

PERDIDO KEY STATE PARK

UNIT MANAGEMENT PLAN

APPROVED

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

OCTOBER 13, 2006



Department of Environmental Protection

Jeb Bush
Governor

Marjorie Stoneman Douglas Building
3900 Commonwealth Boulevard, MS 140
Tallahassee, Florida 32399-3000

Colleen M. Castille
Secretary

October 17, 2006

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

Re: Perdido Key State Park

Lease # 3193

Dear Ms. White:

On October 13, 2006, the Acquisition and Restoration Council recommended approval of the Perdido Key State Park management plan. Therefore, the Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, approved the management plan for the Perdido Key State Park. Pursuant to Sections 253.034 and 259.032, Florida Statutes, and Chapter 18-2, Florida Administrative Code this plan's ten-year update will be due on October 13, 2016.

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

Sincerely,

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

"More Protection, Less Process"

Printed on recycled paper.

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INTRODUCTION

Perdido Key State Park is located in Escambia County (see Vicinity Map). Access to the park is from the intersection of U.S. Highway 98 and County Road 293 (Bauer Road). Turn south on County Road 292 and follow signs to State Road 292 (see Reference Map). Turn right on State Road 292 and continue over the Intracoastal Waterway to Perdido Key. The vicinity map also reflects significant land and water resources existing near the park.

At Perdido Key State Park public outdoor recreation and conservation is the designated single use of the property. There are no legislative or executive directives that constrain the use of this property. The park consists of 290.32 acres and was acquired in 1978 using Environmentally Endangered Lands (EEL) funds.

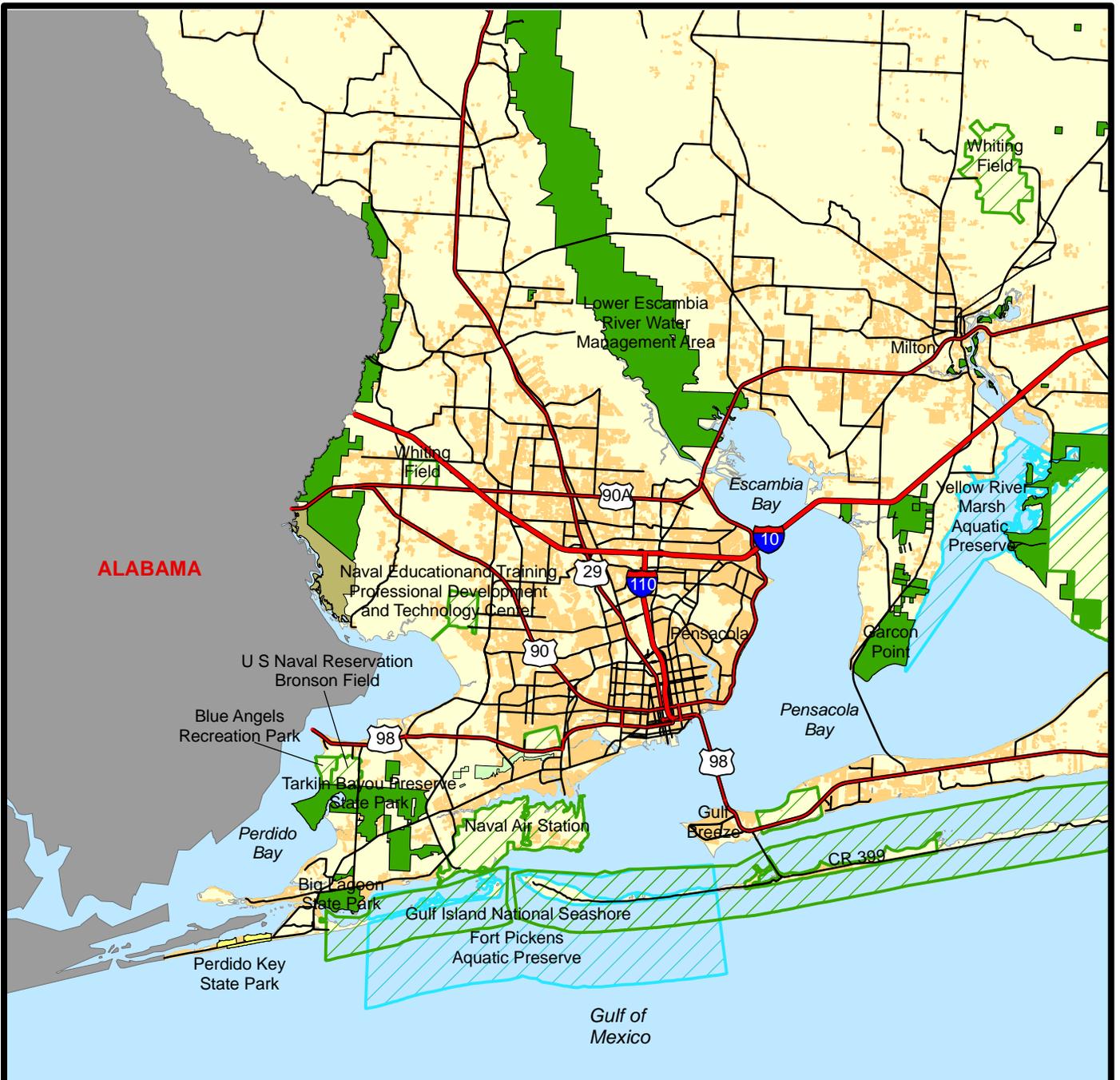
PURPOSE AND SCOPE OF THE PLAN

This plan serves as the basic statement of policy and direction for the management of Perdido Key State Park as a unit of Florida's state park system. It identifies the objectives, criteria and standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and intended to be consistent with the State Lands Management Plan. With approval, this management plan will replace the 1998 approved plan. All development and resource alteration encompassed in this plan is subject to the granting of appropriate permits; easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state or federal agencies. This plan is also intended to meet the requirements for beach and shore preservation, as defined in Chapter 161, Florida Statutes and Chapters 62B-33, 62B-36 and 62R-49, Florida Administrative Code.

