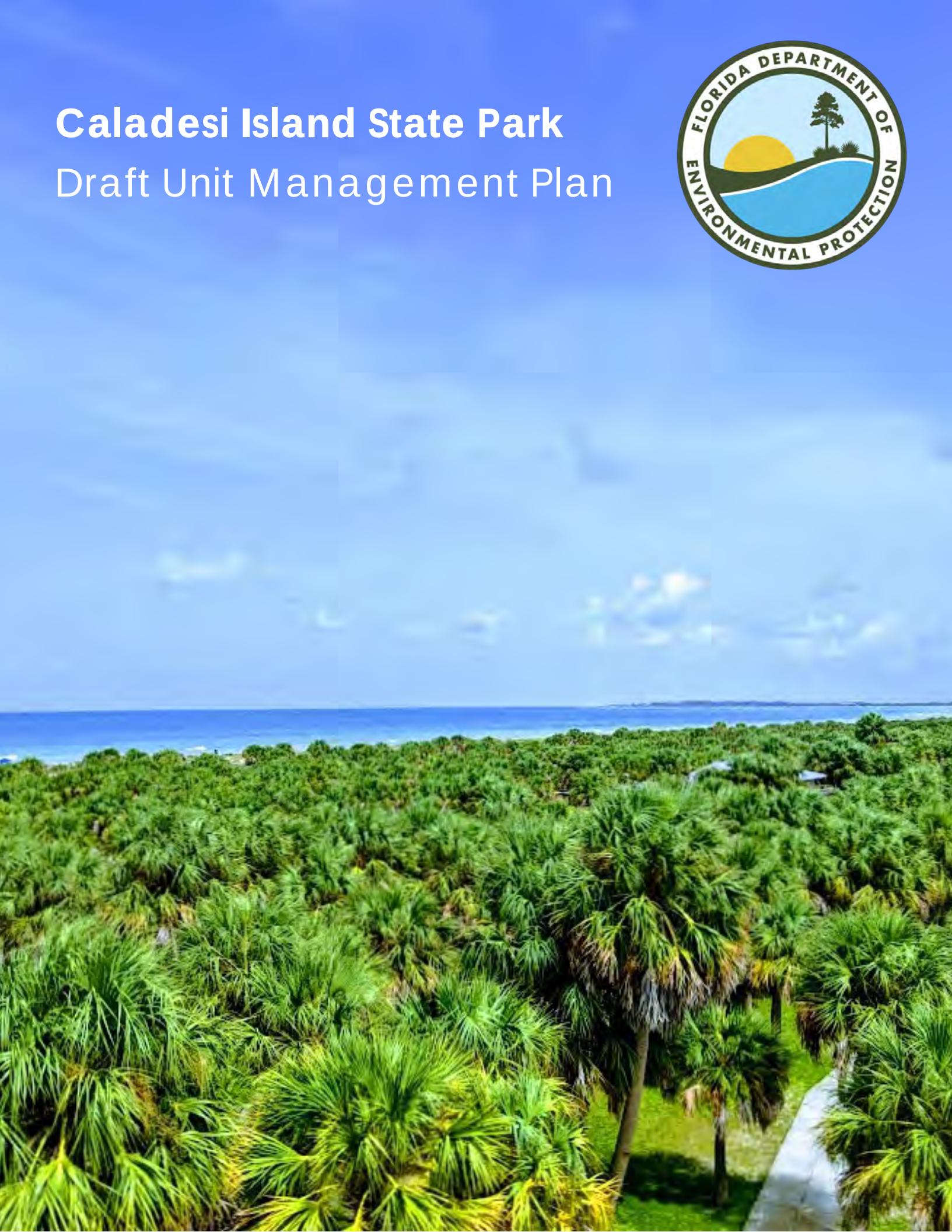
Caladesi Island State Park

Draft Unit Management Plan



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Executive Summary

Park Significance

The extensive 2.5 miles of pristine sandy beach at the park is consistently named as one of the best beaches in America by widely distributed publications.

Cultural resource sites protected by the park include remnants of the islands' first inhabitants from the Safety Harbor culture. The island was also the site of the late 1800's homestead of Myrtle Scharrer Betz, who wrote the book Yesteryear I Lived in Paradise.

The park is located on a pristine barrier island off the coast of a densely populated region of the state and protects a remarkable community of mesic flatwoods and maritime hammock.

The park protects a globally significant nesting shorebird site and a critical winter residence site for many birds.

Central Park Theme

Sheltered from development, the shallow sand bars and award-winning beaches at the park exemplify the beauty of untouched barrier islands.

Primary Interpretive Themes

Barrier Islands

Rising sand bars give visitors a glimpse into the natural processes that continually shape Florida's beautiful barrier islands.

Development

Although kept pristine at this park, barrier islands that are essential to Florida's coastal health have often been altered by development.

Water Quality

Natural offshore ecosystems such as seagrass beds and oyster reefs provide invaluable services by naturally filtering coastal waters.

Homestead

The Scharrer homestead and the written accounts of Myrtle Scharrer Betz remind us of all those who forged a livelihood on Caladesi Island and left their unique marks on this isolated place.

Natural Communities

The marine seagrass bed natural community is the largest in the park. Dominant species are turtle grass, shoal grass, and manatee grass. Ecologically, these grass beds are important components of the estuary as they stabilize sediments and provide nurseries, food, and shelter to many estuarine organisms. An exclusion zone for motorized watercraft has been established along the east side of the island.

The dunes of Caladesi Island remain as an excellent example of this Gulf Coast barrier island habitat type. The mesic flatwoods community is one of the few remaining on Gulf Coast barrier islands of southwestern Florida. It 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.

Natural Communities Management

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

There are 204 acres of fire dependent communities to maintain on Caladesi Island, which are comprised of 76 acres of mesic flatwoods and 128 acres of coastal strand. The pyric acreage is divided into 12 management zones ranging in size from 5 to 33 acres.

Objective: Maintain 204 acres within the optimum fire return interval.

Action 1 Update annual burn plan
Action 2 Annually burn between 53-132 acres.

Natural Communities and Altered Landcovers Table		
Natural Community	**Acreage**	**Percentage**
Marine Seagrass Bed	1,104.62	45.7%
Marine Unconsolidated Substrate	606.13	25.1%
Mangrove Swamp	372.67	15.4%
Coastal Strand	146.25	6.0%
Mesic Flatwoods	75.53	3.1%
Beach Dune	57.09	2.4%
Marine Mollusk Reef	19.11	0.8%
Coastal Interdunal Swale	16.67	0.7%
Maritime Hammock	8.66	0.4%
Shell Mound	0.96	0.0%
Altered Landcover	**Acreage**	**Percentage**
Developed	12.35	0.5%
Total	**2,420**	

Imperiled Species

The park has long been an important location for nesting shorebirds and seabirds, ranking among the top sites in the state and giving it global significance as a result. Listed species that have nested on Caladesi include black skimmer, least tern, and American oystercatcher. Snowy and Wilson's plover nests have been recorded on the island. A moderate number of piping plovers and red knot, which are both state and federally listed threatened species, forage and rest at the park.

The mudflats and shorelines of the island's north tip are important wintering sites and are annually used by piping plover and red knot. Federal recovery plans for threatened piping plovers and red knots designate unaltered sandy beaches adjacent to inlets as critical habitats along the wintering range. Almost 90 percent of observations of roosting piping plovers at ten coastal sites in southwest Florida were on inlet shorelines. At inlets, foraging plovers are associated with moist substrate features such as intertidal flats, algal flats, and ephemeral pools.

Imperiled loggerhead sea turtles nest at Caladesi Island between May and September each year. Kemp's ridley sea turtles have also been observed within park boundaries nesting during the daytime. In accordance with FWC protocol, park staff and volunteers survey the beach daily between April 15th and September 30th identifying new nests and erecting boundary markers with signage.

Florida manatees are commonly seen off the Gulf beaches in the warm summer months. Mating groups have wandered into swim areas on several occasions, giving visitors a closer look than expected. The seagrass beds on the bay side of the park are a prime source of food for foraging manatees.

In addition to the seven listed shorebird and seabird species mentioned above, more than 24 other designated bird species have been documented in the park. Seven designated reptile species, seven designated plants, and one designated mammal species have also been documented at the park.

In addition to the Florida-listed inkberry and shell-mound pricklypear, three Florida endemic plants are found in the park, all of which have limited populations in the State. The most threatened is the West Coast dune sunflower, found only on the west coast and only in six counties. Management includes verifying that any landscaping will exclude the use of the East Coast dune sunflower. The other two endemics, although not listed, are the Florida amaranth and vente conmigo.

Imperiled Species Management

Goal: Maintain, improve, or restore imperiled species populations.

Ongoing inventory and monitoring of imperiled species in the state park system is necessary to meet the DRP's mission. Long-term monitoring is essential to ensure the effectiveness of resource management programs. Monitoring efforts must be prioritized so that the data collected provides information that can be used to improve or confirm the effectiveness of management actions on conservation priorities.

Objective: Monitor and document 13 selected imperiled species.

Action 1	Implement monitoring protocols for loggerhead sea turtles, green sea turtles, Kemp's ridley sea turtles, piping plovers, red knots, American oystercatchers, least terns, snowy plovers, Wilson's plovers, black skimmers, and Eastern indigo snake.
Action 2	Complete all required FWC survey protocols for imperiled sea turtles and nesting shorebirds/seabirds.
Action 3	Monitor and document gopher tortoise population.
Action 4	Implement monitoring protocol for giant airplants.

Objective: Provide protection, where appropriate, to imperiled species.

Action 1	Demarcate shorebird habitat by enclosing the perimeter of the habitat and buffer area with fencing and signage.
Action 2	Monitor habitat during the nesting season to identify and protect new breeding sites.
Action 3	Provide interpretive and educational outreach to the public prior to and during the nesting season to encourage visitor use that protects shorebirds and their habitat.
Action 4	Coordinate with FWC and local law enforcement agencies to ensure compliance with park rules and shorebird protection.
Action 5	When implementing any landscaping or planting projects, verify that all source plants are correctly identified and are species found naturally occurring at the park.
Action 6	Remain aware of distribution and protections of American crocodile.

Objective: Monitor impacts on shorebird and sea turtle nesting by terrestrial nuisance species in the park.

Action 1	Monitor sea turtle nesting and gopher tortoise mortality for impacts from coyote, raccoon, and nine banded armadillos.
Action 2	Develop and implement a predator control strategy.

Exotic Species

Early park planners, visiting Caladesi Island for the first time, described trails winding through dark tunnels of Brazilian pepper to reach a dune line shaded by 50-foot Australian pine stands. These historic infestations have been erased by decades of effort by park staff, contractors, and volunteers. Current infestation levels are low, but require constant retreatment to maintain the natural areas in this state. The seed bed, contaminated by these past invaders, will remain a source of active regrowth of exotics for many years to come. Constant attention to controlling infestations is now the focus of park staff and volunteers. Staff also monitor the islands for new invaders. Several invasive plants such as cogongrass and rosary pea are established on Caladesi Island and will also require constant effort.

The other exotics found on Caladesi Island are thinly dispersed. Plants such as carrotwood, lantana, and balsampear are occasionally located and treated. Of greater concern to park and district staff is the arrival of new exotic plant species to the islands. While birds, mammals, and the wind can bring seeds of exotics to the islands, humans can also act as vessels for plant dispersal. To avoid the dispersal of exotics, park personnel does not allow for firewood, or any potted plants to be brought to the island. Also, trash collected from visiting boats is not allowed in park trash cans, as raccoons frequently raid these cans, and could potentially spread exotic plant seeds all over the island. This also limits potential pests and pathogens that could be introduced to the islands from the mainland and other outside areas.

Exotic Species Management

Goal: Remove invasive species and conduct needed maintenance control.

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

Objective: Annually treat 8 acres of exotic plant species in the park.

Action 1 Annually update exotic plant management work plan.
Action 2 Implement work plan by treating eight acres in park annually.

Objective: Implement control measures on 1 exotic animal species.

Action 1 Continue to trap exotic animals and report quarterly.
Action 3 Continue to contract outside trappers to remove exotic/ nuisance animals, including nine-banded armadillos.

Cultural Resources

There are four archaeological sites on Caladesi Island recorded in the FMSF. Three of these sites represent prehistoric use of the island by local people. 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 the estuarine environment. A burial mound is situated in the tidal swamp and was excavated in 1903 by C.B. Moore. It has been identified by the DHR Florida Master Site File as Hog Island Mound.

In 1897, Henry Scharrer received a homestead certificate for land on the island, and by 1899 built a cottage to began his life there. After his wife died, he lived on the homestead with his daughter Myrtle. This 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 FMSF as Scharrer Homestead Foundation.

Cultural Resource Management

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

Cultural resources are individually unique and collectively challenging for the public land managers. The management of cultural resources is often complicated because these resources are irreplaceable and vulnerable to disturbances. The advice of cultural resource experts is required in this effort.

Objective: Annually evaluate three recorded cultural resources.

Action 1 Complete 3 assessments/evaluations of archaeological sites.

Objective: Compile reliable documentation for all recorded resources.

Action 1 Ensure all known sites are recorded or updated in the FMSF.
Action 2 Complete a predictive model for high, medium, and low probability of locating archaeological sites within the park.
Action 3 Develop and adopt a Scope of Collections Statement.

Objective: Maintain three recorded cultural resources in good condition.

Action 1 Design and implement regular monitoring programs for three cultural sites.
Action 2 Create and implement a cyclical maintenance program for each cultural resource.

Coastal Management

Caladesi Island State Park has 2.5 miles of stunning, sandy Gulf beach and was named America's Best Beach in 2008 by Dr. Stephen Leatherman. Qualities considered for the distinction include sand and water quality, abundance of wildlife, and attractive vistas. Images of the island beach are commonly used on local tourism publications. Increased positive publicity resulted in several years of significantly increased visitation to this once quiet location. 420,000 people visited the island in 2008, a 24 percent increase over the year prior. One of the primary challenges for management here is balancing the availability of prime shorebird habitat with recreational use.

Seven of the nine federally listed species known to occur on the island are specialists that depend exclusively on the sandy beach for forage or reproductive success. Three additional state listed species (snowy plover, least tern, and black skimmer) also require sandy beach habitat for survival. For beach nesting and resting birds, the most generally applicable protection method is establishment of setback distances that have been determined from studies of effects of human disturbance on breeding bird colonies in Florida. The recommended setback distance is 590 feet. This is often more space than is available above the mean high tide line.

Within this competitive system, there are currently two zones of high recreational use. Beach access boardwalks provide low impact corridors between the marina complex and the sandy beach. This concentration of human activity on the shoreline has resulted in a zone of reduced habitat value for wildlife. A second location, at the northern tip of the island, is popular with boaters, kayakers, kite surfers, and jet skiers. This location offers access from the nearby Dunedin causeway. Volume of visitation here is variable throughout the year, reaching peaks during pleasant weekends and holidays. Nesting or resting species may get weeks of low disturbance, only to be sporadically inundated on various busy weekends.

Objective: Continue to assist federal, state, and local agencies with monitoring and assessment of natural community responses following coastal projects.

Action 1 Continue to monitor spatial distribution of sea turtle nesting.
Action 2 Continue to monitor occurrence of imperiled shorebird nesting.
Action 3 Report data to state and federal partners as appropriate.

Natural community response and shoreline species use can be strong indicators of habitat recovery following coastal projects. Monitoring to document the use of habitat by threatened species should continue.

Capital Facilities and Infrastructure

Goal: Develop and maintain use areas and support infrastructure.

Potential development will mainly consist of improving or replacing existing structures. Improvements at the marina use area are geared toward enhancing the visitor experience, while new development at the support areas will allow for increased park management capabilities.

The existing facilities are appropriate to the natural and cultural resources contained in the park and should be maintained. New construction is recommended to improve the quality and safety of the recreational opportunities, to improve the protection of park resources, and to streamline the efficiency of park operations.

Objective: Improve 3 use areas.

Major repair projects for park facilities may be accomplished within the ten-year term of this management plan, if funding is available.

Marina Use Area

The northern bathhouse of the two on the island should be replaced, and an additional bathhouse should be constructed near the western corner of the marina use area. Electric hookups and the boat docks should be repaired and upgraded. The existing kayak dock should be expanded to include an ADA accessible launch. An observation tower will be built.

Maintenance Area

For resource management capabilities, a 3-bay shop and 3-bay pole barn should be constructed in the existing maintenance support area.

Residence Area

One new residence is recommended for the staff residence area. An additional residence should be constructed to host park volunteers.

Optimum Boundary

Additional lands adjacent to the southern boundary of the park have been identified as optimum boundary. The identified land became connected to Caladesi Island when the Dunedin Pass was closed by accreting sand. Acquisition of this property would help buffer the park from development along Clearwater Beach.

INTRODUCTION

Caladesi Island State Park is located in Pinellas County, and the park can only be accessed by boat or the ferry that launches from Honeymoon Island State Park. Caladesi Island State Park is designated single-use to provide public outdoor recreation and conservation. There are no legislative or executive directives that constrain the use of this property (see Addendum 1). A legal description of the park property can be made available upon request to the Florida Department of Environmental Protection.

Caladesi Island State Park was initially acquired on April 18, 1966 and currently comprises 2,420.04 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to the park. The Trustees leased the property to DRP under Lease Number 2385 on September 15, 1969 for a 50-year term. The current lease will expire on January 21, 2035.

Purpose of the Park

The purpose of Caladesi Island State Park is to ensure the protection of an undeveloped barrier island and provide opportunities for public access along almost 2.5 miles of pristine sandy beach, considered the best in the United States, in a fast-growing region. while preserving mesic flatwoods and maritime hammock, considered unique for Southwestern Florida.

Park Significance

- The extensive 2.5 miles of pristine sandy beach at the park is consistently named as one of the best beaches in America by widely distributed publications.

- Cultural resource sites protected by the park include remnants of settlements of the islands' first inhabitants from the Safety Harbor culture, 900CE – 1700CE, as well as the late 1800's homestead of Myrtle Scharrer Betz who wrote the book, *Yesteryear I Lived in Paradise.*

- The park is located on a pristine barrier island off the coast of a densely populated region of the state and protects a remarkable community of mesic flatwoods and maritime hammock, among many other natural communities.

- The park protects a globally significant nesting shorebird site and a critical winter residence site for many birds.

Unit Classification

Caladesi Island State Park is classified as a state park in the DRP's unit classification system. In the management of a 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 Interpretation

Interpretation is a mission-based communication process that forges emotional and intellectual connections between the interests of the audience and meanings inherent in the resource. Interpretive themes are the key concepts for communicating the meanings inherent in a Florida State Park. A central park theme is a short, dynamic interpretive statement that reflects the significance of a park by highlighting distinctive features and essential visitor experiences. In addition to a central park theme, each park has primary interpretive themes. These themes serve as a starting point for park staff to plan interpretive and educational content by outlining the main stories of the park's natural and cultural resources. Further interpretive planning can branch off from these themes but should ultimately help reinforce the main interpretive messages of the park.

Central Park Theme

Sheltered from development, the shallow sand bars and award-winning beaches at Caladesi Island State Park exemplify the beauty of untouched barrier islands.

Primary Interpretive Themes

Barrier Islands

Rising sand bars give visitors a glimpse into the natural processes that continually shape Florida's beautiful barrier islands.

Development

Although kept pristine at Caladesi Island State Park, barrier islands that are essential to Florida's coastal health have often been altered by development.

Water Quality

Natural offshore ecosystems such as seagrass beds and oyster reefs provide invaluable services by naturally filtering coastal waters.

Homestead

The Scharrer homestead and the written accounts of Myrtle Scharrer Betz remind us of all those who forged a livelihood on Caladesi Island before and left their unique marks on this isolated place.

