Ardea herodias</i>	1, 75
Green heron	<i>Butorides virescens</i>	76
Cattle egret	<i>Bubulcus ibis</i>	OF, 81
Little blue heron	<i>Egretta caerulea</i>	75
Reddish egret	<i>Egretta rufescens</i>	77
Great egret	<i>Ardea alba</i>	72, 75, 77
Snowy egret	<i>Egretta thula</i>	77
Tricolored heron	<i>Egretta tricolor</i>	77
Black-crowned night heron	<i>Nycticorax nycticorax</i>	76
Yellow-crowned night heron	<i>Nyctanassa violacea</i>	76
Least bittern	<i>Ixobrychus exilis</i>	75
American bittern	<i>Botaurus lentiginosus</i>	75
Wood stork	<i>Mycteria americana</i>	81
White ibis	<i>Eudocimus albus</i>	77
Roseate spoonbill	<i>Ajaia ajaja</i>	77
Greater flamingo*	<i>Phoenicopterus ruber</i>	77, OF
Brant	<i>Branta bernicla</i>	77
Snow goose	<i>Aen caerulescens</i>	77
Mallard	<i>Anas platyrhynchos</i>	81
Mottled duck	<i>Anas fulvigula</i>	81
Gadwall	<i>Anas strepera</i>	81
Northern pintail	<i>Anas acuta</i>	81
Green-winged teal	<i>Anas crecca</i>	81
Blue-winged teal	<i>Anas discors</i>	81
American wigeon	<i>Anas americana</i>	81
Northern shoveler	<i>Anas clypeata</i>	81
Redhead	<i>Aythya americana</i>	77
Ring-necked duck	<i>Aythya collaris</i>	77
Canvasback	<i>Aythya valisineria</i>	77
Greater scaup	<i>Aythya marila</i>	77

* Non-native Species

Caladesi Island State Park (Animals)

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Lesser scaup	<i>Aythya affinis</i>	77
Bufflehead	<i>Bucephala albeola</i>	77
Long-tailed duck	<i>Clangula hyemalis</i>	77
Ruddy duck	<i>Oxyura jamaicensis</i>	77
Hooded merganser	<i>Lophodytes cucullatus</i>	77
Common merganser	<i>Mergus merganser</i>	77
Red-breasted merganser	<i>Mergus serrator</i>	77
Turkey vulture	<i>Cathartes aura</i>	OF
Black vulture	<i>Coragyps atratus</i>	OF
Swallow-tailed kite	<i>Elanoides forficatus</i>	OF
Mississippi kite	<i>Ictinia mississippiensis</i>	OF
Sharp-shinned hawk	<i>Accipiter striatus</i>	OF
Cooper's hawk	<i>Accipiter cooperii</i>	OF
Red-tailed hawk	<i>Buteo jamaicensis</i>	OF
Red-shouldered hawk	<i>Buteo lineatus</i>	8, OF
Broad-winged hawk	<i>Buteo platypterus</i>	OF
Southern bald eagle	<i>Haliaeetus leucocephalus</i>	OF
Northern harrier	<i>Circus cyaneus</i>	OF
Osprey	<i>Pandion haliaetus</i>	8, OF
Peregrine falcon	<i>Falco peregrinus tundrius</i>	OF
Merlin	<i>Falco columbarius</i>	OF
American kestrel	<i>Falco sparverius</i>	OF
Northern bobwhite	<i>Colinus virginianus</i>	8
Wild turkey	<i>Meleagris gallopavo</i>	8
Sandhill crane	<i>Grus canadensis</i>	OF
King rail	<i>Rallus elegans</i>	75
Florida clapper rail	<i>Rallus longirostris scottii</i>	75
Virginia rail	<i>Rallus limicola</i>	75
Sora	<i>Porzana carolina</i>	81
Clapper rail	<i>Rallus longirostris</i>	75
Purple gallinule	<i>Porphyryla martinica</i>	81
Common moorhen	<i>Gallinula chloropus</i>	81
American coot	<i>Fulica americana</i>	77
American oystercatcher	<i>Haematopus palliatus</i>	77
Semipalmated plover	<i>Charadrius semipalmatus</i>	77
Piping plover	<i>Charadrius melodus</i>	77
Southeastern snowy plover	<i>Charadrius alexandrinus tenuirostris</i>	77
Wilson's plover	<i>Charadrius wilsonia</i>	77
Killdeer	<i>Charadrius vociferus</i>	77
Black-bellied plover	<i>Pluvialis squatarola</i>	77

* Non-native Species

Caladesi Island State Park (Animals)