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

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

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



ALABAMA



Legend

- Interstates
- FDOT US Routes
- FDOT State Roads
- FDOT Local Roads
- Park Boundary

Public Lands

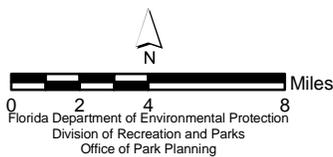
- Federal Managed Areas
- State Managed Areas
- Local Managed Areas
- Private Managed Areas
- Aquatic Preserves

Private Lands

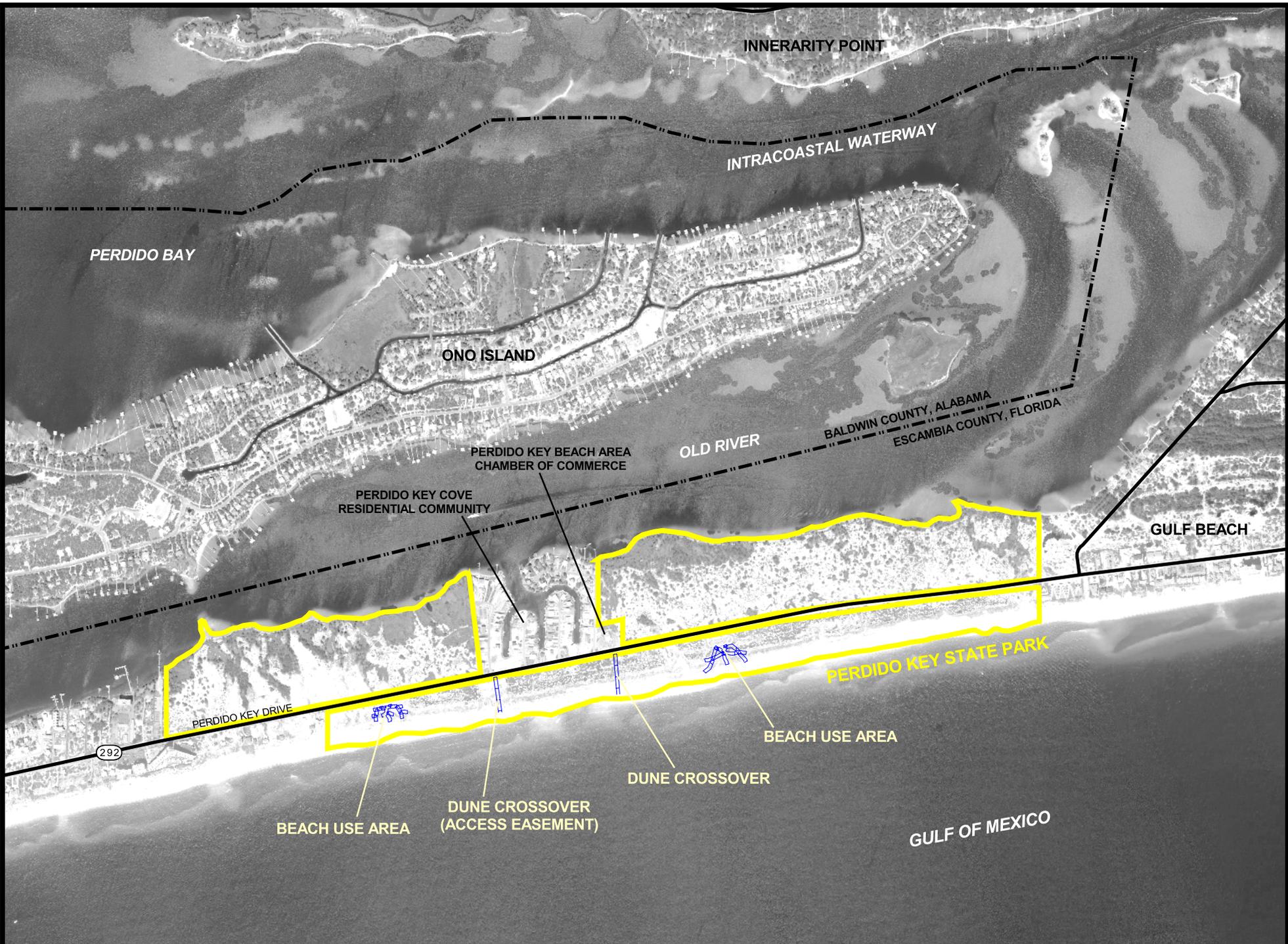
- Developed
- Undeveloped

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

PERDIDO KEY
STATE PARK



VICINITY
MAP



PERDIDO KEY STATE PARK



REFERENCE MAP

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.