Interpretive Application

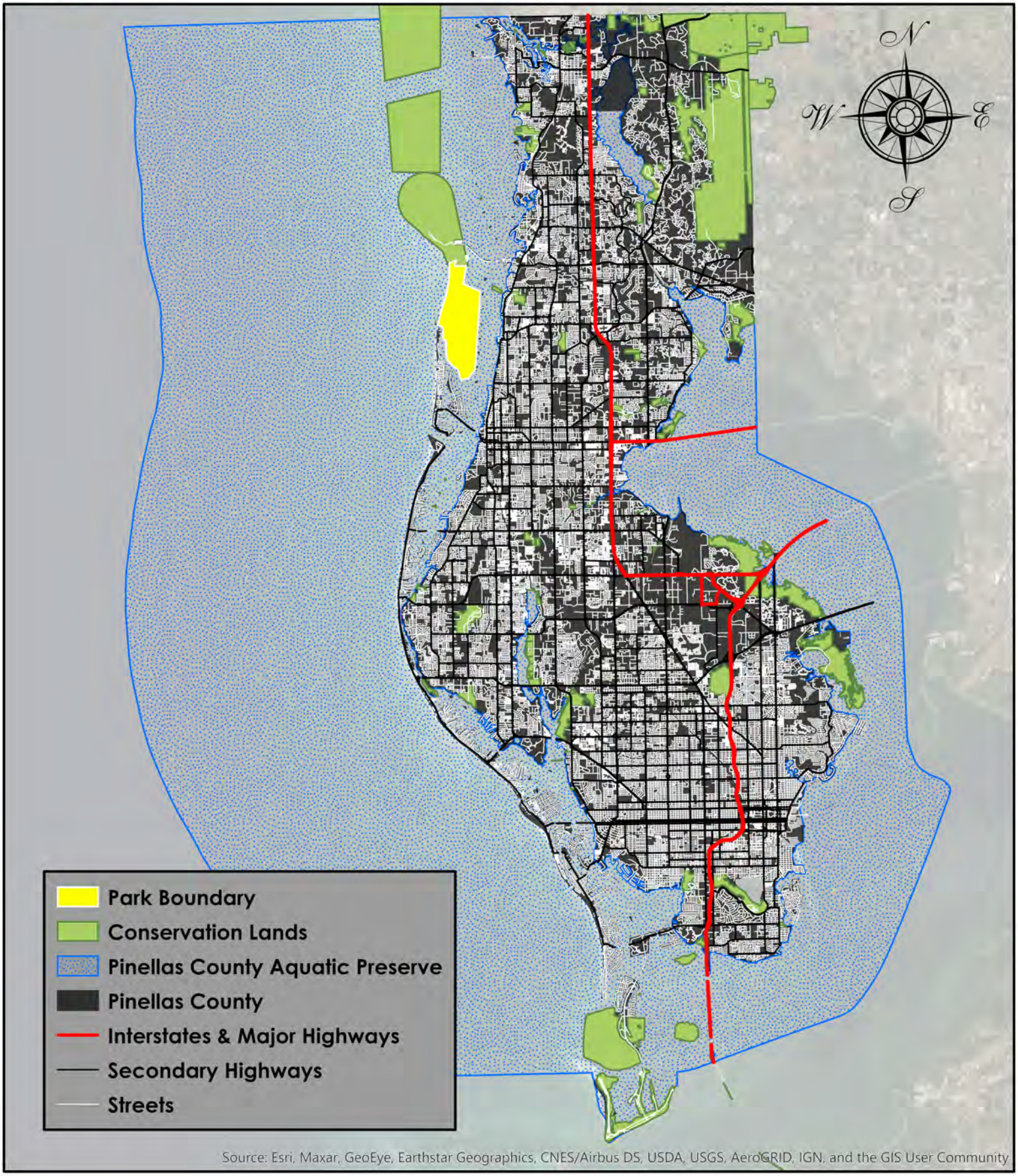
Interpretation is a DRP priority for the inherent value of visitor engagement and as a tool for promoting stewardship and conservation. Interpretation also plays an important role in achieving many other park management objectives.

Non-Personal Interpretation: Interpretive elements which do not require a person to deliver a message (signs, exhibits, brochures, kiosks, etc.).

Personal Interpretation: One person or persons providing interpretation to another person or persons. It can be planned or impromptu.

Caladesi Island State Park
Vicinity Map - Pinellas County

0 2 4 8 Miles



Purpose & Scope of the Plan

This plan serves as the basic statement of policy and direction for the management of Caladesi Island State Park as a unit of Florida's state park system. It identifies the goals, objectives, actions and criteria or standards that guide each aspect of park administration and sets forth the specific measures that will be implemented to meet management objectives and provide balanced public utilization. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and is intended to be consistent with the State Lands Management Plan. This management plan will replace the 2007 approved plan.

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

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

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

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

Secondary & Incompatible Uses

In accordance with 253.034(5) F.S., the potential of the park to accommodate secondary management purposes was analyzed. These secondary purposes were considered within the context of DRP's statutory responsibilities and the resource needs and values of the park. This analysis considered the park's natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that no secondary purposes could be accommodated in a manner that would not interfere with the primary purpose of resource-based outdoor recreation and conservation.

DRP has determined that 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) would not be consistent with this plan or the management purposes of the park and should be discouraged.

In accordance with 253.034(5) F.S. 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.

Contract Services

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

Management Authority & Responsibility

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

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

The Board of Trustees of the Internal Improvement Trust Fund (Trustees) has granted management authority of certain sovereign submerged lands to the DRP 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 affect public recreational uses.

Many operating procedures are standardized system-wide and are set by internal direction. These procedures are outlined in the OM that covers such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, public use regulations, resource management, law enforcement, protection, safety and maintenance.

General Park Management Goals

The following park goals express DRP's long-term management intent:

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

Management Coordination

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

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

Public Participation

DRP provided an opportunity for public input by conducting a public workshop and an Advisory Group meeting to present the draft management plan to the public. These meetings were held on [INSERT Dates], respectively. Meeting notices were published in

the Florida Administrative Register, [INSERT publication date, VOL/ISSUE], included on the Department Internet Calendar, posted in clear view at the park, and promoted locally. The purpose of the Advisory Group meeting is to provide the Advisory Group members an opportunity to discuss the draft management plan (see Addendum 2).

Other Designations

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 presently under study for such designation. The park is a component of the Florida Greenways and Trails System, administered by the Department's Office of Greenways and Trails.

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

RESOURCE MANAGEMENT COMPONENT

The DRP has implemented resource management programs for the perpetual preservation of representative examples of the state's significant natural and cultural resources. This component of the plan describes the natural and cultural resources of the park and identifies the methods that will be used to manage them. Management measures expressed in this plan are consistent with the DRP's overall mission in natural systems management.

The DRP's resource management philosophy is guided by the principles of natural systems management. Emphasis is placed on restoring and maintaining the natural processes that shaped the structure, function, and species composition of Florida's diverse natural communities as they occurred in the original domain. Single species management for imperiled species can be accommodated on a case-by-case basis and should be compatible with the maintenance and restoration of natural processes.

The DRP's management goal for cultural resources is to preserve sites and objects that represent Florida's cultural periods, significant historic events, or persons contributing to the history of Florida. This goal entails active measures to stabilize, reconstruct, restore, or rehabilitate cultural resources. Appropriate public use of cultural resources will be considered according to the park's unit classification and the sensitivity of the resources.

Park units are often components of larger ecosystems, and their proper management can be affected by conditions that occur beyond park boundaries. Ecosystem management is implemented through an evaluation program that assesses resource conditions, refines management activities, and reviews local and regional development permit applications for park impacts.

The entire park is divided into management zones that delineate areas on the ground that are used to coordinate management activities (see Management Zones Map). The shape and size of each zone may be based on natural community type, burn zone, and the location of existing roads and fire breaks.

Management Goals, Objectives, and Actions

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

Topography

Caladesi Island State Park is in the Gulf Coastal Lagoons and Barrier Chain subzone of the Coastal Lowlands physiographic region. 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 the relatively

flat topography of its islands. The elevation of the park ranges from mean sea level to about 10 feet. The highest elevations tend to be on berms, which have been deposited parallel to the shoreline and mark the landward extent of the beach dune community. 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). Caladesi Island has not suffered significant overwash since at least 1921, when a washout caused by a hurricane split the island off Hog Island, to the north.

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. 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. 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. Caladesi Island attained its modern configuration during this most recent period of slowly rising sea level (Brame 1976). Global climate change and expected sea level rise will likely continue to significantly affect the island (Florida Oceans and Coastal Council 2010).

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 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). The current configuration of the island is evolving as part of natural and anthropogenic processes reshaping the coast-processes not controllable by management measures.

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 4 contains soil descriptions.

Caladesi was once part of a larger island to the north, now reduced in mass and divided in two in 1921 by storm activity and sea level rise. In the 1970s and 1980s, the southern end of Caladesi experienced severe erosion as a spit extended northward from Clearwater Beach into a northwest-southeast orientation.

Caladesi Island State Park
Management Zones Map

0 0.25 0.5 1 Miles

N W E S

CD-31
CD-13
CD-32
CD-14
CD-11
CD-33
CD-01
CD-02
CD-34
CD-03
CD-07A
CD-07B
CD-05
CD-06
CD-16
CD-12
CD-15
CD-04A
CD-04B
CD-04C
CD-30
CD-20
CD-21
CD-22

- Management Zones
- Uplands
- Wetlands
- Mangroves
- Water
- Altered
- Motor Exclusion Zone

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Erosion abated for a time in the 1990s, once the prograding spit sealed off the mouth of Dunedin Pass, joining Caladesi Island to Clearwater Beach. The slender, north end of Caladesi is also 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 will continue to follow generally accepted best management practices to prevent soil erosion and conserve soil and water resources on site.

Minerals

There are no known mineral resources at Caladesi Island State Park.

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.

Hydrological Management

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

The natural hydrology of most state parks has been impaired prior to acquisition to one degree or another. Florida's native habitats are precisely adapted to natural drainage patterns and seasonal water level fluctuations, and variations in these factors frequently determine the types of natural communities that occur on a particular site. Even minor changes to natural hydrology can result in the loss of plant and animal species from a landscape. Restoring state park lands to original natural conditions often depends on returning natural hydrological processes and conditions to the park.

As explained in the hydrology section, there is no depletion of groundwater resources on the island. There is also no soil erosion problem on the island. The dynamic movement of sandbars and spits reflects the forces of natural phenomena and does not constitute adverse impacts implied by the concept of soil erosion.

Natural Communities

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

Table 1. Natural Communities and Altered Landcovers		
Natural Community	**Acreage**	**Percentage**
Marine Seagrass Bed	1,104.62	45.7%
Marine Unconsolidated Substrate	606.13	25.1%
Mangrove Swamp	372.67	15.4%
Coastal Strand	146.25	6.0%
Mesic Flatwoods	75.53	3.1%
Beach Dune	57.09	2.4%
Marine Mollusk Reef	19.11	0.8%
Coastal Interdunal Swale	16.67	0.7%
Maritime Hammock	8.66	0.4%
Shell Mound	0.96	0.0%
Altered Landcover	**Acreage**	**Percentage**
Developed	12.35	0.5%
Total	**2,420.04**	

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

When a natural community reaches the desired future condition, it is considered to be in a maintenance condition. Required actions for sustaining a community's maintenance condition may include; maintaining optimal fire return intervals for fire dependent communities, ongoing control of non-native plant and animal species, maintaining natural hydrological functions, preserving a community's biodiversity and vegetative structure, protecting viable populations of plant and animal species, and preserving intact ecotones that link natural communities across the landscape.

BEACH DUNE – 57.09 acres

Desired Future Condition: Comprised of wind-deposited fore dune and wave-deposited upper beach, beach dune is one of the most dynamic communities recognized. A coastal mound or ridge of unconsolidated sediments is found along shorelines with high-energy waves. Vegetation will consist of herbaceous, dune-forming grass species such as sea oats (*Uniola paniculata*) and saltmeadow cordgrass (*Spartina patens*). Other typical species may include coastal searocket (*Cakile lanceolata*), railroad vine (*Ipomoea pes-caprae*), seashore paspalum (*Paspalum vaginatum*), beach morning glory (*Ipomoea imperati*), and sand spur (*Cenchrus* spp.). Occasionally, shrubs such as seagrape (*Coccoloba uvifera*) may be scattered within the herbaceous vegetation.

Description and Assessment: Beach dune occupies the higher energy, western shoreline of Caladesi Island, and extends toward the mainland as a sand spit near the north tip along Hurricane Pass. The dunes are relatively low, reaching a maximum elevation of about five feet above mean sea level.

Caladesi Island State Park
Natural Communities Map

0 0.25 0.5 1 Miles

N W E S

Park Boundary
Beach Dune - 57.09 acres
Coastal Interdunal Swale - 16.67 acres
Coastal Strand - 146.25 acres
Mesic Flatwoods - 75.53 acres
Maritime Hammock - 8.66 acres
Marine Mollusk Reef - 19.11 acres
Mangrove Swamp - 372.67 acres
Marine Seagrass Bed - 1,104.62 acres
Marine Unconsolidated Substrate - 606.13 acres
Shell Mound - 0.96 acres
Developed - 12.35 acres

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

The prevalence of pioneer species characterizes this community such as sea oats, saltmeadow cordgrass, bitter panicgrass (*Panicum amarum*), seashore paspalum, beach elder (*Iva imbricata*), shoreline sea-purslane (*Sesuvium portalacastrum*), and inkberry (*Scaevola plumieri*). Human impact is kept to a minimum using 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. Historic monocultures of Australian pine (*Casuarina equisetifolia*) have been removed from this zone. The dunes of Caladesi Island remain as an excellent example of this Gulf Coast barrier island habitat type. Erosion along the southern third of the Gulf shoreline is part of a larger, systemic reconfiguration of the Clearwater Beach Island.

The beach dune community is important for several imperiled shorebird species such as snowy plover (*Charadrius nivosus*), Wilson's plover (*Charadrius wilsonia*), and American oystercatcher (*Haematopus palliates*), which use the dune habitat for nesting annually (February – August). Shorebird nests that are located in the dunes are posted with rope and signage to provide a buffer in accordance with Florida Fish and Wildlife Conservation Commission (FWC) guidelines and the DRP operations manual. Imperiled loggerhead sea turtles (*Caretta caretta*) also use the low dunes along the beach for nesting each summer (May – September). Each nest is located and fitted with a self-releasing screen or cage in accordance with FWC guidelines to prevent depredation by raccoons (*Procyon lotor*). Gopher tortoise (*Gopherus poyphemus*) burrows punctuate the dry swales and high ridges of this community. Additional species occasionally found in this community include the Eastern diamondback rattlesnake (*Crotalus adamanteus*) and dusky pigmy rattlesnake (*Sistrurus miliarius barbouri*). The dune habitat is in good condition.

General Management Measures: The dunes of Caladesi Island are in excellent condition and serve as good representative examples of this ecotype. This system will require consistent management effort to preserve this level of health. Maintenance control over exotic invasive vegetation should continue. Minimizing human disturbance is an important management activity as well. Shorebird nesting surveys, including winter shorebird surveys should continue to make management aware of changing use patterns. Typically, recreational use should be excluded where nesting and resting behaviors are observed by posting signs and erecting barriers. Channeled visitor access through the beach dune should continue parkwide to protect the fragile dune vegetation outside of the pathways from foot traffic. Educational signage about the beach dune and inhabitants should be installed to interpret this community to park visitors. Daily sea turtle nesting surveys should continue during season to locate turtle nesting sites, and protective measures should be installed where needed to prevent raccoon depredation. Predator control should continue as needed, prior to shorebird and sea turtle nesting season. Gopher tortoise burrow surveys should continue in the beach dune community.

COASTAL STRAND – 146.25 acres

Desired Future Condition: This natural community is characterized by stabilized, wind-deposited coastal dunes that will be thickly vegetated with evergreen salt-tolerant shrubs. An ecotonal community generally lies between the beach dune and maritime hammock, scrub, or tidal swamp. Coastal strand dunes contain deep, well-drained sands that are generally quite stable but become susceptible to severe damage if the vegetation is significantly disturbed. Temperate plant species dominate the area including saw palmetto (*Serenoa repens*), cabbage palms (*Sabal palmetto*), coinvine (*Dahlbergia ecastophyllum*), red cedar (*Juniperus virginiana*), live oak (*Quercus virginiana*), seagrape, shell mound prickly-pear (*Opuntia stricta*), snowberry (*Chiococca*

alba), and numerous others. Smooth domed canopies develop as the taller vegetation is "pruned" by the windblown salt spray that kills the outer buds. This process is not as prevalent on the west coast of Florida or on the leeward side of islands due to prevailing easterly winds. Significant debate occurs about the relative frequency of natural fires on barrier islands compared to inland pyric communities. The Division of Recreation and Parks (DRP) Fire Management Standard estimates the appropriate fire return interval to be between four and 15 years. Variability outside this range may occur.

Description and Assessment: The coastal strand of Caladesi Island occurs as broad vegetated zones, landward of the dune system, graduating to tidal swamp on the northern half of the island, and mesic flatwoods on the southern. It is characterized by its placement along the highest ridge on the island, and by having some floristic components from the beach dune community, some from the mesic flatwood community, and some unique salt-tolerant shrubs. Typical species include cocoplum, cabbage palm, saw palmetto, sea grape, shell-mound pricklypear, saffron plum (*Sideroxylon celastrinum*), coinvine, yellow necklace pod (*Sophora tomentosa var. truncata*), and strangler fig (*Ficus aurea*). Major infestations of Brazilian pepper and Australian pine have been treated on the strands of Caladesi Island. Persistent re-treatments and an active prescribed fire program have resulted in very low current infestation levels. Gopher tortoise burrows cover this landscape with the highest density of burrows per acre recorded in the coastal strand on Caladesi Island. The island has a healthy population of Eastern diamondback rattlesnakes (*Crotalus adamanteus*), which are also commonly found in the coastal strand. The coastal strand is in excellent condition.

General Management Measures: A persistent invasive exotic treatment program and a frequent fire cycle should continue in order to maintain the high quality of this habitat. Prescribed fire is necessary for the reduction of dangerous wildfire fuel levels and to maintain an open understory for gopher tortoises. Surveys of gopher tortoise populations should continue following prescribed burns to assess population densities.

COASTAL INTERDUNAL SWALE – 16.67 acres

Desired Future Condition: Coastal interdunal swale is a variable community which manifests as marshes, moist grasslands, dense shrublands, or damp flats occurring in strips between successive dune ridges that develop as beach building occurs seaward. Dominant plant species may be variable and a function of local hydrology, saltwater occurrence, and the age of the swale. Shallower areas may have a diverse mixture of herbs and grasses, including marsh fimbry (*Fimbristylis spadicea*), broomsedges, and salt meadow cordgrass. Shrubby areas may contain wax myrtle (*Myrica cerifera*). Hurricanes and tropical storms can flood the swales with salt water, which causes the recolonization of salt-tolerant species like saltgrass (*Distichlis spicata*), seashore paspalum (*Paspalum vaginatum*) and seashore dropseed (*Sporobolus virginicus*).

Description and Assessment: Coastal interdunal swale exists on Caladesi Island as moist grasslands in linear strips between successive dune ridges along the west coast of the island. These areas are differentiated from the beach dune and coastal grassland communities by the lack of species such as sea oats and they tend to be wetter, holding water longer than surrounding areas. Dominant plant species include broomsedges, marsh fimbry, saltgrass, and saltmeadow cordgrass. Older coastal interdunal swales in the middle of the island have long since succeeded to coastal strand, and maritime hammock. The coastal interdunal swale communities at Caladesi Island is in excellent condition with very minimal exotic plant coverage.

General Management Measures: Management activities that routinely occur include exotic plant and animal control. Every effort should be made to continue to monitor and remove exotic vegetation before it becomes established.

