Honeymoon Island State Park

Draft Unit Management Plan

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Executive Summary

Park Significance

With over 1.25 million visitors per year, the park is home to one of the most popular beaches in Florida. The 4 miles of white sandy beach are a popular attraction for both residents and visitors to the area and provide an important outdoor recreation resource for the region.

Honeymoon Island was once slated to become a private development but was acquired by the state in 1974 after the development failed. The ability to showcase the important role of barrier islands along Florida's Gulf Coast and historical attempts of private development are an integral component of the park's interpretive program.

The mesic flatwood community on the island serves as a representative sample of a severely fragmented community that was once a dominant coastal system along the Gulf Coast. The park plays an important role in a network of nesting shorebird habitat and protects extensive seagrass beds that improve water quality.

Central Park Theme

Alluring beaches and ancient slash pines attract nature lovers and often serve as a first home for hatching shorebirds and fledgling ospreys.

Primary Interpretive Themes

Habitats

From ancient pines to mangrove forests, Honeymoon Island's diverse array of habitats serve as nurseries for fledgling wildlife.

Water Quality

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

Development

Barrier islands that are essential to Florida's coastal health have often been altered by large-scale private development.

History

Like the shifting sands of the island itself, the ways people have used Honeymoon Island State has changed over time.

Hydrology

Honeymoon Island lies between Saint Joseph Sound to the East, the Gulf of Mexico to the west, and Hurricane Pass to the South. Tidal phases, storm surge, and storm deluge from these bodies often affect surface retention, but there is no permanent surface water in the park. The storm water retention features function well under normal conditions but become overwhelmed following major storm systems. Most of the existing drainage and retention features would benefit from regular maintenance excavation.

The park is increasingly affected by shoreline erosion exposing dredged limestone fill. Several restoration projects have worked to stabilize the shoreline and reestablish a natural beach profile. Beach erosion and deposition are natural processes however, even where man-made land is concerned. Natural erosion and accretion will continue to cover and expose limestone pebbles and rocks. Future nourishment projects will likely be required to maintain current infrastructure and habitat.

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.

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

Action 1	Develop a scope of work for maintenance dredging of storm water retention features that service the park drive and parking areas.
Action 2	Seek funding to implement work plan.

A maintenance dredging project for one of the park's retention ponds was completed in 2018 to assist in mitigating storm and tidal overwash events on the North and Oasis parking areas. Drainage from both lots improved over the following years. Similar dredging maintenance will likely benefit post storm conditions for the park drive and Main Beach lots as well. Areas of the park drive routinely remain flooded for days following large storm systems, often limiting visitor access.

Natural Communities

Marine unconsolidated substrate is the largest natural community type found at the park. The variation that occurs within this fluid system will always be a challenge for management, as the acreage of this dynamic community fluctuates from year to year. It is characterized as a sparsely vegetated, or unvegetated, open area of subtidal, intertidal, and supratidal shoreline. On the Gulf side of the island, the unconsolidated substrate is beach sand, while on the bay side it is mud. Beach dunes extend along the western shoreline, north of the recreation areas, almost to the end of a sandspit at the northern tip of the barrier island. There is also a narrow swath of remnant dune community running north and south through the center of the island that has succeeded to coastal grassland.

Mangrove swamp habitat dominates the eastern shoreline of Honeymoon Island and the shorelines of Pelican Cove. The community is thriving 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 inundated. Seagrass beds are extensive along the eastern side of Honeymoon Island where coastal waters are clear, shallow, sheltered from excessive wave-energy.

Natural Communities and Altered Landcovers Table		
Natural Community	**Acreage**	**Percentage**
Marine Unconsolidated Substrate	1,416.59	50%
Marine Seagrass Beds	889.41	32%
Mangrove Swamp	157.10	6%
Mesic Flatwoods	97.15	3%
Coastal Strand	75.52	3%
Coastal Grassland	71.97	2%
Beach Dune	34.58	1%
Marine Mollusk Reef	8.92	0.3%
Maritime Hammock	5.02	0.1%
Coastal Interdunal Swale	2.45	0.1%
Altered Landcovers	**Acreage**	**Percentage**
Developed	51.53	2%
Impoundment/Artificial Pond	14.26	0.5%
Total Acreage	**2,824**	

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.

Objective: Maintain 131 acres within the optimum fire return interval.

Action 1 Update annual burn plan to uphold maintenance conditions.
Action 2 Conduct annual prescribed burning on between 25 - 63 acres.
Action 3 Maintain established fire breaks

Gopher tortoises and eastern diamondback rattlesnakes have adapted to periodic fire. Prescribed fire is beneficial for the gopher tortoise population by opening the understory and allowing growth of grasses and forbs. Approximately twenty osprey nests are active each season from February to May, limiting fire activity in areas. Bald eagles have nested here since 2009 and great horned owls use the pine canopy for cover and nesting each season. All of these species require consideration when planning prescribed fire, particularly nesting bald eagles that require a 330-foot buffer.

There are 131 acres of fire dependent communities to maintain on Honeymoon Island, which include 94 acres of mesic flatwoods and 37 acres of coastal strand. This acreage has been divided into 13 management zones ranging from 2 to 20 acres. Management zones have been grouped into 5 clusters averaging 25 acres. Adjacent zones are burned each year as a unit, creating a five-year fire return interval for each cluster. This easily defines the target burn acreage for the park at 25 acres annually. Existing trails provide easily defendable fire lines, and additional mechanical treatment proceeds each prescribed fire to reduce heavy fuel loads.

Objective: Conduct habitat improvement on 3 acres of beach dune.

Action 1 Develop site specific dune improvement plan.
Action 2 Seek project funding/sponsorship/partnership.
Action 3 Implement improvement plan.

Dune planting would help to retain windblown sand at the site and further enhance the project area for imperiled species and visitor use. Erosion has reduced the current dune line in size and function. The park should develop a dune improvement plan including the planting of native salt tolerant dune species such as sea oats, bitter panicgrass, or saltmeadow cordgrass, salt grass. The plan should include installation of signage and rope to keep visitors from entering the newly planted area.

Imperiled Species

Honeymoon Island is a significant feeding and wintering site for migrating shorebirds. It has been ranked second among 27 sites in biological importance to wintering shorebirds on the southwest coast and ranked third in Florida. It is located due south and in close proximity to the Three Rooker Islands, which are consistently ranked among the top five shorebird nesting sites in Florida by FWC biologists. A moderate number of piping plovers and red knot, which are both state and federally listed threatened species, forage and rest at Honeymoon Island during migration.

Imperiled loggerhead sea turtles nest at Honeymoon Island between May and September each year. Kemp's ridley sea turtles have also been observed within the park boundaries. Nests have also been documented at adjacent parks including Caladesi Island State Park and Anclote Key Preserve State Park. 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 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. Ahead of the 2021 nesting season, DRP implemented a predator control program that contracted the United States Department of Agriculture to complete predator removal activities at the park for the protection of nesting seabirds, shorebirds, and sea turtles.

The park supports a dense population of gopher tortoises, which are found in the beach dune, coastal grassland, coastal strand, and mesic flatwoods communities. In December 2016, a gopher tortoise pilot survey funded by FWC was completed by FNAI scientists at Honeymoon Island. A full survey was then completed in April of 2017 to assess population density, age class, and estimated viability based on habitat quality and population size. FNAI determined that the population has good viability and exhibits favorable characteristics but falls short of the population size and available habitat needed to be considered excellent.

In addition to the seven listed species of shorebirds and seabirds, 27 other designated bird species have been documented in the park. Seven designated reptile species, four designated plants, and one designated mammal species have also been documented.

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 12 selected imperiled animal 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	By 2026, resurvey/replicate line transect distance sampling protocols to estimate the gopher tortoise population.

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.

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

Action 1	Consult with FWC and District staff to develop an appropriate population level for raccoon on the island.
Action 2	Develop monitoring protocols to assess the raccoon population levels.
Action 3	Develop a program to maintain the raccoon population.

Exotic Species

Throughout the late 1960s, Honeymoon Island was the site of a large-scale land alteration in preparation for residential and commercial construction that never followed. A massive dredge-and-fill operation was halted midway by local conservation groups hoping to prevent further development on the island. Construction eventually ground to a halt, leaving partially dug canals, sea walls, and home sites unfinished. The island lay fallow and largely unmanaged in the years that followed and was quickly reforested with a wide variety of exotic plant species. Long time Pinellas residents remember the beach adjacent to Hurricane Pass in the 1970s, now pet beach, as a shady grove of 50-foot Australian pine. A rough jeep trail, now called Osprey Trail, wound through tunnels of Brazilian pepper on land once cleared for residential construction.

Three decades of effort have resulted in dramatically reduced infestation levels. Australian pine seedlings are still found after tropical storm events. Brazilian pepper persists in remote muddy pockets where mechanical and chemical treatments are most difficult. Management will always be forced to develop new strategies for emergent invaders such as cogon grass and rosary pea. Both occur here now at low infestation levels. Current management actions to further reduce infestations include an active prescribed fire program, staff and volunteer exotic work days, funding searches to support in-house spray technicians and contractor treatment projects, recruiting interns and AmeriCorps members, and pursuing chemical grants from the FWC herbicide bank.

Exotic Species Management

Goal: Remove invasive species and conduct needed maintenance control.

Many years of effort has resulted in current low levels of exotic plant infestations on Honeymoon Island. Similar effort will be required in perpetuity to maintain these healthy conditions. Eight to twelve acres of reduced infestation annually will only maintain the current maintenance conditions and low infestation levels. Monitoring will also be necessary in perpetuity to document efficiency of treatment, infestation reoccurrence, and emergent infestations. Monitoring and treatment should follow the prescribed fire cycle to take advantage of access to remote infestations and watch for new invasive exotic occurrence on recently disturbed soil.

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.

Cultural Resources

The first inhabitants of Honeymoon Island are believed to have been the local Safety Harbor culture, namely the Tocobagos, but this has not been confirmed. Hog Island Mound on Caladesi contained skeletal remains, but the culture of remains is unknown. Pieces of pottery and chainmail dating to the sixteenth century reportedly have been found on Honeymoon Island. These indicate that Europeans used the island for at least a stopping-off point. Maps dating to the 1830s referred to the barrier island as Sand Island. Between 1830 and 1939, the island was given the name Hog Island. In 1921, because of a hurricane, Hog Island was breached into two islands.

Honeymoon Island was named in 1939 by a New York developer that built cottages and promoted the island as a vacation site. In the area of the Osprey Center, there is a concrete pad and two upright, freestanding elements approximately five feet high. Photographs from the era of the Honeymoon cottages (approximately 1939-1940) indicate that this structure could have been part of the resort complex. There are, however, no surviving historic structures in the park.

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: Compile reliable documentation for all recorded historic and archaeological 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.

Park and district staff will coordinate with BNCR to ensure that all known sites are recorded or updated in the Florida Master Site File. Honeymoon Island will develop and adopt a scope of collection. 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 the scope of collection.

Coastal Management

Honeymoon Island boasts 4.25 miles of Gulf shoreline that attract more than 1 million visitors annually. Annual peak visitation occurs during the spring and summer breaks of regional universities and schools, coinciding with nesting seasons of several of the state listed shoreline species known to frequent the island park. Sea turtles and shorebirds are attempting to nest during the busiest time in the busiest park in Florida. As visitors and critical species alike utilize the island, the resource of available habitats and recreational space is decreasing with rising sea levels accelerating the process of erosion. Sand moves seasonally as it normally would on a barrier island, only to expose the artificially rocky substrate that was inherited from the previous land owner.

Objective: Continue to assist federal, state and local agencies with active monitoring of erosion and accretion cycles and assessment of beach and shoreline conditions following natural disasters.

Action 1 Monitor baseline beach accretion and erosion cycles.
Action 2 Document significant erosion losses following storm events.

Erosion issues have been addressed by large scale nourishment projects, replacing appropriate sandy material over the remnant rocky shore. Protective structures, engineered to retain sandy shoreline, have been installed where new sand has been placed. However, three-quarters of a mile of unprotected shoreline has been significantly degraded by storms over recent years. This resulting reduction of quality visitor area and viable habitat only increases the competition for space on the remaining shoreline. Shorebird nesting success has predictably declined in the last several years.

Objective: Conduct habitat/natural community restoration activities on 10 acres of marine unconsolidated substrate natural community.

Action 1 Develop site specific restoration plan
Action 2 Seek project funding/sponsorship/partnership
Action 3 Implement restoration plan

Honeymoon Island has benefitted from several shoreline restoration projects, most recently in 2008 and 2015. Continued effort will be required to maintain quality recreational space along with viable shoreline habitat on the main beach. Shoreline that was constructed of limestone substrate and covered with beach sand will continue to degrade. Shoreline erosion may potentially threaten structures and infrastructure in the coming years in the absence of additional action. Main beach would benefit from an additional 10 acres of shoreline re-nourishing, with additional T groins or similar structures to retain sand over time. This would be similar in scope to the 2015 project.

Capital Facilities and Infrastructure

Goal: Develop and maintain use areas and support infrastructure.

Development proposals for the park are focused on improving existing use areas with additional amenities. This plan does not propose to create new use areas within the park. The primary focus of the Conceptual Land Use Plan for the park is improving the entrance to facilitate more efficient public access. Congestion at the park entrance is a major issue that requires a combination of new infrastructure and new modes of entry into the park. This issue will also require coordination and collaboration between the park service, local governments, and service providers.

Objective: Improve 5 use areas.

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

Entrance Area

A new entrance lane and toll booth will be constructed. The existing ranger station should be renovated to include additional office space for park staff.

Nature Center Area

The Nature Center should be expanded to accommodate a classroom for 80-100 people. This area should also be considered for the development of a paddling launch to facilitate recreational access to the bay.

South Beach Area

A bathhouse in the northern portion of the parking area should be developed. A picnic area with up to 4 pavilions is also recommended. Facilities should be shifted away from the shoreline over time.

North Beach Area

The parking areas at the north beach should be redesigned and redeveloped over the long term to take into account ongoing erosion.

Shop Area

Resource management and staff housing needs require the development of new facilities such as a pole barn with six to ten bays, two additional staff residences, and two new volunteer sites.

INTRODUCTION

Honeymoon Island State Park is located in Pinellas County, and access to the park is west on Causeway Boulevard from Dunedin. Honeymoon 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.

Honeymoon Island State Park was initially acquired on December 23, 1974 and currently comprises 2,824.23 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 a Lease Number 3203 on December 7, 1981 for a 50-year term. The current lease will expire on December 6, 2031.