MANAGEMENT PROGRAM OVERVIEW

Management Authority and Responsibility

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

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

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

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

In the management of Perdido Key State Park, a balance is sought between the goals of maintaining and enhancing natural conditions and providing various recreational opportunities. Natural resource management activities are aimed at management of natural systems. Development in the park is directed toward providing public access to and within the park, and to providing recreational facilities, in a reasonable balance, that are both convenient and safe. Program emphasis is on interpretation on the park's natural, aesthetic and educational attributes.

Park Goals and Objectives

The following park goals and objectives express the Division's long-term intent in managing the

state park. At the beginning of the process to update this management plan, the Division reviewed the goals and objectives of the previous plan to determine if they remain meaningful and practical and should be included in the updated plan. This process ensures that the goals and objectives for the park remain relevant over time.

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

Natural and Cultural Resources

1. Continue to implement natural systems management, whereby primary resource management emphasis is placed on restoring and maintaining the natural processes that shape the structure, function and species composition of the park's natural communities
 - A. Protect and restore beach/dune habitat to help ensure the continued existence of the critically endangered Perdido Key beach mouse.
 - B. Continue to improve monitoring of sea turtle and shorebird nesting.
 - C. Take steps necessary to decrease the amount of artificial light affecting the park at night to reduce the unacceptably high percentage of sea turtle hatchling disorientations resulting from light from nearby developments and unshielded streetlights. Coordinate with USFWS and FFWCC to assist in addressing lighting problems.
 - D. Continue to pursue funding for the removal of Hurricane Ivan (2004) generated debris fields.
 - E. Improve exotic predator removal efforts. Emphasis should be placed on the removal of feral/free ranging cats.
 - F. Eliminate access to park from State Road 292 ROW, and restore the numerous unauthorized trails leading from the highway to the beach. Pursue funding to restore boundary fence lines damaged from 2005 storm events.
 - G. Work with NAS Pensacola, Escambia County, Army Corps of Engineers and the Bureau of Beaches and Coastal Systems on possible beach renourishment project.
 - H. Enlist the help of Park Patrol and local law enforcement to gain compliance on resource protections such as dune damage, and dogs on the beach.
 - I. Monitor dune condition and beach profiles to estimate erosion and human related damage occurring to the dune systems.
 - J. Work with FDOT to reduce or eliminate impacts occurring from stormwater runoff from the highway associated with the drainage areas on the east and west ends of the park. Seek to find an alternative to the current runoff situation concerning these areas.
2. Establish an outreach/education program for residents and businesses on Perdido Key about the sensitive habitats, fragility of dune systems, endangered species, problems associated with artificial lighting and exotic predators. Seek agreements with local residents and business to work cooperatively toward curtailing negative impacts to the dune habitats.
 - A. Pursue cooperative agreements with neighboring developments to curtail artificial lighting at night. Coordinate with the USFWS and FFWCC in reaching lighting agreements with neighboring houses, condominiums, and other developments.

- B. Place effective educational signage and kiosks to make people aware of the sensitive and fragile nature of the park.

Recreational Goals

1. Continue to provide quality resource based outdoor recreational and interpretive programs and facilities at the state park.
 - A. Provide controlled access to the beach and sheltered space for picnicking within designated beach use areas.
 - B. Promote understanding and appreciation of park resources through signage, kiosks, regularly scheduled interpretive programs and outdoor classroom opportunities.
 - C. Maintain opportunities for picnicking, swimming, fishing and nature observation.
2. Seek funding to enhance recreational and interpretive opportunities through the improvement of programs and the development of use areas and facilities, as outlined in this management plan.
 - A. Pursue state and federal funding for interpretive program and exhibit development.
 - B. Develop a nature trail that starts at the Perdido Key Chamber of Commerce and extends through the mesic flatwoods to a viewing platform and canoe/kayak launch on the Old River.

Park Administration/Operations

1. Pursue additional funding to address the environmental and resource management needs of Perdido Key, Tarkiln Bayou and Big Lagoon, including prescribed burning, endangered species management, public outreach and other environmental needs.
2. Pursue funding to provide visual presence to properly operate the fee entrance stations and address the needs of the park.
3. Enlist the help of Park Patrol and local law enforcement in effectively curtailing environmentally damaging illegal access and fee avoidance.
4. Continue to educate local governments about the responsibilities of the state park with regard to habitat protection, public access, and the state statutes, directives and policies that guide our operations.
5. Monitor the number of paid vs. unpaid cars in the parking areas to generate accurate estimates of lost revenue from non-paying visitors.

Management Coordination

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

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

continue to communicate with the USFWS, FFWCC and the FDOT. This partnership will help assure the continued attention to habitat needs and endangered species considerations. The Division will continue to collaborate with USDA Wildlife Service to address exotic and feral species impacts to listed species.

Public Participation

The Division provided an opportunity for public input by conducting a public workshop and an advisory group meeting. A public workshop was held on May 22, 2006. The purpose of this meeting was to present this draft management plan to the public. An Advisory Group meeting was held on May 23, 2006. The purpose of this meeting was to provide the Advisory Group members the opportunity to discuss this draft management plan.