MARITIME HAMMOCK – 8.66 acres

Desired Future Condition: A coastal evergreen hardwood forest will occur in narrow bands along coastal dunes. Canopy species will typically consist of live oak and cabbage palm. The canopy is typically dense and often pruned by salt-spray. Understory species may consist of saw palmetto and wax myrtle. Very sparse or absent herbaceous groundcover will exist. Typical animals include green treefrogs (*Hyla cinerea*), southern ring-necked snake (*Diadophis punctatus*), eastern (yellow) ratsnakes (*Pantherophis alleghaniensis*), and gray squirrels (*Sciurus carolinensis*). Migrating birds rely on these forests for food and shelter following trans-gulf migrations.

Description and Assessment: This community occurs on the higher, more centrally located part of the island. Canopy trees are live oak and cabbage palm with swamp bay (Persea palustris) and red cedar in the lower spots. The understory is composed of both tropical myrsine (*Myrsine cubana*) and temperate wax myrtle shrubs. In places, slash pine (*Pinus elliottii*) occurs singly or in 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. The hammocks on Caladesi Island however, harbor ideal conditions for exotic plant infestations to proliferate. Cogongrass (*Imperata cylindrical*), rosary pea (*Abrus precatorius*), and Brazilian pepper are established here and will require persistent maintenance to control infestations of these invasive species.

General Management Measures: The maintenance program includes an active invasive exotic treatment plan to treat and control the regrowth of invasive exotics. Prescribed fire in the adjacent mesic flatwoods will help to define the boundaries of the maritime hammocks along naturally occurring ecotones.

MESIC FLATWOODS – 75.53 acres

Desired Future Condition: In this region of the state, inland pine flatwoods will be dominated by slash pine. Native herbaceous groundcover should occur over at least 50 percent of the area and be less than three feet in height. Saw palmetto will comprise no more than 50 percent of total shrub species cover, and are less than three feet in height. Shrubs are generally knee-high or less, and there are few if any large trunks of saw palmetto along the ground. Nearly all plants and animals inhabiting this community are adapted to periodic fires; several species depend on fire for their continued existence. The integrity of the mesic flatwoods community is contingent on administering periodic fires. The Optimal Fire Return Interval is 2 to 4 years.

Description and Assessment: The mesic flatwoods community is one of the few remaining on Gulf Coast barrier islands of southwestern Florida. It 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. The canopy of the pine flatwoods consists typically of slash pine, red cedar, and cabbage palm, with a definite understory. The presence of the understory itself makes this community different from the upland open-canopy forest with little or no understory. The understory includes wax myrtle, saw palmetto, Chapman's goldenrod (*Solidago odora* var. *chapmanii*), and grasses along with sea grapes, buttonwood (*Conocarpus erectus*), and white mangrove (*Laguncularia recemosa*). 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 have treated these infestations and re-entrants are taken out whenever they are found. Cogongrass and rosary pea are also found here. Gopher tortoises are found in this community.

General Management Measures: Frequent prescribed fire should continue to maintain the quality of the flatwoods. Exotic treatment efforts should take advantage of increased access to infestations following fires. Gopher tortoise burrow surveys should continue to be conducted following prescribed burns as well. Monitoring of osprey (*Pandion haliaetus*), and great horned owl (*Bubo virginianus*) use should continue during nesting seasons with seasonal closures and buffers installed as necessary.

SHELL MOUND – 0.96 acres

Desired Future Condition: Shell Mound is unusual among the biological communities in that it is largely a result of the activities of man instead of natural physical factors. Shell Mound is generally characterized as an elevated mound of mollusk shells and aboriginal garbage on which a hardwood, closed-canopy forest develops. In some cases, a sparse shrubby community, sometimes with cactus, may develop in lieu of hammock vegetation. Typical plants include cabbage palm, red cedar, live oak, coral bean (*Erythrina herbacea*), saffron plum, coontie (*Zamia integrifolia*), and others. Shell Mound soils are composed of shells and shell fragments with an organic component derived from forest litter. Because they are constructed of archaeological remains, shell mounds are vulnerable to damage by artifact-seekers and archaeological excavations. Sites where visitor use is not monitored should not be publicized.

Description and Assessment: 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, saffron plums, red cedar, and live oaks are present. The understory is rich and contains white stopper (*Eugenia axillaris*), Spanish bayonet (*Yucca aloifolia*), yellow necklace pod, snowberry, sea grape, and seasidejack bean (*Canavalia rosea*). Epiphytes present are typical for shell mound vegetation and include Spanish moss (*Tillandsia usenoides*) and ball moss (*T. recurvata*). There are several gopher tortoise burrows on the mound, and the habitat is suitable for small animals like rodents, reptiles, and amphibians. The shell mound natural community at Caladesi Island likely represents the northernmost example of its kind on the west coast of Florida.

General Management Measures: The shell mound is in a remote area and should be visited annually to assess the stability of the site, by trained staff only. Invasive exotic plants should be treated when possible to maintain the integrity of the site.

MARINE SEAGRASS BED – 1,104.62 acres

Desired Future Condition: Marine seagrass beds are floral based natural communities typically characterized as expansive stands of vascular plants. This community occurs in subtidal (rarely intertidal) zones, in clear, coastal waters where wave energy is moderate. The three most common species of seagrasses in Florida are turtle grass (*Halodule wrightii*), manatee grass (*Syringodium filiforme*), and shoal grass (*Thalassia testudinum*). Attached to the seagrass leaf blades are numerous species of epiphytic algae and invertebrates. Together, seagrasses and their epiphytes serve as important food sources for Florida manatees (*Trichechus manatus latirostris*), marine turtles, and many fish, including spotted seatrout (*Cynoscion nothus*), sheepshead (*Archosargus probatocephalus*), and redfish (*Sciaenops ocellatus*). The dense seagrasses also serve as shelter or nursery grounds for many invertebrates and fish, including marine mollusks, blue crab (*Callinectes sapidus*), sea stars, sea urchins, seahorses, mullet (*Mugil cephalus*), and needlefish (*Strongylura marina*). Seagrass beds require very specific conditions to establish and grow. Important factors include water temperature, salinity, wave energy, tidal activity, and available light. Meadows are vulnerable to a variety of human impacts, but specifically susceptible to long-term scarring cuts from boat propellers, anchors and trawls. Such gouges may require many years to become revegetated. When protected from disturbances, they can regenerate and recolonize.

Description and Assessment: This offshore natural community is the largest in the park. Dominant species are turtle grass, shoal grass, and manatee grass. Ecologically, these grass beds are important components of the estuary as 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) with an aerial survey in 1992-93, 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 along the east side of the island. Fifty-one signs were placed around the perimeter of the seagrass beds. The park boundary, which at that time only included a portion of the seagrass beds, was extended to give complete protection. Since that time, the meadows have been recovering. The Florida Seagrass Integrated Mapping and Monitoring Program summary report for Western Pinellas County found that between 2006 and 2008 seagrass beds increased in size in Clearwater Sound by about eight percent (Yarbro, Carlson 2011). They are in good condition, but still impacted by turbidity and occasional prop scarring.

General Management Measures: The best management practice is to preserve and protect seagrass beds in their natural state. Existing motor exclusion zones should be maintained with perimeter signage replaced as necessary to be effective.

MARINE MOLLUSK REEF – 19.11 acres

Desired Future Condition: The most developed mollusk reefs are generally restricted to estuarine areas and are dominated by the eastern oyster (*Crassostrea virginica*). Numerous other sessile and benthic invertebrates live among the collage of mollusk shells. Most common are lightning whelk (*Busycon sinistrum*), blue crab (*Callinectes sapidus*), stone crab (*Menippe mercenaria*), and lined seastars (*Luidia clathrat*). Several fish also frequently occur near or feed among mollusk reefs including cownose ray (*Rhinoptera bonasus*), lizardfish (*Synodus foetens*), gafftopsail catfish (*Bagre marinus*), pinfish (*Lagodon rhomboides*), spotted seatrout (*Cynoscion nebulosus*), black drum (*Pogonias cromis*), and black mullet (*Mugil cephalus*). Mollusk reefs that are exposed during low tides (e.g., coon oysters) are frequented by shorebirds, wading birds, raccoons, and other vertebrates. Reef-building mollusks require a hard (consolidated) substrate on which the planktonic larvae (i.e., spat) settle and complete development. Hard substrates include rocks, limestone, and other mollusk shells. The spat dies if it settles on soft (unconsolidated) substrates, such as mud, sand or grass. Once established, mollusk reefs can generally persist and expand by building on themselves.

Description and Assessment: The marine mollusk reefs located near Caladesi Island were reported in previous editions of this plan to have declined in the mid-1980s. 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 eastern and frond oysters (*Dendostrea frons*) and are exposed at low tide. Mollusk reefs typically harbor other sessile and benthic invertebrates, which attach to and live within the collage of oyster shells. This community provides an important feeding ground for several species of wading birds. 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. These factors greatly alter the flow patterns and water quality in the area.

General Management Measures: Water quality and available hard substrate are the two largest factors contributing to mollusk reef success. Appropriate substrate exists where reefs have historically occurred. Water quality conditions are highly variable and rely on factors beyond the control of management measures. Pinellas County, Tampa Bay Aquatic Preserve, and other organizations monitor the reefs and the water quality.

MANGROVE SWAMP – 372.67 acres

Desired Future Condition: Typically, a dense forest will occur along relatively flat, low wave energy, marine and estuarine shorelines. The dominant overstory includes red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove, and buttonwood. These four species can occur either in mixed stands or often in differentiated, monospecific zones based on varying degrees of tidal influence, levels of salinity, and types of substrate. Red mangroves typically dominate the deepest water, followed by black mangrove in the intermediate zone, and white mangroves and buttonwood in the highest, least tidally-influenced zone. Mangroves typically occur in dense stands (with little to no understory) but may be sparse, particularly in the upper tidal reaches where salt marsh species predominate. When present, shrub species can include bushy seaside oxeye, and vines including gray nicker (*Caesalpinia bonduc*), coinvine, and herbaceous species such as saltwort (*Batis maritima*), perennial glasswort (*Sarcocornia perennis*), and giant leather fern (*Acrostichum danaeifolium*). Soils are

generally anaerobic and always saturated with brackish water, becoming inundated at high tides. Mangrove swamps occur on a wide variety of soils, ranging from sands and mud to solid limestone rock. Soils in South Florida are primarily calcareous marl muds or calcareous sands and along Central Florida coastlines, siliceous sands. In older mangrove swamps containing red mangroves, a layer of peat can build up over the soil from decaying plant material (primarily red and black mangrove roots).

Description and Assessment: This community dominates the eastern shoreline of Caladesi Island along all the low energy shorelines of the park where seawalls are absent. Black and red mangroves dominate the intertidal and tidal zones, and white mangroves and buttonwoods are located closer to the uplands in areas that are less frequently innundated. Glasswort, saltwort, and sea blite (Sueada linearis) are present in the ground layer. A low berm of decaying organic material develops along the water's edge that catches floating debris of every description.

This natural community, made up mainly of red mangrove 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. These piles of spoil from old mosquito ditches provide suitable habitat for Brazilian pepper, which should be monitored and treated to prevent infestation. Additional species found in the mangrove swamp community includes mangrove salt marsh snake (*Nerodia clarkii compressicauda*) and mangrove cuckoo (*Coccyzus minor*). The mangrove swamp community at Caladesi Island is in excellent condition. Aside from the ditches, another noteworthy feature of the swamp is a small, Pre-Columbian burial mound secluded within it. This community is in good to excellent condition.

General Management Measures: The ecotone that occurs on the inland front of this community is susceptible to invasion by Brazilian pepper. Maintenance of exotic plant control is the most important management measure.

MARINE UNCONSOLIDATED SUBSTRATE – 606.13 acres

Desired Future Condition: The community will consist of expansive unvegetated, open areas of mineral-based substrate composed of shell, coral, marl, mud, or sand (sand beaches). Desired conditions include avoidance of soil compaction, absence of dredging activities, and absence of disturbances such as accumulated pollutants.

Description and Assessment: This term describes two different natural communities, one mainly along the Gulf Shore and the other on the bay side of the park. On the Gulf side, the community is commonly called a beach [which is the first synonym listed by FNAI (2010) 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 with subtidal being the submerged zone, 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 (2010) 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.

The beach community is very important for several imperiled shorebird species such as snowy plover (*Charadrius nivosus*), Wilson's plover (*Charadrius wilsonia*), and American oystercatcher (*Haematopus palliates*), which use the habitat for foraging, resting, and nesting annually (March – August). Shorebird nests that are located along the beach are posted with rope and signage to provide a buffer in accordance with Florida Fish and Wildlife Conservation Commission (FWC) guidelines and the DRP operations manual. Imperiled loggerhead sea turtles (*Caretta caretta*) and the occasional Kemp's ridley sea turtle (*Lepidocheyls kempii*) also use the beach for nesting each summer (May – September). Each nest is located and fitted with a self-releasing screen or cage in accordance with FWC guidelines to prevent depredation by raccoons.

The mudflats of the eastern shoreline are in good condition. The sandy western shoreline however, while beautiful in appearance, is changing in several significant functions. A general reconfiguration of the shoreline is underway as part of a larger island shift. Over the last decades, storms and near shore currents carried much of the accumulated sand at Dunedin Pass north. A steady loss of sandy beach along southern Caladesi Island followed the loss of this contour. Beach access points have created zones of high recreational use that fragment the remaining habitat. Accreting shoals along Hurricane Pass also attract high recreational use during the warm nesting seasons. Beach nesting data for birds and sea turtles reflects this net loss of function.

General Management Measures: Maintaining a balance between the needs of the visiting public and the needs of imperiled species comprises much of the management effort. Areas of historic beach nesting bird use should be pre-posted to establish minimum setback distances between nesting birds and human disturbance. New bird nesting areas should be documented, monitored, and posted during nesting season. It may be necessary to close portions of this habitat seasonally where setback distances cannot be established. Winter shorebird use should continue to be monitored. Daily sea turtle nesting surveys should be completed annually during season (April 15th – October 31st) with all nesting sites fitted with self-releasing cages to protect from raccoon depredation. Nuisance predator removal efforts should also continue annually.

DEVELOPED – 12.35 acres

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

Description and Assessment: A marina, concession, and support facilities comprise the majority of the developed areas of Caladesi Island. A visitor corridor connects the marina complex and beach access walks. Two staff residences and a maintenance area are located apart from the visitor areas. These areas are in excellent condition.

General Management Measures: Priority invasive plant species treatment should continue in the developed areas. Fire breaks should be maintained to provide asset protection when adjacent to pyric acreage. Interpretation should continue natural resource protection and imperiled species protection along the visitation corridors.

Natural Communities Management

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

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

Prescribed Fire Management

Prescribed fire is used to mimic natural lightning-set wildfires, which are one of the primary natural forces that shaped Florida's ecosystem. Prescribed burning increases the abundance and health of many wildlife species. A large number of Florida's imperiled species of plants and animals are dependent on periodic fire for their continued existence. Fire-dependent natural communities accumulate flammable vegetation, and prescribed fire reduces wildfire hazards by reducing these wild land fuels. All prescribed burns in the Florida state park system are conducted with authorization from the Florida Forest Service (FFS). Wildfire suppression activities are coordinated with the FFS.

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

Objective A: Within 10 years, have 204 acres of the park maintained within the optimum fire return interval.

Action 1 Update annual burn plan
Action 2 Manage fire dependent communities by burning between 53-132 acres annually.

Prescribed fire is planned for each burn zone on the appropriate interval. The park's burn plan is updated annually because fire management is a dynamic process. To provide adaptive responses to changing conditions, fire management requires careful planning based on annual and very specific burn objectives. Each annual burn plan is developed to support and implement the broader objectives and actions outlined in this ten-year management plan.

Table 2. Prescribed Fire Management

Natural Community	Acres	Optimal Fire Return Interval (Years)
Coastal Strand	128	4-15
Mesic Flatwoods	76	2-5
Annual Target Acreage	**53-132**	

There are 204 acres of fire dependent communities to maintain on Caladesi Island, which are comprised of 76 acres of mesic flatwoods and 128 acres of coastal strand. Pine flatwoods were once a dominant coastal feature of Pinellas County. Early Spanish explorers on the Pinellas peninsula encountered primeval forests dominated by pine flatwoods, earning the name *punta pinal*, or point of pines (Smith et al. 2008). Core dating of mature slash pine date this forest at 150+ years old (Johnson 1993). Prescribed fire is used to maintain the health of the forest by reducing the herbaceous understory and protecting the canopy from lightning ignited wildfires. Gopher tortoises and eastern diamondback rattlesnakes have adapted to periodic fire. Prescribed fire is beneficial for the gopher tortoise population opening up the understory and allowing growth of grasses and forbs.

The pyric acreage is divided into 12 management zones ranging in size from 5 to 33 acres. Fire breaks are maintained around and within this acreage in the form of trails and service roads. The targeted burn acreage for the island is 53 to 132 acres annually to ensure an optimal fire return interval of 2 to 5 years for mesic flatwoods and 4 to 15 years for coastal strand. Staff can more easily access remote areas following fires to treat invasive exotic plant infestations. Gopher tortoise burrows are frequently found in the mesic flatwoods and coastal strand. Gopher tortoise burrow surveys are most easily accomplished following a prescribed fire.

Imperiled Species

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

The park has long been an important location for nesting shorebirds and seabirds, ranking among the top sites in the state, giving it global significance as a result (Douglass 2010). Listed species that have nested on Caladesi include black skimmer (*Rynchops niger*), least tern (*Sterna antillarum*), and American oystercatcher. Snowy and Wilson's plover nests have been recorded on the island. A moderate number of piping plovers (*Charadrius melodus*) and red knot (*Calidris canutus rufa*), which are both state and federally listed threatened species, forage and rest at the park

The mudflats and shorelines of the island's north tip are important wintering sites as well, annually used by piping plover (*Charadrius melodus*) and red knot (*Calidris canutus rufa*). Federal recovery plans for threatened piping plovers and red knots designate unaltered sandy beaches adjacent to inlets as critical habitats along the wintering range. Atlantic and Gulf Coast studies have highlighted the importance of inlets like Hurricane Pass for non-breeding piping plovers. Almost 90 percent of observations of roosting piping plovers at ten coastal sites in southwest Florida were on inlet shorelines. At inlets, foraging plovers are associated with moist substrate features such as intertidal flats, algal flats, and ephemeral pools. State parks, wildlife management areas, and other lands furnish important habitat and protection for migrating and wintering piping plovers (USFWS 2015). In 1994, FWC 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 were observed there during visits by agency biologists (Gore, 1994). The beach dune and marine unconsolidated substrate (beach and mudflats) natural communities were designated by the USFWS in 2001 as critical wintering habitat for the piping plover (USFWS 2001). This habitat designation begins at

mean lower low water (MLLW) and includes the north and west portions of Caladesi Island. This is significant since piping plover spend greater than 50 percent of their yearly cycle at wintering grounds (USFWS 1996). Species currently experiencing population declines such as the red knot and piping plovers will continue to be monitored within the state park. All parks, including Caladesi Island state park, will participate in FWC's winter shorebird survey to accurately capture how many birds are using Florida beaches for wintering and resting. All parks will also participate in the International Piping Plover census coordinated by the United States Geological Survey (USGS) every five years. The last census was conducted in 2016, and the 2021 census has been delayed a year due to CoVid-19 travel restrictions. When important resting and feeding areas are identified at these parks, proper signage and protection will be erected.