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Ruddy turnstone	<i>Arenaria interpres</i>	77
Common snipe	<i>Gallinago gallinago</i>	75
Long-billed curlew	<i>Numenius americanus</i>	77
Whimbrel	<i>Numenius phaeopus</i>	77
Spotted sandpiper	<i>Actitis macularia</i>	77
Solitary sandpiper	<i>Tringa solitaria</i>	77
Greater yellowlegs	<i>Tringa melanoleuca</i>	77
Lesser yellowlegs	<i>Tringa flavipes</i>	77
Willet	<i>Catoptrophorus semipalmatus</i>	77
Red knot	<i>Calidris canutus</i>	77
Pectoral sandpiper	<i>Calidris melanotos</i>	77
White-rumped sandpiper	<i>Calidris fuscicollis</i>	77
Least sandpiper	<i>Calidris minutilla</i>	77
Dunlin	<i>Calidris alpina</i>	77
Semipalmated sandpiper	<i>Calidris pusilla</i>	77
Western sandpiper	<i>Calidris mauri</i>	77
Sanderling	<i>Calidris alba</i>	77
Stilt sandpiper	<i>Calidris himantopus</i>	77
Short-billed dowitcher	<i>Limnodromus griseus</i>	77
Long-billed dowitcher	<i>Limnodromus scolopaceus</i>	77
Marbled godwit	<i>Limosa fedoa</i>	77
Bar-tailed godwit	<i>Limosa lapponica</i>	77
American avocet	<i>Recurvirostra americana</i>	77
Black-necked stilt	<i>Himantopus mexicanus</i>	77
Pomarine jaeger	<i>Stercorarius pomarinus</i>	OF
Parasitic jaeger	<i>Stercorarius parasiticus</i>	OF
Great black-backed gull	<i>Larus marinus</i>	OF
Herring gull	<i>Larus argentatus</i>	OF, 77
Ring-billed gull	<i>Larus delawarensis</i>	OF, 77
Laughing gull	<i>Larus atricilla</i>	OF, 77
Bonaparte's gull	<i>Larus philadelphia</i>	OF, 77
Franklin's gull	<i>Larus pipixcan</i>	OF, 77
Gull-billed tern	<i>Sterna nilotica</i>	OF, 77
Forster's tern	<i>Sterna forsteri</i>	OF, 77
Common tern	<i>Sterna hirundo</i>	OF, 77
Roseate tern	<i>Sterna dougallii</i>	OF, 77
Sooty tern	<i>Sterna fuscata</i>	OF, 77
Least tern	<i>Sterna antillarum</i>	OF, 77
Royal tern	<i>Sterna maxima</i>	OF, 77
Elegant tern	<i>Sterna elegans</i>	OF, 77

* Non-native Species

Caladesi Island State Park (Animals)

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Sandwich tern	<i>Sterna sandvicensis</i>	OF, 77
Caspian tern	<i>Sterna caspia</i>	OF, 77
Black tern	<i>Chlidonias niger</i>	OF, 77
Black skimmer	<i>Rynchops niger</i>	OF, 77
Marbled murrelet	<i>Brachyramphus marmoratus</i>	77
Rock pigeon*	<i>Columba livia</i>	81
White-winged dove	<i>Zenaida asiatica</i>	81
Mourning dove	<i>Zenaida macroura</i>	8
Eurasian collared dove*	<i>Streptopelia decaocto</i>	81
Common ground-dove	<i>Columbina passerina</i>	5, 81
Cockatiel*	<i>Nymphicus hollandicus</i>	82
Monk parakeet*	<i>Myiopsitta monachus</i>	81, 82
Mangrove cuckoo	<i>Coccyzus minor</i>	76
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	76
Black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>	76
Barn owl	<i>Tyto alba</i>	OF
Great horned owl	<i>Bubo virginianus</i>	8
Florida burrowing owl	<i>Athene cunicularia floridana</i>	81
Barred owl	<i>Strix varia</i>	8
Short-eared owl	<i>Asio flammeus</i>	8
Chuck-will's-widow	<i>Caprimulgus carolinensis</i>	8
Common nighthawk	<i>Chordeiles minor</i>	OF
Chimney swift	<i>Chaetura pelagica</i>	OF
Ruby-throated hummingbird	<i>Archilochus colubris</i>	OF
Rufous hummingbird	<i>Selasphorus rufus</i>	OF
Belted kingfisher	<i>Ceryle alcyon</i>	OF
Northern flicker	<i>Colaptes auratus</i>	8
Red-bellied woodpecker	<i>Melanerpes carolinus</i>	8
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	8
Yellow-bellied sapsucker	<i>Sphyrapicus varius</i>	8
Southern hairy woodpecker	<i>Picoides villosus audubonii</i>	8
Downy woodpecker	<i>Picoides pubescens</i>	8
Eastern kingbird	<i>Tyrannus tyrannus</i>	8, OF
Gray kingbird	<i>Tyrannus dominicensis</i>	8, 81
Western kingbird	<i>Tyrannus verticalis</i>	81
Scissor-tailed flycatcher	<i>Tyrannus forficatus</i>	81
Great crested flycatcher	<i>Myiarchus crinitus</i>	8
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>	8
Eastern phoebe	<i>Sayornis phoebe</i>	8, 81
Acadian flycatcher	<i>Empidonax virescens</i>	8