Other Designations

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

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

RESOURCE MANAGEMENT COMPONENT

INTRODUCTION

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

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

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

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

RESOURCE DESCRIPTION AND ASSESSMENT

Natural Resources

Topography

Perdido Key lies within the Coastal Lowlands physiographic region. The Coastal Lowlands form the entire coastline, including the Florida Keys, and reach inland as much as sixty miles at some points. These lowlands were, in recent geologic times, marine terraces (sea floors) during three or more successive inundations by higher seas. This is a flat region, except where old dune ridges occur or where the surface has been modified by erosion and underground solution.

Elevation extremes on Perdido Key State Park range from sea level to a height of 15 feet above sea level. Roads, parking lots and recreational and service facility development have modified the topography of the area slightly.

Geology

The area under consideration lies wholly within the geographical division known as the West Florida Coast Strip that extends from the mouth of the Ochlockonee River west to Mississippi. For the most part, coastal islands and narrow peninsulas along the coast represent this landform.

Soils

Perdido Key State Park is located in the extreme southwest part of Escambia County, Florida. It

occupies approximately 286 acres of land. Four distinct soil types occur within the boundaries of the state park (see Soils Map). These soil types are Beaches, Newhan-Corolla complex, Dirego muck, and Corolla-Duckston sands.

Nearly all of the recreational facility development of the area has occurred on the Newhan-Corolla complex and Beaches. The area of tidal marsh is completely undeveloped. A description of the soil types found in Perdido Key State Park is included in Addendum 3.

Minerals

There are no known minerals of commercial value on Perdido Key State Park.

Hydrology

Regional hydrology. Perdido Key State Park is located in the extreme northwestern portion of the state. The hydrology of Northwestern Florida is very complex. Deposits are predominantly marine in origin and generally dip toward the south. Although the strata range from Paleozoic to Recent, only those deposited during the past 60 million years are important for groundwater resources.

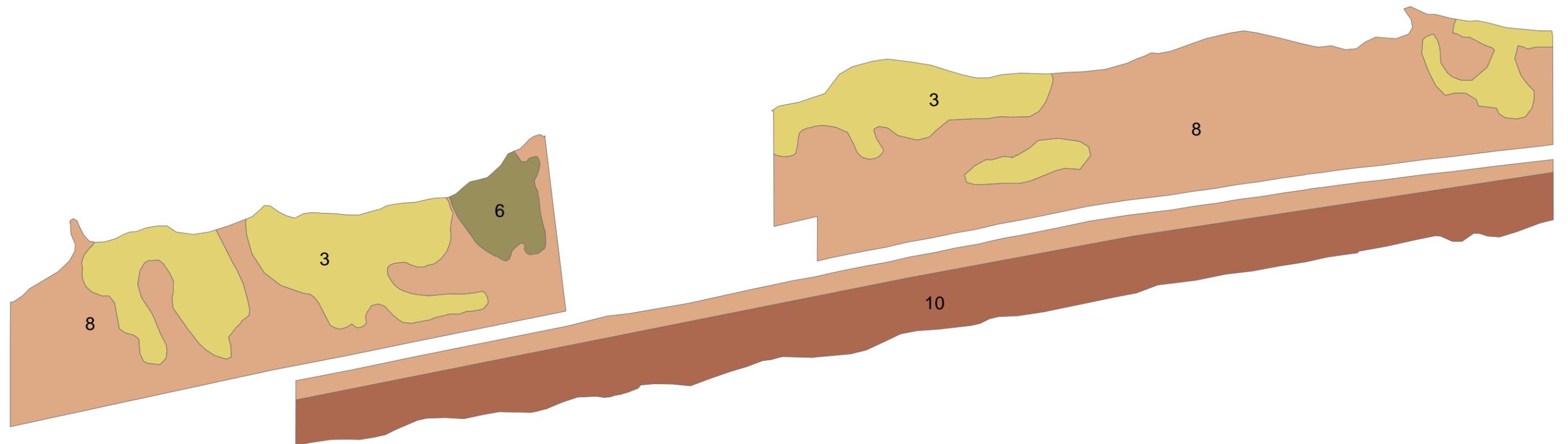
Specific geologic formations do not always correspond to recognized hydrologic units. An aquifer or a confining unit will include several distinct geologic formations that are considered to function as a single hydrologic unit. The typical hydrogeologic sequence consists of predominantly sandy materials in the uppermost deposits. These geologic units contain the Surficial aquifer and, in the western counties, the Sand and Gravel Aquifer. Underlying these upper sandy deposits are variable thickness of generally clayey materials that function primarily as confining beds.

Beneath this zone is the Floridan Aquifer, which is composed of several massive formations of carbonate rocks that exhibit highly variable water-bearing characteristics. West of Choctawhatchee Bay, the Floridan is divided by the Bucatunna Clay confining unit.

The surface waters of the region are a valuable resource and generally support an abundance of wildlife and aquatic life. Water quality problems found in some areas of the region are high concentrations of nutrients and coliform bacteria. Low dissolved oxygen levels occur, but less frequently. Probable causes of these problems are domestic and industrial waste discharges, natural swamp drainage and urban and agricultural runoff.