Nesting seabirds and shorebirds are monitored at Caladesi Island State Park in accordance with FWC and DRP Shorebird and Seabird Management standards. The island has historically supported several listed species of nesting shorebirds, including Wilson's plover, snowy plover, American oystercatcher, least tern, and black skimmer. Colonial nesting species have largely abandoned the island in recent years, leaving only the solitary nesters. Areas parkwide should be posted to protect nesting and resting shorebirds. Posting significant wildlife habitat in advance of seasonal occupation (pre-posting) can make the difference between occupied and unused nesting sites. Providing sufficient buffers to ensure that disturbances do not result in abandonment is critical. In areas of intense recreation activity, outreach and enforcement must accompany posting efforts. The DRP will continue to coordinate with FWC on enforcement and protection measures for critical shorebird and seabird nesting and resting areas.

The DRP will seek a balanced approach to minimize visitor impacts to shorebirds and the park's sensitive coastal habitats, while managing resource-based recreational activities. In collaboration with FWC, other government agencies, local non-governmental organizations, park staff will identify and delineate habitats and educate the public about shorebird protection. Management decisions will be informed by analysis of data on habitat use in the park during prior nesting seasons. This analysis will suggest areas of importance where focused management actions are needed. These actions will include:

- Demarcating potential shorebird habitat by enclosing the perimeter of the habitat and buffer area with appropriate fencing and signage.
- Encouraging and focusing visitor activities into areas less suitable for shorebird nesting habitat.
- Monitoring during the nesting season to identify and protect new breeding sites.
- Providing interpretive and educational outreach to the public prior to and during the nesting season to encourage visitor use that protects shorebirds and their habitat.
- When the same breeding sites are used year after year, posting the protected area will occur prior to the season (pre-posting).
- When new breeding sites are indicated, appropriate measures will be implemented, including demarcating new protected areas and expanding or initiating interpretive programs.
- Coordinating with FWC and local law enforcement agencies to ensure compliance with park rules and shorebird protection, as needed. This includes coordination with FWC law enforcement to enforce existing rules about dogs not being allowed on the beach.

As needed, park staff or volunteers will provide onsite interpretation to educate visitors about the management of imperiled shorebird habitat and identify suitable recreational areas. These outreach programs will commence prior to nesting seasons and prior to placing limits on access to recreational areas. Pre-posting the identified habitat areas combined with early public notification regarding the park's shorebird protection program will improve visitor compliance with park rules and promote broad-based public stewardship of shorebird nesting, resting, and foraging habitats in the park.

Imperiled loggerhead sea turtles nest at Caladesi Island between May and September each year. Kemp's ridley (*Lepidochelys kempii*) sea turtles have also been observed within park boundaries nesting during the daytime. In accordance with FWC protocol, park staff and volunteers survey the beach daily between April 15th and September 30th identifying new nests, and erecting boundary markers with signage. Nests are excavated three days after hatching is observed or 70 days from the date when eggs are first deposited. All nests are documented and recorded, including those lost to tidal inundation, erosion, or depredation. Depredation by nuisance animals such as raccoons is not currently a significant issue on the island. Morning surveyors locate the egg chamber and place a self-releasing cage over the eggs to deter depredation.

Park staff also coordinate with FWC-FWRI biologists from the Sea Turtle Stranding and Salvage Network (STSSN) to document stranding events of both live and dead sea turtles that occur at the park. Juvenile green sea turtles (*Chelonia mydas*), Atlantic hawksbill sea turtles (*Eretmochelys imbicata*), and Kemp's Ridley sea turtles have been found during cold stun events over the last several winters. Sea turtles are ectothermic and rely on the surrounding environment to regulate their body temperature. Cold stun events occur when the air and water temperature rapidly drops, which causes sea turtles trapped in the shallow coastal waters to become lethargic. They are unable to move very well, and can be forced onto the shore or in shallow areas by the currents. Without intervention, many of these turtles will not survive these cold weather events.

All exterior and interior lighting at the bathhouses and the concessionaire buildings along the beach is turned off after sunset during sea turtle nesting season to protect nesting and hatchling sea turtles. Disorientation events attributed to artificial light sources and area sky-glow near the park are reported to FWC and Pinellas County.

Florida manatees are commonly seen off the Gulf beaches in the warm summer months. Mating groups have wandered into swim areas on several occasions, giving visitors a closer look than expected. The seagrass beds on the bay side of the park are a prime source of food for foraging manatees.

The park supports a population of gopher tortoises, which are found in the beach dune, coastal strand, and mesic flatwoods communities. In December 2016, a gopher tortoise pilot survey funded by FWC was completed by FNAI scientists at Caladesi Island. Due to the low encounter rate of gopher tortoises in their burrows, a full survey was not completed at the park. Following prescribed fires at the park, staff document gopher tortoise burrows to better assess the gopher tortoise population densities.

In addition to the seven listed shorebird and seabird species mentioned above, more than 24 other designated avian species have been documented in the park. Seven designated reptile species, seven designated plants, and one designated mammal species have also been documented at the park.

In addition to the Florida-listed inkberry and shell-mound pricklypear, three Florida endemic plants are found in the park, all of which have limited populations in the State and therefore in the world. The one most threatened is the West Coast dune sunflower (*Helianthus debilis* ssp. *vestitus*), found only on the west coast and only in six counties. This species is especially threatened by introductions of the East Coast dune sunflower for landscaping across the state; this species hybridizes with the West Coast one, causing loss of the latter's populations. Management includes verifying that any landscaping will exclude the use of the East Coast dune sunflower (*H. debilis* ssp. *debilis*). The other two endemics, although not listed, are the Florida amaranth (*Amaranth floridana*), also found in only six counties, and vente conmigo (*Croton glandulosus var. floridanus*).

Table 3 contains a list of all known imperiled species within the park and identifies their status as defined by various entities. It also identifies the types of management actions that are currently being taken by DRP staff or others, and identifies the current level of monitoring effort. The codes used under the column headings for management actions and monitoring level are defined following the table. Explanations for federal and state status as well as FNAI global and state rank are provided in Addendum 6.

Table 3. Imperiled Species Inventory

Common and Scientific Name	Imperiled Species Status				Management Actions	Monitoring Level
	FWC	USFWS	FDACS	FNAI		
PLANTS						
Golden leather fern *Acrostichum aureum*			FL-T	G5, S3	2,10	Tier 1
West coast dune sunflower *Helianthus debilis ssp. vestitus*				G5T2, S2	2,10	Tier 1
Shellmound pricklypear *Opuntia stricta*			FL-T		2,10	Tier 1
Leafless beaked ladiestresses *Sacoila lanceolata* var. *lanceolata*			FL-T		2,10	Tier 1
Inkberry *Scaevola plumieri*			FL-T		2,10	Tier 1
Giant airplant *Tillandsia utriculata* L.			FL-E		2,10	Tier 2
Florida Mayten *Tricerma phyllanthoides*			FL-T		2,10	Tier 1
REPTILES						
Loggerhead sea turtle *Caretta caretta*	FT	T		G3, S3	2,5,8, 10,13	Tier 3
Green sea turtle *Chelonia mydas*	FT	T		G3, S2 S3	2,5,8, 10,13	Tier 3
Eastern indigo snake *Drymarchon couperi*	FT	T		G3,S3	1,2,13	Tier 1
Hawksbill sea turtle *Eretmochelys imbricata*	FE	E		G3, S1	10	Tier 1

Table 3. Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Kemp's ridley sea turtle *Lepiodochelys kempii*	FE	E		G1, S1	2,5,8, 10,13	Tier 3
Common king snake *Lampropeltis getula*				G5,S2,S3	1,2,13	Tier 1
Gopher tortoise *Gopherus polyphemus*	ST	C		G3, S3	1,2,8, 10,13	Tier 1
BIRDS						
Scott's seaside sparrow *Ammodramus maritimus peninsulae*	ST			G4T3Q S3	2,8, 10,13	Tier 1
Florida burrowing owl *Athene cunicularia floridana*	ST			G4T3, S3	1,2,8, 10,13	Tier 1
Red knot *Calidris canutus rufa*	FT	T		G4T2, S2N	2,8, 10,13	Tier 2
Piping plover *Charadrius melodus*	FT	T		G3, S2	2,8, 10,13	Tier 2
Snowy plover *Charardus nivosus*	ST			G3, S1	2,8, 10,13	Tier 3
Wilson's plover *Charandrius wilsonia*				G5, S2	2,8, 10,13	Tier 3
Little blue heron *Egretta caerulea*	ST			G5, S4	2,8, 10,13	Tier 1
Reddish egret *Egretta rufescens*	ST			G4, S2	2,8, 10,13	Tier 1
Snowy egret *Egretta thula*				G5, S3	2,8, 10,13	Tier 1
Tricolored heron *Egretta tricolor*	ST			G5, S4	2,8, 10,13	Tier 1
Swallow-tailed kite *Elanoides forficatus*				G5, S2	2,8, 10,13	Tier 1
White ibis *Eudocimus albus*				G5, S4	2,8, 10,13	Tier 1
Merlin *Falco columbarius*				G5, S2	2,8, 10,13	Tier 1
Peregrine falcon *Falco peregrinus*				G4, S2	2, 13	Tier 1
Southeastern American kestrel *Falco sparverius paulus*	ST			G5T4, S3	2, 13	Tier 1
Magnificent frigatebird *Fregata magnificens*				G5, S1	10, 13	Tier 1
American oystercatcher *Haematopus palliates*	ST			G5, S3	2,8, 10,13	Tier 3
Worm eating warbler *Helmitheros vermivorum*				G5, S1	2,8, 10,13	Tier 1

Table 3. Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Caspian tern *Hydroprogne caspia*				G5, S2	2,8, 10,13	Tier 2
Wood stork *Mycteria americana*	FT	T		G4, S2	2,8, 10,13	Tier 1
Yellow-crowned Night-heron *Nyctanassa violacea*				G5,S3	8,10, 13	Tier 1
Osprey *Pandion haliaetus*				G5,S3, S4	1,2,8,10,13	Tier 3
Louisiana Waterthrush *Parkesia motacilla*				G5, S2	2,8, 10,13	Tier 1
Roseate spoonbill *Platalea ajaja*	ST			G5, S2, S3	2,8, 10,13	Tier 1
American avocet *Recurvirostra americana*				G5, S2	10, 13	Tier 1
Black skimmer *Rynchops niger*	ST			G5, S3	2,8, 10,13	Tier 3
American redstart *Setophaga ruticilla*				G5, S2	2,8, 10,13	Tier 1
Least tern *Sternula antillarum*	ST			G4, S3	2,8, 10,13	Tier 3
Roseate tern *Sterna dougallii*	FT	T		G4, S1	2,8, 10,13	Tier 1
Royal tern *Thalasseus maximus*				G5,S3	2,8, 10,13	Tier 2
Sandwich tern *Thalasseus sandvicensis*				G5, S2	2,8, 10,13	Tier 2
MAMMALS						
Florida manatee *Trichechus manatus latirostris*	FT	T		G2, S2	10, 13	Tier 1

Management Actions

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

Monitoring Level

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

Imperiled Species Management

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

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

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

Ongoing inventory and monitoring of imperiled species in the state park system is necessary to meet the DRP's mission. Long-term monitoring is also essential to ensure the effectiveness of resource management programs. Monitoring efforts must be prioritized so that the data collected provides information that can be used to improve or confirm the effectiveness of management actions on conservation priorities. Monitoring intensity must at least be at a level that provides the minimum data needed to make informed decisions to meet conservation goals. Priority must be given to those species that can provide valuable data to guide adaptive management practices.

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

Action 1	Review baseline imperiled species lists every year
Action 2	Review edits annually to reflect most recent field surveys
Action 3	Retain updated inventory lists for future Unit Management Plan

There are currently seven imperiled plant species and 38 imperiled animal species known to occur within the park. Surveys for sea turtle nesting, shorebird nesting, osprey nesting, and invasive plants allow the opportunity for detailed observations in the field. Staff are trained to document imperiled species occurrence as well as record

characteristics of unfamiliar species for identification. Collected data are communicated to the DRP District 4 Biology office, FDACS, FNAI, and FWC. Currently, all imperiled species are monitored either through recommended FWC survey protocols, or through species observations from qualified park staff, volunteers, and district biologists.

Objective B: Monitor and document 12 selected imperiled animal species in the park.

Action 1	Implement monitoring protocols for 11 loggerhead sea turtles, green sea turtles, Kemp's ridley sea turtles, piping plovers, red knots, American oystercatchers, least terns, snowy plovers, Wilson's plovers, black skimmers, and Eastern indigo snake.
Action 2	Complete all required FWC survey protocols for imperiled sea turtles and nesting shorebirds/seabirds.
Action 3	Monitor and document gopher tortoise population.

DRP staff coordinates targeted surveys of twelve of the imperiled species known to regularly occur in the Park, in cooperation with Audubon Society of Florida, Florida Shorebird Alliance, and FWC. Monitoring and reporting protocols have been established for each of these species by FWC and USFWS. American oystercatcher, Wilson's plover, snowy plover, least tern, and black skimmer nesting occurrence and productivity data are collected during six statewide surveys coordinated by FWC from March to August. Piping plover and red knot population and migration information is collected during two statewide surveys in the winter.

Nesting occurrence and productivity data are collected from April 15th to October 31st, for green, loggerhead, and Kemp's ridley sea turtles. This information is provided annually to FWC for their Statewide Nesting Beach Success (SNBS) program. Sea turtle stress and mortality data are collected year-round for five imperiled sea turtle species, using standard FWC stranding reports. FWC staff are notified about stranding events that occur in the park immediately, and park staff work with FWC to provide access and coordinate sea turtle rescues as necessary. Stranding reports completed by park staff are submitted to FWC within one week of occurrence.

Though no longer imperiled, osprey nesting occurrence and productivity data are collected during spring nesting season in cooperation with Audubon of Florida and FWC.

Incidents involving gopher tortoises at the park, including vehicular impacts, are reported to the District. Gopher tortoise population surveys are conducted immediately following every prescribed fire. This information is provided to District Biologists for their review and assessment of overall tortoise populations in the park.

Objective C: Monitor and document occurrence and distribution of one imperiled plant species in the park.

Action 1	Implement monitoring protocols for giant airplants.

Giant airplant populations are surveyed annually with documented locations provided to the District. Populations are also monitored annually for signs of weevil damage.

Objective D: Provide protection, where appropriate, to imperiled species within the park.

Action 1	Demarcate potential shorebird habitat by enclosing the perimeter of the habitat and buffer area with fencing and signage where appropriate.
Action 2	Monitor habitat during the nesting season to identify and protect new breeding sites.
Action 3	Provide interpretive and educational outreach to the public prior to and during the nesting season to encourage visitor use that protects shorebirds and their habitat.
Action 4	Coordinate with FWC and local law enforcement agencies to ensure compliance with park rules and shorebird protection, as needed.
Action 5	When implementing any landscaping or planting projects, verify that all source plants are correctly identified and are species found naturally occurring at the park.
Action 6	Remain aware of distribution and protections of American crocodile.

Of the seven designated plant species found on Caladesi, only the West Coast dune sunflower needs protection measures. The designated animal species, on the other hand, do require them. These include three species of turtles and fifteen species of birds. Sea turtle nests are protected with self-releasing cages to discourage terrestrial nest predation. Levels of terrestrial predator presence near nest sites should be monitored to assess if further protective action is required. Most of the remaining designated species are seabirds and shorebirds.

The DRP will seek a balanced approach to minimize visitor impacts to shorebirds and the park's sensitive coastal habitats, while managing resource based recreational activities. In collaboration with FWC, other government agencies, local non-governmental organizations, and volunteers, park staff will identify and delineate habitats and educate the public about shorebird protection. Management decisions will be informed by analysis of data on habitat use in the park during prior nesting seasons. This analysis will suggest areas of importance where focused management actions are needed. These actions will typically include:

- Demarcating potential shorebird habitat by enclosing the perimeter of the habitat and buffer area with appropriate fencing and signage.
- Monitoring during the nesting season to identify and protect new breeding sites.
- Providing interpretive and educational outreach to the public prior to and during the nesting season to encourage visitor use that protects shorebirds and their habitat.
- When the same breeding sites are used year after year, posting the protected area will occur prior to the season (pre-posting).
- When new breeding sites are indicated, appropriate measures will be implemented, including demarcating new protected areas and expanding or initiating interpretive programs.
- Coordinating with FWC and local law enforcement agencies to ensure compliance with park rules and shorebird protection, as needed.

When it is necessary to limit recreational activities or visitor access to protect nesting habitat, park staff or volunteers will provide onsite interpretation to educate visitors about the management of imperiled shorebird habitat. These outreach programs will

commence prior to nesting seasons and prior to placing limits on access to recreational areas. Pre-posting the identified habitat areas, combined with early public notification regarding the park's shorebird protection program, will improve visitor compliance with park rules and promote broad-based public stewardship of shorebird nesting, resting, and foraging habitats in the park.

Shorebird nesting on Caladesi has seen a sharp decrease in recent years. Colonial nesters, including black skimmer and least tern, have nested here historically, yet not successfully in several years. Solitary nesters, including American oystercatchers and Wilson's plover, have sharply declined since 2010. In order to encourage the return of these designated species, and other shorebirds nesting with them, special protection measures are required. Shorebird management will comply with DRP's shorebird standards. Nesting is monitored to protect preferred nesting areas from disturbance, and to determine if nesting has been successful. The nesting habitat is posted and barriers are placed around nesting sites to discourage disturbance. These posts, signs, and barriers are maintained throughout the season. Nesting sites are patrolled as necessary. 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 avoided because it forces birds to expend energy required for successful reproduction. A similar situation exists for wintering shorebirds. In this case, human disturbance causes expenditure of critical energy reserves required for migration or the next nesting season (Helmers 1992). Sites where wintering and migrating shorebirds congregate are seasonally posted to reduce such impacts.

Additional protective measures can be gained through education and interpretation. Informational leaflets have been prepared for distribution, an educational kiosk has been maintained, and the media have been involved to communicate the significance of the park and to explain how it is being managed. In addition, a group of dedicated volunteers has been organized to assist with monitoring and educating visitors. Portions of the dunes are posted throughout the year to provide resting sites during migration and wintering. Monitoring and protection measures have been implemented with assistance from the FWC and the Clearwater Audubon Society. Other designated species found at the park include piping plover, red knot and several species of wading birds.

American crocodiles have been documented in Pinellas County in the last year. Management should remain informed and active with FWC and USFWS to be able to provide public information and conservation methods if this species becomes established.

Objective E: Monitor impacts on shorebird and sea turtle nesting by terrestrial nuisance species in the park.

Action 1	Monitor sea turtle nesting and gopher tortoise mortality for impacts from coyote, raccoon, and nine banded armadillo activity.
Action 2	Develop and implement a predator control strategy.

Predation critically threatens many rare species (Hecht and Nickerson 1999), with the deleterious impacts of predation losses compounded by habitat loss (Reynolds and Tapper, 1996). In Florida, nesting beaches have been substantially altered by urbanization and development, leaving few beaches isolated from development, thereby severely reducing the amount of habitat suitable for successful nesting by sea turtles and shorebirds (Rogers et al. 1995). At the same time, predators abound along many beaches where nesting could otherwise succeed. Nest predation can have severe impacts

on reproductive success for sea turtles and shorebirds (Ellis et al. 2007; Engeman et al. 2009; Engeman and Smith 2007; Kadlec 1971; Wilcox and Donlan 2007). Current protocols for nesting surveys include data collection on the presence of terrestrial predators. Staff and volunteers are trained to observe and document predator tracks near shorebird nesting habitat, shorebird nest sites, and sea turtle nest sites and false crawls. Self-releasing cages are installed over sea turtle nests by park staff on Caladesi Island to discourage predation by nuisance species and raccoon are removed prior to nesting season. Sea turtle nest depredation levels have been greatly reduced over the past ten years with the use of predator control and self-releasing cages on all nests. These efforts should continue on the island with all nests monitored daily for signs of depredation.