* Non-native Species

Caladesi Island State Park (Animals)

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Least flycatcher	<i>Empidonax minimus</i>	8
Eastern wood-pewee	<i>Contopus virens</i>	8
Tree swallow	<i>Tachycineta bicolor</i>	OF
Bank swallow	<i>Riparia riparia</i>	OF
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	OF
Barn swallow	<i>Hirundo rustica</i>	OF
Purple martin	<i>Progne subis</i>	OF
Blue jay	<i>Cyanocitta cristata</i>	8
American crow	<i>Corvus brachyrhynchos</i>	8
Fish crow	<i>Corvus ossifragus</i>	8
Brown-headed nuthatch	<i>Sitta pusilla</i>	8
House wren	<i>Troglodytes aedon</i>	8
Winter wren	<i>Troglodytes troglodytes</i>	81
Carolina wren	<i>Thryothorus ludovicianus</i>	8
Marsh wren	<i>Cistothorus palustris</i>	81
Sedge wren	<i>Cistothorus platensis</i>	81
Northern mockingbird	<i>Mimus polyglottos</i>	81
Gray catbird	<i>Dumetella carolinensis</i>	81
Brown thrasher	<i>Toxostoma rufum</i>	8
American robin	<i>Turdus migratorius</i>	8
Varied thrush	<i>Ixoreus naevius</i>	8
Wood thrush	<i>Hylocichla mustelina</i>	8
Hermit thrush	<i>Catharus guttatus</i>	8
Swainson's thrush	<i>Catharus ustulatus</i>	8
Gray-cheeked thrush	<i>Catharus minimus</i>	8
Veery	<i>Catharus fuscescens</i>	8
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>	8
Golden-crowned kinglet	<i>Regulus satrapa</i>	8
Ruby-crowned kinglet	<i>Regulus calendula</i>	8
American pipit	<i>Anthus rubescens</i>	81
Cedar waxwing	<i>Bombycilla cedrorum</i>	8
Loggerhead shrike	<i>Lanius ludovicianus</i>	81
European starling*	<i>Sturnus vulgaris</i>	81
White-eyed vireo	<i>Vireo griseus</i>	8
Yellow-throated vireo	<i>Vireo flavifrons</i>	8
Blue-headed vireo	<i>Vireo solitarius</i>	8
Black-whiskered vireo	<i>Vireo altiloquus</i>	8
Red-eyed vireo	<i>Vireo olivaceus</i>	8
Warbling vireo	<i>Vireo gilvus</i>	8
Black and white warbler	<i>Mniotilta varia</i>	8

* Non-native Species

Caladesi Island State Park (Animals)