The region's most common water quality problems stem from biochemical oxygen demand (BOD), nutrients and coliform bacteria. Both of these problems result from point source (contamination from a specific source) and non-point source (general runoff from fields, parking lots, etc.) pollution. Pensacola is the major area of urban development within the region, and consequently the major contributor to the problem of water quality. Major potential sources of non-point source pollution include urban stormwater runoff, construction run-off and return flow, silviculture activities, mining, hydrologic modification and saltwater intrusion into freshwater aquifers. While the pollution contributions of both point and non-point sources result in problems for all types of water bodies, the situation is generally most critical in the region's shallow nutrient-active lakes and bays where non-point source pollution loads alone often exceed "permissible" limits for nutrients. Water bodies of greatest concern for water quality degradation include Eleven-Mile Creek and Bayou Texar in Escambia County, the Escambia River and Pensacola Bay.

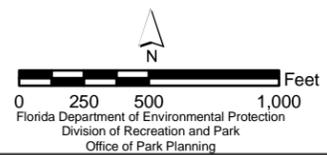
Unit hydrology. Perdido Key State Park operates on the Escambia County Municipal Water Supply and there are no known groundwater wells on the property. The Sand and Gravel Aquifer is the major source of groundwater in the extreme western portion of Florida, and it supplies Escambia County. Local rainfall is the primary contributor to this aquifer. Surface waters include



LEGEND

- 3-Corolla-Duckston sands, gently undulating, flooded
- 6-Dirego muck, tidal
- 8-Newhan-Corolla complex, rolling, rarely flooded
- 10-Beaches

PERDIDO KEY
STATE PARK



SOILS
MAP

the Gulf of Mexico and Old River, which are adjacent to the property.

Natural Communities

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

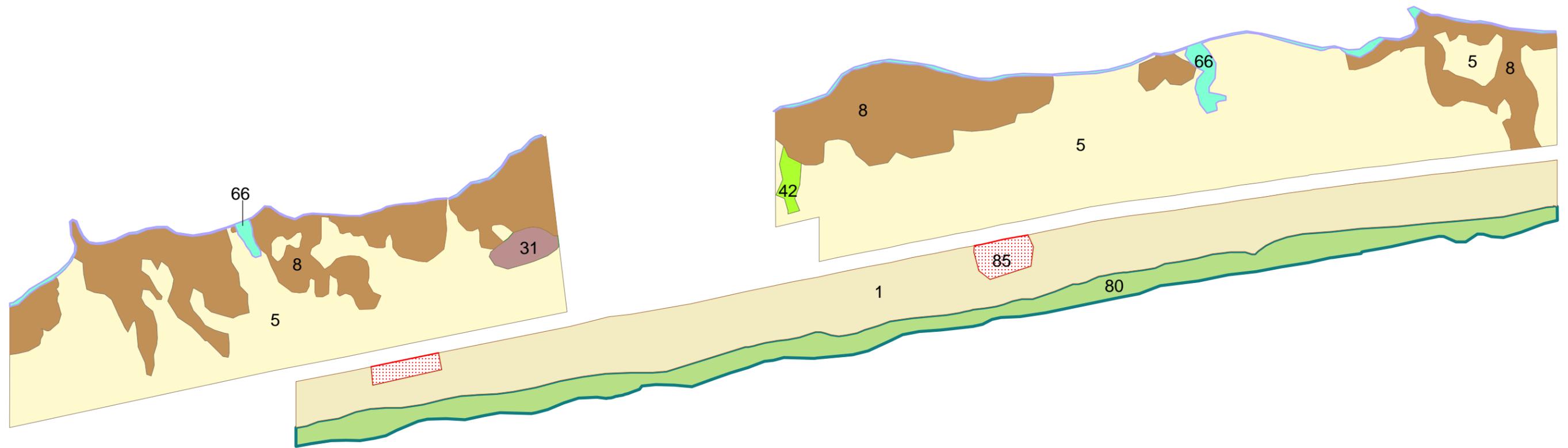
The park contains seven distinct natural communities (see Natural Communities Map) in addition to developed areas. Park specific assessments of the existing natural communities are provided in the narrative below. A list of plants and animals occurring in the unit is contained in Addendum 4.

Beach dune. From a habitat and endangered species perspective, this is by far the most important and sensitive community type on the park. The dunes are fragile and very easily damaged by foot traffic. Unfortunately, many unauthorized trails traverse the dune fields from the highway to the beach all along the 1.4-mile length of the park. Deeply rutted foot trails have grown wide and are subject to wind erosion, fragmenting the habitat. The beach dunes are the main habitat of the Perdido Key beach mouse, one of the most critically endangered mammals on earth. This habitat is currently in fair condition and should improve as protective measures are implemented and enforced. Recently, two additional boardwalks were constructed to allow authorized beach access without significantly damaging the dune systems. Hurricane Opal (1995) and Hurricane Ivan (2004) caused a near flattening of the dunes at this unit. The dunes have been recovering but have not attained their former heights or complexity. Although recent efforts (2003) to control foot traffic had met with recovery of some unauthorized trails, continuing unauthorized access issues exist in the dune systems.

The dunes have a particularly serious problem at night. Floodlights from nearby houses, condominiums and streetlights cause serious negative impacts on wildlife inhabiting the dunes. Beach mice and sea turtles require dark beaches to live normally. Every year sea turtle hatchlings become disoriented by the nearby lighting and are killed by cars, exposure or predation due in part to the excessive lighting. Beach mice may be at increased risk from predation due to the increased visibility associated with the artificial lighting.