Purpose of the Park

The State of Florida initially acquired this property for public access and outdoor recreational opportunities. If this property is not used for its intended purpose, title and all interests shall revert to the City of Dunedin.

Park Significance

- The park is home to one of the most popular beaches in Florida with over 1,250,000 visitors per year. The 4 miles of white sandy beach are a popular attraction for both residents and visitors to the area and provide an important outdoor recreation resource for the region.

- Honeymoon Island was once slated to become a large private development but was acquired by the state in 1974 after the development failed. The ability to showcase the important role of barrier islands along Florida's Gulf Coast and attempts to develop is an integral component of the park's interpretive program.

- The mesic flatwood community on the island serves as a representative sample of a severely fragmented community once a dominant coastal system along the Gulf Coast. The park plays an important role in a network of nesting shorebird habitat and protects extensive seagrass beds that improve water quality.

Unit Classification

Honeymoon Island State Park is classified as a state recreation area in the DRP's unit classification system. In the management of a state recreation area, major emphasis is placed on maximizing the recreational potential of the unit. However, preservation of the park's natural and cultural resources remains important. Depletion of a resource by any recreational activity is not permitted. In order to realize the park's recreational potential, the development of appropriate park facilities is undertaken with the goal to provide facilities that are accessible, convenient and safe, to support public recreational use or appreciation of 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

Alluring beaches and ancient slash pines attract nature lovers of all kinds and often serve as a first home for hatching shorebirds and fledgling ospreys.

Primary Interpretive Themes

Habitats

From ancient pines to mangrove forests, Honeymoon Island's diverse array of habitats serve as nurseries for fledgling wildlife.

Water Quality

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

Development

Restored to natural conditions at Honeymoon Island State Park, barrier islands that are essential to Florida's coastal health have often been altered by development.

History

Like the shifting sands of the island itself, the ways people have used Honeymoon Island State has changed over time with its isolation being both a draw and a challenge.

Interpretive Application

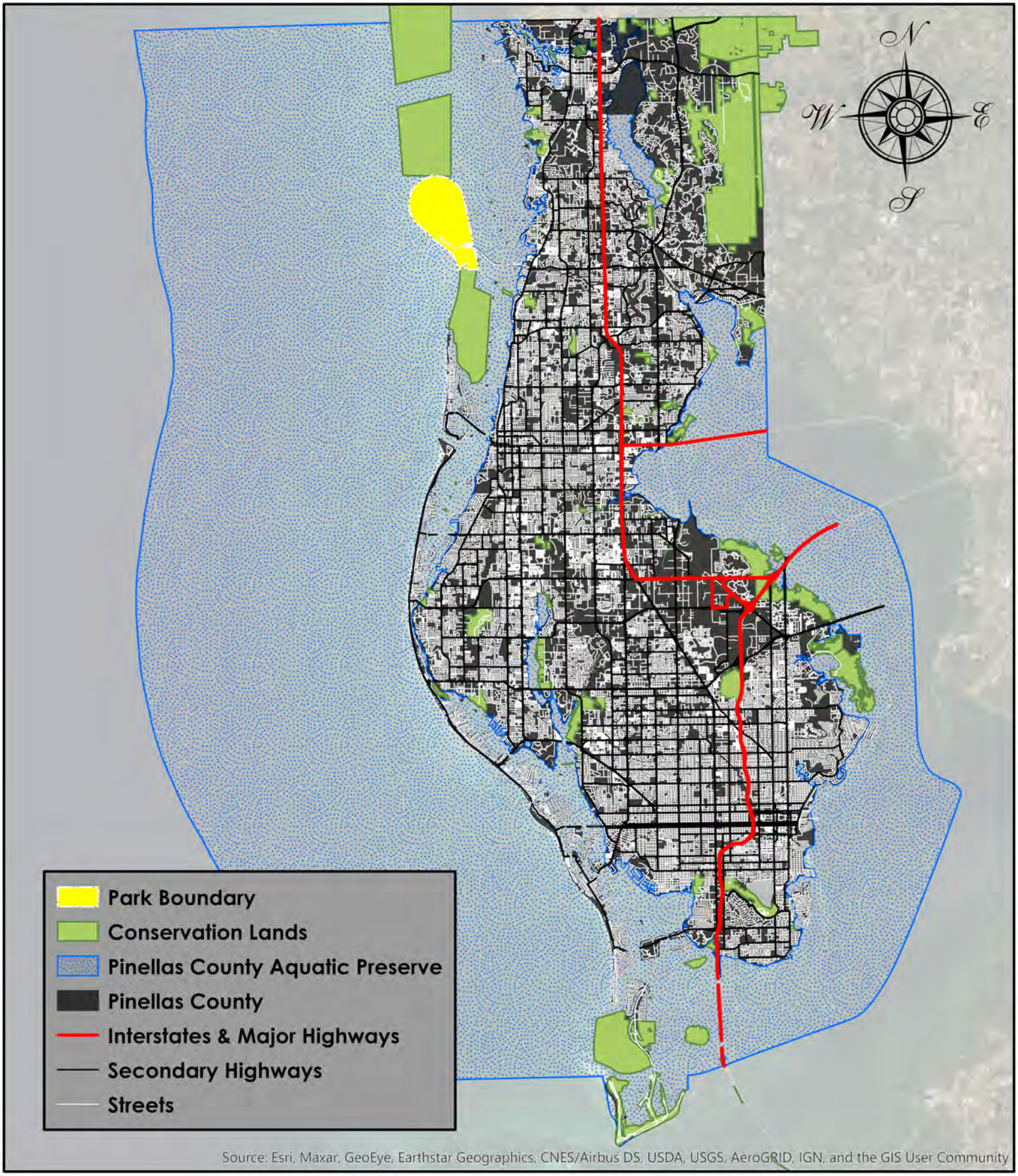
Interpretation is a DRP priority for the inherent value of visitor engagement and as a tool for promoting stewardship and conservation. Interpretation also plays an important role in achieving many other park management objectives.

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.

Honeymoon 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 Honeymoon 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

Honeymoon 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 used for management. Management measures 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. Table 1 reflects the management zones with the acres of each zone.

Management Goals, Objectives, and Actions

Measurable objectives, and actions have been identified for each of the DRP's management goals for Honeymoon 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

Honeymoon Island State Park is located in the Gulf Coastal Lagoons and Barrier Chain subzone of the Coastal Lowlands physiographic region. The elevation of the park ranges from mean sea level to about 7 feet. The highest elevations are found on berms formed of dredged fill. Honeymoon Island was drastically altered in 1921, when a hurricane breached the original barrier island known as Hog Island, creating a channel between

what were to become Honeymoon and Caladesi Islands (HPIMP 1993); the islands have not experienced significant overwash since. Although the northern half of Honeymoon Island remains relatively undisturbed, the topography of the southern half was altered significantly in 1969, when approximately 1.5 million cubic yards of fill were dredged from 2,000 feet offshore and placed on the southwestern-facing beach, raising it to 5 feet above sea level. The fill consisted of limestone pebbles and rocks, as well as quartz sand. Subsequently, much of the sand was carried away by northern longshore drift, leaving a hardened shoreline of limestone rocks (Inglin and Davis 1993). The presence of the latter continues to be a problem for beach recreation and shoreline nesting. Periodic beach nourishment projects have taken place using sand from an offsite, upland, Pleistocene dune ridge, and sand from dredging projects in Hurricane Pass. In 2015, the four T-groin structures to retain sand were installed at the areas of highest storm erosion. Beach re-nourishment activities continue in the vicinity of these groins to replenish the adjacent beaches.

The western shoreline has changed frequently and dramatically over the past 40 years. Nearshore shoals, along the northern half of the island, grew until joining Honeymoon as an exposed sand spit, mid-island, in the late 1970s. This feature continues to develop, vegetate, and persist to this day. It currently occurs as a thin, 2-mile (3.3 km) finger of beach, dune, strand, and swamp, increasing in length over 50 meters a year.

Geology

The major geologic formation underlying Honeymoon Island is the Hawthorne formation of the lower Miocene period. It consists of interbedded sand, clay, marl, limestone, lenses of Fuller's earth, and land-pebble phosphate. The limestone platform is covered by a few feet of muddy sand of the Pleistocene and Holocene strata. Honeymoon Island is probably 4,800 to 7,000 years old, based on sea level curves. At the time of its formation, Honeymoon and Caladesi were adjoined as one. During a period of slowly rising sea level following the island's formation, shoreline accretion increased the size of the island. Acceleration in sea level rise about 4,000 years ago caused shoreline recession and a reduction in island size. Sea level rise slowed about 3,000 years ago, resulting in a second period of island growth that has continued to the present. Climate change and expected sea level rise are beginning to affect the island (Wanless 2014).

Soils

The natural portions of the island consist of undifferentiated sand, shell, clay, marl and peat that are mostly less than 4,500 years old. The dredged material added to the island is unconsolidated sand to a depth of 14 feet. This is underlain by limestone and coral to a depth of 20 feet, with chert below that. The fill is mainly fossiliferous limestone, with the remainder being black chert and residue from the abrasion of limestone during dredging. Most of the fill was boulder size or larger. There are four soil types (see Soil Map) on Honeymoon Island: coastal beaches, made land, St. Lucie fine sand with shell substratum, and tidal swamp (Vanatta et al. 1972). Addendum 4 contains a map and detailed description of the soil types in the unit. The soil conservation and soil erosion issues at this park arise where made land (Ma) occurs. Beach erosion and deposition is a natural and continuous process. However, where the beach has been subjected to dredge-and-fill operations, limestone pebbles and rocks are uncovered when the sand is washed away. These have unaesthetic qualities and are difficult to maneuver upon, forming a relatively hardened shoreline of limestone rock.

Honeymoon Island State Park
Management Zones Map

0 0.25 0.5 1 Miles

N W E S

HY-21
HY-34
HY-35
HY-01
HY-02A
HY-04
HY-02B
HY-03
HY-31
HY-22
HY-06
HY-05
HY-08
HY-07
HY-09
HY-23
HY-33
HY-10
HY-11
HY-17
HY-18
HY-19
HY-24
HY-20
HY-26
HY-12
HY-15
HY-16
HY-25
HY-30
HY-13
HY-27
HY-14
HY-29
HY-28
HY-32

- 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

Minerals

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

Hydrology

Honeymoon Island lies between Saint Joseph Sound to the East, the Gulf of Mexico to the west, and Hurricane Pass to the South. Tidal phases, storm surge, and storm deluge from these bodies often affect surface retention, but there is no permanent surface water in the park. The storm water retention features functions well under normal conditions but become overwhelmed following major storm systems. Most of the existing drainage and retention features would benefit from regular maintenance excavation.

The park is increasingly affected by shoreline erosion exposing dredged limestone fill. Several restoration projects have worked to stabilize the shoreline and reestablish a natural beach profile. Beach erosion and deposition are natural processes however, even where made land is concerned. Natural erosion and accretion will continue to cover and expose limestone pebbles and rocks. Future nourishment projects will likely be required to maintain current levels of parking, recreation space, and shoreline habitat.

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 nor related soil erosion issues on the island. Engineered retention swales, supporting developed areas will benefit from regular maintenance dredging. Tidal and surface water flow across natural areas without issue.

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

Action 1	Develop a scope of work for maintenance dredging of storm water retention features that service the park drive and parking areas.
Action 2	Seek funding to implement work plan.

A maintenance dredging project for the retention pond in HY12 was completed in 2018 to assist in mitigating storm and tidal overwash events on the North and Oasis parking areas. Drainage from both lots improved over the following years. Similar dredging maintenance will likely benefit post storm conditions for the park drive and Main Beach lots as well. Areas of the park drive routinely remain flooded for days following large storm systems, often limiting visitor access.

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.

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

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 (including historic water flows and water quality), preserving a community's biodiversity and vegetative structure, protecting viable populations of plant and animal species (including those that are imperiled or endemic), and preserving intact ecotones that link natural communities across the landscape.

Table 1. Natural Communities and Altered Landcovers

Natural Community	**Acreage**	**Percentage**
Marine Unconsolidated Substrate	1,416.59	50%
Marine Seagrass Beds	889.41	32%
Mangrove Swamp	157.10	6%
Mesic Flatwoods	97.15	3%
Coastal Strand	75.52	3%
Coastal Grassland	71.97	2%
Beach Dune	34.58	1%
Marine Mollusk Reef	8.92	0.3%
Maritime Hammock	5.02	0.1%
Coastal Interdunal Swale	2.45	0.1%
Altered Landcovers	**Acreage**	**Percentage**
Developed	51.53	2%
Impoundment/Artificial Pond	14.26	0.5%
Total Acreage	**2,824**	

Honeymoon Island State Park
Natural Communities Map

0 0.25 0.5 1 Miles

N W E S

- Park Boundary
- Beach Dune - 34.58 acres
- Coastal Grassland - 71.97 acres
- Coastal Interdunal Swale - 2.45 acres
- Coastal Strand - 75.52 acres
- Mesic Flatwoods - 97.15 acres
- Maritime Hammock - 5.02 acres
- Mangrove Swamp - 157.10 acres
- Marine Mollusk Reef - 8.92 acres
- Marine Seagrass Bed - 889.41 acres
- Marine Unconsolidated Substrate - 1,416.59 acres
- Developed - 51.53 acres
- Impoundment/Artificial Pond - 14.26 acres

BEACH DUNE – 34.58 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 will be 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 sea-rocket (*Cakile lanceolata*.), railroad vine (*Ipomoea pes-caprae*), seashore paspalum (*Paspalum vaginatum*), beach morning glory (*Ipomoea imperati*), and coastal sandbur (*Cenchrus spinifex*). Occasionally, shrubs such as seagrape (*Coccoloba uvifera*) may be scattered within the herbaceous vegetation.

Description and Assessment: On Honeymoon Island, this community type extends along the western shoreline, north of the intensive recreational use areas, demarcated by the bathhouses, almost to the end of a sandspit at the northern tip of the barrier island. There is also a narrow swath of remnant dune community running north and south through the center of the island that has succeeded to coastal grassland. Man-made dune habitat near the bathhouses is protected with barriers that prevent pedestrian erosion by focusing visitor access to the beach. Channeled visitor access prevents fragmentation and degradation of the habitat where recreational demand is highest.