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Prothonotary warbler	<i>Protonotaria citrea</i>	8
Swainson's warbler	<i>Limnothlypis swainsonii</i>	8
Worm-eating warbler	<i>Helmitheros vermivorus</i>	8
Golden-winged warbler	<i>Vermivora chrysoptera</i>	8
Blue-winged warbler	<i>Vermivora pinus</i>	8
Tennessee warbler	<i>Vermivora peregrina</i>	8
Orange-crowned warbler	<i>Vermivora celata</i>	8
Nashville warbler	<i>Vermivora ruficapilla</i>	8
Northern parula	<i>Parula americana</i>	8
Yellow warbler	<i>Dendroica petechia</i>	8
Magnolia warbler	<i>Dendroica magnolia</i>	8
Cape May warbler	<i>Dendroica tigrina</i>	8
Black-throated blue warbler	<i>Dendroica caerulescens</i>	8
Yellow-rumped warbler	<i>Dendroica coronata</i>	8, 81
Black-throated green warbler	<i>Dendroica virens</i>	8
Cerulean warbler	<i>Dendroica cerulea</i>	8
Blackburnian warbler	<i>Dendroica fusca</i>	8
Yellow-throated warbler	<i>Dendroica dominica</i>	8
Chestnut-sided warbler	<i>Dendroica pensylvanica</i>	8
Bay-breasted warbler	<i>Dendroica castanea</i>	8
Blackpoll warbler	<i>Dendroica striata</i>	8
Pine warbler	<i>Dendroica pinus</i>	8
Prairie warbler	<i>Dendroica discolor</i>	8
Palm warbler	<i>Dendroica palmarum</i>	8, 81
Ovenbird	<i>Seiurus aurocapillus</i>	8
Northern waterthrush	<i>Seiurus noveboracensis</i>	81
Louisiana waterthrush	<i>Seiurus motacilla</i>	81
Kentucky warbler	<i>Oporornis formosus</i>	8
Common yellowthroat	<i>Geothlypis trichas</i>	5, 8
Yellow-breasted chat	<i>Icteria virens</i>	5, 81
Hooded warbler	<i>Wilsonia citrina</i>	8
Wilson's warbler	<i>Wilsonia pusilla</i>	8
American redstart	<i>Setophaga ruticilla ruticilla</i>	8
Bobolink	<i>Dolichonyx oryzivorus</i>	81
Eastern meadowlark	<i>Sturnella magna</i>	81
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	81
Red-winged blackbird	<i>Agelaius phoeniceus</i>	81
Orchard oriole	<i>Icterus spurius</i>	81
Baltimore oriole	<i>Icterus galbula</i>	81
Boat-tailed grackle	<i>Quiscalus major</i>	81

* Non-native Species

Caladesi Island State Park (Animals)

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Common grackle	<i>Quiscalus quiscula</i>	81
Brown-headed cowbird	<i>Molothrus ater</i>	81
Shiny cowbird	<i>Molothrus bonariensis</i>	81
Scarlet tanager	<i>Piranga olivacea</i>	8
Summer tanager	<i>Piranga rubra</i>	8
Northern cardinal	<i>Cardinalis cardinalis</i>	8
Rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>	81
Blue grosbeak	<i>Guiraca caerulea</i>	81
Indigo bunting	<i>Passerina cyanea</i>	81
Painted bunting	<i>Passerina ciris</i>	8
Red crossbill	<i>Loxia curvirostra</i>	81
Dickcissel	<i>Spiza americana</i>	81
Eastern towhee	<i>Pipilo erythrophthalmus</i>	8
Savannah sparrow	<i>Passerculus sandwichensis</i>	81
Grasshopper sparrow	<i>Ammodramus savannarum</i>	81
LeConte's sparrow	<i>Ammodramus leconteii</i>	81
Saltmarsh sharp-tailed sparrow	<i>Ammodramus caudacutus</i>	81
Scott's seaside sparrow	<i>Ammodramus maritimus peninsulae</i>	81
Vesper sparrow	<i>Pooecetes gramineus</i>	81
Lark sparrow	<i>Chondestes grammacus</i>	81
Dark-eyed junco	<i>Junco hyemalis</i>	81
Chipping sparrow	<i>Spizella passerina</i>	81
Clay-colored sparrow	<i>Spizella pallida</i>	81
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	81
Lincoln's sparrow	<i>Melospiza lincolnii</i>	81
Swamp sparrow	<i>Melospiza georgiana</i>	81
Song sparrow	<i>Melospiza melodia</i>	81
American goldfinch	<i>Carduelis tristis</i>	81
House sparrow*	<i>Passer domesticus</i>	82
Crimson crowned bishop weaver*		<i>Euplectes spp.</i>

82

MAMMALS

Virginia opossum	<i>Didelphis virginiana</i>	8
Nine-banded armadillo*	<i>Dasypus novemcinctus</i>	8
Marsh rabbit	<i>Sylvilagus palustris</i>	1, 81
Gray squirrel	<i>Sciurus carolinensis</i>	8, 81
Coyote*	<i>Canis latrans</i>	81
Gray fox	<i>Urocyon cinereoargenteus</i>	81

* Non-native Species

Caladesi Island State Park (Animals)

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (for all species)
Raccoon	<i>Procyon lotor</i>	81, 82
River otter	<i>Lutra canadensis</i>	8
West Indian manatee	<i>Trichechus manatus</i>	77
Atlantic bottle-nosed dolphin	<i>Tursiops truncatus</i>	77