Hurricane Frederick removed a vast amount of beach dune from the area in 1979. Hurricane Opal caused increased damage in 1995. Recent erosion from Hurricane Ivan in 2004 and multiple storms in 2005 further set back dune recovery. The entire primary dune field and the majority of the secondary dunes were lost.

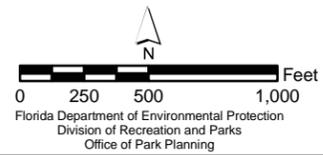
Coastal Strand. This is a revision from the previous unit plan's description of the area between the beach dunes and the mesic flatwoods. The previous plan identified this community as scrub. Different types of scrub exist in different areas of Florida. While the area does exhibit characteristics of both coastal strand and scrub, the appearance of the area seems to fit best with the FNAI description of coastal strand. The coastal strand begins just south of the highway, north to the areas defined as mesic flatwoods. Perhaps calling this community "gulf coastal strand" may be more descriptive and specific to this unique and quickly disappearing community. Beach



LEGEND

- 1 - Beach Dune-63.73 ac.
- 5 - Coastal Strand-129.69 ac.
- 8 - Mesic Flatwoods-55.36 ac.
- 31 - Depression Marsh-1.88 ac.
- 42 - Swale-0.97 ac.
- 66 - Estuarine Tidal Marsh-8.80 ac.
- 80 - Marine Unconsolidated Substrate-26.72 ac.
- 85 - Developed-3.17 ac.

PERDIDO KEY
STATE PARK



NATURAL COMMUNITIES
MAP

mice occur in this habitat and populate most all of this habitat type at this park.

Mesic flatwoods. This community is found north of most scrub areas adjacent to Old River. Small patches of flatwoods on the Old River portion of the park, dotted with slash pines, saw palmetto and some wetland grasses and sedges. Erosion has also been occurring on the north side of the island, illustrated by numerous tree falls and stumps at the edge of the water. While small in area, the mesic flatwoods community at this park is extremely important to the stability of the other natural communities on the park. The flatwoods act as a “safe haven” for many of the species needing refuge from storms. The condition of this community is fair to good, but fuel loading is becoming an increasing problem.

Depression marsh. A small area on the northwest portion of the park, this circular depression is one of the few wetlands inland of the bay side of the island. This particular marsh is vegetated with sawgrass and dried out during the severe droughts of recent years.

Swale. This very small area, near the Volunteer Fire Station, swale will hold water after rainstorms. It is one of the only areas of the park that holds any water, with the exception of flooding following strong storms or hurricanes. This is one of the last areas representing this community type on the entire key, with a few exceptions on the Gulf Islands National Seashore to the east.

Esturine tidal marsh. Exists as a very narrow, discontinuous strand ranging from 1-4 feet wide, existing between the beach and Old River. This community is located along the north edge of the island in small, relatively isolated locations. Much of this community has been lost due to the erosion that is removing portions of the northern shore of the key. Historical photos depict a significantly larger marsh area than exists today.

Marine unconsolidated substrate. This is essentially from the waterline to the toe of the primary dunes. This is an important foraging area for many shorebirds. This is a highly dynamic area and is heavily used by the public for swimming and sunbathing. Most of the use of this park takes place in this area. Loggerhead sea turtles mainly use this portion of the beach for nesting. Hurricane Opal (1995) and Hurricane Ivan (2004) caused severe erosion at this unit. Several feet of beach were lost all across the key. We are currently looking at a beach re-nourishment project with Escambia County.

Developed. Parking lots, roads and other structures on Perdido Key State Park are in this community.

Designated Species

Designated species are those that are listed by the Florida Natural Areas Inventory (FNAI), U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FFWCC), and the Florida Department of Agriculture and Consumer Services (FDA) as endangered, threatened or of special concern. Addendum 6 contains a list of the designated species and their designated status for this park. Management measures will be addressed later in this plan.

The Perdido Key beach mouse was listed as endangered by the USFWS in 1976. At one point, the population was estimated at 13 individuals in the world.

The Perdido Key beach mouse was re-introduced into the park in February 2000 because of a cooperative effort with U.S. Fish and Wildlife Service, The National Park Service, U.S. Dept of

Agriculture, and the Florida Fish and Wildlife Conservation Commission. The beach mouse was considered extirpated from the park following hurricane Frederick in 1979. The Perdido Key beach mouse is one of the rarest mammals in the world, with just a few hundred in existence. These mice only occur on Perdido Key, within the Johnson Beach unit of Gulf Islands National Seashore and now on Perdido Key State Park. As of March 2006, beach mice numbered less than 50 individuals, which is less than half the number known to exist in September 2002 prior to Hurricane Ivan. The population fluctuates a great deal. In the summer of 2001, only a handful of mice were known to inhabit the park, and only then by the presence of tracks.

The continued existence of the beach mouse at this park is threatened by the intermittent presence of a rather high density of feral and free ranging cats. Predation by cats is considered the most significant reason that mice became extirpated here in the early 1980s. Habitat quality has fluctuated throughout 2003 and 2004.

Artificial lighting at night is a problem that is negatively affecting beach mice. The mice prefer dark beaches, and tend to increase surface activity on darker nights, near the new moon. The added light can increase the success predators have catching the mice, and alter the normal behavior of the mice. Trapping data has shown that beach mice generally do not use areas of the park affected most by the artificial lighting. These areas are typically along the east and west boundaries of the park and along the edges of the highway where the lighting is more prevalent. Reduction of this light pollution will likely increase the amount of available and useable habitat for the beach mouse.