Characteristic plant species commonly found in the beach dune community on Honeymoon Island include sea oats, seashore paspalum, bitter panicgrass (*Panicum amarum*), coastal sandbur, railroad vine, seapurslane (*Sesuvium portulacastrum*), seacoast marshelder (*Iva imbricata*), and saltmeadow cordgrass. Sea grapes (C*occoloba uvifera*), cabbage palms (*Sabal palmetto*), gray nicker (*Caesalpinia bonduc*), and sea myrtle (*Baccharis halmifolia*) are sparsely located throughout the back dune area. Imperiled plant species commonly found in this community include the West coast dune sunflower (*Helianthus debilis* subsp. *vestitus*) and inkberry (*Scaevola plumieri*). The dunes have been treated for exotic plant species for many years, resulting in low infestation levels. Australian pine (*Casuarina equisetifolia*), Brazilian pepper (*Schinus terebinthifolia*), and beach naupaka (*Scaevola taccada*) infestations are in maintenance.

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 (March – 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 in accordance with FWC guidelines to prevent depredation by raccoons. 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 at the park is in good condition.

General Management Measures: Exotic invasive vegetation should continue to be treated in order to keep the community in maintenance conditions. Shorebird nesting surveys should continue monthly between March and August in accordance with FWC recommendations with all observations reported in the Florida Shorebird Database (FSD). Winter shorebird surveys should continue to keep management aware of

changing use patterns. In areas where nesting and resting shorebird and seabirds are observed, recreational access should be excluded through installation of posts, rope, and signage. 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 sea turtle nest sites with protective measures installed where needed to prevent raccoon (*Procyon lotor*) depredation. A comprehensive predator control plan should be developed and implemented to address declining shorebird nesting success. Gopher tortoise burrow surveys should continue in the beach dune community to better assess the gopher tortoise population densities throughout the park.

COASTAL STRAND – 75.52 acres

Desired Future Condition: This community is characterized by stabilized, wind deposited coastal dunes 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 including saw palmetto (*Serenoa repens*), cabbage palms, coinvine (*Dahlbergia ecastophyllum*), red cedar (*Juniperus virginiana*), live oak (*Quercus virginiana*), seagrape, shell mound prickly-pear (*Opuntia stricta*), snowberry (*Chiococca alba*), and numerous others. 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 4 and 15 years. Variability outside this range may occur based on site-specific conditions and management goals.

Description and Assessment: The remaining original strand of Honeymoon Island occurs in a narrow, linear zone on the northern half of the island, adjacent to the mesic flatwoods. It is characterized by some unique salt-tolerant shrubs. Typical species present include cabbage palm, seagrape, saltbush, Florida swampprivet (*Forestiera segregata*), Hercules-club (*Zanthoxylum clava-herculis*), prickly-pear cactus (*Opuntia austrina*), and occasional slash pines (*Pinus elliottii*). Imperiled plant species found in this community include the shell mound pricklypear. The coastal strand at Honeymoon Island is in good condition. Exotic plant infestations of Brazilian pepper and Australian pine have been treated and reduced to maintenance levels. Prescribed fire has been used to maintain portions of this community at the park. The highest density of gopher tortoise burrows per acre occurs within the coastal strand.

General Management Measures: Persistent exotic species treatment will be necessary to maintain the condition of the coastal strand on the island. 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 throughout the park.

COASTAL GRASSLAND – 71.97 acres

Desired Future Condition: Coastal grassland is predominantly an herbaceous community, occupying the flatter and drier portions of the transition zone between the primary beach dunes and the natural communities dominated by woody species, such as coastal strand or maritime hammock. With the exception of overwash from severe storms, it will be a

relatively stable community compared to the dynamic primary dunes. Characteristic plant species include broomsedge (*Andropogon virginicus*), bushy bluestem (*Andropogon glomeratus* var. *pumilus*), camphorweed (*Heterotheca subaxillaris*), and earleaf greenbriar (*Smilax auriculata*). Other common species include sea oats (*Uniola paniculata*), bitter panicgrass (*Panicum amarum*), and saltmeadow cordgrass.

Description and assessment: The coastal grassland community on Honeymoon Island includes areas adjacent to the beach dune on the west side of the island and areas further inland flanking mesic flatwoods and coastal strand. In some locations, patches of coastal strand containing cabbage palms are interspersed among the grasslands. Dominant species in the coastal grassland community at Honeymoon Island include sea oats, broomsedge, gulf hairawn muhly (*Muhlenbergia capillaris* var. *filipes*), and saltmeadow cordgrass. Other species found in the grassland includes tickseed (*Coreopsis leavenworthii*), pricklypear cactus, diamondflowers (*Houstonia nigricans* var. *nigricans*), and pineland heliotrope (*Euploca polyphylla*). The coastal grassland community on Honeymoon Island is used frequently by the state threatened gopher tortoise, with many burrows throughout the area. Rare plant species found in this community include the shell-mound prickly-pear cactus. The coastal grassland community is in excellent condition with minimal exotic plant coverage.

General Management Measures: Management activities that routinely occur within the coastal grassland community includes exotic plant and animal control. Monitoring and removal of exotic vegetation should continue before it can become established. Gopher tortoise burrow surveys should continue in the beach dune community to better assess the gopher tortoise population densities throughout the park.

COASTAL INTERDUNAL SWALE – 2.45 acres

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

Description and assessment: Coastal interdunal swale exists on Honeymoon 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 in that they lack species such as sea oats, and tend to be wetter, holding water longer than surrounding areas. Dominant plant species include broomsedge, marsh fimbry, salt grass, and saltmeadow cordgrass. Older coastal interdunal swales in the middle of the island have long since succeeded to coastal grassland, coastal strand, and maritime hammock. The coastal interdunal swale communities at Honeymoon Island are in excellent condition with very minimal exotic plant coverage.

General Management Measures: Management activities that routinely occur within the coastal interdunal swale community includes exotic plant and animal control. Monitoring and removal of exotic vegetation should continue before it can become established.

MARITIME HAMMOCK – 5.02 acres

Desired Future Condition: A coastal evergreen hardwood forest will occur in narrow bands along stabilized 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. Variation in species composition exists along the coast. Typical animals include green treefrogs (*Hyla cinerea*), eastern (yellow) rat snakes (*Pantherophis alleghaniensis*), and gray squirrel (*Sciurus carolinensis*). Migrating birds rely on these forests for food and shelter following trans-gulf migrations.

Description and Assessment: This community type occupies only a small area at the center of the island, where an old dune depression has been stabilized long enough to allow growth of a forest. It is dominated by cabbage palms and red cedar in the canopy, coinvine, yellow necklace pod (*Sophora tomentosa* var. *truncata*), saffron plum (*Sideroxylon celastrinum*) and sedges in the ground layer, and it is largely without oaks. The community grades into coastal strand, mangrove swamp, and mesic flatwoods. Brazilian pepper has been treated in the understory. The soil is more organic and drains more slowly than adjacent coastal strand. Other species commonly found in this community include wax myrtle and poison ivy (*Toxicodendron radicans*). The small size of this community type, as well as the adjacent pyric communities, cause fire to play a more important role in its appearance.

General Management Measures: A persistent maintenance program will be required to control the regrowth of invasive exotics in the small hammock. Prescribed fire in the adjacent coastal strand and mesic flatwoods will help to define the hammock along naturally occurring ecotones.

MESIC FLATWOODS – 97.15 acres

Desired Future Condition: In this region of the state, 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 dependent on periodic fires. The Optimal Fire Return Interval for this community is 2 to 5 years.

Description and Assessment: The canopy of the pine flatwoods consist 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. Saw palmetto and Hercules club are dominant understory species, yet more tropical species like sea grape, buttonwood (*Conocarpus erectus*), and white mangrove (*Laguncularia recemosa*) are easily found among the pines. The perimeter of the flatwood graduates quickly to mangrove swamp, offering the opportunity for Brazilian pepper and other exotics to invade from the surrounding wet ecotones. The mosquito ditches that once fragmented the swamps of the eastern shoreline have filled naturally and are overgrown by mangrove. Imperiled species such as gopher tortoises are typically found in this community.

While fire had been excluded for decades prior to the acquisition by the state, an active fire program has worked to bring all the pyric acreage into maintenance phase. The use of fire to reduce massive historic fuel loads in the understory, has left areas of the canopy fragmented and commemorated with charred pine snags. These clusters of snags may help to explain the unusually high density of osprey (*Pandion haliaetus*) nesting in the flatwoods each spring. Great horned owl (*Bubo virginianus*) and bald eagle (*Haliaeetus leucocephalus*) nesting has been well documented over the past decades.

This mesic flatwood is just an artifact of a remnant natural community that once existed at the park. The preparation for residential and commercial development that occurred throughout the 1950s and 1960s on the island, forever altered many of the natural areas. Although many of these areas are naturalizing, evidence of the clearing and stabilization efforts are still easily recognized. The uniformity in the height of cabbage palms on the island point to a large-scale ground clearing in the past. This effect can be observed under the pine canopy in the flatwoods. The large-scale ground clearing, paired with the exclusion of fire in the decades that followed, helps to explain the current condition of the habitat. The overall current condition of the mesic flatwoods is good.

General Management Measures: This barrier island variant of a mesic flatwood has become a disappearing natural area, as the Florida Gulf coastline becomes further developed. Care should be taken to protect this feature. Prescribed fire should play a dominant role in the management of the mesic flatwood. The quick recovery of the understory species seems to suggest a shorter fire cycle is appropriate. Additional effort should be expended to protect the live pine canopy as well as the branched pine snags that support a robust osprey nesting population. A persistent exotic treatment program should follow the prescribed fire, taking advantage of the recently cleared conditions. Gopher tortoise burrow surveys should continue to be conducted following prescribed fire as well. Osprey, eagle, and owl nest monitoring should also continue with seasonal closures and buffers installed as necessary during nesting season.

MANGROVE SWAMP – 157.10 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 (*Borrichia frutescens*), and vines including gray nicker (*Caesalpinia bonduc*), coinvine, and herbaceous species such as saltwort (*Batis maritima*), perennial glasswort (*Sarcocornia ambigua*), and giant leather fern (*Acrostichum danaeifolium*). Soils are generally anaerobic and are 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.

Description and Assessment: This community dominates the eastern shoreline of Honeymoon Island and the shorelines of Pelican Cove. The community is thriving 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 inundated. 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. Remnant 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 Honeymoon Island is in excellent condition.

General Management Measures: Periodic maintenance for exotic species and entangled trash will help to keep the community healthy.

MARINE MOLLUSK REEF – 8.92 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: This reef community occurs in St. Joseph Sound in two sites north of the park's entrance station. It is largely composed of the eastern oyster. The reef is intertidal and is 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. In 2017, a restoration project by a DEP research permit holder was approved to provide additional reef substrate for larval spat near existing reefs. Volunteers filled aquaculture bags with shell material and placed them in areas of low wave energy and good tidal flow. Long term monitoring required by the permit has provided interesting growth and species diversity data.

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. Supplemental substrate, added to the reefs of the island, may help to improve the health of the system. Water quality conditions are highly variable and rely on factors beyond the control of management measures.

MARINE SEAGRASS BED – 889.41 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 shoalweed (*Halodule wrightii*), manateegrass (*Syringodium filiforme*), and turtlegrass (*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 nebulosus*), 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, black mullet (*Mugil cephalus*), and Atlantic 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: Seagrass beds are extensive along the eastern side of Honeymoon Island and other undeveloped Gulf Coast barrier islands at this latitude. This community is supported where coastal waters are clear, shallow, sheltered from excessive wave-energy, and have a fine mud or sand substrate. Once established, grass beds reduce the wave energy on the bottom and promote sedimentation of suspended particles. Hence, marine grass beds tend to accumulate soil. Unfortunately, development around St. Joseph Sound has increased turbidity of the coastal waters due to stormwater runoff and disturbance of sediments. Boat propellers and anchors have also damaged the marine grass beds. Established motor exclusion protection zones have prevented further mechanical damage and promoted healing of the scars. The success of these measures is monitored by Pinellas County Environmental Services. The Florida Seagrass Integrated Mapping and Monitoring Program summary report for Western Pinellas County found that between 2006 and 2016, seagrass beds in Saint Joseph's Sound increased in size by about 23% (SWFWMD 2017). The dominant species of seagrass are manateegrass, shoalweed, and turtlegrass. This community grades into mangrove swamp and marine unconsolidated substrate. Although turbidity issues will persist due to conditions beyond management control, the seagrass beds are in good condition.

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. Perimeter signage on zones should be replaced as necessary to be effective.

MARINE UNCONSOLIDATED SUBSTRATE – 1,416.59 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: The variation that occurs within this fluid system will always be a challenge for management, as the acreage of this very dynamic community

fluctuates from year to year. It is characterized as a sparsely vegetated, or unvegetated, open area of subtidal, intertidal, and supratidal shoreline. On the Gulf side of the island, the unconsolidated substrate is beach sand, while on the bay side it is mud. This community includes infaunal organisms vulnerable to disturbances such as dredging and low levels of dissolved oxygen. It includes the intertidal beach habitat below the Beach Dune community. Although this is a zone of sparse vegetation, it is a rich feeding zone for wading birds and shorebirds which are able to probe below the surface for infaunal organisms such as isopods, amphipods, polychaetes, mollusks, and crustaceans. Subtidal, intertidal, and supertidal zones are each associated with a characteristic suite of organisms. The feeding grounds at Honeymoon Island help support the very significant nesting shorebird colony on the Three Rooker Islands to the north, as well as resting seasonal migrants.

The southern beach at Honeymoon Island, adjacent to Hurricane Pass, has been designated a pet beach and is a place for pet owners to enjoy beach recreation with their animals. The pet beach excludes exotic and barnyard animals and requires animals to be on a leash. This specially designated section of beach continues to be popular, but significant shorebird nesting has been absent on this shoreline for more than a decade as a result. Nesting attempts have occurred over the past several years beginning in 2019 when a pair of Wilson's plovers nested in 2019. The nest was unfortunately unsuccessful. During the 2020 nesting season when the park was briefly closed to the public, a flock of seabirds including least terns, Caspian terns, and black skimmers nested on pet beach, and subsequently abandoned upon the park reopening to park visitors and leashed dogs.

The primary recreational beach lies between the south bathhouse and the south jetty. This shoreline was constructed of limestone substrate and covered with sand of several origins. Storm force energy moves sand laterally along the island, from the midpoint toward the tips, often leaving the underlying limestone exposed mid-island. Several nourishment projects have replaced sand here, most recently in 2008 and 2015. Jetties and T-groins have been employed to retain sandy shoreline at historic recreational areas with variable success. Limestone rubble is common from the Main Beach extending to the North and continues to be a challenge for management trying to maintain quality recreational space alongside sea turtle and shorebird nesting habitats. This portion of the community alternates between fair and poor condition, despite much effort and expense. The remainder of the sandy shoreline is in excellent condition, but beach erosion will likely become more dramatic as sea levels rise. On the lower energy, eastern shorelines, marine unconsolidated substrate takes the form of mudflats covered with marine seagrass beds and oyster beds. This portion of the community is in excellent condition.