Habitat Codes

TERRESTRIAL

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

PALUSTRINE

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

LACUSTRINE

43. Clastic Upland Lake
44. Coastal Dune Lake
45. Coastal Rockland Lake
46. Flatwood/Prairie Lake

LACUSTRINE—Continued

47. Marsh Lake
48. River Floodplain Lake
49. Sandhill Upland Lake
50. Sinkhole Lake
51. Swamp Lake

RIVERINE

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

ESTUARINE

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

MARINE

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

SUBTERRANEAN

79. Aquatic Cave
80. Terrestrial Cave

MISCELLANEOUS

81. Ruderal
 82. Developed
- MTC** Many Types Of Communities
- OF** Overflying

Habitat Codes

Addendum 5 – Designated Species List

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

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

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

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

FNAI GLOBAL RANK DEFINITIONS

- G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
- G2 = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
- G3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
- G4 = apparently secure globally (may be rare in parts of range)
- G5 = demonstrably secure globally
- GH = of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
- GX = believed to be extinct throughout range
- GXC = extirpated from the wild but still known from captivity or cultivation
- G#? = tentative rank (e.g., G2?)
- G#G# = range of rank; insufficient data to assign specific global rank (e.g., G2G3)
- G#T# = rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)
- G#Q = rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
- G#T#Q = same as above, but validity as subspecies or variety is questioned.
- GU = due to lack of information, no rank or range can be assigned (e.g., GUT2).
- G? = not yet ranked (temporary)
- S1 = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
- S2 = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
- S3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
- S4 = apparently secure in Florida (may be rare in parts of range)
- S5 = demonstrably secure in Florida
- SH = of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
- SX = believed to be extinct throughout range
- SA = accidental in Florida, i.e., not part of the established biota
- SE = an exotic species established in Florida may be native elsewhere in North America
- SN = regularly occurring, but widely and unreliably distributed; sites for conservation hard to determine
- SU = due to lack of information, no rank or range can be assigned (e.g., SUT2).
- S? = not yet ranked (temporary)

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

LEGAL STATUS

- N = Not currently listed, nor currently being considered for listing, by state or federal agencies.
FEDERAL (Listed by the U. S. Fish and Wildlife Service - USFWS)
- LE = Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.
- PE = Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.
- LT = Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.
- PT = Proposed for listing as Threatened Species.
- C = Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.
- E(S/A) = Endangered due to similarity of appearance.
T(S/A) = Threatened due to similarity of appearance.

STATE

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

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

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

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

Caladesi Island State Park Designated Species (Plants)

Common Name/ <i>Scientific Name</i>	<u>Designated Species Status</u>		
	FDA	USFWS	FNAI
Golden leather fern <i>Acrostichum aureum</i>	LT		G5/S3
Giant leather fern <i>Acrostichum danaeifolium</i>	CE		
Tampa butterfly orchid <i>Encyclia tampensis</i>			
Hairy beach sunflower <i>Helianthus debilis</i> subsp. <i>vestitus</i>			G5T2/S2
Shell mound prickly pear cactus <i>Opuntia stricta</i>	LT		
Royal fern <i>Osmunda regalis</i> var. <i>spectabilis</i>	CE		
Inkberry <i>Scaveola plumieri</i>	LT		

Caladesi Island State Park Designated Species (Animals)

Common Name/ Scientific Name	Designated Species Status		
	FFWCC	USFWS	FNAI
REPTILES			
Gopher tortoise <i>Gopherus polyphemus</i>	LS		G3,S3
Atlantic green turtle <i>Chelonia mydas</i>	LE	LE	
Atlantic loggerhead <i>Caretta caretta</i>	LT	LT	
BIRDS			
Eastern brown pelican <i>Pelecanus occidentalis</i>	LS		G4,S3
Magnificent frigatebird <i>Fregata magnificens</i>			G5,S1
Little blue heron <i>Egretta caerulea</i>	LS		G5,S4
Reddish egret <i>Egretta rufescens</i>	LS		G4,S2
Great egret <i>Ardea alba</i>			G5,S4
Snowy egret <i>Egretta thula</i>	LS		G5,S4
Tricolored heron <i>Egretta tricolor</i>	LS		G5,S4
Black-crowned night heron <i>Nycticorax nycticorax</i>			G5,S3?
Yellow-crowned night heron <i>Nycticorax violaceus</i>			G5,S3?
Least bittern <i>Ixobrychus exilis</i>			G5,S4
Wood stork <i>Mycteria americana</i>	LE	LE	G4,S2
White ibis <i>Eudocimus albus</i>	LS		G5,S4
Roseate spoonbill <i>Ajaia ajaja</i>	LS		G5,S2S3
Swallow-tailed kite <i>Elanoides forficatus</i>			G5,S2S3
Cooper's hawk <i>Accipiter cooperii</i>			G4,S3?