Sea Turtles nest each year on the park beaches. The vast majority are loggerhead turtles, but every once in a while green and Kemp's Ridley sea turtles nest here. There is the possibility of leatherback turtles to nest, as they have nested on Gulf Islands National Seashore in recent years.

The turtle nests are threatened most by the amount of light from nearby houses, condominiums and streetlights above the highway. There have been disorientations of sea turtle hatchlings each year resulting in the deaths of hundreds of hatchlings. Escambia County beaches (2005) had the highest percentage of hatchling disorientations statewide. In recent years, adult turtles attempting to nest have been impacted by human observers and man made objects placed on the beach.

Perdido Key State Park has few nesting shorebirds, but occasionally snowy plovers and least terns can nest in and around the dunes. As with other species, lighting, feral cats, and dogs on the beach are a serious threat to their nesting activities. Dogs will harass foraging and resting shorebirds as well.

Special Natural Features

The park has some of the only remaining natural habitat representative of Perdido Key prior to the beginning of development. The only remaining natural areas on Perdido Key are in public ownership.

Cultural Resources

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

condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests immediate action to reestablish physical stability.

The Florida Master Site File (FMSF) lists one site (# ES2241) within the park. The site is identified as a cultural deposit.

RESOURCE MANAGEMENT PROGRAM

Special Management Considerations

Timber Management Analysis

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

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

Additional Considerations

One of the more difficult problems at Perdido Key State Park is the numerous unauthorized trails that cross the dunes all along the park from U.S. Highway 98 to the beach. Many visitors park along U.S. Highway 98 or walk from the housing areas adjacent to the park, and cross the dunes using these unauthorized trails. This occurs even though the authorized parking areas are rarely full. Consequently, dunes remain in a damaged state, and do not have an opportunity to recover. Additionally, park entrance fees are not collected from those accessing the beach from along the highway, resulting in significant revenue loss. Information collected from an internship project estimate from \$32,000 to \$64,000 per year of lost revenue resulting from fee avoidance.

In 2003-2004 sand fencing and signage was installed to discontinue access to the unauthorized trails. The sand fencing met with some success upon installation and dune habitat improvement should remain a continuing effort. Hurricane Ivan storm waters broke through the dunes in these sparsely vegetated areas and removed the signs and fencing. In 2005, a post and wire boundary fence was added along the highway right-of-way. This fence was subsequently damaged by storms during the summer of 2005. We are working with FDOT to erect signs along SR292 to eliminate parking on the right-of-way

As mentioned earlier, the condition of the beach and dune systems are of utmost importance to this park from both a resource and visitation perspective. Restoring and maintaining these dune systems should also be of utmost importance. Some of the more obscure and less obvious considerations regarding dune protection are the effect of artificial lighting, with particular regard to the wildlife that inhabit the dune systems or use the area for nesting. Artificial lighting from nearby developments and streetlights is having a serious negative impact to the behavior and survivability of some of the more endangered species that occur on the park. Every effort

should be made to reduce or eliminate the effects of this lighting through coordination with USFWS, FFWCC, local governments and local residents.

Management Needs and Problems

Needs

1. Increased resource management and visitor service activity.
2. Some permanent, reliable and effective means of controlling unauthorized access through the dunes from the highway is badly needed. The unauthorized trails create an unsightly scarring of the dune systems, fragment habitat and increase the likelihood of serious dune erosion during storm events.
3. Funding to remove large hurricane generated debris fields from Coastal Strand and Mesic Flatwoods
4. Dune stabilization projects to accelerate accretion and vegetation recovery.
5. Better signage and educational kiosks are needed to encourage visitors to properly access the beach and educate the public about the endemic plants and animals on the key.
6. Increased law enforcement presence is needed to curtail the unauthorized access, excessive numbers of dogs on the beach and other safety concerns related to the roadside parking, and other law enforcement concerns.

Problems

1. Making the transition from traditional use patterns that cause dune damage is a continuing challenge. Funding to provide a visible management presence allowing for effective protection of the resource and visitors would enhance the quality of habitat while increasing revenue for this unit.
2. Dogs, both leashed and unleashed are frequently observed on the beach and in the dune areas. Dogs often chase and harass foraging and nesting shorebirds and cause problems for other native wildlife.
3. Feral and free ranging cats are a serious problem at this park. Cats are considered the primary reason for the extirpation of Perdido Key beach mice from this park.

Management Objectives

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

Primary resource objective is the protection and restoration of the dune habitat within the park.

Management Measures for Natural Resources

Hydrology

This narrow barrier island has little in the way of hydrological concerns. Beach erosion is a constant threat, particularly during storm events. Management activities will follow generally accepted best management practices established in the Florida Department of Agriculture and Consumer Services 1993 Silviculture Best Management Practices to prevent soil erosion and conserve soil and water resources on site.

Prescribed Burning

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

This small park has very little in the way of need for prescribed fire. The small areas of mesic flatwoods are beginning to become invaded with thick understory, and should be burned to reduce fuel loading. There is a logistical problem in burning this area however, due to the relative closeness to residential housing. A north wind would be ideal to keep smoke away from residential areas.