General Management Measures: Management will have to continually address the condition and quality of Main Beach as recreational space and as habitat. Large-scale re-nourishment restorations will likely be required periodically to maintain this portion of the community in good condition. Sea turtle and shorebird nesting should continue to be monitored during season as indicators of habitat quality. Areas of historic beach nesting and 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 to seasonal visitation where setback distances cannot be established. Winter shorebird use should 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.

IMPOUNDMENT/ARTIFICIAL PONDS – 14.26 acres

Desired Future Condition: The impoundment/artificial ponds at Honeymoon Island State Park are located adjacent to the parking areas throughout the park and provide drainage and stormwater run-off for the paved impervious surfaces.

Description and Assessment: There are seven impoundment/artificial ponds located adjacent to the paved parking areas in the park. The water saturation levels vary due to the depth of the pond and rainfall level. Wetter areas are thick with southern cattails (*Typha domingensis*), which prevents subsequent drainage in the pond. The shallower ponds contain predominantly herbaceous species such as Starrush whitetop (*Rhynchospora colorata*), broomsedge, *Cyperus sp*., and Carolina willow (*Salix caroliniana)* occur on the drier margins. Exotic invasive plant species are not prevalent within the ponds.

General Management Measures: Management activities that routinely occur within the impoundment/artificial ponds includes monitoring for exotic plants and vegetation removal for effective drainage. A program of maintenance excavation should be developed for the retention areas adjacent to parking areas and roadways. Monitoring and removal of exotic vegetation should continue before it can become established.

DEVELOPED – 51.53 acres

Desired Future Condition: The developed areas within the park will be managed to minimize the effect on adjacent natural areas.

Description and Assessment: Developed areas on the island include nineteen acres of paved parking with retention swales, four picnic shelters, six bath houses, two cafes, toll booths, a visitor center, a dock, and support buildings. A main drive loop provides access to recreational and support areas. Three staff residences, three maintenance garages, two office buildings, and one concession barn comprise the support facilities. All of the developed areas are heavily used, yet in good condition.

General Management Measures: Daily maintenance in high use visitation areas will require the bulk of effort in the developed areas. Boardwalks, sidewalks, and maintained trails help to prevent social trails through sensitive habitat. 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 on natural resource protection, specifically 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.

Table 2. Prescribed Fire Management		
Natural Community	**Acres**	**Optimal Fire Return Interval (Years)**
Mesic Flatwoods	94	2-5
Coastal Strand	37	4-15
Annual Target Acreage	**25-63**	

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 131 acres of the park maintained within the optimum fire return interval.

Action 1 Update annual burn plan to uphold maintenance conditions
Action 2 Conduct prescribed burning on between 25 - 63 acres annually.
Action 3 Maintain established fire breaks

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 objectives outlined in this ten-year management plan.

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). These coastal forests have largely been cleared for development, fragmenting critical stop-over habitat for seasonal migrants. The park's mesic flatwoods remain as a representative example of this disappearing ecotype. Prescribed fire is the primary tool to manage this habitat. 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 by opening the understory and allowing growth of grasses and forbs. Approximately twenty osprey nests are active

each season from February to May, limiting fire activity in areas. Bald eagles have nested here since 2009 and great horned owls use the pine canopy for cover and nesting each season. All of these species require consideration when planning a prescribed fire, especially the bald eagles with a 330' buffer mandated during periods of active nesting.

There are 131 acres of fire dependent communities to maintain on Honeymoon Island, which include 94 acres of mesic flatwoods and 37 acres of coastal strand. This acreage has been divided into 13 management zones ranging from 2 to 20 acres (HY1-HY11, and HY17). These management zones have been grouped into 5 clusters, averaging 25 acres, of adjacent zones that are burned each year as a unit, creating a five-year fire return interval for each cluster. This easily defines the target burn acreage for the park at 25 acres annually. Walking trails are maintained through this acreage provide easily defendable fire lines. Additional mechanical treatment proceeds each prescribed fire to reduce heavy fuel loads around vulnerable osprey nesting trees.

Natural Community Improvement

Improvements are similar to restoration but on a smaller, less intense scale. This typically includes vegetative management activities or minor habitat manipulation.

Objective B: Conduct natural community/habitat improvement activities on 3 acres of beach dune natural community.

Action 1	Develop site specific dune improvement plan
Action 2	Seek project funding/sponsorship/partnership
Action 3	Implement improvement plan

Following a nourishment project on the main beach area, a dune planting would help to retain windblown sand at the site and further enhance the project area for imperiled species and visitor use. Erosion has reduced the current dune line in size and function. The park should develop a dune improvement plan including the planting of native salt tolerant dune species such as sea oats, bitter panicgrass, or saltmeadow cordgrass, salt grass, among others. The plan should include installation of posts and rope to keep visitors from entering the newly planted area along with the installation of educational signage to inform visitors about the project.

Imperiled Species

Imperiled species are those that are tracked by FNAI as critically imperiled (G1, S1) or imperiled (G2, S2) 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.

Honeymoon Island is a very significant feeding and wintering site for migrating shorebirds. It has been ranked second among 27 sites in biological importance to wintering shorebirds on the southwest coast and ranked third in Florida (Sprandel et al. 1997). It is located due south and in close proximity to the Three Rooker Islands, which are consistently ranked among the top five shorebird nesting sites in Florida by FWC biologists. 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 Honeymoon Island during migration.

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). Species currently experiencing population declines such as the red knot and piping plovers will continue to be monitored within the state park. All parks 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. When important resting and feeding areas are identified at these parks, proper signage and protection will be erected.

Nesting seabirds and shorebirds are monitored 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 (*Sterna antillarum*) and black skimmer (*Rynchops niger*). 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 coordinates with FWC on enforcement and protection measures for critical shorebird and seabird nesting and resting areas.

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. Management actions may 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 Honeymoon Island between May and September each year. Kemp's ridley (*Lepidochelys kempii*) sea turtles have also been observed within park boundaries with nesting having been documented at adjacent parks including Caladesi Island State Park and Anclote Key Preserve State Park. 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 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. Ahead of the 2021 nesting season, DRP implemented a predator control program contracting United States Department of Agriculture (USDA) to complete predator removal activities at the park for the protection of nesting seabirds, shorebirds, and sea turtles. Success of the program will depend on continued predator control efforts.

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 dense population of gopher tortoises, which are found in the beach dune, coastal grassland, coastal strand, and mesic flatwoods communities. In December 2016, a gopher tortoise pilot survey funded by FWC was completed by FNAI scientists at Honeymoon Island. A full survey was then completed in April of 2017 to assess population density, age class, and estimated viability based on habitat quality and population size (FNAI 2017). FNAI determined that the population has good viability and

exhibits favorable characteristics but falls short of the population size (250 mature gopher tortoises) and available habitat (100 ha) needed to be considered excellent.

In addition to the seven listed species of shorebirds and seabirds, 27 other designated bird species have been documented in the park. Seven designated reptile species, four designated plants, and one designated mammal species have also been documented.

The park is noted for its large number of osprey nests. The Osprey Trail, which traverses the northern half of the island, passes near many of the nests, without apparent harm. Bald eagles have nested in the pines since 2009, closing portions of the trail during nesting season. The park is noted for a population of eastern diamondback rattlesnakes.

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 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						
West coast dune sunflower *Helianthus debilis ssp. vestitus*				G5T2,S2	2,10	Tier 1
Erect pricklypear; shell-mound pricklypear *Opuntia stricta*			FL-T		2, 10	Tier 1
Beachberry; Inkberry *Scaevola plumieri*			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,S 3	2,5,8, 10,13	Tier 3
Eastern indigo snake *Drymarchon couperi*	FT	T		G3,S3	1,2,13	Tier 1

Table 3. Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Atlantic hawksbill sea turtle *Eretmochelys imbricata*	FE	E		G3,S1	10	Tier 1
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,S 3	1,2,13	Tier 1
Gopher tortoise *Gopherus polyphemus*	ST	C		G3,S3	1,2,8, 10,13	Tier 1
BIRDS						
Saltmarsh Sparrow *Ammospiza caudacuta*				G2S1S2 N	2,8,10, 13	Tier 1
Scott's seaside sparrow *Ammodramus maritima peninsulae*	ST			G4T3QS 3	2,8,10, 13	Tier 1
Florida burrowing owl *Athene cunicularia floridana*	ST			G4,T3,S 3	1,2,8, 10,13	Tier 1
Red knot *Calidris canutus rufa*	FT	T		G4T2,S2 N	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	13	Tier 1
American oystercatcher *Haematopus palliates*	ST			G5,S2	2,8,10, 13	Tier 3
American Bald Eagle *Haliaeetus leucocephalus*				G5,S3	1,2,8,10 ,13	Tier 3

Table 3. Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Worm eating warbler *Helmitheros vermivorum*				G5,S1	2,8,10, 13	Tier 1
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	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
Florida prairie warbler *Setophaga discolor paludicola*				G5T3,S3	2,8,10, 13	Tier 1
American redstart *Setophaga ruticilla*				G5,S2	2,8,10, 13	Tier 1
Roseate tern *Sterna dougallii*	FT	T		G4,S1	2,8,10, 13	Tier 1
Least tern *Sternula antillarum*	ST			G4,S3	2,8,10, 13	Tier 3
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
14. Other

Monitoring Level

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

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

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

Imperiled Species Management

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

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

DRP staff consulted with staff of the FWC's Imperiled Species Management or that agency's Regional Biologist and other appropriate federal, state and local agencies for assistance in developing imperiled animal species management objectives and actions. 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.

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. 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 three imperiled plant species and forty-two 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.

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	By 2026, resurvey/replicate line transect distance sampling protocols to estimate the gopher tortoise population on the island

DRP staff coordinates targeted surveys of 11 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. Nesting occurrence and productivity data are collected from April 15th to October 31st for loggerhead, green, and Kemp's ridley sea turtles. Sea turtle stress and mortality data are collected year-round using standard FWC stranding reports. 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. Osprey and bald eagle nesting occurrence and productivity data are collected during spring nesting season in cooperation with Audubon of Florida and FWC. Piping plover and red knot winter resting data is collected during two statewide surveys in the winter. Gopher tortoise population surveys are conducted immediately following every prescribed fire.

The gopher tortoise population study completed in 2016 by staff from FNAI provides the park with an excellent baseline for tortoise numbers and population strength. The results from the completed survey will assist park and district staff in documentation of shifts in population numbers. Future assessments of tortoise populations at the park should be completed every ten years. The next survey should be conducted by 2026. Park and district staff will contact and work with FWC if decreases in population numbers occur.

Objective C: Monitor any new imperiled plant species documented.

Action 1	Develop monitoring protocols for all new imperiled plant species
Action 2	Implement monitoring protocols for new imperiled plant species
Action 3	Consult with district staff on protective measures for new species.

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

Action 1	Demarcate potential 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, 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.

Of the three designated plant species found on Honeymoon, only the West Coast dune sunflower needs protection. The designated animal species, on the other hand, do require them. These include three species of sea turtles and fifteen species of birds. Sea turtles' 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.

The DRP will seek a balanced approach to minimize visitor impact 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.

When necessary, 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 Honeymoon 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 human 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 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 may be seasonally posted to reduce such impacts.

Informational leaflets have been prepared for distribution, educational kiosks are maintained, social media is employed, and the press 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 to help educate 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.

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	Consult with FWC and District staff to develop an appropriate population level for raccoon on the island.
Action 2	Develop monitoring protocols to assess the raccoon population levels.
Action 3	Develop a program to maintain the raccoon population.

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 Honeymoon Island to discourage predation by nuisance species, and raccoons are removed prior to nesting season. Beach nesting bird protection is more problematic. Bird nest predation by raccoons has been documented repeatedly by park staff. 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 are able to out-compete, displace or destroy native species and their habitats. If left unchecked, invasive species 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, with priority being given to those 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. Nuisance animals are dealt with on a case-by-case basis in accordance with the DRP's Nuisance and Exotic Animal Removal Standard.

Throughout the late 1960s, Honeymoon Island was the site of a large-scale land alteration in preparation for residential and commercial construction that never followed. A massive dredge-and-fill operation was halted midway by local conservation groups hoping to prevent further development on the island. Construction eventually ground to a halt, leaving partially dug canals, sea walls, and home sites unfinished. The island lay fallow and largely unmanaged in the years that followed and was quickly reforested with a wide variety of exotic plant species. Long time Pinellas residents remember the beach adjacent to Hurricane Pass in the 1970s, now pet beach, as a shady grove of 50-foot Australian pine. A rough jeep trail, now called Osprey Trail, wound through tunnels of Brazilian pepper on land once cleared for residential construction. This was the island where early land managers worked.

Three decades of effort have resulted in dramatically reduced infestation levels. Australian pine seedlings are still found after tropical storm events. Brazilian pepper persists in remote muddy pockets where mechanical and chemical treatments are most difficult. Management will always be forced to develop new strategies for emergent invaders such as cogon grass (*Imperata cylindrica*) and rosary pea (*Abrus precatorius*). Both occur here now at low infestation levels. Current management actions to further reduce infestations include an active prescribed fire program, staff and volunteer exotic work days, funding searches to support in-house spray technicians and contractor treatment projects, recruiting interns and AmeriCorps members, and pursuing chemical grants from the FWC herbicide bank. Field staff and volunteers are trained to recognize FLEPPC priority exotic species and report new infestations to management. Exotic treatment efforts follow the prescribed fire rotation of pyric acreage to take advantage of more accessible conditions. Management zone surveys track changes in infestation levels following treatments. Surveys are reported along with treatment effort, chemical use, and species occurrence using the Natural Resource Tracking System database.

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.