Beach nesting bird protection is more problematic. Bird nest predation by raccoon and fish crows has been documented repeatedly by staff. Targeting one predator species for reduction (raccoons) may be resulting in increased predation by competing species (fish crows). Further monitoring is prudent, and a predator control plan should be developed.

Exotic and Nuisance Species

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

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

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

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

Early park planners, visiting Caladesi Island for the first time, described trails winding through dark tunnels of Brazilian pepper to reach a dune line shaded by 50-foot Australian pine stands. These historic infestations have been erased by decades of effort by park staff, contractors, and volunteers. Current infestation levels are low, but require constant retreatment to maintain the natural areas in this state. The seed bed, contaminated by these past invaders, will remain a source of active regrowth of exotics for many years to come. Constant attention to controlling infestations is now the focus of park staff and volunteers. Staff also monitor the islands for new invaders. Several invasive plants such as cogongrass and rosary pea are established on Caladesi Island and will also require constant effort.

The other exotics found on Caladesi Island are thinly dispersed. Plants such as carrotwood, lantana (*Lantana strigocamara*), and balsampear (*Momordica charantia*) are occasionally located and treated. Of greater concern to park and district staff is the arrival of new exotic plant species to the islands. While birds, mammals, and the wind can bring seeds of exotics to the islands, humans can also act as vessels for plant dispersal. To avoid the dispersal of exotics, park personnel does not allow for firewood, or any potted plants to be brought to the island. Also, trash collected from visiting boats is not allowed in park trash cans, as raccoons frequently raid these cans, and could potentially spread exotic plant seeds all over the island. This also limits potential pests and pathogens that could be introduced to the islands from the mainland and other outside areas.

Early Detection and Rapid Response (EDRR) programs are being developed on the federal and state levels. A Weed Risk Assessment is now available through the USDA Animal and Plant Health Inspection Service (APHIS) and the University of Florida's Institute of Food and Agricultural Sciences (IFAS); this tool is used to predict the invasiveness potential of an exotic species before it becomes the management problem that make it a Florida Exotic Pest Plant Council (FLEPPC) Category I or II species. FNAI is now working with FWC and all of Florida's Cooperative Invasive Species Management Areas (CISMA) to determine the species that are local threats, and to provide identification information and treatment assistance. Good management practice would include staying current with the local CISMA's EDRR list, in this case the Suncoast CISMA. By working with this CISMA, park staff can obtain information on invasive species currently threatening their area to assist with identification and quick removal upon detection in the park (e.g. ground orchid (*Eulophia graminea*)).

Exotic plants are accompanied on these islands by exotic or nuisance animals, such as nine-banded armadillos (*Dasypus novencintus*), coyotes, and raccoons Staff cages sea turtle nests every summer to prevent egg and hatchling depredation by raccoons and armadillos. A nuisance animal removal program focuses on these predators. Coyote (*Canis latrans*) have also been observed on the island by staff and volunteers. A predator control plan is being drafted for Caladesi Island, to address the impacts on imperiled species such as American oystercatchers, loggerhead sea turtles, and gopher tortoises.

Table 4 contains a list of the FLEPPC Category I and II invasive, exotic plant species found within the park (FLEPPC 2019). The table also identifies relative distribution for each species and the management zones in which they are known to occur. An explanation of the codes is provided following the table. For an inventory of all exotic species found within the park, see Addendum 5.

Table 4. Inventory of FLEPPC Category I and II Exotic Plant Species

Common and Scientific Name	FLEPPC Category	Distribution	Management Zone (s)
PLANTS			
Rosary pea *Abrus precatorius*	I	0	CD-04A
		1	CD-02
		2	CD-06, CD-07A, CD-16
		3	CD-06
Australian pine *Casuarina equisetifolia*	I	1	CD-13
		2	CD-32

Table 4. Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
Carrotwood *Cupaniopsis anacardioides*	I	1	CD-13
Indian Laurel *Ficus microcarpa*	I	1	CD-14, CD-33
Cogongrass *Imperata cylindrica*	I	0	CD-01, CD-02, CD-04B, CD-04C, CD-05, CD-07A, CD-07B
		1	CD-01, CD-07A, CD-11
		2	CD-01, CD-07A
		3	CD-05
Lantana; shrubverbena *Lantana strigocamara*	I	1	CD-12, CD-33, CD-34
Rose natalgrass *Melinis repens*	I	1	CD-06, CD-11, CD-33
Water spangles *Salvinia minima*	I	2	CD-34
Beach naupaka *Scaevola taccada*	I	1	CD-11, CD-13
Brazilian pepper *Schinus terebinthifolius*	I	0	CD-01, CD-02, CD-33
		1	CD-03
		2	CD-03, CD- 05, CD-06, CD-7A, CD-11, CD-12, CD-13, CD-15, CD-16, CD-32, CD-34
		3	CD-01. CD-05, CD06
Balsampear *Momordica charantia*	II	1	CD-06, CD-12, CD-13

Distribution Categories:

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

Exotic Species Management

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

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

Objective A: Annually reduce 8 acres of exotic plant species in the park.

Action 1	Annually update exotic plant management work plan.
Action 2	Implement work plan by treating 8 acres of infestation in park annually and continuing maintenance and follow-up treatments.

As with most coastal parks in southern Florida, invasive exotic plants have been a principal threat to natural communities on Caladesi Island. In the past 40 years, great strides have been made in reclaiming the island from exotic plants. Australian pines have been eliminated, and Brazilian pepper nearly so, particularly in the mesic flatwoods where they were once dense but are now rarely seen. The remaining concentrations of Brazilian pepper is 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. Other plants such as rosary pea and cogongrass can be seen scattered in patches over the island. St. Augustine grass still grows thickly, and it has spread in the southern end of the park. Eight to 12 acres of exotic infestation should be reduced annually to maintain current low levels of infestation. Additional effort would serve to improve the quality of the habitats and should be expended when funding and staffing allows.

Objective B: Implement control measures on 1 exotic animal species in the park.

Action 1	Continue to trap exotic animals in house and report removal to the district office quarterly.
Action 3	Continue to contract outside trappers to remove exotic/nuisance animals

Nine-banded armadillos are established on the island and should be removed when possible. Coyotes have also been well documented in Pinellas County for many years. Dunedin Pass once protected Caladesi Island from transient terrestrial predators, but staff have seen coyotes here several times in the last few years. Evidence of predation by coyote should be documented to justify their inclusion in future predator removal.

Cultural Resources

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

Condition Assessment

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

Level of Significance

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

Significance of a collection is based on what or whom it may represent. For instance, a collection of furniture from a single family and a particular era in connection with a significant historic site would be considered highly significant. In the same way, a high-quality collection of artifacts from a significant archaeological site would be of important significance. A large herbarium collected from a specific park over many decades could be valuable to resource management efforts. Archival records are most significant as a research source. Any records depicting critical events in the park's history, including construction and resource management, would all be significant.

Prehistoric and Historic Archaeological Sites

Desired future condition: All archaeological sites within the park are preserved in good condition in perpetuity, protected from physical threats, and interpreted to the public.

Description: There are four archaeological sites on Caladesi Island recorded in the FMSF. Three of these sites represent prehistoric use of the island by local people. 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 Hog Island Mound (PI00009).

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 was remarkable for its absence of artifacts and lack of unworked pebbles, conch-shells or fragments of chert. Nothing permanent had been placed with the dead except powdered hematite in several instances (Moore 1903).

A second site, recorded by J.A. Serrano in 2001, Clearwater Beach Island- Hog Island (PI11666), describes a large submerged field of shell and lithic scatter. An additional shell scatter site was document in 2006 by ranger Carl Calhoun, a thirty-year veteran of the park service. The FMSF identification designation is Lightning Whelk (PI11566). 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 and the south portion became known as Caladesi. In 1897, Henry Scharrer received a homestead certificate for land on the island, and by 1899 built a cottage and began his life there. 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 FMSF as Scharrer Homestead Foundation (PI09614). 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).

In 2013, the Alliance for Integrated Spatial Technologies (AIST) at the University of South Florida were contracted to perform predictive modeling of cultural resource potential in state parks. During this project aerial LiDAR data was used to refine maps and update the FMSF locations for several sites. Two of the sites (Hog Island Mound and Lightning Welk) were visited and boundary locations were re-plotted and recorded for these sites. The model identified nearly half of the uplands as high sensitivity areas.

Condition Assessment: Two of the prehistoric sites are on the island proper, within the mangrove swamps of the eastern shoreline. The remoteness of their locations helps to protect them from further human disturbance, but leave them susceptible to degradation by natural forces. The predicted change of sea level over the coming decades may alter the conditions that exist around both locations. The Mound site (PI00009) has been looted, excavated, and bisected during mosquito ditching prior to Division management. It is stable in its current configuration. The Lightning Whelk site (PI11566) is largely undisturbed, but has not been formally investigated. It appears to be stable as well. The Clearwater Beach Island site (PI11666) occurs over a large, undefined, and submerged area. The condition of this site has not been evaluated.

The historic Scharrer homestead is in good condition. The site is fenced from visitor access and well interpreted. A formal mapping of this site was performed in 2009 by Florida History, LLC and added to the master file for the site. Invasive exotic plants are established in the site and treated often. This location is very close to the high tide line and any significant sea level rise may also affect this site.

General Management Measures: In general, the onshore sites will be monitored for disturbance annually and assessed to keep them in good condition through preservation. The primary treatments for significant archaeological sites are preservation and stabilization. Preservation includes protection from damage from resource management, natural causes, construction, or human damage including looting. Stabilization techniques include the use of protective vegetation, use of filter cloth or other methods to prevent erosion, and the removal of large trees or burial of the site.

Collections

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

Description: A single, prehistoric artifact is stored onsite. The central spire of a univalve mollusk, worked into an apparent pendant, was discovered while repairing a marina seawall by Ranger Toby Brewer in 1989. The find was reported and added to the site file of the Hog Island Mound (PI00009), the only site listed for the island in that year. Since 1989, two additional prehistoric sites have been recorded on the island. A portion of steel rail is believed to have originated at the Scharrer homestead.

Condition Assessment: The physical artifacts are stored in two locations- the steel rail is stored in the park's workshop and is good condition. The shell spire pendant is stored in the office safe under climate controlled conditions, and is also in good condition. An informal collection of photographs and press clippings, dating back to 1968, is kept in the ranger station. These have been copied to digital media and all are stored locally.

Level of Significance: The level of significance of the artifacts in the park's collection is unknown, as they have not been evaluated.

General Management Measures: A Scope of Collection Statement should be completed for the park, as well as a collection management assessment. All collections are cataloged in PastPerfect and inventoried annually. All items within the collections should maintain their labels with appropriate item numbers.

Table 5. Cultural Sites Listed in the Florida Master Site File

Site Name and FMSF #	Culture/Period	Description	Significance	Condition	Treatment
PI00009 Hog Island Mound	Prehistoric/Safety Harbor	Archaeological Site	NE	G	P
PI09614 Scharrer Homestead (Foundation)	Historic/Unspecified	Archaeological Site	NE	G	ST
PI111566 Lightning Whelk	Prehistoric/Unspecified	Archaeological Site	NE	G	P
PI11666 Clearwater Beach Island (Hog Island)	Prehistoric/Unspecified	Archaeological Site	NE	N/A	N/A

Significance:

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

Condition

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

Treatment

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

Cultural Resource Management

Cultural resources are individually unique, and collectively, very challenging for the public land manager whose goal is to preserve and protect them in perpetuity. The DRP will implement the following goals, objectives and actions, as funding becomes available, to preserve the cultural resources found in Caladesi Island State Park.

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

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

Objective A: Assess and evaluate three of four recorded cultural resources in the park.

Action 1 Complete 3 assessments/evaluations of archaeological sites.

All the known cultural sites within the park should be assessed and evaluated yearly. Such assessments should include an examination of each site with a discussion of any threats to the site's condition such as natural erosion, vehicular damage, bicycle or pedestrian damage, looting, construction including damage from firebreak construction, animal damage, plant or root damage, or other factors that might cause deterioration of the site. These assessments should include a photograph of the site and a short, written evaluation. If action is needed to maintain these sites in their current condition, the district will be notified along with BNCR.

Currently, none of the historic buildings are recommended for a Historic Structures Report. As these buildings age, or as damages are incurred, this topic will be revisited.

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

Action 1 Ensure all known sites are recorded or updated in the Florida Master Site File.

Action 2 Complete a predictive model for high, medium, and low probability of locating archaeological sites within the park.

Action 3 Develop and adopt a Scope of Collections Statement.

Park and district staff will coordinate with BNCR to ensure that all known sites are recorded or updated in the Florida Master Site File.

A complete predictive model for locating archaeological sites was completed in 2013 (described more in the cultural resources section). With 70 percent of the park being considered high sensitivity, more work is needed in locating other potential cultural sites within park property. Only a portion of the Clearwater Beach offshore scatter is within park boundaries. A level 1 archaeological survey should be completed in 3 priority areas identified by the predictive model at the park.

Caladesi Island State Park will develop and adopt a scope of collections statement. With many different types of objects seemingly appropriate for display at the park, staff will identify what is desirable and what should not be accepted. This prevents unwanted items from accumulating at the park. Staff should work with the collections manager to create and personalize a scope of collection that represents Caladesi Island.

Objective C: Maintain three of four recorded cultural resources in good condition.

Action 1	Design and implement regular monitoring programs for three cultural sites.
Action 2	Create and implement a cyclical maintenance program for each cultural resource.

All of the known cultural sites within the park should be assessed and evaluated annually. Monitoring of the sites should occur around the same time every year to get an accurate portrayal of site condition. The three sites that should be maintained in good condition include Hog Island Mound, Scharrer Homestead, and Lightning Whelk. Archaeologists and staff associated with BNCR will be contacted on how to properly treat damage from looters, and past ground disturbances.

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 DRP's statutory responsibilities and an analysis of the park's resource needs and values. The long-term management goal for forest communities in the state park system is to maintain or re-establish old-growth characteristics to the degree practicable, with the exception of those communities specifically managed as early successional.

During the development of this plan, an analysis was made regarding the feasibility of timber management activities in the park. It was 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 re-evaluated during the next revision of the management plan.

Beach Management

The DRP manages over 100 miles of sandy beach, which represents one-eighth of Florida's total sandy beach shoreline. Approximately one-quarter of Florida's state parks are beach-oriented parks and account for more than 60 percent of statewide park visitation. The management and maintenance of beaches and their associated systems and processes is complicated by the presence of inlets and various structures (jetties, groins, breakwaters) all along the coast. As a result, beach restoration and nourishment have become increasingly necessary and costly procedures for protecting valuable infrastructure. Beach and inlet management practices affect beaches for long distances on either side of a particular project. DRP staff needs to be aware of and participate in the planning, design and implementation of these projects to ensure that park resources and recreational use are adequately considered and protected.

Caladesi Island State Park has 2.5 miles of stunning, sandy Gulf beach, named America's Best Beach in 2008 by Dr. Stephen Leatherman. Qualities considered for the distinction include sand and water quality, abundance of wildlife, and attractive vistas. Images of the island beach are commonly used on local tourism publications. Increased positive publicity resulted in several years of significantly increased visitation to this once quiet location. 420,000 people visited the island in 2008, a 24 percent increase over the year prior. One of the primary challenges for management here is balancing the availability of prime shorebird nesting and resting habitat with recreational use.

Federal recovery plans for threatened piping plovers and red knots designate unaltered sandy beaches adjacent to inlets as critical habitat along the wintering range. Atlantic and Gulf Coast studies have highlighted the importance of inlets like Hurricane Pass for non-breeding piping plovers. Almost 90 percent of observations of roosting piping plovers at ten coastal sites in southwest Florida were on inlet shorelines. At inlets, foraging plovers are associated with moist substrate features such as intertidal flats, algal flats, and ephemeral pools. State parks, wildlife management areas, and other lands furnish important habitat and protection for migrating and wintering piping plovers (USFWS 2015).

Seven of the nine federally listed species known to occur on the island are specialists that depend exclusively on the sandy beach for forage or reproductive success. Three additional state listed species; snowy plover, least tern and black skimmer, also require sandy beach habitat for survival. For beach nesting and resting birds, the most generally applicable protection method is establishment of setback distances, determined from studies of effects of human disturbance on breeding bird colonies in Florida (Rodgers and Smith, 1995, 1997). The recommended setback distance is ideally 590 feet. This is often more space than is available above the mean high tide line at Caladesi.

Within this competitive system, there are currently two zones of high recreational use. Beach access boardwalks provide low impact corridors between the marina complex and the sandy beach. This concentration of human activity on the shoreline has resulted in a zone of reduced habitat value for wildlife. A second location, at the northern tip of the island, is popular with boaters, kayakers, kite surfers, and jet skiers. This location offers unregulated access from the nearby Dunedin causeway. Volume of visitation here is variable throughout the year, reaching peaks during pleasant weekends and holidays. Nesting or resting species may get weeks of low disturbance, only to be sporadically inundated on various weekend days. Management tactics will need to remain fluid to address changes in this naturally dynamic system.

Objective A: Continue to assist federal, state, and local agencies with monitoring and assessment of natural community responses following coastal projects.

Action 1	Continue to monitor spatial distribution of sea turtle nesting.
Action 2	Continue to monitor occurrence of imperiled shorebird nesting.
Action 3	Report data to state and federal partners as appropriate.

Natural community response and shoreline species use can be strong indicators of habitat recovery following coastal projects. Monitoring to document the use of habitat by threatened species should continue.

Arthropod Control Plan

All DRP lands are designated as "environmentally sensitive and biologically highly productive" in accordance with Ch. 388 and Ch. 388.4111 Florida Statutes. If a local mosquito control district proposes a treatment plan, the DRP works with the local mosquito control district to achieve consensus. By policy of DEP since 1987, aerial adulticiding is not allowed, but larviciding and ground adulticiding (truck spraying in public use areas) is typically allowed. The DRP does not authorize new physical alterations of marshes through ditching or water control structures. Mosquito control plans temporarily may be set aside under declared threats to public or animal health Ch. 388.45, F.S., or during a Governor's Emergency Proclamation.

There is an Arthropod Management Plan between Pinellas County Mosquito Control and Honeymoon Island and Caladesi Island that has been in place since February 2008. The Plan allows for surveillance of juvenile and adult mosquitos; larvicide treatment using Bti, Bs, and methoprene; and adult control in high visitor use areas at the request of the Park Manager, using permethrin and sumethrin by ground. Dibrom can be used during declared public health emergencies.

Sea Level Rise

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

Land Management Review

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation and recreation lands titled in the name of the Board of Trustees are being managed for the purposes for which they were acquired and in accordance with their approved land management plans. The considered recommendations of the land management review team and updated this plan accordingly. Caladesi Island State Park was subject to land management reviews on May 21, 2014 and February 19, 2019. The review team determined the land is being managed for the purpose in which it was acquired, and management actions comply with the management plan.

LAND USE COMPONENT

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the DRP. These responsibilities are to preserve representative examples of original natural Florida and its cultural resources, and to provide outdoor recreation opportunities for Florida's citizens and visitors. These dual responsibilities inform all recreational and infrastructure development considerations. Balancing equitable access to recreational facilities and preservation of Florida's resources is the main priority when developing recreation and land use proposals.

The general planning and land use planning process begins with an analysis of the natural and cultural resources of the unit, proceeds through the creation of a conceptual land use plan, and 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. Additional input is received through public meetings and advisory groups with key stakeholders. With this approach, the DRP's objective is to provide high-quality facilities 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 management plan includes an inventory and brief description of the existing recreational uses, facilities, and special conditions on use. Specific areas within the park that will be given special protection are also identified. The Land Use Component then summarizes the Conceptual Land Use Plan (CLUP) for the park and identifies large-scale repair and renovation projects, new building and infrastructure projects, and new recreational amenities that are recommended to be implemented over the next ten-year planning period. Any adjacent lands that should be pursued for acquisition are identified as a part of the park's Optimum Boundary.