Caladesi Island State Park Designated Species (Animals)

Common Name/ <i>Scientific Name</i>	<u>Designated Species Status</u>		
	FFWCC	USFWS	FNAI
Southern bald eagle <i>Haliaeetus leucocephalus</i>	LT	LT	G4,S3
Osprey <i>Pandion haliaetus</i>			G5,S3S4
Peregrine falcon <i>Falco peregrinus</i>	LE		G4,S2
Merlin <i>Falco columbarius</i>			G5,SU
Florida clapper rail <i>Rallus longirostris</i>			G5T3,S3?
American oystercatcher <i>Haematopus palliatus</i>	LS		G5,S3
Piping plover <i>Charadrius melodus</i>	LT	LT	G3,S2
Southeastern snowy plover <i>Charadrius alexandrinus</i>	LT		G4,S2
American avocet <i>Recurvirostra americana</i>			G5,S1S2
Roseate tern <i>Sterna dougallii</i>	LT	LT	G5,S1
Sooty tern <i>Sterna fuscata</i>			G5,S1
Least tern <i>Sterna antillarum</i>	LT		G4,S3
Royal tern <i>Sterna maxima</i>			G5,S3
Sandwich tern <i>Sterna sandoicensis</i>			G5,S2
Caspian tern <i>Sterna caspia</i>			G5,S2?
Black skimmer <i>Rynchops niger</i>	LS		G5,S3
Mangrove cuckoo <i>Coccyzus minor</i>			G5,S3
Florida burrowing owl <i>Speotyto cunicularia floridana</i>	LS		G4T3,S3
Southern hairy woodpecker <i>Picoides villosus</i>			G5,S3?
Black-whiskered vireo <i>Vireo altiloquus</i>			G5,S3
Worm-eating warbler			G5,S1

Caladesi Island State Park Designated Species (Animals)

Common Name/ Scientific Name	<u>Designated Species Status</u>		
	FFWCC	USFWS	FNAI
<i>Helmitheros vermivorus</i>			
Florida prairie warbler			G5T3,S3
<i>Dendroica discolor</i>			
Louisiana waterthrush			G5,S3
<i>Seiurus motacilla</i>			
American redstart			G5,S3
<i>Setophaga ruticilla</i>			
Scott's seaside sparrow	LS		G4T2,S2
<i>Ammodramus maritimus peninsulae</i>			
MAMMALS			
West Indian manatee			
<i>Trichechus manatus latirostris</i>	LE	LE	G2,S2

Addendum 6 – Priority Schedule And Cost Estimates

Caladesi Island State Park Priority Schedule And Cost Estimates

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

Resource Management

Exotic plant removal over 10 years.

Approximately 30 acres are affected. Contract cost per acre and replanting of native species where diversity has been impacted in an island situation:
30 acres @\$1500/acre
Estimated cost for 10 years: \$450,000

Prescribed burning over 10 years.

Prescribed burning is based on approximately 250 acres.
3 burns per year=\$1500.00 plus operational costs, staffing,
and equipment needs.
Estimated cost for 10 years:\$65,000.

Monitor and protect seagrass beds, sea turtle, shorebird, osprey, gopher tortoise nesting sites.

Provide protection from disturbance due to recreational use with signs, barriers, educational material, and interpretation.
Vehicles, labor, law enforcement, and materials would be included.
Estimated cost for 10 years: \$232,000

Conduct Level I Archaeological survey; one time event.

Identify archaeological sites and conduct survey.
Estimated cost: \$20,000.

Total Estimated Cost over 10 years:

\$767,000.

Caladesi Island State Park Priority Schedule And Cost Estimates

Capital Improvements

Development Area	Cost
Interpretive Improvements.....	\$189,375.00
Marina Area	350,000.00
Support Facilities	731,250.00
Total w/contingency.....	\$1,524,750.00

Additional Information
FNAI Descriptions
DHR Cultural Management Statement
And
Land Management Review Report

Descriptions Of Natural Communities Developed By FNAI

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

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

The levels of the hierarchy are:

Natural Community Category - defined by hydrology and vegetation.