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

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	2	HY-06, HY-09, HY-11
		3	HY-07, HY-10
Australian pine *Casuarina equisetifolia*	I	2	HY-21, HY-22, HY-23
Bowstring hemp; Mother-In-Law's tongue *Dracaena hyacinthoides*	I	1	HY-12
Indian laurel *Ficus microcarpa*	I	1	HY-15, HY-30
Cogon grass *Imperata cylindrica*	I	0	HY-14, HY24
		1	HY-08
		2	HY-01, HY-02A, HY-04, HY-06
		3	HY-02B, HY-05, HY-07, HY-09, HY-11

Table 4. Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone(s)**
Lantana; Shrubverbena	I	1	HY-12, HY-13, HY-14,HY-20, HY-27
		2	HY-05, HY-06, HY-07, HY-09, HY-28, HY-29
Lead tree *Leucaena leucocephala*	II	0	HY-13, HY-25, HY-26
Chinese fan palm *Livistona chinensis*	II	2	HY-27
Punktree *Melaleuca quinquenervia*	I	1	HY-06, HY-14
Rose natalgrass *Melinis repens*	I	2	HY-07, HY-08, HY-09, HY-11, HY-18, HY-24, HY-25
Balsalmpear *Momordica charantia*	II	2	HY-07, HY-09
Tuberous sword fern *Nephrolepis cordifolia*	I	1	HY-15
Castorbean *Ricinus communis*	II	1	HY-26
Browne;s blechum *Ruellia blechum*	II	1	HY-26
Beach naupaka *Scaevola taccada*	I	2	HY-21, HY-22
Brazilian pepper *Schinus terebinthifolius*	I	0	HY-12, HY-15, HY-16, HY-25, HY-26
		1	HY-24
		2	HY-01, HY-04, HY-06, HY-11, HY-14, HY-19, HY-21, HY-22, HY-23, HY-27, HY-28, HY-29, HY-31
		3	HY-02A, HY-02B, HY-03, HY-07, HY-10, HY-17, HY-18
Tropical soda apple *Solanum viarum*	I	1	HY-07, HY-08
Wedelia *Sphagneticola trilobata*	II	2	HY-20
Burrnut; Jamaican feverplant *Tribulus cistoides*	II	1	HY-09, HY-11
Washington fan palm *Washingtonia robusta*	II	1	HY-30

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.
3 Scattered dense patches: Dense patches of a single species scattered 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 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 and continue required maintenance and follow-up treatments.

Many years of effort has resulted in current low levels of exotic plant infestations on Honeymoon Island. Similar effort will be required in perpetuity to maintain these healthy conditions. Eight to twelve acres of reduced infestation annually will only maintain the current maintenance conditions and low infestation levels. Additional effort should be expended when resources are available. Monitoring will also be necessary in perpetuity to document efficiency of treatment, infestation reoccurrence, and emergent infestations. Monitoring and treatment should follow the prescribed fire cycle where appropriate to take advantage of increased access to remote infestations and watch for new invasive exotic occurrence on recently disturbed soil.

Objective B: Monitor for impacts and implement control measures on three exotic/nuisance animal species in the park, if warranted.

Action 1	Monitor sea turtle nesting and gopher tortoise mortality for impacts from coyote, racoon, and nine banded armadillo activity.
Action 2	Continue to trap exotic animals in house and report removal to the district office quarterly.
Action 3	Apply for outside funding to hire a OPS trapper for nuisance animal removal during sea turtle nesting season.
Action 4	Continue to contract outside trappers to remove exotic/nuisance animals

Over the past several years, racoons have been responsible for nest depredations of both imperiled sea turtles and shorebirds at the park. Despite efforts by the park staff to place self-releasing cages on sea turtle nests to protect them from depredation, racoons have successfully depredated multiple sea turtle nests at the park each year. Ahead of the 2021 shorebird and sea turtle nesting season, DRP contracted USDA to trap and remove nuisance coastal predators from the park. USDA staff were able to successfully remove 103 racoons from the beach in 9 days. Predator control efforts should continue annually ahead of shorebird and sea turtle nesting season to reduce depredations.

Nine banded armadillo (*Dasypus novemcinctus*) and coyote (*Canis latrans)* have been documented on Honeymoon Island for many years. Coyote seem to occur here more sporadically than armadillo, yet impacts are possible. Field staff are trained to watch for evidence of hatchling mortality and nest disturbance as components of sea turtle nesting patrol and upland field work.

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: The first inhabitants of Honeymoon Island are believed to have been the local Safety Harbor culture, namely the Tocobagos, but this has not been confirmed. Hog Island Mound (8Pi9) on Caladesi contained skeletal remains, but from which culture is not known (Moore 1903). Pieces of pottery and chainmail dating to the sixteenth century reportedly have been found on Honeymoon Island. These indicate that Europeans used the island for at least a stopping-off point. Maps dating to the 1830s referred to the barrier island as Sand Island. Between 1830 and 1939, the island was given the name Hog Island. In 1921, because of a hurricane, Hog Island was breached into two islands.

Honeymoon Island was named in 1939, by a New York developer that built cottages and promoted the island as a vacation site. In the area of the Osprey Center, there is a concrete pad and two upright, freestanding elements approximately five feet high. Photographs from the era of the Honeymoon cottages, about 1939-1940, indicate that this structure could have been part of the resort complex. There are, however, no surviving historic structures in the park.

Field work and analysis of the islands cultural resources was performed by the University of South Florida's Alliance of Integrated Spatial Technologies in 2013. An archeological resource sensitivity model was also developed for the island. The sensitivity model found that the Osprey Breeding site (Pi747) lies within the high probability area for cultural resources. Ground disturbance there is rare and should be avoided by management.

Condition Assessment: The Florida Master Site File lists a site (Pi747) named the "Osprey Breeding Site," which is on Honeymoon Island proper. It is an artifact and lithic scatter site. The site was discovered in 1982 and was mapped as a large area encompassing the center of the northern half of the island. A dirt road apparently runs through the site. A possible second site is an anomalous sand mound located adjacent to the Osprey Trail. Shell is observable on the surface in conjunction with animal burrows. Aerial maps from the development era of the 1970s reveal that much of the area was bisected east-west by ditches or canals; a short time later aerial maps show the canals filled and spoil piles visible. Remaining artifacts would have been very disturbed and out of context. A more recent report (Pi11664) documents artifacts turned in by a visitor, seemingly found out of context. All of the sites within the park are in poor condition due to past disturbance and will be susceptible to the continued effect of sea level rise.

General Management Measures: Outside of monitoring for exposed artifacts on trails or the unimproved roadway, no management measures are needed for the lithic scatter site Pi747, Osprey Breeding site. Precautions will be taken to prevent or monitor ground disturbance activities at the lithic scatter site, or in areas identified as high sensitivity by the archaeological sensitivity model.

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: The items reported on the Master Site file Pi11664 have been returned to the park after analysis by BNCR. Two projectile points and a stone scraper were examined. They have been made part of a public display in the island's Rotary Centennial Nature Center.

Table 5. Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
Pi747 Osprey Breeding site	Prehistoric/Unspecified	Lithic scatter	NE	G	P
Pi11664 Sand Spit site	Prehistoric/Unspecified	Items out of context	NS	G	P

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

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

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

Condition Assessment: The projectile points and stone scraper have been professionally mounted and are in good condition. There are also small informal collections of documents stored with the island's interpretive collection. These collections have been assembled by staff during research into island history for interpretive programs. All of these items are in good condition and stored in climate-controlled conditions.

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.

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.

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 DHR for review and comment prior to undertaking the proposed project. 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 adaptive reuse of historic buildings. The one cultural site Pi0747 Osprey Breeding site is a "not well-defined" prehistoric lithic scatter that is covered in native vegetation and an unpaved park service road/trail. No cultural material is currently evident at the surface. No actions are needed to keep this site in good condition. If ground disturbing activities are proposed in the area, they will need to be conducted with guidance from DHR.

Objective A: 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. Honeymoon Island will develop and adopt a scope of collection. 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 the scope of collection.

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.

A timber management analysis was not conducted for this park. The total acreage of the park does exceed the 1,000-acre threshold. However, of the park's 2,824 total acres, approximately 2,275 acres are submerged. Upland acreage is less than 550 acres.

Coastal/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. Beach restoration and nourishment have become increasingly necessary procedures for protecting valuable infrastructure.

Honeymoon Island boasts 4.25 miles of Gulf shoreline to attract more than 1 million visitors annually. Annual peak visitation occurs during the spring and summer breaks of regional universities and schools, coinciding with nesting seasons of several of the state listed shoreline species known to frequent the island park. Sea turtles and shorebirds are attempting to nest during the busiest time in the busiest park in Florida. As visitors and critical species alike utilize the island, the resource of available habitats and recreational space is decreasing with rising sea levels accelerating the process of erosion. Sand moves seasonally as it normally would on a barrier island, only to expose the artificially rocky substrate below, inherited from a previous land owner. This is the context for the beach management framework at Honeymoon Island State Park.

Boardwalks and designated access points attempt to control dune erosion between parking areas and popular recreational space. Curbside trash collection attempts to focus a large artificial food source for predators, primarily raccoons and fish crows, away from the shore. The highest need for listed species protection is to establish the appropriate level for the raccoon population, and a maintenance program in the absence of natural controls. Current protective measures at nest sites consist of predator exclusion cages at sea turtle nests. A predator control plan should be developed and implemented.

Objective A: Continue to assist federal, state and local agencies with active monitoring of erosion and accretion cycles and assessment of beach and shoreline conditions following natural disasters.

Action 1 Monitor baseline beach accretion and erosion cycles
Action 2 Document significant erosion losses following major storm events

Erosion issues have been addressed by large scale nourishment projects, replacing appropriate sandy material over the remnant rocky shore. Protective structures, engineered to retain sandy shoreline, have been installed where new sand has been placed. However, three-quarters of a mile of unprotected shoreline has been significantly degraded by storms over recent years. This resulting reduction of quality visitor area and viable habitat only increases the competition for space on the remaining shoreline. Shorebird nesting success has predictably declined in the last several years. Additional beach restoration projects may be required in the future.

Objective B: Conduct habitat/natural community restoration activities on 10 acres of marine unconsolidated substrate natural community.

Action 1 Develop site specific restoration plan
Action 2 Seek project funding/sponsorship/partnership
Action 3 Implement restoration plan

Honeymoon Island has benefitted from several shoreline restoration projects, most recently in 2008 and 2015. Continued effort will be required to maintain quality recreational space along with viable shoreline habitat on main beach. Shoreline that was constructed of limestone substrate and covered with beach sand will continue to degrade. Shoreline erosion may potentially threaten structures and developed assets in the coming years without additional action. Main beach would benefit from an additional 10 acres of additional shoreline re-nourishing, with additional T groins or similar structures to retain sand over time. This would be similar in scope to the 2015 project.

Objective C: 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 Monitor shorebird distribution for two years following projects
Action 4 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 following coastal projects.

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, 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. Honeymoon Island State Park was subject to a land management review on February 21, 2019. The review team determined that the land is being managed for the purpose for which it was acquired.

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

Honeymoon Island State Park occupies a majority of the barrier island on which the park is situated. A 25-acre planned residential development is the only other land use on the island. This residential development has been entirely built out and consists of low and mid-rise condominiums. The condos are accessed by the Dunedin Causeway, adjacent to the eastern park boundary near the entrance station. Congestion at the park entrance has caused issues with residents accessing their residential units, and the DRP will address congestion at the park entrance as a major component of the Conceptual Land Use Plan for Honeymoon Island State Park.

Planned Use of Adjacent Lands

There are currently no new planned uses of adjacent lands. Intensive redevelopment of the planned residential development adjacent to the park is unlikely, but the DRP will monitor any development proposals that may impact the park boundary.

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 abundant sea life in the bay and Gulf of Mexico supported prehistoric occupation of the island by Native Americans. By the 1930s, the island began to be developed by tourism and leisure purposes. Honeymoon cottages were constructed, giving the island its namesake. In the 1960s, a developer purchased the island and intended to construct 4,500 residential units. The develop plan to dredge and fill the island to expand its land mass from 200 acres to 3,000. This development plan is the reason the park boundary appears as a nearly circular teardrop. After the dredging and development plan fell through, the State of Florida began purchased the property in 1974.

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.

Honeymoon 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 Honeymoon Island State Park.

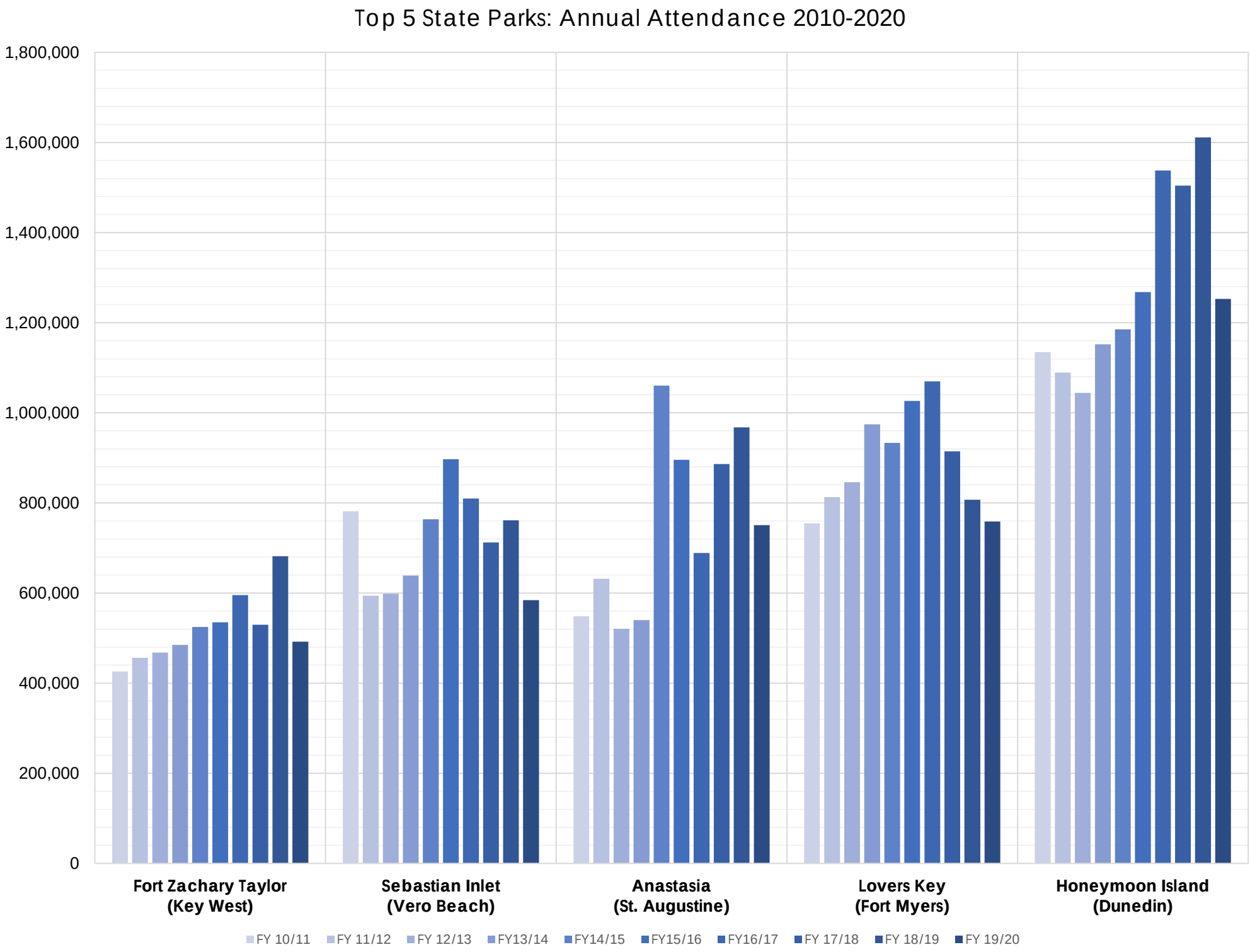
Current Recreational Use

Honeymoon Island State Park recorded 1,252,866 visitors in FY 2019/2020. By DRP estimates, the FY 2019/2020 visitors contributed $109.7 million in direct economic impact, the equivalent of adding 1,537 jobs to the local economy. Within the Florida Park Service, Honeymoon Island State Park has historically ranked among the most visited state park units in the system. The only two units within the state park system that rank higher than Honeymoon Island are the Cross Florida Greenway and Florida Keys Overseas Heritage Trail, which are linear greenway and trail units that span over 100 miles. By contrast, the 3.5 miles of white sand beaches at Honeymoon Island have attracted over the past 10 years an average of approximately 1.27 million visitors per year. In addition to its beaches, the park also offers a ferry service to Caladesi Island State Park, an interpretive visitor center, picnicking, biking, and hiking opportunities. Visitation is generally high year-round, when compared to the visitation totals of other state parks. Peak visitation at Honeymoon Island typically occurs between March to July, with August to February considered the shoulder season. The attendance chart on Page 45 shows the past 10 years of visitation patterns for the most visited state park units.