Existing Use of Adjacent Lands

Caladesi Island State Park is mostly surrounding by water with Hurricane Pass to the north, St. Joseph Sound to the east, and the Gulf of Mexico to the west. The southern portion of the park along the beach was once a navigable waterway between Clearwater Beach and the park, but the two landforms are now connected. The adjacent portion of Clearwater Beach is currently zoned as Open Space and Recreation. Approximately 0.5 miles are between the nearest residence and the southern park boundary. Residences closest to the park boundary are within a gated residential neighborhood that has limited additional development potential.

Planned Use of Adjacent Lands

The future land use designation for the undeveloped portion of Clearwater Beach adjacent to the southern park boundary is designated as Preservation by the City of Clearwater Beach. The DRP will continue to monitor the future land use designation for this parcel, which is included in the Optimum Boundary for the park.

Assessment of Use

All legal boundaries, significant natural features, structures, facilities, roads and trails existing in the unit are delineated on the Existing Facilities Map. Specific uses made of the unit are briefly described in the following sections.

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.

Future Land Use and Zoning

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

Caladesi Island State Park is designated as Recreation and Open Space by the City of Dunedin. The primary uses of this use designation includes public/private open space, public/private park, public recreation facilities, public beach/water access, and golf course/clubhouse. The Conservation and Coastal Management Element of the City of Dunedin Comprehensive Plan recognizes the ecological significance of the property and calls for the City's assistance in the management of Caladesi Island State Park.

Current Recreational Use

Access to the park is only available by water. In addition to a ferry service from Honeymoon Island State Park, visitors access Caladesi Island State Park by motorboat or paddlecraft. Boat camping, beach use, and paddling through the mangrove trail are the most popular recreational uses at the park. A concession operation at the boat marina offers food service and souvenir sales. Visitation typically begins to increase in February and is highest during the months of March and July before tailing off in August.

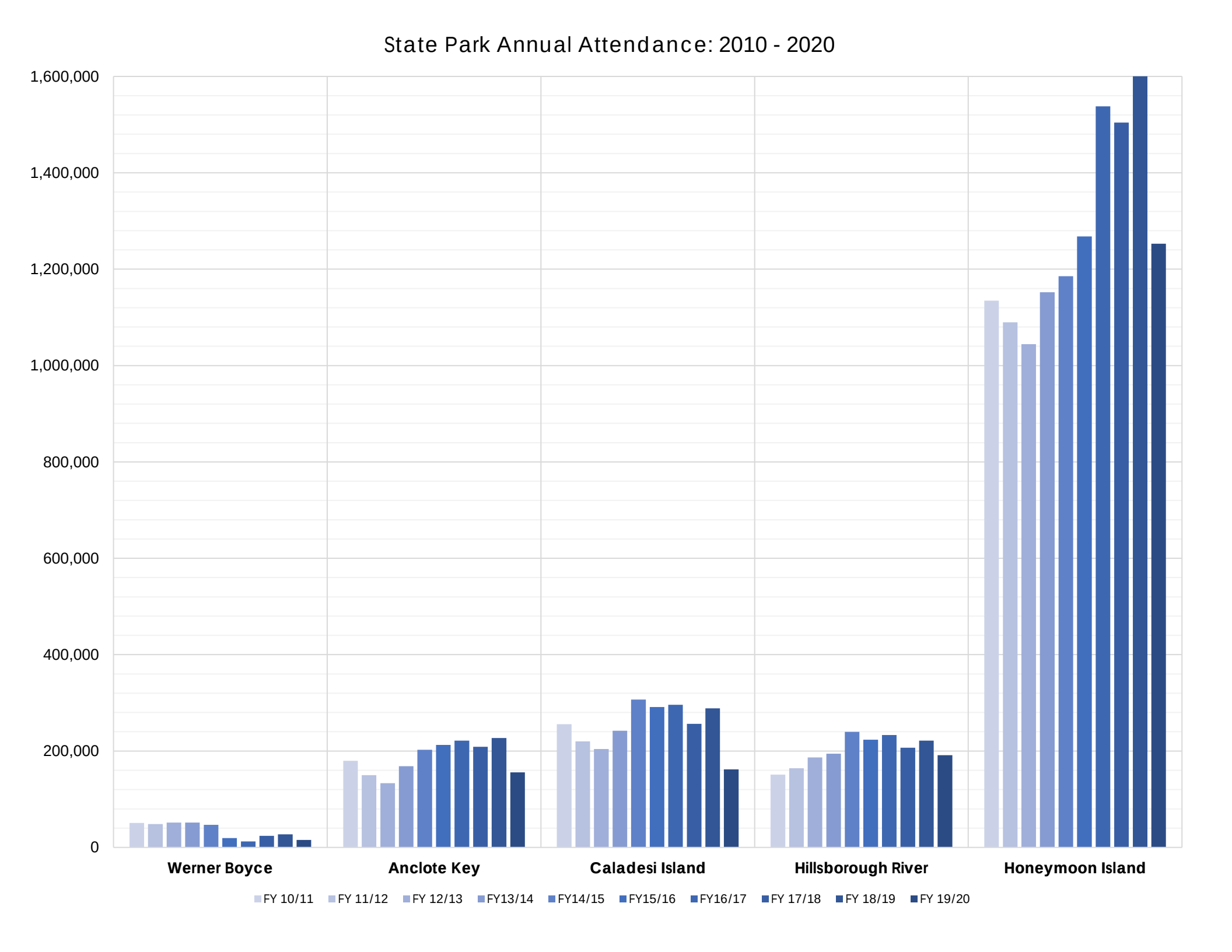
Caladesi Island State Park recorded 161,930 visitors in FY 2019/2020. By DRP estimates, the FY 2019/2020 visitors contributed $14.3 million in direct economic impact, the equivalent of adding 201 jobs to the local economy.

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 wetlands and known imperiled species habitat are designated as protected zones.


State Park Annual Attendance: 2010 - 2020
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Werner Boyce
Anclote Key
Caladesi Island
Hillsborough River
Honeymoon Island
FY 10/11
FY 11/12
FY 12/13
FY13/14
FY14/15
FY15/16
FY16/17
FY 17/18
FY 18/19
FY 19/20

Existing Facilities

A majority of the facilities at Caladesi Island State Park are concentrated around the boat marina in the northern portion of the property. The boat marina is the point of entry where the ferry docks from Honeymoon Island State Park, motorboats tie up to the boat slips, and paddlers can stop over before embarking on the mangrove trail. From the entry station, the beach can be accessed by walking paths and boardwalks that are lined with restroom facilities and picnic pavilions. Visitors can expect approximately 1,000 feet of walking between the boat marina and the beach use areas. The southern portion of the property includes staff residences and support areas.

Recreation Facilities

Boat Basin Area
Entrance Station
Ticket Booth
Docks (4)
Boat Slips (107)
Picnic Pavilion (3)
Boat House
Storage

Trails
Hiking (2.5 miles)
Paddling (3 miles)

Beach Use Area
Bathhouse (2)
Picnic Pavilion (2)
Playground
Storage
Historic Foundation

Southern Picnic Area
Picnic Pavilion
Restroom

Support Facilities

Residence Area
Staff Residence (2)
Shop
Storage (3)

Conceptual Land Use Plan

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

During the development of the conceptual land use plan, the DRP assessed the potential impact of proposed uses or development on the park resources and applied that analysis to determine the future physical plan of the park as well as the scale and character of proposed development. Potential resource impacts are also identified and assessed as part of the site planning process once funding is available for facility development. At that stage, design elements and design constraints are investigated in greater detail. Municipal sewer connections, advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal.

Caladesi Island State Park
Existing Facilities Map

0 0.25 0.5 1 Miles

- Uplands
- Wetlands
- Mangroves
- Water
- Structures
- Park Road Unstabilized
- Hiking Trail
- Paddling Trail
- Walkways

Page 2

N W E S

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Caladesi Island State Park
Existing Facilities Map

0 500 1,000 2,000 Feet

Boat Basin & Boat Camping (107 Sites)
Ferry Ticket Booth
Picnic Pavilions (2)
Bathhouse
Picnic Pavilions (2) & Playground
Bathhouse & Beach Storage
Historic Foundation
Entrance Station
Picnic Pavilion
Boat House & Storage
Storage & Shelter
Restroom
Residence & Storage
Picnic Pavilion
Residence & Storage
Shop & Storage
Homestead Ruins

N W E S

Park Boundary
Mangroves
Water
Structures
Park Road Unstabilized
Hiking Trail
Paddling Trail
Walkways

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Creation of impervious surfaces is minimized to the greatest extent feasible in order to limit the need for stormwater management systems, and all facilities are designed and constructed using best management practices to limit and avoid resource impacts. Federal, state and local permit and regulatory requirements are addressed during facility development. This includes the design of all new park facilities consistent with the universal access requirements of the Americans with Disabilities Act (ADA). After new facilities are constructed, park staff monitors conditions to ensure that impacts remain within acceptable levels.

Public Access and Recreational Opportunities

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

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

Objective: Maintain the park's current recreational use.

The park will continue to offer beach, picnicking, hiking, paddling, boating, and interpretive recreational opportunities. The ferry service to and from Caladesi Island State Park will continue to launch from Honeymoon Island State Park.

Objective: Expand the park's recreational use.

Two potential development projects could expand the recreational use at the park. One project involves expanding the existing kayak dock to allow for additional paddling capacity, and the other project would construct an observation tower to provide scenic vistas of the island. The resulting expansion of recreational use is considered minimal.

Objective: Continue to provide interpretive programs.

Personal and non-personal interpretive opportunities will continue to be offered at the marina use area, on interpretive panels, and by park staff. Themes that will continue to be interpreted include the park's history and its diverse natural and cultural resources.

Objective: Develop 2 new interpretive programs.

New interpretive efforts at the park should highlight the dynamics of the coastal barrier island ecosystem and the role that shoreline erosion and accretion plays on the island. There are also additional interpretive opportunities to expand educational programming and outreach on shorebird and sea turtle nesting.

Visitor Use Management

The DRP manages visitor use to sustain the quality of park resources and the visitor experience, consistent with the purposes of the park. The dynamic nature of visitor use requires an adaptive approach to managing resource impacts from recreational activity.

To manage visitor use, the DRP will rely on a variety of management tools and strategies, potentially including modes of access and limits on the number of people within certain areas of the park. Achieving balance between resource protection and

public access is fundamental to the provision of resource-based recreation. The premise of a visitor use management strategy is to protect the park's significant natural and cultural resources. A strategy may include site-specific indicators and thresholds selected to monitor resource conditions and visitor experience. By monitoring conditions over time and clearly documenting when conditions become problematic, the DRP can implement actions to prevent unacceptable resource conditions.

Levels of visitation, patterns of recreational use, and varieties of available recreational activities are routinely monitored parkwide. Indicators have shown that this park is operating sustainably for its resources and offers high quality experiences for its visitors.

Resource indicators to be considered during this planning period include:

- Erosion caused by unauthorized trail usage
- Prop scarring and disturbance of seagrass beds
- Spatial distribution of shoreline nesting

Quality of visitor experience indicators to be considered include:

- User conflict at the marina use area

Thresholds are defined as the minimally acceptable conditions for each indicator and represent the point at which resource impacts will require a change in management strategy. Thresholds are assigned based on the desired resource conditions, the data on existing conditions, relevant research studies, management experience, and current visitor use patterns. It is important to note that identified thresholds still represent acceptable resource conditions and not degraded or impaired conditions. Management actions may also be taken prior to reaching the thresholds.

Specific thresholds for resource conditions and experiential quality have not yet been established for the park. As monitoring continues, collected data may be used to determine baseline and desired conditions, thereby establishing thresholds.

Capital Facilities and Infrastructure

Goal: Develop and maintain use areas and support infrastructure.

Potential development at the park over the next ten years will mainly consist of improving or replacing existing structures. Improvements at the marina use area are geared toward enhancing the visitor experience, while new development at the support areas will allow for increased park management capabilities.

The existing facilities of this state park are appropriate to the natural and cultural resources contained in the park and should be maintained. New construction, as discussed further below, is recommended to improve the quality and safety of the recreational opportunities, to improve the protection of park resources, and to streamline the efficiency of park operations.

Objective: Maintain all use area and support facilities in the park.

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

Caladesi Island State Park
Conceptual Land Use Plan

0 500 1,000 2,000 Feet

Marina Use Area
Construct New Bathhouse
Replace Existing Bathhouse
Expand Existing Kayak Dock
Repair Boat Slip Utilities
Develop Observation Tower

Maintenance Area
Add 3-Bay Shop
Add 3-Bay Pole Barn

Residence Area
Add New Residence
Develop Volunteer Housing

N W E S

- Park Boundary
- CLUP Proposals
- Mangroves
- Water
- Structures
- Park Road Unstabilized
- Hiking Trail
- Paddling Trail
- Walkways

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Objective: Improve 3 use areas.

Major repair projects for park facilities may be accomplished within the ten-year term of this management plan, if funding is made available. These include the modification of existing facilities to bring them into compliance with the Americans with Disabilities Act.

Marina Use Area

Day use and overnight visitors utilize the same bathhouse facility, which has led to increased degradation of the structure. This northern bathhouse of the two on the island should be replaced, and an additional bathhouse should be constructed near the western corner of the marina use area. Electric hookups for the boat slips should be repaired and upgraded as necessary. The existing kayak dock should be expanded. This expansion should include an ADA accessible launch. An observation tower will be constructed.

Maintenance Area

In order to enhance resource management capabilities, a 3-bay shop and 3-bay pole barn should be constructed in the existing maintenance support area.

Residence Area

Additional staff housing options are needed on the island. One new residence is recommended for the staff residence area. In addition to the residence, a bunkhouse or cabin should be constructed to host park management or research volunteers.

Optimum Boundary

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

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

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 development along Clearwater Beach.

Caladesi Island State Park
Optimum Boundary Map

0 0.25 0.5 1 Miles

Caladesi Island State Park
Plant and Animal List

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

PTERIDOPHYTES

Giant leather fern	*Acrostichum danaeifolium*
Japanese climbing fern*	*Lygodium japonicum*
Royal fern	*Osmunda regalis var. spectabilis*
Resurrection fern	*Pleopeltis michauxiana*
Golden polypody	*Phlebodium aureum*
Whisk fern	*Psilotum nudum*
Tailed bracken	*Pteridium aquilinum var. pseudocaudatum*
Toothed midsorus fern; Swamp fern	*Telmatoblechnum serrulatum*
Shoestring fern	*Vittaria lineata*
Netted chain fern	*Woodwardia areolata*
Virginia chain fern	*Woodwardia virginica*

GYMNOSPERMS

Red cedar	*Juniperus virginiana*
Slash pine	*Pinus elliotti*
Florida arrowroot; Coontie	*Zamia integrifolia*

ANGIOSPERMS

MONOCOTS

False sisal	*Agave decipiens*
Sisal Hemp *	*Agave sisalana*
Bushy bluestem	*Andropogon glomeratus* var. *pumilus*
Hairy Bluestem	*Andropogon longiberbis*
Broomsedge bluestem	*Andropogon virginicus* var. *virginicus*
Tall threeawn	*Aristida patula*
Hillsboro threeawn	*Aristida purpurascens* var. *tenuispica*
Sprenger's asparagus fern*	*Asparagus aethiopicus*
Common asparagus fern *	*Asparagus setaceus*
Big carpetgrass	*Axonopus furcatus*
Capillary hairsedge	*Bulbostylis ciliatifolia*
Southern sandbur	*Cenchrus echinatus*
Coastal sandbur	*Cenchrus spinifex*
Jamaica swamp sawgrass	*Cladium jamaicense*
Common dayflower*	*Commelina diffusa* var. *diffusa*
Whitemouth dayflower	*Commelina erecta*
Shortleaf spikesedge *	*Cyperus brevifolia*
Poorland flatsedge	*Cyperus compressus*
Baldwin's flatsedge	*Cyperus croceus*
Swamp flatsedge	*Cyperus ligularis*
Fragrant flatsedge	*Cyperus odoratus*
Pinebarren flatsedge	*Cyperus ovatus*

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Manyspike flatsedge	*Cyperus polystachyos*	
Low flatsedge*	*Cyperus pumilus*	
Fourangle flatsedge	*Cyperus tetragonus*	
Durban crowfootgrass*	*Dactyloctenium aegyptium*	
Needleleaf witchgrass	*Dichanthelium aciculare*	
Variable witchgrass	*Dichanthelium commutatum*	
Asian crabgrass*	*Digitaria bicornis*	
Slender crabgrass; Shaggy crabgrass	*Digitaria filiformis* var. *filliformis*	
Saltgrass	*Distichlis spicata*	
Indian goosegrass*	*Eleusine indica*	
Florida butterfly orchid	*Encyclia tampensis*	
Scouring rush	*Equisetum hyemale* var. *affine*	
Gophertail lovegrass	*Eragrostis ciliaris*	
Elliott's lovegrass	*Eragrostis elliottii*	
Saltmarsh fingergrass	*Eustachys glauca*	
Fourspike fingergrass	*Eustachys neglecta*	
Pinewoods fingergrass	*Eustachys petraea*	
Hurricanegrass	*Fimbristylis cymosa*	
Marsh fimbry	*Fimbristylis spadicea*	
Toothpetal false reinorchid; Mignonette orchid	*Habenaria floribunda*	
Shoalweed	*Halodule wrightii*	
Cogongrass*	*Imperata cylindrica*	
Shore rush; Grassleaf rush	*Juncus marginatus*	
Bighead rush	*Juncus megacephalus*	
Needle rush	*Juncus roemerianus*	
Valdivia duckweed	*Lemna valdiviana*	
Gulf hairawn muhly	*Muhlenbergia capillaris* var. *filipes*	
Nakedstem dewflower*	*Murdannia nudiflora*	
Bitter panicgrass	*Panicum amarum*	
Switchgrass	*Panicum virgatum*	
Knotgrass	*Paspalum distichum*	
Seashore paspalum	*Paspalum vaginatum*	
Senegal date palm*	*Phoenix reclinata*	
Starrush whitetop	*Rhynchospora colorata*	
Sandyfield beaksedge	*Rhynchospora megalocarpa*	
Cabbage palm	*Sabal palmetto*	
Leafless beaked ladiestresses; Leafless beaked orchid	*Sacoila lanceolata* var. *lanceolate*	MF
Tall nutgrass; Whip nutrush	*Scleria triglomerata*	
Saw palmetto	*Serenoa repens*	
Giant bristlegrass	*Setaria magna*	
Yellow bristlegrass; Knotroot foxtail	*Setaria parviflora*	
Narrowleaf blue-eyed grass	*Sisyrinchium angustifolium*	
Earleaf greenbrier	*Smilax auriculata*	
Saw greenbrier	*Smilax bona-nox*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Saltmarsh cordgrass; Smooth cordgrass	*Spartina alterniflora*	
Marshhay cordgrass; saltmeadow cordgrass	*Spartina patens*	
Coral dropseed	*Sporobolus domingensis*	
Smutgrass *	*Sporobolus indicus*	
Seashore dropseed	*Sporobolus virginicus*	
Manatee-grass	*Syringodium filiforme*	
Turtle-grass	*Thalassia testudinum*	
Ball moss	*Tillandsia recurvata*	
Spanish moss	*Tillandsia usneoides*	
Giant air plant; Giant wild pine	*Tillandsia utriculata*	MF
Purple sandgrass	*Triplasis purpurea*	
Southern cattail	*Typha dominensis*	
Sea oats	*Uniola paniculata*	
Washington palm**	*Washingtonia robusta*	
Columbian watermeal	*Wolffia columbiana*	
Asian watermeal	*Wolffia globosa*	
Spanish bayonet; aloe yucca	*Yucca aloifolia*	
Soldier's orchid; Lawn orchid**	*Zeuxine strateumatica*	