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

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

TERRESTRIAL COMMUNITIES

XERIC UPLANDS
COASTAL UPLANDS
MESIC UPLANDS
ROCKLANDS
MESIC FLATLANDS

PALUSTRINE COMMUNITIES

WET FLATLANDS
SEEPAGE WETLANDS
FLOODPLAIN WETLANDS
BASIN WETLANDS

LACUSTRINE COMMUNITIES

RIVERINE COMMUNITIES

SUBTERRANEAN COMMUNITIES

MARINE/ESTUARINE COMMUNITIES

Definitions of Terms Used in Natural Community Descriptions

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

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

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

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

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

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

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

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

Descriptions Of Natural Communities Developed By FNAI

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Descriptions Of Natural Communities Developed By FNAI

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Floodplain Marsh - floodplain with organic/sand/alluvial substrate; seasonally inundated;

Descriptions Of Natural Communities Developed By FNAI

subtropical; frequent or occasional fire; maidencane, pickerelweed, sagittaria spp., buttonbush, and mixed emergents.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Descriptions Of Natural Communities Developed By FNAI

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

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

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

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

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

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

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

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

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

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

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

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

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

Descriptions Of Natural Communities Developed By FNAI

organisms.

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

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

MARINE/ESTUARINE (The distinction between the Marine and Estuarine Natural Communities is often subtle, and the natural communities types found under these two community categories have the same descriptions. For these reasons they have been grouped together.) - Subtidal, intertidal and supratidal zones of the sea, landward to the point at which seawater becomes significantly diluted with freshwater inflow from the land.

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

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

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

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

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

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

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

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

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

Descriptions Of Natural Communities Developed By FNAI

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

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

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

DEFINITIONS OF TERMS Terrestrial and Palustrine Natural Communities

Physiography

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

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

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

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

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

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

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

Hydrology

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

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

usually inundated - surface water present except during droughts

Climatic Affinity of the Flora

tropical - community generally occurs in practically frost-free areas

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

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

Fire

annual fire - burns about every 1-2 years

frequent fire - burns about every 3-7 years

occasional fire - burns about every 8-25 years

rare fire - burns about every 26-100 years

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

LATIN NAMES OF PLANTS MENTIONED IN NATURAL COMMUNITY DESCRIPTIONS

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

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A. GENERAL DISCUSSION

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

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

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

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

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

B. STATUTORY AUTHORITY

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

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

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

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

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

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

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

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

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

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

C. MANAGEMENT POLICY

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

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

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It should be noted that while many archaeological and historical sites are already recorded within state--owned or controlled--lands, the majority of the uplands areas and nearly all of the inundated areas have not been surveyed to locate and assess the significance of such resources. The known sites are, thus, only an incomplete sample of the actual resources - i.e., the number, density, distribution, age, character and condition of archaeological and historic sites - on these tracts. Unfortunately, the lack of specific knowledge of the actual resources prevents formulation of any sort of detailed management or use plan involving decisions about the relative historic value of individual sites. For this reason, a generalized policy of conservation is recommended until the resources have been better addressed.

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

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

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occur sufficiently in advance to avoid project construction delays. If these services are to be contracted by the state agency, the selected consultant will need to obtain an Archaeological Research Permit from the Division of Historical Resources, Bureau of Archaeological Research (see 267.12, F.S. and Rules 1A-32 and 1A-46 F.A.C.).

5. For the near future, excavation of non-endangered (i.e., sites not being lost to erosion or development) archaeological site is discouraged. There are many endangered sites in Florida (on both private and public lands) in need of excavation because of the threat of development or other factors. Those within state-owned or controlled lands should be left undisturbed for the present - with particular attention devoted to preventing site looting by "treasure hunters". On the other hand, the archaeological and historic survey of these tracts is encouraged in order to build an inventory of the resources present, and to assess their scientific research potential and historic or architectural significance.
6. The cooperation of land managers in reporting sites to the Division that their field personnel may discover is encouraged. The Division will help inform field personnel from other resource managing agencies about the characteristics and appearance of sites. The Division has initiated a cultural resource management training program to help accomplish this. Upon request the Division will also provide to other agencies archaeological and historical summaries of the known and potentially occurring resources so that information may be incorporated into management plans and public awareness programs (See Management Implementation).
7. Any discovery of instances of looting or unauthorized destruction of sites must be reported to the agent for the Board of Trustees of the Internal Improvement Trust Fund and the Division so that appropriate action may be initiated. When human burial sites are involved, the provisions of 872.02 and 872.05, F. S. and Rule 1A-44, F.A.C., as applicable, must also be followed. Any state agent with law enforcement authority observing individuals or groups clearly and incontrovertibly vandalizing, looting or destroying archaeological or historic sites within state-owned or controlled lands without demonstrable permission from the Division will make arrests and detain those individuals or groups under the provisions of 267.13, 901.15, and 901.21, F.S., and related statutory authority pertaining to such illegal activities on state-owned or controlled lands. County Sheriffs' officers are urged to assist in efforts to stop and/or prevent site looting and destruction.