Other Uses

A restoration project by a DEP research permit holder was approved in 2017 to provide additional reef substrate for larval spat near existing reefs within the park boundary. Volunteers filled aquaculture bags with shell material and placed them in areas of low wave energy and good tidal flow.

Hurricane Pass is periodically dredged to maintain navigation access to the St. Joseph Sound. The southern tip of Honeymoon Island State Park has historically been the receiving site for spoil material from these dredging operations.


Top 5 State Parks: Annual Attendance 2010-2020
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Fort Zachary Taylor (Key West)
Sebastian Inlet (Vero Beach)
Anastasia (St. Augustine)
Lovers Key (Fort Myers)
Honeymoon Island (Dunedin)
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

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. All wetlands and known imperiled species habitat have been designated as protected zones.

Existing Facilities

The two existing facilities maps depict the current layout of facilities and infrastructure at the park. A majority of the park's facilities and infrastructure are concentrated in the southern half of the park. With the exception of the nature center and northern picnic area, support facilities are situated near the bay and recreational facilities are along the Gulf of Mexico. A bike trail that connects with the mainland and the Fred Marquis Pinellas Trail travels across the Dunedin Causeway and continues through the park, terminating at the northern picnic area. The park's hiking trail begins at the northern picnic area and traverses through upland flatwood communities and along Pelican Cove.

Recreation Facilities

South Beach Area
Bathhouse (2)
Concession
Picnic Pavilion (2)
Parking (870 Spaces)

North Beach Area
Bathhouse
Parking (800 Spaces)

Northern Picnic Area
Restroom (2)
Picnic Pavilion (2)
Parking (110 spaces)

Nature Center Area
Interpretive Visitor Center
Parking (10 Spaces)

Caladesi Island Ferry Area
Ferry Dock/Ticket Booth
Restroom
Picnic Pavilion
Storage (2)
Parking (148 Spaces)

Trails
Hiking (3.5 miles)
Biking (1.5 miles)
Nature (0.25 miles)

Support Facilities

Entrance Area
Ranger Station & Toll Booth (2)
Parking (7 spaces)

Shop Area
Staff Residence
Volunteer Site (2)
Shop
Concession
Storage (11)
Floating Dock

Residence Area
Staff Residence (2)
Storage

Office Area
Conference Room
Offices
Storage
Volunteer Site

Honeymoon Island State Park
Existing Facilities Map

0 0.25 0.5 1 Miles

N W E S

Page 2

- Uplands
- Mangroves
- Water
- Structures
- Parking Areas
- Park Road Paved
- Park Road Stabilized
- Park Road Unstabilized
- Hiking Trail
- Bike Trail
- Nature Trail
- Walkways
- Volunteer Sites

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

Honeymoon Island State Park
Existing Facilities Map

0 0.25 0.5 1 Miles

N W E S

Restroom
Pavilion
Restroom
Pavilion
Bathhouse
Offices
Floating Dock
Residence
Storage
Shop
Concession
Residences (2)
Entrance Station
Nature Center
Pavilion
Bathhouse
Bathhouse
Concession
Pavilion
Ticket Booth
Ferry Dock
Pavilion
Restroom
Garage

- Park Boundary
- Water
- Structures
- Parking Areas
- Park Road Paved
- Park Road Stabilized
- Park Road Unstabilized
- Hiking Trail
- Bike Trail
- Nature Trail
- Walkways
- Volunteer Sites

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

Conceptual Land Use Plan

The following narrative represents the current conceptual land use proposal for this park. The conceptual land use plan is the long-term, optimal development plan for the park, based on current conditions and knowledge of the park's resources, landscape and social setting. 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.

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, biking, 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.

The recreational developments proposed in this management plan are largely focused on improving the visitor experience in existing use areas. This plan does allow for the expansion of water-based recreational uses through the development of a paddling launch near the existing interpretive nature center area. A modest increase in recreational use can be expected if this paddling launch is funded and built.

Objective: Continue to provide interpretive programs.

Personal and non-personal interpretive opportunities will continue to be offered at the nature center, on interpretive panels, and by park staff. Themes that will continue to be interpreted include the park's history and its diverse natural 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. Interpretive efforts should also be expanded at the entrance to the park's pet beach. The statewide park policy that requires the use of dog leashes at all times should be interpreted through the lens of the potentially negative impact dogs could have on native and imperiled species that utilize coastal habitats for nesting and foraging.

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 a deliberate and 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 and interpretation. 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 mitigate resource impacts.

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

Quality of visitor experience indicators to be considered include:

- Congestion at the park entrance and beach use areas

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.

Capital Facilities and Infrastructure

Goal: Develop and maintain use areas and support infrastructure.

All of the development proposals for Honeymoon Island State Park are focused on improving existing use areas with additional amenities, and this plan does not propose to create new use areas within the park. The primary focus of the Conceptual Land Use Plan for the park is improving the entrance to facilitate more efficient public access. Congestion at the park entrance is a major issue that requires a combination of new infrastructure and new modes of entry into the park. This issue will also require coordination and collaboration between the park service, local governments, and service providers. Improving access and the visitor experience are the main goals of this plan.

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

Objective: Improve 5 use areas.

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

Entrance Area

Given the park's popularity, the entrance area currently experiences extensive congestion during peak visitation hours. A new entrance lane and toll booth will be constructed. Another potential solution to this issue is creating an automated entrance lane similar to a SunPass toll lane. Although improving the efficiency and speed of processing visitor entrance fees will help alleviate some of this congestion, additional and complementary solutions should also be considered. For example, improving processing times will allow visitors to enter the park faster, but it does not address visitors driving across the Dunedin Causeway only to find that the park has reached capacity.

The DRP should seek a partnership with the City of Dunedin and FDOT to develop an automated messaging system to be placed on or near the mainland that would inform visitors about park capacity before traveling across the 1.5-mile bridge. At the end of the causeway within the park boundary, the DRP will collaborate with state and local transportation agencies to develop a roundabout to be established before the ranger station. This will make it easier for vehicles to turn around when the park is full.

In addition to these improvements, the DRP should consider concession opportunities that could transport visitors to the park by means other than personal vehicles. This could include a tram and/or ferry service from the mainland.

The existing ranger station should be renovated to include additional office space for park staff. This structure was built in 1986 and should be redeveloped to accommodate the needs of park staff. If it is deemed to be cost effective, the construction of a new building to replace the existing structure should be considered.

Nature Center Area

The Rotary Centennial Nature Center is an interpretive visitor center that provides information and education on the park's natural communities and notable species. It also contains a retail store with souvenirs for purchase. This building should be expanded to accommodate a classroom for 80-100 people. The new space could be used for special events, educational opportunities, and community meetings.

This area should also be considered for the development of a paddling launch to facilitate recreational access to the bay. The existing parking area in front of the nature center would need to be expanded if this improvement is implemented. An additional 5-10 parking spaces should be developed, including spaces for small paddle craft trailers.

South Beach Area

The south beach area experiences the highest visitor use when compared to the other beach areas at the park. The long linear parking area here accommodates approximately 870 vehicles. The south beach pavilion and café are on the southern end of the parking area, with another pavilion and bathhouse near the midpoint. There are no facilities at the northern end of the parking area, and this plan recommends the development of a bathhouse to accommodate visitors utilizing the northern portion of the parking area. A picnic area with up to 4 pavilions is also recommended. In addition, bicycle-oriented parking areas should be developed along the existing shared-use trail to facilitate alternative means of visitor access at this use area. Given the threat of sea level rise, facilities at the south beach area should be shifted away from the shoreline over time when new structures are built and when replacement structures are needed. General repairs are needed to existing support infrastructure such as lift stations, and these improvements should consider the need to shift facilities away from the shoreline.

North Beach Area

There are two parking areas at the north beach separated by a bathhouse and linked via paved walkways. Parking at this use area can accommodate approximately 800 vehicles. The shoreline has encroached upon the parking areas and portions of the northern lot have had to be closed to parking. Both lots will continue to be vulnerable to shoreline erosion and sea level rise. As such, the parking areas at the north beach should be redesigned and redeveloped over the long term. Designs for redevelopment should consider minimizing impervious surface to the extent possible and potentially repurposing one or both parking areas. In the short to mid-term, the park will continue to mitigate shoreline erosion impacts on the parking areas. However, as shoreline erosion impacts the parking areas, the impervious surface should not be replaced.

Shop Area

Resource management and staff housing needs require the development of additional support structures in the existing shop area. The new facilities include a pole barn with six to ten bays, two additional staff residences, and two new volunteer sites.

Honeymoon Island State Park
Conceptual Land Use Plan

0 0.25 0.5 1 Miles

N W E S

Shop Area
Add 2 Staff Residences
Add 2 Volunteer Sites
Add 6-10 Bay Pole Barn

Nature Center Area
Add Classroom Space
Develop Kayak Launch
Expand Parking Area

North Beach Area
Redevelop Parking Areas

Entrance Area
Renovate Ranger Station/Office
Develop Automated Entry Lane

Entrance Area
Develop Turnaround Roundabout

South Beach Area
Relocate Existing Structures
Add Bicycle Parking
Add Northern Bathhouse
Upgrade Lift Stations
Develop Picnic Area

Improve Interpretation

- Park Boundary
- CLUP Proposals
- Water
- Structures
- Parking Areas
- Park Road Paved
- Park Road Stabilized
- Park Road Unstabilized
- Hiking Trail
- Bike Trail
- Nature Trail
- Walkways
- Volunteer Sites

Optimum Boundary

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

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

There are no additional lands considered for the park optimum boundary, and no lands are currently surplus to the management needs of the park.

Honeymoon Island State Park
Plant and Animal List

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

PTERIDOPHYTES

Giant leather fern	*Acrostichum danaeifolium*
Asian sword fern*	*Nephrolepis brownii*
Tuberous sword fern*	*Nephrolepis cordifolia*
Golden polypody	*Phlebodium aureum*
Whisk fern	P*silotum nudum*
Tailed bracken	*Pteridium aquilinum var. pseudocaudatum*

GYMNOSPERMS

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

ANGIOSPERMS

MONOCOTS

Bushy bluestem	*Andropogon glomeratus var. pumilus*
Broomsedge bluestem	*Andropogon virginicus* var. *virginicus*
Corkscrew threeawn	*Aristida gyrans*
Hillsboro threeawn	*Aristida purpurascens* var. *tenuispica*
Coastal sandbur	*Cenchrus spiniflex*
Common dayflower*	*Commelina diffusa* var. *diffusa*
Whitemouth dayflower	*Commelina erecta*
Bermudagrass*	*Cynodon dactylon*
Poorland flatsedge	*Cyperus compressus*
Redroot flatsedge	*Cyperus erythrorhizos*
Swamp flatsedge	*Cyperus ligularis*
Fragrant flatsedge	*Cyperus odoratus*
Pine-barren flatsedge	*Cyperus ovatus*
Flatleaf flatsedge	*Cyperus planifolius*
Manyspike flatsedge	*Cyperus polystachyos*
Low flatsedge*	*Cyperus pumilus*
Strawcolored flatsedge	*Cyperus strigosus*
Smallflower halfchaff sedge	*Cyperus subsquarrosus*
Tropical flatsedge	*Cyperus surinamensis*
Durban crowfootgrass*	*Dactyloctenium aegyptium*
Needleleaf witchgrass	*Dichanthelium aciculare*
Hemlock witchgrass	*Dicanthelium portoricense*
Slender crabgrass; Shaggy crabgrass	*Digitaria filiformis* var. *filliformis*
Saltgrass	*Distichlis spicata*
Coast cockspur	*Echinochloa walteri*
Indian goosegrass*****	*Eleusine indica*
Florida butterfly orchid	*Encyclia tampensis*
Elliott's lovegrass	*Eragrostis elliottii*