DICOTS

Rosary pea**	*Abrus precatorius*	
Slender threeseed mercury	*Acalypha gracilens*	
Saltmarsh false foxglove	*Agalinis maritima* var. *grandiflora*	
Hammock snakeroot	*Ageratina jucunda*	
Common ragweed	*Ambrosia artemisiifolia*	
Pink redstem; Toothcups	*Ammannia latifolia*	
Coral vine *	*Antigonon leptopus*	
Latexplant**	*Araujia odorata*	
Showy milkwort	*Asemeia violacea*	
Crested saltbush	*Atriplex pentandra*	
Black mangrove	*Avicennia germinans*	
Saltwater falsewillow	*Baccharis angustifolia*	
Groundsel tree; Sea myrtle	*Baccharis halimifolia*	
Herb-of-grace	*Bacopa monnieri*	
Saltwort	*Batis maritima*	
Beggarticks; Romerillo	*Bidens alba*	
Samphire; Silverhead	*Blutaparon vermiculare*	
Red spiderling; Wineflower	*Boerhavia diffusa*	
Bushy seaside oxeye	*Borrichia frutescens*	
American bluehearts	*Buchnera americana*	
Coastal searocket	*Cakile lanceolata*	
American beautyberry	*Callicarpa americana*	
Baybean; Seaside jackbean	*Canavalia rosea*	
Wild olive	*Cartrema americanum*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Love vine; Devil's gut	*Cassytha filiformis*	
Australian-pine*	*Casuarina equisetifolia*	
Madagascar periwinkle*	*Catharanthus roseus*	
Spurred butterfly pea	*Centrosema virginianum*	
Partridge pea	*Chamaecrista fasciculata*	
Sensitive pea	*Chamaecrista nictitans var. aspera*	
Snowberry; Milkberry	*Chiococca alba*	
Purple thistle	*Cirsium horridulum*	
Nuttall's thistle	*Cirsium nuttallii*	
Tread-softly	*Cnidoscolus stimulosus*	
Seagrape	*Coccoloba uvifera*	
John Charles*	*Condea verticillata*	
Buttonwood	*Conocarpus erectus*	
Canadian horseweed	*Conyza canadensis*	
Leavenworth's tickseed	*Coreopsis leavenworthii*	
Pinebarren frostweed	*Crocanthemum corymbosum*	
Rabbitbells	*Crotalaria rotundifolia*	
Gulf croton; Beach tea	*Croton punctatus*	
Carrotwood*	*Cupaniopsis anacardioides*	
Coin-vine	*Dalbergia ecastaphyllum*	
Western tansymustard	*Descurainia pinnata*	
Zarzabacoa comun*	*Desmodium incanum*	
Dixie ticktrefoil *	*Desmodium tortuosum*	
Threeflower ticktrefoil *	*Desmodium triflorum*	
False daisy	*Eclipta prostrata*	
Florida tasselflower*	*Emilia fosbergii*	
American burnweed; Fireweed	*Erechtites hieraciifolius*	
Oakleaf fleabane	*Erigeron quercifolius*	
Golden beach creeper	*Ernodea littoralis*	
Baldwin's eryngo	*Eryngium baldwinii*	
Coralbean; Cherokeebean	*Erythrina herbacea*	
White stopper	*Eugenia axillaris*	
Dogfennel	*Eupatorium capillifolium*	
Semaphore thoroughwort	*Eupatorium mikanioides*	
Dixie sandmat	*Euphorbia bombensis*	
Fire-on-the-mountain; Painted leaf	*Euphorbia cyathophora*	
Pillpod sandmat	*Euphorbia hirta*	
Hyssopleaf sandmat	*Euphorbia hyssopifolia*	
Spotted sandmat	*Euphorbia maculata*	
Coastal beach sandmat	*Euphorbia mesembrianthemifolia*	
Marsh gentian; Catchfly prairie gentian	*Eustoma exaltatum*	
Slender flattop goldenrod	*Euthamia caroliniana*	
Strangler fig; Golden fig	*Ficus aurea*	
Indian laurel *	*Ficus microcarpa*	
Florida yellowtops	*Flaveria floridana*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Florida privet	*Forestiera segregata*	
Cottonweed	*Froelichia floridana*	
Downy milkpea	*Galactia regularis*	
Eastern milkpea	*Galactia volubilis*	
Coastal bedstraw	*Galium bermudense*	
Gray nicker	*Guilandina bonduc*	
Tooth-petal false rein orchid; Mignonette orchid	*Habenaria floribunda*	
West coast dune sunflower	*Helianthus debilis subsp. vestitus*	BD
Scorpionstail	*Heliotropium angiospermum*	
Seaside heliotrope; Salt heliotrope	*Heliotropium curassavicum*	
Pineland heliotrope	*Heliotropium polyphyllum*	
Camphorweed	*Heterotheca subaxillaris*	
Coastalplain hawkweed	*Hieracium megacephalon*	
Diamondflowers	*Houstonia nigricans* var. *nigricans*	
Innocence; Roundleaf bluet	*Houstonia procumbens*	
Largeleaf marshpennywort	*Hydrocotyle bonariensis*	
Whorled marshpennywort	*Hydrocotyle verticillata* var. *verticillata*	
Mangrove spiderlily; Perfumed spiderlily	*Hymenocallis latifolia*	
Pineweeds; Orangegrass	*Hypericum gentianoides*	
Moonflower	*Ipomoea alba*	
Beach morning glory	*Ipomoea imperati*	
Railroad-vine	*Ipomoea pes-caprae subsp. brasiliensis*	
Saltmarsh morning glory	*Ipomoea sagittata*	
Juba's bush	*Iresine diffusa*	
Bigleaf sumpweed	*Iva frutescens*	
Seacoast marshelder	*Iva imbricata*	
Piedmont marshelder	*Iva microcephala*	
Cathedral bells; Life plant*	*Kalanchoe pinnata*	
Virginia saltmarsh mallow	*Kosteletzkya pentacarpos*	
White mangrove	*Laguncularia racemosa*	
Lantana; Shrub verbena*	*Lantana strigocamara*	
Thymeleaf pinweed	*Lechea minor*	
Virginia pepperweed	*Lepidium virginicum*	
White leadtree *	*Leucaena leucocephala*	
Carolina sealavender	*Limonium carolinianum*	
Canadian toadflax	*Linaria canadensis*	
Apalachicola toadflax	*Linaria floridana*	
Seaside primrosewillow	*Ludwigia maritima*	
Mexican primrosewillow	*Ludwigia octovalvis*	
Sky-blue lupine	*Lupinus diffusus*	
Christmasberry; Carolina desertthorn	*Lycium carolinianum*	
Slender clubmoss	*Lycopodiella caroliniana*	
Mazapan; Turkscap mallow*	*Malvaviscus penduliflorus*	
Axilflower	*Mecardonia acuminata subsp. peninsularis*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Punk tree*	*Melaleuca quinquenervia*	
Rose natalgrass*	*Melinis repens*	
Climbing hempvine	*Mikania scandens*	
Swamp hornpod	*Mitreola sessilifolia*	
Indian chickweed; Green carpetweed *	*Mollugo verticillata*	
Balsampear*	*Momordica charantia*	
Spotted beebalm	*Monarda punctata*	
Wax myrtle	*Myrica cerifera*	
Myrsine; Colicwood	*Myrsine cubana*	
Peppervine	*Nekemias arborea*	
Seaside evening-primrose	*Oenothera humifusa*	
Southern beeblossom	*Oenothera simulans*	
Clustered mille graines	*Oldenlandia uniflora*	
Devil's tongue	*Opuntia austrina*	
Erect pricklypear; Shell mound pricklypear	*Opuntia stricta*	BD
Clustered pellitory	*Parietaria praetermissa*	
Virginia creeper; Woodbine	*Parthenocissus quinquefolia*	
Corky-stemmed passionflower	*Passiflora suberosa*	
Gulf coast swallowwort	*Pattalias palustre*	
Spreading cinchweed	*Pectis prostrata*	
Red bay	*Persea borbonia* var. *barbonia*	
Swamp bay	*Persea palustris*	
Turkey tangle fogfruit; Capeweed	*Phyla nodiflora*	
Drummond's leafflower	*Phyllanthus abnormis*	
Coastal groundcherry	*Physalis angustifolia*	
American Pokeweed	*Phytolacca americana*	
Narrowleaf silkgrass	*Pityopsis graminifolia*	
Rosy camphorweed	*Pluchea baccharis*	
Cure-for-all	*Pluchea carolinensis*	
Sweetscent	*Pluchea odorata*	
Procession flower	*Polygala incarnata*	
Pink purslane; Kiss-me-quick	*Portulaca pilosa*	
Black cherry	*Prunus serotina*	
Blackroot	*Pterocaulon pycnostachyum*	
Mock bishopsweed; Herbwilliam	*Ptilimnium capillaceum*	
Live oak	*Quercus virginiana*	
White indigoberry	*Randia aculeata*	
Red mangrove	*Rhizophora mangle*	
Winged sumac	*Rhus copallinum*	
Rouge plant	*Rivina humilis*	
Southern dewberry	*Rubus trivialis*	
Perennial glasswort; Virginia glasswort	Salicornia ambigua	
Carolina willow; Coastalplain		

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
willow	*Salix caroliniana*	
Southern river sage	*Salvia misella*	
Water spangles *	*Salvinia minima*	
Water pimpernel; Limewater brookweed	*Samolus ebracteatus*	
Lizard's-tail	*Saururus cernuus*	
Beachberry; Inkberry	*Scaevola plumieri*	BD, MUS
Beach naupaka*	*Scaevola taccada*	
Brazilian pepper*****	*Schinus terebinthifolia*	
Sweetbroom; licorice-weed	*Scoparia dulcis*	
Princess-of-the-night*	*Selenicereus pteranthus*	
Shoreline sea-purslane	*Sesuvium portulacastrum*	
Common wireweed; Common fanpetals	*Sida ulmifolia*	
Saffron plum	*Sideroxylon celastrinum*	
Florida bully	*Sideroxylon reclinatum* subsp. *reclinatum*	
Tough bully	*Sideroxylon tenax*	
Common nightshade	*Solanum americanum*	
Chapman's goldenrod	*Solidago odora var. chapmanii*	
Seaside goldenrod	*Solidago sempervirens*	
Wand goldenrod	*Solidago stricta*	
Common sowthistle *	*Sonchus oleraceus*	
Yellow necklace pod	*Sophora tomentosa var. truncata*	
Woodland false-buttonweed	*Spermacoce remota*	
Spring ladies' tresses	*Spiranthes vernalis*	
St. Augustine grass	*Stenotaphrum secundatum*	
Pineland scaly-pink	*Stipulicida setacea* var. *lacerata*	
Sea blite; Annual seepweed	*Suaeda linearis*	
Bahaman aster	*Symphyotrichum bahamense*	
Annual saltmarsh aster	*Symphyotrichum subulatum*	
Malaysian false pimpernel*	*Torenia crustacea*	
Eastern poison ivy	*Toxicodendron radicans*	
Florida mayten	*Tricerma phyllanthoides*	MS
Forked bluecurls	*Trichostema dichotomum*	
Sparkleberry; Farkleberry	*Vaccinium arboreum*	
White crownbeard; Frostweed	*Verbesina virginica*	
Four-leaf vetch	*Vicia acutifolia*	
Hairypod cow-pea	*Vigna luteola*	
Summer grape	*Vitis aestivalis*	
Muscadine	*Vitis rotundifolia*	
Sleepy morning	*Waltheria indica*	
Tallowwood; hog plum	*Ximenia americana*	
Hercules-club	*Zanthoxylum clava-herculis*	

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

INVERTEBRATES

GASTROPODS

Mottled sea hare	*Aplysia brasiliana*	MSGB, MUS
Lightning whelk	*Busycon sinistrum*	MSGB, MUS
Common nutmeg	*Cancellaria reticulata*	MSGB, MUS
Florida cerith	*Cerithium atratum*	MSGB, MUS
Alphabet cones	*Conus spurius atlanticus*	MSGB, MUS
Crown conch	*Melongena corona*	MSGB, MUS
Shark's eyes	*Neverita duplicata*	MSGB, MUS
Lettered olive	*Oliva sayana*	MSGB, MUS
Florida fighting conch	*Strombus alatus*	MSGB, MUS
Common American auger	*Terebra dislocate*	MSGB, MUS
Florida horse conch	*Triplofusus giganteus*	MSGB, MUS
Chesnut turbans	*Turbo castanea*	MSGB, MUS

BIVALVES

Common jingle shell	*Anomia ephippium*	MSGB, MUS
Turkey wing	*Arca zebra*	MSGB, MUS
Florida spiny jewelbox	*Arcinella cornuta*	MSGB, MUS
Atlantic calico scallop	*Argopecten gibbus*	MSGB, MUS
Atlantic bay scallop	*Argopecten irradians*	MSGB, MUS
Leafy jewelbox	*Chama macerophylla*	MSGB, MUS
Cross-barred venus clam	*Chione elevate*	MSGB, MUS
Eastern oyster	*Crassostrea virginica*	MMR
Atlantic giant cockle	*Dinocardium robustum*	MSGB, MUS
Spectral bittersweet clams	*Glycymeris spectralis*	MSGB, MUS
Rough scallop	*Lindapecten muscosus*	MSGB, MUS
Calico clams	*Macrocallista maculate*	MSGB, MUS
Sunray venus clam	*Macrocallista nimbosa*	MSGB, MUS
Stiff penshell	*Atrina rigada*	MSGB, MUS
Florida pricklycockle	*Trachycardium egmontianum*	MSGB, MUS
Yellow pricklycockle	*Trachycardium muricatum*	MSGB, MUS
Variable coquina clams	*Donax variabilis*	MSGB, MUS

JELLYFISH

Moon jellyfish	*Aurelia aurita*	MUS
Ovate comb jellies	*Beroe ovate*	MUS
Portuguese man-o-war	*Physalia physalis*	MUS
Blue buttons	*Porpita porpita*	MUS

TUNICATES

Sea pork	*Aplidium stellatum*	MSGB, MUS
Rough sea squirt	*Styela plicata*	MSGB, MUS

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

ARTHROPODS

CRUSTACEANS

Mangrove crab	*Aratus pisonii*	MS
Common blue crab	*Callinectes sapidus*	MSGB, MS
Striped hermit crab	*Clibanarius vittatus*	MSGB, MS
Southern spider crab	*Libinia dubia*	MSGB, MS
Stone crab	*Menippe mercenaria*	MSGB, MS
Ghost crab	*Ocypode quadrata*	BD
Long-wristed hermit crab	*Pagurus longicarpus*	MSGB, MS
Shrimp species	*Palaemonetes* sp.	MSGB, MS
Gulf coast fiddler crab	*Uca panacea*	MSGB, MS

ECHINODERMS

Lined sea star	*Luidia clathrat*	MSGB, MUS
Variegated urchin	*Lytechinus variegatus*	MSGB, MUS
Five-holed keyhole urchin	*Mellita quinquiesperforata*	MSGB, MUS

FISH

SHARKS, RAYS

Spotted eagle ray	*Aetobatus narinari*	MSGB, MUS
Black nosed shark	*Carcharhinus acronotus*	MSGB, MUS
Fine toothed shark	*Carcharhinus isodon*	MSGB, MUS
Bull shark	*Carcharhinus leucas*	MSGB, MUS
Blacktip shark	*Carcharhinus limbatus*	MSGB, MUS
Southern stingray	*Dasyatis americana*	MSGB, MUS
Atlantic stingray	*Dasyatis sabina*	MSGB, MUS
Rough tailed stingray	Dasyatis centroura	MSGB, MUS
Blunt nosed stingray	*Dasyatis sayi*	MSGB, MUS
Tiger shark	*Galeocerdo cuvier*	MSGB, MUS
Nurse shark	*Ginglymostoma cirratum*	MSGB, MUS
Lemon shark	*Negaprion brevirostis*	MSGB, MUS
Atlantic guitarfish	*Rhinobatos lentiginosus*	MSGB, MUS
Cownose ray	*Rhinoptera bonasus*	MSGB, MUS
Sharp nosed shark	*Rhizoprionodon terraenovae*	MSGB, MUS
Great hammerhead shark	*Sphyrna mokarran*	MSGB, MUS
Scalloped hammerhead shark	*Sphyrna lewini*	MSGB, MUS
Bonnethead shark	*Sphyrna tiburo*	MSGB, MUS

BONY FISHES

Sheepshead	*Archosargus probatocephalus*	MSGB, MUS
Hardhead catfish	*Arius felis*	MSGB, MUS

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Gafftopsail catfish	*Bagre marinus*	MSGB, MUS
Jack crevalle	*Caranx hippos*	MUS
Whitespotted filefish	*Cantherhines macrocerus*	MUS
Common snook	*Centropomus undecimalis*	MSGB, MUS
Black seabass	*Cetropristis striata*	MSGB, MUS
Striped burrfish	*Chilomycterus schoepfi*	MSGB, MUS
Spotted seatrout	*Cynoscion nebulosus*	MSGB, MUS
Silver seatrout	*Cynoscion nothus*	MSGB, MUS
Ladyfish	*Elops saurus*	MSGB, MUS
Gulf killifish	*Fundulus grandis*	MSGB, MUS
Spotted moray eel	*Gymnothorax moringa*	MUS
White grunt	*Haemulon plumieri*	MSGB, MUS
Pinfish	*Lagodon rhomboides*	MSGB, MUS
Tarpon	*Megalops atlantica*	MUS
Black mullet	*Mugil cephalus*	MSGB, MUS
Gag grouper	*Mycteroperca microlepis*	MSGB, MUS
Toadfish	*Opsanus beta*	MSGB, MUS
Gulf flounder	*Paralichthys albigutta*	MSGB, MUS
Black drum	*Pogonias cromis*	MSGB, MUS
Cobia	*Rachycentron canadum*	MUS
Remora	*Remora remora*	MUS
Red drum	*Sciaenops ocellatus*	MSGB, MUS
Spanish mackerel	*Scomberomorus maculates*	MSGB, MUS
Atlantic needlefish	*Strongylura marina*	MSGB, MUS
Great barracuda	*Spyyraena barracuda*	MUS
Atlantic needlefish	*Strongylura marina*	MSGB, MUS
Lizardfish	*Synodus foetens*	MSGB, MUS
Florida pompano	*Trachinotus carolinus*	MUS
Permit	*Trachinotus falcatus*	MUS, MS

AMPHIBIANS

Frogs and Toads

Green treefrog	*Hyla cinerea*	MF
Eastern narrow-mouthed toad	*Gastrophryne carolinensis*	MF
Cuban tree frog*	*Osteopilus septentrionalis*	MF, CS, MS

REPTILES

Turtles and Tortoises

Loggerhead sea turtle	*Caretta caretta*	MUS, BD
Green sea turtle	*Chelonia mydas*	MUS, BD
Red-footed tortoise*	*Chelonoidis carbonaria*	DV
Hawksbill sea turtle	*Eretmochelys imbricata*	MUS, BD
Gopher tortoise	*Gopherus polyphemus*	CS, MF, DV
Kemp's ridley sea turtle	*Lepidochelys kempii*	MUS, BD