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

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

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alterations of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of

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- missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
 8. Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
 9. New additions, exterior alterations, or related new construction shall not destroy materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
 10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired. (see Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings [Revised 1990]).

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

D. MANAGEMENT IMPLEMENTATION

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

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

A. Historic Sites

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

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- (c) Number, type, and location of outbuildings, as well as date(s) of construction;
- (d) Notation if property has been moved;
- (e) Notation of known alterations to building.

B. Archaeological Sites

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

E. ADMINISTERING AGENCY

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

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

Contact Person:

Susan M. Harp
Historic Preservation Planner
Telephone (850) 245-6333
Suncom 205-6333
FAX (850) 245-6437

Land Management Review of Caladesi Island State Park

(Lease No.2385) November 5, 2003

Prepared by Division of State Lands Staff

William Howell, OMC Manager
Joseph Duncan, Administrative Assistant

For

Caladesi Island State Park Review Team

Final Report January 21, 2004

Land Manager:	Division of Recreation and Parks
Area:	2,429 acres
County:	Pinellas County
Mngt. Plan Revised:	10/25/2001
Mngt. Plan Update Due:	10/25/2011

Management Review Team Members

Agency Represented	Team member Appointed	Team member In attendance
Division of Forestry	Butch Mallet	Butch Mallet
DEP Southwest District	Tom Clancy	Tom Clancy
Pinellas County	Joe Lupardus	Joe Lupardus
FWCC	Mike Wichrowski	Mike Wichrowski
Environmental Organization	Ken Rowe	Ken Rowe
Bureau of Parks	Andrea Bishop	Andrea Bishop

Process for Implementing Regional Management Review Teams

Legislative Intent and Guidance:

Chapter 259.036, F. S. was enacted in 1997 to determine whether conservation, preservation, and recreation lands owned by the state Board of Trustees of the Internal Improvement Trust Fund (Board) are being managed properly. It directs the Department of Environmental Protection (DEP) to establish land management review teams to evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions, and archaeological features. The teams also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan. If a land management plan has not been adopted, the review shall consider the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices are in compliance with the management policy statement and management prospectus for that property. If the land management review team determines that reviewed lands are not being managed for the purposes for which they were acquired or in compliance with the adopted land management plan, management policy statement, or management prospectus, DEP shall provide the review findings to the Board, and the managing agency must report to the Board its reasons for managing the lands as it has. A report of the review findings is given to the managing agency under review, the Acquisition and Restoration Council, and to the Division of State Lands. Also, DEP shall report the annual review findings of its land management review teams to the Board no later than the second board meeting in October of each year.

Review Site

The management review of Caladesi Island State Park considered approximately 2,429 acres in Pinellas County that are managed by the Division of Recreation and Parks (DRP). The team evaluated the extent to which current management actions are sufficient, whether the land is being managed for the purpose for which it was acquired, and whether actual management practices, including public access, are in compliance with the management plan. The DRP management plan was approved on October 25 2001,, and the management plan update is due on October 25, 2011.

Review Team Determination

- 1.** Is the land being managed for the purpose for which it was acquired?

All team members agreed that Caladesi Island State Park is being managed for the purpose for which it was acquired.

- 2.** Are actual management practices, including public access, in compliance with the management plan?

All team members agreed that actual management practices, including public access, were in compliance with the management plan for this site.

Exceptional Management Actions

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

Exceptional management actions:

- Management and protection the Beach Dune, Coastal Strand, Maritime Hammock, Mesic Flatwoods, Shell Mound, Marine Grass Bed, Marine Mollusk Reef, Marine Tidal Marsh, Marine Tidal Swamp, Marine Unconsolidated Substrate communities.
- Protection and preservation of listed plants and animals.
- Protection, survey and preservation of cultural sites.
- Excellent quality of the prescribed burns.
- Excellent monitoring of surface and groundwater quality and quantity.
- Exceptional boundary surveys and signage.
- Exceptional docks, trails, water access and recreational opportunities.
- Excellent law enforcement presence.
- Exceptional environmental education/outreach and interpretive programs.
- Exceptional equipment, sanitary facilities and waste disposal program.

Recommendations and Checklist Findings

Recommendations

- ❖ The team recommends that a split rail fence or other barrier be installed to discourage visitors from walking on the Scherer home site foundation.

Manager's Response: Agree. Additional protection measures will be initiated.

Checklist Findings

The following items received low scores on the review team checklist which indicates that management actions, in the field, were insufficient (f) or that the issue was not sufficiently addressed in the management plan (p). These items need to be further addressed in the management plan update.

- ❖ There are no items with low scores on this review team checklist.