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Red lovegrass	*Eragrostis secundiflora* subsp. *oxylepis*	
Michaux's cupgrass	*Eriochloa michauxii* var. *michauxii*	
Pinewoods fingergrass	*Eustachys petraea*	
Carolina fimbry	*Fimbristylis caroliniana*	
Huricanegrass	*Fimbristylis cymosa*	
Marsh fimbry	*Fimbristylis spadicea*	
Shoalweed	*Halodule wrightii*	
Cogongrass*	*Imperata cylindrica*	
Bighead rush	*Juncus megacephalus*	
Needle rush	*Juncus roemerianus*	
Gulf hairawn muhly	*Muhlenbergia capillaris* var. *filipes*	
Bitter panicgrass	*Panicum amarum*	
Fall panicgrass	*Panicum dichotomiflorum* var. *dichotomiflorum*	
Switchgrass	*Panicum virgatum*	
Florida paspalum	*Paspalum floridanum*	
Bahiagrass*	*Paspalum notatum var. saurae*	
Thin paspalum	*Paspalum setaceum*	
Vaseygrass*	*Paspalum urvillei*	
Seashore paspalum	*Paspalum vaginatum*	
Starrush whitetop	*Rhynchospora colorata*	
Cabbage palm	*Sabal palmetto*	
Saw palmetto	*Serenoa repens*	
Yellow bristlegrass; Knotroot foxtail	*Setaria parviflora*	
Narrowleaf blue-eyed grass	*Sisyrinchium angustifolium*	
Earleaf greenbrier	*Smilax auriculata*	
Saw greenbrier	*Smilax bona-nox*	
Saltmarsh cordgrass; Smooth cordgrass	*Spartina alterniflora*	
Marshhay cordgrass; Saltmeadow cordgrass	*Spartina patens*	
Spring ladiestresses	*Spiranthes vernalis*	
Coral dropseed	*Sporobolus domingensis*	
Smutgrass*	*Sporobolus indicus*	
Seashore dropseed	*Sporobolus virginicus*	
St. Augustinegrass	*Stenotaphrum secundatum*	
Manateegrass	*Syringodium filiforme*	
Turtlegrass	*Thalassia testudinum*	
Ball moss	*Tillandsia recurvata*	
Spanish moss	*Tillandsia usneoides*	
Purple sandgrass	*Triplasis purpurea*	
Eastern gamagrass; Fakahatcheegrass	*Tripsacum dactyloides*	
Southern cattail	*Typha domingensis*	
Sea oats	*Uniola paniculata*	
Paragrass*	*Urochloa mutica*	
Spanish bayonet; Aloe yucca	*Yucca aloifolia*	

*Non-native Species

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

DICOTS

Rosary pea*	*Abrus precatorius*
Saltmarsh false foxglove	*Agalinis maritima* var. *grandiflora*
Hammock snakeroot	*Ageratina jucunda*
Florida amaranth	*Amaranthus floridanus*
Slim amaranth; pigweed*	*Amaranthus hybridus*
Spiny amaranth*	*Amaranthus spinosus*
Slender amaranth*	*Amaranthus viridis*
Common ragweed	*Ambrosia artemisiifolia*
Pink redstem; Toothcups	*Ammannia latifolia*
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; Turtleweed	*Batis maritima*
Beggarticks; Romerillo	*Bidens alba*
Samphire; Silverhead	*Blutaparon vermiculare*
Bushy seaside oxeye	*Borrichia frutescens*
American bluehearts	*Buchnera americana*
Coastal searocket	*Cakile lanceolata*
American beautyberry	*Callicarpa americana*
Straggler daisy	*Calyptocarpus vialis*
Baybean; Seaside jackbean	*Canavalia rosea*
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*
Lamb's quarters	*Chenopodium album*
Snowberry; Milkberry	*Chiococca alba*
Purple thistle	*Cirsium horridulum*
Watermelon; Citron*	*Citrullus lanatus*
Tread-softly; Finger-rot	*Cnidoscolus stimulosus*
Seagrape	*Coccoloba uvifera*
Buttonwood	*Conocarpus erectus*
Asthmaweed	*Conyza bonariensis*
Canadian horseweed	*Conyza canadensis*
Leavenworth's tickseed	*Coreopsis leavenworthii*
Pinebarren frostweed	*Crocanthemum corymbosum*
Smooth rattlebox*	*Crotalaria pallida* var. *obovata*
Rabbitbells	*Crotalaria rotundifolia*
Showy rattlebox*	*Crotalaria spectabilis*
Vente conmigo	*Croton glandulosus* var. *floridanus*

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Gulf croton; Beach tea	*Croton punctatus*	
Carrotwood*	*Cupaniopsis anacardioides*	
Fiveangled dodder	*Cuscuta pentagona*	
Coinvine	*Dalbergia ecastophyllum*	
Summer-farewell	*Dalea pinnata* var. *pinnata*	
Zarzabacoa comun*	*Desmodium incanum*	
Dixie ticktrefoil*	*Desmodium tortuosum*	
Threeflower ticktrefoil*	*Desmodium triflorum*	
Bearded spangletop	*Diplanche fusca* subsp. *fascicularis*	
Noyau vine	*Distimake dissectus*	
Varnish leaf; Florida hopbush	*Dodonaea viscosa*	
Bowstring hemp; Mother-in-law's tongue*	*Dracaena hyacinthoides*	
Mexican tea*	*Dysphania ambrosioides*	
American burnweed; Fireweed	*Erechtites hieraciifolius*	
Oakleaf fleabane	*Erigeron quercifolius*	
Golden beach creeper	*Ernodea littoralis*	
Baldwin's eryngo	*Eryngium baldwinii*	
White stopper	*Eugenia axillaris*	
Dogfennel	*Eupatorium capillifolium*	
Semaphore thoroughwort	*Eupatorium mikanioides*	
Dixie sandmat	*Euphorbia bombensis*	
Fire-on-the-mountain; Paintedleaf	*Euphorbia cyathophora*	
Pillpod sandmat	*Euphorbia hirta*	
Hyssopleaf sandmat	*Euphorbia hyssopifolia*	
Spotted sandmat	*Euphorbia maculata*	
Coastal beach sandmat	*Euphorbia mesembrianthemifolia*	
Pineland heliotrope	*Euploca polyphylla*	
Marsh gentian; Catchfly prairie gentian	*Eustoma exaltatum*	
Slender flattop goldenrod	*Euthamia caroliniana*	
Silver dwarf morning-glory	*Evolvulus sericeus*	
Strangler fig; Golden fig	*Ficus aurea*	
Indian laurel*	*Ficus microcarpa*	
Florida yellowtops	*Flaveria floridana*	
Florida privet	*Forestiera segregata*	
Firewheel	*Gaillardia pulchella*	
Downy milk-pea	*Galactia regularis*	
Eastern milkpea	*Galactia volubilis*	
Coastal bedstraw	*Galium bermudense*	
Stiff marsh bedstraw	*Galium tinctorium*	
Prostrate globe amaranth*	*Gomphrena serrata*	
Gray nicker	*Guilandina bonduc*	
West coast dune sunflower	*Helianthus debilis* subsp. *vestitus*	BD
Scorpionstail	*Heliotropium angiospermum*	
Seaside heliotrope; Salt heliotrope	*Heliotropium curassavicum*	

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Camphorweed	*Heterotheca subaxillaris*	
Poor Joe; Rough buttonweed	*Hexasepalum teres*	
Diamondflowers	*Houstonia nigricans* var. *nigricans*	
Innocence; Roundleaf bluet	*Houstonia procumbens*	
Largeleaf marshpennywort	*Hydrocotyle bonariensis*	
Mangrove spiderlily; Perfumed spiderlily	*Hymenocallis latifolia*	
Pineweeds; Orangegrass	*Hypericum gentianoides*	
Rough hairy indigo*	*Indigofera hirsuta*	
Trailing indigo*	*Indigofera spicata*	
Moonflower	*Ipomoea alba*	
Beach morning glory	*Ipomoea imperati*	
Railroad-vine	*Ipomoea pes-caprae* subsp. *brasiliensis*	
Saltmarsh morning glory	*Ipomoea sagittata*	
Beach moonflower	*Ipomoea violacea*	
Juba's bush	*Iresine diffusa*	
Bigleaf sumpweed	*Iva frutescens*	
Seacoast marshelder	*Iva imbricata*	
Piedmont marshelder	*Iva microcephala*	
Big caltrop	*Kallstroemia maxima*	
Virginia saltmarsh mallow	*Kosteletzkya pentacarpos*	
Grassleaf lettuce	*Lactuca graminifolia*	
White mangrove	*Laguncularia racemosa*	
Lantana; Shrubverbena*	*Lantana strigocamara*	
Virginia pepperweed	*Lepidium virginicum*	
White leadtree*	*Leucaena leucocephala*	
Carolina sealavender	*Limonium carolinianum*	
Canadian toadflax	*Linaria canadensis*	
Chinese fan palm*	*Livistona chinensis*	
Bay lobelia	*Lobelia feayana*	
Curtiss' primrosewillow	*Ludwigia curtissii*	
Seaside primrosewillow	*Ludwigia maritima*	
Mexican primrosewillow	*Ludwigia octovalvis*	
Sky-blue lupine	*Lupinus diffusus*	
Christmasberry; Carolina desertthorn	*Lycium carolinianum*	
Wild bushbean*	*Macroptilium lathyroides*	
Axilflower	*Mecardonia acuminate* subsp. *peninsularis*	
Black medick*	*Medicago lupulina*	
Punk tree*	*Melaleuca quinquenervia*	
Snow squarestem	*Melanthera nivea*	
Chinaberry tree*	*Melia azedarach*	
White sweet clover*	*Melilotus albus*	
Rose natalgrass*	*Melinis repens*	
Creeping cucumber	*Melothria pendula*	
Climbing hempvine	*Mikania scandens*	
Lax hornpod	*Mitreola petiolata*	
Balsampear*	*Momordica charantia*	

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Spotted beebalm	*Monarda punctata*	
Wax myrtle	*Myrica cerifera*	
Myrsine; Colicwood	*Myrsine cubana*	
Peppervine	*Nekemias arborea*	
Tropical puff	*Neptunia pubescens*	
Seaside evening-primrose	*Oenothera humifusa*	
Cutleaf evening primrose	*Oenothera laciniata*	
Southern beeblossom	*Oenothera simulans*	
Flattop mille grains	*Oldenlandia corymbosa*	
Clustered mille graines	*Oldenlandia uniflora*	
Devil's tongue	*Opuntia austrina*	
Erect pricklypear; Shell-mound pricklypear	*Opuntia stricta*	BD, CS
Common yellow woodsorrel; Creeping woodsorrel	*Oxalis corniculata*	
Mexican palo verde; Jerusalem thorn*	*Parkinsonia aculeata*	
Virginia creeper; Woodbine	*Parthenocissus quinquefolia*	
Corky-stemmed passionflower	*Passiflora suberosa*	
Gulf coast swallowwort	*Pattalias palustre*	
Spreading chinchweed	*Pectis prostrata*	
Dotted smartweed	*Persicaria punctata*	
Turkey tanglefrog fruit; Capeweed	*Phyla nodiflora*	
Drummond's leafflower	*Phyllanthus abnormis*	
Mascarene island leafflower*	*Phyllanthus tenellus*	
Chamberbitter*	*Phyllanthus urinaria*	
Coastal groundcherry	*Physalis angustifolia*	
Walter's groundcherry	*Physalis walteri*	
American pokeweed	*Phytolacca americana*	
Cure-for-all	*Pluchea carolinensis*	
Sweetscent	*Pluchea odorata*	
Procession flower	*Polygala incarnata*	
Rustweed; Juniperleaf	*Polypremum procumbens*	
Paraguayan purslane*	*Portulaca amilis*	
Little hogweed	*Portulaca oleracea*	
Pink purslane; Kiss-me-quick	*Portulaca pilosa*	
Black cherry	*Prunus serotina*	
Blackroot	*Pterocaulon pycnostachyum*	
Mock bishopsweed; Herbwilliam	*Ptilimnium capillaceum*	
Sand live oak	*Quercus geminata*	
Turkey oak	*Quercus laevis*	
Live oak	*Quercus virginiana*	
White indigoberry	*Randia aculeata*	
Red mangrove	*Rhizophora mangle*	
Winged sumac	*Rhus copallinum*	
Michaux's snout-bean	*Rhynchosia michauxii*	

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Tropical Mexican clover*	*Richardia brasiliensis*	
Rough Mexican clover*	*Richardia scabra*	
Castorbean*	*Ricinus communis*	
Rougeplant	*Rivina humilis*	
Browne's blechum; green shrimp plant*	*Ruellia blechum*	
Southern dewberry	*Rubus trivialis*	
Heartwing dock; Hastateleaf dock	*Rumex hastatulus*	
Perennial glasswort; Virginia glasswort	*Salicornia ambigua*	
Carolina willow; Coastalplain willow	*Salix caroliniana*	
Water pimpernel; Limewater brookweed	*Samolus ebracteatus*	
Beachberry; Inkberry	*Scaevola plumieri*	BD
Beach naupaka*	*Scaevola taccada*	
Brazilian pepper*	*Schinus terebinthifolia*	
Sweetbroom; Licoriceweed	*Scoparia dulcis*	
Danglepod	*Sesbania herbacea*	
Silky sesban*	*Sesbania sericea*	
Bladderpod; Bagpod	*Sesbania vesicaria*	
Shoreline seapurslane	*Sesuvium portulacastrum*	
Bracted fanpetals; Fringed fanpetals	*Sida ciliaris*	
Llima*	*Sida cordifolia*	
Common wireweed; Common fanpetals	*Sida ulmifolia*	
Saffron-plum	*Sideroxylon celastrinum*	
American black nightshade	*Solanum americanum*	
Black nightshade	*Solanum chenopodioides*	
Garden tomato*	*Solanum lycopersicum*	
Tropical soda apple*	*Solanum viarum*	
Seaside goldenrod	*Solidago sempervirens*	
Wand goldenrod	*Solidago stricta*	
Common sowthistle*	*Sonchus oleraceus*	
Yellow necklace pod	*Sophora tomentosa* var. *truncata*	
Woodland false buttonweed	*Spermacoce remota*	
Queen's delight	*Stillingia sylvatica*	
Sea blite; Annual seepweed	*Suaeda linearis*	
Bahaman aster	*Symphyotrichum bahamense*	
Perennial saltmarsh aster	*Symphyotrichum tenuifolium*	
Scurf hoarypea	*Tephrosia chrysophylla*	
New Zealand spinach*	*Tetragonia tetragonioides*	
Eastern poison ivy	*Toxicodendron radicans*	
Burrnut; Jamaician feverplant*	*Tribulus cistoides*	
Florida mayten	*Tricerma phyllanthoides*	MS

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Forked bluecurls	*Trichostema dichotomum*	
Pineland acacia	*Vachellia farnesiana* var. *pinetorum*	
Brazilian vervain*	*Verbena brasiliensis*	
White crownbeard; Frostweed	*Verbesina virginica*	
Hairypod cowpea	*Vigna luteola*	
Muscadine	*Vitis rotundifolia*	
Washington fan palm*	*Washingtonia robusta*	
Tallow wood; Hog plum	*Ximenia americana*	
Hercules-club	*Zanthoxylum clava-herculis*	
Soldier's orchid; Lawn orchid*	*Zeuxine strateumatica*	