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Diamondback terrapin	*Malaclemys terrapin*	MS, SM
Peninsular cooter	*Pseudemys peninsularis*	DV
Florida box turtle	*Terrapene bauri*	MAH, MF
Three-toed box turtle*	*Terrapene carolina triunguis*	DV
Lizards		
Brown anole*	*Norops sagrei*	MTC
Five-lined skink	*Eumeces fasciatus*	CS
Eastern glass lizard	*Ophisaurus ventralis*	DV
Eastern fence lizard	*Sceloporus undulatus*	DV
Snakes		
Southern black racer	*Coluber constrictor priapus*	MTC
Eastern diamondback rattlesnake	*Crotalus adamanteus*	MTC
Eastern indigo snake	*Drymarchon couperi*	CS
Common kingsnake	*Lampropeltis getulus*	MF, DV
Eastern coachwhip	*Masticophis flagellum*	CS
Mangrove salt marsh snake	*Nerodia clarkii compressicauda*	MS, SAM
Eastern (yellow) rat snake	*Pantherophis alleghaniensis*	DV
Corn snake	*Pantherophis guttatu*	DV
Dusky pigmy rattlesnake	*Sistrurus miliarius barbouri*	BD
Peninsula ribbon snake	*Thamnophis sauritus sackeni*	DV
Common garter snake	*Thamnophis sirtalis*	DV
BIRDS		
Loons and Grebes		
Common loon	*Gavia immer*	MUS
Red-throated loon	*Gavia stellata*	MUS
Horned grebe	*Podiceps auritus*	MUS
Eared grebe	*Podiceps nigricollis*	DV
Pied-billed grebe	*Podilymbus podiceps*	MUS
Petrels and Shearwaters		
Sooty shearwater	*Puffinus griseus*	OF
Anhinga, Cormorants, Pelicans, and Frigatebirds		
Anhinga	*Anhinga anhinga*	OF
Magnificent frigatebird	*Fregata magnificens*	OF
American white pelican	*Pelecanus erythrorhynchos*	OF
Eastern brown pelican	*Pelecanus occidentalis*	OF, MUS
Double-crested cormorant	*Phalacrocorax auritus*	OF
Northern gannet	*Morus bassanus*	OF

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Brown booby	*Sula leucogaster*	OF

Wading Birds

Great egret	*Ardea alba*	MTC
Great blue heron	*Ardea herodias*	BD, MS
American bittern	*Botaurus lentiginosus*	MS
Cattle egret	*Bubulcus ibis*	OF, DV
Green heron	*Butorides virescens*	MS
Little blue heron	*Egretta caerulea*	MS
Reddish egret	*Egretta rufescens*	MUS
Snowy egret	*Egretta thula*	MUS
Tricolored heron	*Egretta tricolor*	MUS
White ibis	*Eudocimus albus*	MUS
Least bittern	*Ixobrychus exilis*	MS
Wood stork	*Mycteria americana*	DV
Yellow-crowned night heron	*Nyctanassa violacea*	MS
Black-crowned night heron	*Nycticorax nycticorax*	MS
Greater flamingo*	*Phoenicopterus ruber*	MUS, OF
Roseate spoonbill	*Platalea ajaja*	MUS

Ducks, Geese, and Swans

Northern pintail	*Anas acuta*	DV
American wigeon	*Anas americana*	DV
Northern shoveler	*Anas clypeata*	DV
Green-winged teal	*Anas crecca*	DV
Blue-winged teal	*Anas discors*	DV
Mottled duck	*Anas fulvigula*	DV
Mallard	*Anas platyrhynchos*	DV
Gadwall	*Anas strepera*	DV
Lesser scaup	*Aythya affinis*	MUS
Redhead	*Aythya americana*	MUS
Ring-necked duck	*Aythya collaris*	MUS
Greater scaup	*Aythya marila*	MUS
Canvasback	*Aythya valisineria*	MUS
Brant	*Branta bernicla*	MUS
Bufflehead	*Bucephala albeola*	MUS
Snow goose	*Chen caerulescens*	MUS
Long-tailed duck	*Clangula hyemalis*	MUS
Hooded merganser	*Lophodytes cucullatus*	MUS
Common merganser	*Mergus merganser*	MUS
Red-breasted merganser	*Mergus serrator*	MUS
Ruddy duck	*Oxyura jamaicensis*	MUS

Diurnal Raptors

Cooper's hawk	*Accipiter cooperii*	OF

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Sharp-shinned hawk	*Accipiter striatus*	OF
Red-tailed hawk	*Buteo jamaicensis*	OF
Red-shouldered hawk	*Buteo lineatus*	MF, OF
Broad-winged hawk	*Buteo platypterus*	OF
Turkey vulture	*Cathartes aura*	OF
Northern harrier	*Circus cyaneus*	OF
Black vulture	*Coragyps atratus*	OF
Swallow-tailed kite	*Elanoides forficatus*	OF
Merlin	*Falco columbarius*	OF
Peregrine falcon	*Falco peregrinus*	OF
American kestrel	*Falco sparverius*	OF
Southern bald eagle	*Haliaeetus leucocephalus*	OF
Mississippi kite	*Ictinia mississippiensis*	OF
Osprey	*Pandion haliaetus*	MF, OF
Quails and Wild Turkey		
Northern bobwhite	*Colinus virginianus*	MF
Wild turkey	*Meleagris gallopavo*	MF
Coots, Cranes, Gallinules, and Rails		
American coot	*Fulica americana*	MUS
Common moorhen	*Gallinula chloropus*	DV
Sandhill crane	*Grus canadensis*	OF
Purple gallinule	*Porphyrula martinica*	DV, MS
Sora	*Porzana carolina*	DV, MS
King rail	*Rallus elegans*	DV, MS
Virginia rail	*Rallus limicola*	MS
Clapper rail	*Rallus longirostris*	MS
Florida clapper rail	*Rallus longirostris scottii*	MS
Shorebirds		
Spotted sandpiper	*Actitis macularia*	MUS
Ruddy turnstone	*Arenaria interpres*	MUS
Sanderling	*Calidris alba*	MUS
Dunlin	*Calidris alpina*	MUS
Red knot	*Calidris canutus*	MUS
White-rumped sandpiper	*Calidris fuscicollis*	MUS
Stilt sandpiper	*Calidris himantopus*	MUS
Western sandpiper	*Calidris mauri*	MUS
Pectoral sandpiper	*Calidris melanotos*	MUS
Least sandpiper	*Calidris minutilla*	MUS
Semipalmated sandpiper	*Calidris pusilla*	MUS
Piping plover	*Charadrius melodus*	MUS
Snowy plover	*Charadrius nivosus*	MUS
Semipalmated plover	*Charadrius semipalmatus*	MUS

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Killdeer	*Charadrius vociferus*	MUS, BD, CS
Wilson's plover	*Charadrius wilsonia*	MUS
Common snipe	*Gallinago gallinago*	MS, CS
American oystercatcher	*Haematopus palliatus*	MUS
Black-necked stilt	*Himantopus mexicanus*	MUS
Short-billed dowitcher	*Limnodromus griseus*	MUS
Long-billed dowitcher	*Limnodromus scolopaceus*	MUS
Marbled godwit	*Limosa fedoa*	MUS
Bar-tailed godwit	*Limosa lapponica*	MUS
Long-billed curlew	*Numenius americanus*	MUS
Whimbrel	*Numenius phaeopus*	MUS
Black-bellied plover	*Pluvialis squatarola*	MUS
American avocet	*Recurvirostra americana*	MUS
Lesser yellowlegs	*Tringa flavipes*	MUS
Greater yellowlegs	*Tringa melanoleuca*	MUS
Willet	*Tringa semipalmata*	MUS
Solitary sandpiper	*Tringa solitaria*	MUS
Jaegers		
Parasitic jaeger	*Stercorarius parasiticus*	OF
Pomarine jaeger	*Stercorarius pomarinus*	OF
Gulls, Terns, and Skimmers		
Black tern	*Chlidonias niger*	OF, MUS
Gull-billed tern	*Gelochelidon nilotica*	OF, MUS
Caspian tern	*Hydroprogne caspia*	OF, MUS
Herring gull	*Larus argentatus*	OF, MUS
Ring-billed gull	*Larus delawarensis*	OF, MUS
Great black-backed gull	*Larus marinus*	OF
Bonaparte's gull	*Larus philadelphia*	OF, MUS
Laughing gull	*Leucophaeus atricilla*	OF, MUS
Franklin's gull	*Larus pipixcan*	OF, MUS
Sooty tern	*Onychoprion fuscatus*	OF, MUS
Black skimmer	*Rynchops niger*	OF, MUS
Least tern	*Sterna antillarum*	OF, MUS
Roseate tern	*Sterna dougallii*	OF, MUS
Forster's tern	*Sterna forsteri*	OF, MUS
Common tern	*Sterna hirundo*	OF, MUS
Elegant tern	*Thalasseus elegans*	OF, MUS
Royal tern	*Thalasseus maximus*	OF, MUS
Sandwich tern	*Thalasseus sandvicensis*	OF, MUS
Pigeons and Doves		
Rock pigeon*	*Columba livia*	DV

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Common ground-dove	*Columbina passerina*	CS, DV
Eurasian collared dove*	*Streptopelia decaocto*	DV
White-winged dove	*Zenaida asiatica*	DV
Mourning dove	*Zenaida macroura*	MF
Parrots		
Monk parakeet*	*Myiopsitta monachus*	DV
Cockatiel*	*Nymphicus hollandicus*	DV
Anis and Cuckoos		
Yellow-billed cuckoo	*Coccyzus americanus*	MS
Black-billed cuckoo	*Coccyzus erythropthalmus*	MS
Mangrove cuckoo	*Coccyzus minor*	MS
Owls		
Short-eared owl	*Asio flammeus*	MF
Florida burrowing owl	*Athene cunicularia floridana*	*CS,* DV
Great horned owl	*Bubo virginianus*	MF
Barred owl	*Strix varia*	MF
Barn owl	*Tyto alba*	OF
Nightjars		
Chuck-will's-widow	*Caprimulgus carolinensis*	MF
Common nighthawk	*Chordeiles minor*	OF
Siwfts		
Chimney swift	*Chaetura pelagica*	OF
Hummingbirds		
Ruby-throated hummingbird	*Archilochus colubris*	OF
Rufous hummingbird	*Selasphorus rufus*	OF
Kingfishers		
Belted kingfisher	*Megaceryle alcyon*	MS
Woodpeckers		
Northern flicker	*Colaptes auratus*	MF
Red-bellied woodpecker	*Melanerpes carolinus*	MF
Red-headed woodpecker	*Melanerpes erythrocephalus*	MF
Downy woodpecker	*Picoides pubescens*	MF

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Southern hairy woodpecker	*Picoides villosus audubonii*	MF
Yellow-bellied sapsucker	*Sphyrapicus varius*	MF
Flycatchers		
Eastern wood-pewee	*Contopus virens*	MF
Least flycatcher	*Empidonax minimus*	MF
Acadian flycatcher	*Empidonax virescens*	MF
Ash-throated flycatcher	*Myiarchus cinerascens*	MF
Great crested flycatcher	*Myiarchus crinitus*	MF
Eastern phoebe	*Sayornis phoebe*	MF, DV
Gray kingbird	*Tyrannus dominicensis*	MF, DV
Scissor-tailed flycatcher	*Tyrannus forficatus*	DV
Eastern kingbird	*Tyrannus tyrannus*	MF, OF
Western kingbird	*Tyrannus verticalis*	DV
Shrikes		
Loggerhead shrike	*Lanius ludovicianus*	DV
Vireos		
Black-whiskered vireo	*Vireo altiloquus*	MF
Yellow-throated vireo	*Vireo flavifrons*	MF
Warbling vireo	*Vireo gilvus*	MF
White-eyed vireo	*Vireo griseus*	MF
Red-eyed vireo	*Vireo olivaceus*	MF
Blue-headed vireo	*Vireo solitarius*	MF
Crows and Jays		
American crow	*Corvus brachyrhynchos*	MF
Fish crow	*Corvus ossifragus*	MF
Blue jay	*Cyanocitta cristata*	MF
Swallows		
Barn swallow	*Hirundo rustica*	OF
Purple martin	*Progne subis*	OF
Bank swallow	*Riparia riparia*	OF
Northern rough-winged swallow	*Stelgidopteryx serripennis*	OF
Tree swallow	*Tachycineta bicolor*	OF
Titmice		
Tufted titmouse	*Baeolophus bicolor*	MF

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Nuthatches		
Brown-headed nuthatch	*Sitta pusilla*	MF
Wrens		
Marsh wren	*Cistothorus palustris*	DV
Sedge wren	*Cistothorus platensis*	DV
Carolina wren	*Thryothorus ludovicianus*	MF
House wren	*Troglodytes aedon*	MF
Winter wren	*Troglodytes troglodytes*	DV
Bluebirds, Gnatcatchers, Kinglets, and Thrushes		
Veery	*Catharus fuscescens*	MF
Hermit thrush	*Catharus guttatus*	MF
Grey-cheeked thrush	*Catharus minimus*	MF
Swainson's thrush	*Catharus ustulatus*	MF
Wood thrush	*Hylocichla mustelina*	MF
Varied thrush	*Ixoreus naevius*	MF
Blue-gray gnatcatcher	*Polioptila caerulea*	MF
Ruby-crowned kinglet	*Regulus calendula*	MF
Golden-crowned kinglet	*Regulus satrapa*	MF
American robin	*Turdus migratorius*	MF
Mimids		
Gray catbird	*Dumetella carolinensis*	MTC
Northern mockingbird	*Mimus polyglottos*	MTC
Brown thrasher	*Toxostoma rufum*	MF
Starlings		
European starling*	*Sturnus vulgaris*	DV
Pipits		
American pipit	*Anthus rubescens*	DV
Waxwings		
Cedar waxwing	*Bombycilla cedrorum*	MF
Warblers		
Wilson's warbler	*Cardellina pusilla*	MF
Kentucky warbler	*Geothylpis formosus*	MF
Common yellowthroat	*Geothlypis trichas*	CS, MF

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Worm-eating warbler	*Helmitheros vermivorus*	MF
Yellow-breasted chat	*Icteria virens*	CS, DV
Orange-crowned warbler	*Leiothylpis celata*	MF
Tennessee warbler	*Leiothylpis peregrina*	MF
Nashville warbler	*Leiothylpis ruficapilla*	MF
Swainson's warbler	*Limnothlypis swainsonii*	MF
Black and white warbler	*Mniotilta varia*	MF
Louisiana waterthrush	*Parkesia motacilla*	DV
Northern waterthrush	*Parkesia noveboracensis*	DV
Prothonotary warbler	*Protonotaria citrea*	MF
Ovenbird	*Seiurus aurocapillus*	MF
Northern parula	*Setophaga americana*	MF
Black-throated blue warbler	*Setophaga caerulescens*	MF
Bay-breasted warbler	*Setophaga castanea*	MF
Cerulean warbler	*Setophaga cerulea*	MF
Hooded warbler	*Setophaga citrina*	MF
Yellow-rumped warbler	*Setophaga coronata*	MF, DV
Prairie warbler	*Setophaga discolor*	MF
Yellow-throated warbler	*Setophaga dominica*	MF
Blackburnian warbler	*Setophaga fusca*	MF
Magnolia warbler	*Setophaga magnolia*	MF
Palm warbler	*Setophaga palmarum*	MF, DV
Chestnut-sided warbler	*Setophaga pensylvanica*	MF
Yellow warbler	*Seotphaga petechia*	MF
Pine warbler	*Setophaga pinus*	MF
American redstart	*Setophaga ruticilla ruticilla*	MF
Blackpoll warbler	*Setophaga striata*	MF
Cape May warbler	*Setphaga tigrina*	MF
Black-throated green warbler	*Setophaga virens*	MF
Golden-winged warbler	*Vermivora chrysoptera*	MF
Blue-winged warbler	*Vermivora pinus*	MF

Cardinals, Tanagers, Grosbeaks, and Buntings

Northern cardinal	*Cardinalis cardinalis*	MF
Blue grosbeak	*Guiraca caerulea*	DV
Rose-breasted grosbeak	*Pheucticus ludovicianus*	DV
Scarlet tanager	*Piranga olivacea*	MF
Summer tanager	*Piranga rubra*	MF
Dickcissel	*Spiza americana*	DV

Sparrows

Saltmarsh sharp-tailed sparrow	*Ammodramus caudacutus*	DV
LeConte's sparrow	*Ammodramus leconteii*	DV
Scott's seaside sparrow	*Ammodramus maritimus peninsulae*	DV
Grasshopper sparrow	*Ammodramus savannarum*	DV
Lark sparrow	*Chondestes grammacus*	DV

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Dark-eyed junco	*Junco hyemalis*	DV
Swamp sparrow	*Melospiza georgiana*	DV
Lincoln's sparrow	*Melospiza lincolnii*	DV
Song sparrow	*Melospiza melodia*	DV
House sparrow*	*Passer domesticus*	DV
Savannah sparrow	*Passerculus sandwichensis*	DV
Eastern towhee	*Pipilo erythrophthalmus*	MF
Vesper sparrow	*Pooecetes gramineus*	DV
Clay-colored sparrow	*Spizella pallida*	DV
Chipping sparrow	*Spizella passerina*	DV
White-crowned sparrow	*Zonotrichia leucophrys*	DV
Icterids		
Red-winged blackbird	*Agelaius phoeniceus*	DV
Bobolink	*Dolichonyx oryzivorus*	DV
Baltimore oriole	*Icterus galbula*	DV
Orchard oriole	*Icterus spurius*	DV
Brown-headed cowbird	*Molothrus ater*	DV
Shiny cowbird	*Molothrus bonariensis*	DV
Boat-tailed grackle	*Quiscalus major*	DV
Common grackle	*Quiscalus quiscula*	DV
Painted bunting	*Passerina ciris*	MF
Indigo bunting	*Passerina cyanea*	DV
Eastern meadowlark	*Sturnella magna*	DV
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	DV
Finches and Old World Sparrows		
Red crossbill	*Loxia curvirostra*	DV
American goldfinch	*Spinus tristis*	DV
MAMMALS		
Cingulates		
Nine-banded armadillo*	*Dasypus novemcinctus*	MF
Didelphids		
Virginia opossum	*Didelphis virginiana*	MF
Rodents		
Gray squirrel	*Sciurus carolinensis*	MTC
Cotton rats	*Sigmodon hispidus*	MTC

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Lagomorphs		
Marsh rabbit	*Sylvilagus palustris*	BD, DV
Carnivores		
Coyote*	*Canis latrans*	DV
River otter	*Lutra canadensis*	MS
Bobcat	*Lynx rufus*	CS, MF
Raccoon	*Procyon lotor*	DV, DV
Gray fox	*Urocyon cinereoargenteus*	DV
Sirens		
Florida manatee	*Trichechus manatus latirostris*	MUS, MSGB
Cetaceans		
Atlantic bottle-nosed dolphin	*Tursiops truncatus*	MUS, MSGB

Primary Habitat Codes

TERRESTRIAL

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

PALUSTRINE

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

Primary Habitat Codes

Wet Prairie ..... WP

LACUSTRINE

Clastic Upland Lake ..... CULK
Coastal Dune Lake ..... CDLK
Coastal Rockland Lake ..... CRLK
Flatwoods/Prairie ..... FPLK
Marsh Lake ..... MLK
River Floodplain Lake ..... RFLK
Sandhill Upland Lake ..... SULK
Sinkhole Lake ..... SKLK
Swamp Lake ..... SWLK

RIVERINE

Alluvial Stream ..... AST
Blackwater Stream ..... BST
Seepage Stream ..... SST
Spring-run Stream ..... SRST

SUBTERRANEAN

Aquatic Cave ..... ACV
Terrestrial Cave ..... TCV

ESTUARINE

Algal Bed ..... EAB
Composite Substrate ..... ECPS
Consolidated Substrate ..... ECNS
Coral Reef ..... ECR
Mollusk Reef ..... EMR
Octocoral Bed ..... EOB
Seagrass Bed ..... ESGB
Sponge Bed ..... ESPB
Unconsolidated Substrate ..... EUS
Worm Reef ..... EWR

Primary Habitat Codes

MARINE

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

ALTERED LANDCOVER TYPES

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

MISCELLANEOUS

Many Types of Communities	MTC
Overflying	OF