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

*Non-native Species

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

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

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

*Non-native Species

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

*Non-native Species

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

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
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

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Common loon	*Gavia immer*	MUS
Red-throated loon	*Gavia stellata*	MUS
Horned grebe	*Podiceps auritus*	MUS
Eared grebe	*Podiceps nigricollis*	MUS
Pied-billed grebe	*Podilymbus podiceps*	MUS
Petrels and Shearwaters		
Band-rumped storm-petrel	*Oceanodroma castro*	MUS
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*	MUS
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, MS
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*	SAM
Wood stork	*Mycteria americana*	SAM
Yellow-crowned night heron	*Nyctanassa violacea*	MS
Black-crowned night heron	*Nycticorax nycticorax*	MS
Greater flamingo*	*Phoenicopterus roseus*	MUS, OF
Roseate spoonbill	*Platalea ajaja*	MS
Glossy ibis	*Plegadis falcinellus*	MS
Ducks, Geese, and Swans		
Wood duck	*Aix sponsa*	DV
Northern pintail	*Anas acuta*	DV
American wigeon	*Anas americana*	DV
Northern shoveler	*Anas clypeata*	DV

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Green-winged teal	*Anas crecca*	DV
Cinnamon teal	*Anas cyanoptera*	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
Common goldeneye	*Bucephala clangula*	MUS
Snow goose	*Chen caerulescens*	DV
Long-tailed duck	*Clangula hyemalis*	MUS
Fulvous whistling duck	*Dendrocygna bicolor*	CS, DV
Hooded merganser	*Lophodytes cucullatus*	MUS
Black scoter	*Melanitta americana*	MUS
White-winged scoter	*Melanitta fusca*	MUS
Surf scoter	*Melanitta perspicillata*	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
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
Bald eagle	*Haliaeetus leucocephalus*	MF, 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

*Non-native Species

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

Coots, Cranes, Gallinules, and Rails

American coot	*Fulica americana*	MUS
Common gallinule	*Gallinula galeata*	MS
Sandhill crane	*Grus canadensis*	OF
Black rail	*Laterallus jamaicensis*	DV, MS
Purple gallinule	*Porphyrula martinica*	DV, MS
Sora	*Porzana carolina*	DV, MS
King rail	*Rallus elegans*	DV, MS
Virginia rail	*Rallus limicola*	DV, MS
Clapper rail	*Rallus longirostris*	DV, MS

Shorebirds

Spotted sandpiper	*Actitis macularia*	MUS
Ruddy turnstone	*Arenaria interpres*	MUS
Upland sandpipier	*Bartramia longicauda*	MUS
Sanderling	*Calidris alba*	MUS
Dunlin	*Calidris alpina*	MUS
Baird's sandpiper	*Calidris bairdii*	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
Buff-breasted sandpiper	*Calidris subruficollis*	MUS
Piping plover	*Charadrius melodus*	MUS
Snowy plover	*Charadrius nivosus*	MUS
Semipalmated plover	*Charadrius semipalmatus*	MUS
Killdeer	*Charadrius vociferous*	MUS, BD, CS
Wilson's plover	*Charadrius wilsonia*	MUS
Common snipe	*Gallinago gallinago*	MUS
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 golden plover	*Pluvialis dominica*	MUS
American avocet	*Recurvirostra americana*	MUS
Lesser yellowlegs	*Tringa flavipes*	MUS
Greater yellowlegs	*Tringa melanoleuca*	MUS

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
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
Bonaparte's gull	*Chroicocephalus philadelphia*	MUS
Gull-billed tern	*Gelochelidon nilotica*	MUS
Caspian tern	*Hydroprogne caspia*	MUS
Herring gull	*Larus argentatus*	OF, MUS
Ring-billed gull	*Larus delawarensis*	OF, MUS
Lesser black-backed gull	*Larus fuscus*	MUS
Great black-backed gull	*Larus marinus*	OF
Laughing gull	*Leucophaeus atricilla*	OF, MUS
Franklin's gull	*Leucophaeus pipixcan*	MUS
Sooty tern	*Onychoprion fuscatus*	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
Murrelets		
Marbled murrelet	*Brachyramphus marmoratus*	MUS
Long-billed murrelet	*Brachyramphus perdix*	MUS
Pigeons and Doves		
Rock pigeon*	*Columba livia*	DV
Common ground-dove	*Columbina passerina*	MTC
Eurasian collared dove*	*Streptopelia decaocto*	MTC
White-winged dove	*Zenaida asiatica*	MTC
Mourning dove	*Zenaida macroura*	MF, CS
Parrots		
Monk parakeet*	*Myiopsitta monachus*	DV
Black-hooded parakeet*	*Nandayus nenday*	DV

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Cockatiel*	*Nymphicus hollandicus*	DV
Anis and Cuckoos		
Yellow-billed cuckoo	*Coccyzus americanus*	MS
Black-billed cuckoo	*Coccyzus erythropthalmus*	MS
Mangrove cuckoo	*Coccyzus minor*	MS
Smooth-billed ani	*Crotophaga ani*	DV
Owls		
Short-eared owl	*Asio flammeus*	MF
Florida burrowing owl	*Athene cunicularia floridana*	CS
Great horned owl	*Bubo virginianus*	MF
Barred owl	*Strix varia*	MF
Barn owl	*Tyto alba*	OF
Nightjars		
Chuck-will's-widow	*Antrostomus carolinensis*	MF
Eastern whip-poor-will	*Antrostomus vociferous*	MF
Common nighthawk	*Chordeiles minor*	OF
Swifts		
Chimney swift	*Chaetura pelagica*	OF
Hummingbirds		
Ruby-throated hummingbird	*Archilochus colubris*	OF, CS
Rufous hummingbird	*Selasphorus rufus*	OF
Kingfishers		
Belted kingfisher	*Megaceryle alcyon*	MS
Woodpeckers		
Northern flicker	*Colaptes auratus*	MF
Pileated woodpecker	*Dryocopus pileatus*	MF
Red-bellied woodpecker	*Melanerpes carolinus*	MF
Red-headed woodpecker	*Melanerpes erythrocephalus*	MF
Downy woodpecker	*Picoides pubescens*	MF
Southern hairy woodpecker	*Picoides villosus audubonii*	MF
Yellow-bellied sapsucker	*Sphyrapicus varius*	MF

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Flycatchers		
Olive-sided flycatcher	*Contopus cooperi*	MF
Eastern wood-pewee	*Contopus virens*	MF
Alder flycatcher	*Empidonax alnorum*	MF
Least flycatcher	*Empidonax minimus*	MF
Yellow-bellied flycatcher	*Empidonax flaviventris*	MF
Acadian flycatcher	*Empidonax virescens*	MF
Ash-throated flycatcher	*Myiarchus cinerascens*	MF
Great crested flycatcher	*Myiarchus crinitus*	MF
Eastern phoebe	*Sayornis phoebe*	MF, CS
Gray kingbird	*Tyrannus dominicensis*	MF, CS
Scissor-tailed flycatcher	*Tyrannus forficatus*	MF
Eastern kingbird	*Tyrannus tyrannus*	MF, OF
Western kingbird	*Tyrannus verticalis*	MF
Shrikes		
Loggerhead shrike	*Lanius ludovicianus*	MF
Vireos		
Black-whiskered vireo	*Vireo altiloquus*	MF
Bell's vireo	*Vireo bellii*	MF
Yellow-throated vireo	*Vireo flavifrons*	MF
Warbling vireo	*Vireo gilvus*	MF
White-eyed vireo	*Vireo griseus*	MF
Red-eyed vireo	*Vireo olivaceus*	MF
Philadelphia vireo	*Vireo philadelphicus*	MF
Blue-headed vireo	*Vireo solitarius*	MF
Crows and Jays		
Blue jay	*Cyanocitta cristata*	MF
American crow	*Corvus brachyrhynchos*	MF
Fish crow	*Corvus ossifragus*	MF
Swallows		
Barn swallow	*Hirundo rustica*	OF
Cave swallow	*Petrochelidon fulva*	BD, CS
Cliff swallow	*Petrochelidon pyrrhonota*	BD
Purple martin	*Progne subis*	OF
Bank swallow	*Riparia riparia*	OF
Tree swallow	*Tachycineta bicolor*	OF
Northern rough-winged swallow	*Stelgidopteryx serripennis*	OF

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Titmice		
Tufted titmouse	*Baeolophus bicolor*	MF
Nuthatches		
Red-breasted nuthatch	*Sitta canadensis*	MF
Brown-headed nuthatch	*Sitta pusilla*	MF
Wrens		
Marsh wren	*Cistothorus palustris*	CS, MS
Sedge wren	*Cistothorus platensis*	CS
Carolina wren	*Thryothorus ludovicianus*	MF
House wren	*Troglodytes aedon*	MF
Winter wren	*Troglodytes hiemalis*	MF
Bluebirds, Gnatcatchers, Kinglets, and Thrushes		
Veery	*Catharus fuscescens*	MF
Hermit thrush	*Catharus guttatus*	MF
Gray-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
Townsend's solitaire	*Myadestes townsendi*	MF
Ruby-crowned kinglet	*Regulus calendula*	MF
Golden-crowned kinglet	*Regulus satrapa*	MF
Eastern bluebird	Sialia sialis	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*	MF

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Waxwings		
Cedar waxwing	*Bombycilla cedrorum*	MF
Warblers		
Wilson's warbler	*Cardellina pusilla*	MF
Kentucky warbler	*Geothlypis formosa*	MF
Common yellowthroat	*Geothlypis trichas*	CS, MF
Worm-eating warbler	*Helmitheros vermivorus*	MF
Yellow-breasted chat	*Icteria virens*	CS, MF
Orange-crowned warbler	*Leiothylpis celata*	MF
Tennessee warbler	*Leiothylpis peregrine*	MF
Nashville warbler	*Leiothylpis ruficapilla*	MF
Swainson's warbler	*Limnothlypis swainsonii*	MF
Black and white warbler	*Mniotilta varia*	MF
Connecticut warbler	*Oporornis agilis*	MF
Louisiana waterthrush	*Parkesia motacilla*	MF
Northern waterthrush	*Parkesia noveboracensis*	MF
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
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
Pine warbler	*Setophaga pinus*	MF
Chestnut-sided warbler	*Setophaga pensylvanica*	MF
Yellow warbler	*Setophaga petechia*	MF
American redstart	*Setophaga ruticilla*	MF
Blackpoll warbler	*Setophaga striata*	MF
Cape May warbler	*Setophaga tigrina*	MF
Black-throated green warbler	*Setophaga virens*	MF
Golden-winged warbler	*Vermivora chrysoptera*	MF
Blue-winged warbler	*Vermivora cyanoptera*	MF
Cardinals, Tanagers, Grosbeaks, and Buntings		
Northern cardinal	*Cardinalis cardinalis*	MF
Painted bunting	*Passerina ciris*	MF
Blue grosbeak	*Passerina caerulea*	MF
Indigo bunting	*Passerina cyanea*	MF

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Western tanager	*Piranga ludoviciana*	MF
Scarlet tanager	*Piranga olivacea*	MF
Summer tanager	*Piranga rubra*	MF
Rose-breasted grosbeak	*Pheucticus ludovicianus*	DV
Dickcissel	*Spiza americana*	DV
Sparrows		
Saltmarsh sparrow	*Ammodramus caudacutus*	MS
LeConte's sparrow	*Ammodramus leconteii*	MF
Henslow's sparrow	*Ammodramus henslowii*	MF
Seaside sparrow	*Ammodramus maritimus*	MF
Nelson's sparrow	*Ammodramus nelson*	MF
Grasshopper sparrow	*Ammodramus savannarum*	MF
Lark sparrow	*Chondestes grammacus*	MF
Dark-eyed junco	*Junco hyemalis*	MF
Swamp sparrow	*Melospiza georgiana*	MF
Lincoln's sparrow	*Melospiza lincolnii*	MF
Song sparrow	*Melospiza melodia*	MF
Savannah sparrow	*Passerculus sandwichensis*	MF
Fox sparrow	*Passerella iliaca*	MF
Green-tailed towhee	*Pipilo chlorurus*	MF
Eastern towhee	*Pipilo erythrophthalmus*	MF
Vesper sparrow	*Pooecetes gramineus*	MF
Clay-colored sparrow	*Spizella pallida*	MF
Chipping sparrow	*Spizella passerina*	MF
Field sparrow	*Spizella pusilla*	MF
White-throated sparrow	*Zonotrichia albicollis*	MF
White-crowned sparrow	*Zonotrichia leucophrys*	MF
Icterids		
Red-winged blackbird	*Agelaius phoeniceus*	MF
Bobolink	*Dolichonyx oryzivorus*	MF
Rusty blackbird	*Euphagus carolinus*	MF
Baltimore oriole	*Icterus galbula*	MF
Orchard oriole	*Icterus spurius*	MF
Brown-headed cowbird	*Molothrus ater*	MF
Shiny cowbird	*Molothrus bonariensis*	MF
Boat-tailed grackle	*Quiscalus major*	MTC
Common grackle	*Quiscalus quiscula*	MTC
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	MF
Eastern meadowlark	*Sturnella magna*	MF
Finches and Old World Sparrows		
House finch	*Haemorhous mexicanus*	MF
Red crossbill	*Loxia curvirostra*	MF

*Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
House sparrow*	*Passer domesticus*	DV
Pine siskin	*Spinus pinus*	MF
American goldfinch	*Spinus tristis*	MF
MAMMALS		
Cingulates		
Nine-banded armadillo*	*Dasypus novemcinctus*	MF, CS
Didelphids		
Virginia opossum	*Didelphis virginiana*	MF
Rodents		
Gray squirrel	*Sciurus carolinensis*	MTC
Cotton rats	*Sigmodon hispidus*	MTC
Lagomorphs		
Marsh rabbit	*Sylvilagus palustris*	BD, CS, DV
Carnivores		
Coyote*	*Canis latrans*	MTC
River otter	*Lutra canadensis*	MS, MUS
Bobcat	*Lynx rufus*	CS, MF
Raccoon	*Procyon lotor*	DV, MF, CS, BD
Gray fox	*Urocyon cinereoargenteus*	DV
Sirens		
Florida manatee	*Trichechus manatus latirostris*	MUS, MSGB
Cetaceans		
Atlantic bottle-nosed dolphin	*Tursiops truncatus*	MUS, MSGB

*Non-native Species

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

Primary Habitat Codes

Slough Marsh ..... SLM
Strand Swamp ..... STS
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