Designated Species Protection

The welfare of designated species is an important concern of the Division. In many cases, these species will benefit most from proper management of their natural communities. At times, however, additional management measures are needed because of the poor condition of some communities, or because of unusual circumstances that aggravate the particular problems of a species. The Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species.

Several endangered species inhabit, nest on or use this park. Most notable of these is the Perdido Key beach mouse. This mouse is one of the North America's rarest mammals and only currently exists in two places on earth, both of which are located on Perdido Key. The Johnson Beach Unit of Gulf Islands National Seashore is the other location. The mouse was reintroduced to the park in February 2000 after several years of being absent from the park. Originally, three pairs of juvenile mice were translocated from Johnson Beach, followed by an additional 16 pairs of juvenile mice the following year. As of this writing, approximately 100 mice are estimated to inhabit the dune systems at this unit. The population of this mouse can vary greatly depending on the time of year and recent weather conditions, as well as the presence of house cats.

Cooperative efforts to protect this mouse have been established with U.S. Fish and Wildlife Service, U.S. Dept of Agriculture, the Florida Fish and Wildlife Conservation Commission, the National Park Service, and Auburn University. A working group of representatives from each of these agencies and organizations continue to put in a tremendous amount of time and effort to ensure the continued existence of this critically endangered species.

Loggerhead sea turtles use the beach to nest each year. Occasionally green and Kemp's Ridley sea turtles will nest within the park boundary as well. In recent years, northerly expansion of range has seen leatherback turtles nesting on nearby beaches, and the possibility exists of future nesting by these magnificent turtles on the beaches of Perdido Key. Ongoing monitoring and evaluation of nesting success by all sea turtles is done each year. Nests are marked and data is collected. Emerging hatchlings are monitored whenever possible to detect disorientation of hatchlings caused by artificial lighting.

Piping plovers have not been noted in recent years, but historically occurred at this park during the colder months. With continued monitoring and protection from disturbance, this rare bird may return to Perdido Key.

Snowy plovers occasionally nest within the park, but have not been noted in recent years.

Exotic Species Control

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

Feral cats, coyotes, red fox, armadillos and fire ants are among the more damaging animal exotics present at Perdido Key. Other than habitat quality and availability, feral cats are by far the greatest threat to the endangered species on the park. Removal of these exotic pests should be a priority for this park. Constant attention to the presence of cats is required to be able to control the problem.

Exotic plants are of minimal concern at this park. Vigilance will be needed to detect any exotic plant invaders such as Chinese Tallow, which is prevalent in the area.

Problem Species

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

As mentioned above, feral and free ranging cats, red fox and coyote pose a serious threat to the continued existence of the Perdido Key beach mouse at this park. Every effort should be made to remove them as they are detected.

Problem species that may affect humans include mosquitoes, biting flies, jellyfish and venomous snakes. Should any problems arise with conflicts between visitors and humans, division policy will be followed.

Management Measures for Cultural Resources

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

Actions that require permits or approval from DHR include development, site excavations or surveys, disturbances of sites or structures, disturbances of the substrate, and any other actions that may affect the integrity of the cultural resources. These actions could damage evidence that would someday be useful to researchers attempting to interpret the past. When a comprehensive survey of the park is completed, measures will be implemented to address any cultural resource management needs.

Research Needs

Natural Resources

Any research or other activity that involves the collection of plant or animal species on park

property requires a collecting permit from the Department of Environmental Protection. Additional permits from the Florida Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, or the U.S. Fish and Wildlife Service may also be required.

Continued monitoring of the population of beach mice is an important tool in making management recommendations to ensure the continued existence of beach mice at this park. This monitoring needs to continue.

Research should be implemented on the effects of human induced impacts to dune systems and their effect on wildlife. Findings should influence management decisions with regard to dune protection.

Cultural Resources

A Phase I survey of the park is recommended. Upon completion of this survey, management recommendations will be made about any cultural sites found within the park.

Resource Management Schedule

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

Land Management Review

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

Perdido Key State Park was subject to a land management review on June 10, 2003. The review team made the following determinations:

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

LAND USE COMPONENT

INTRODUCTION

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

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

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

EXTERNAL CONDITIONS

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

Perdido Key State Park is located within Escambia County, about 15 miles southwest of downtown Pensacola in the western panhandle of Florida. The populations of Escambia County and the adjacent Santa Rosa County have grown 25 percent since 1990, and are projected to grow an additional 26 percent by 2020 (BEBR, University of Florida, 2004). The median age of Escambia County is 36.0, which is slightly younger than the state average of 39.4 (BEBR, University of Florida, 2004). Nearly 450,000 Floridians reside within 50 miles of the park, which includes the cities of Pensacola, Gulf Breeze, Milton, and Ft. Walton Beach (Census, 2000). The park is also in close proximity to residents of Gulf Shores and Mobile, Alabama. This area of Florida has a large military and retired military population due to the presence of the Pensacola Naval Air Station and other regional military bases.

Park attendance reached 169,429 visitors in FY 2003/2004. Following Hurricane Ivan and other named storms in 2004 and 2005, visitation dropped significantly due to the damage to park facilities. The park recorded 22,242 visitors in FY 2005/2006. Visitation is expected to return to pre-Ivan numbers as recreational facilities have recently been rebuilt and opened to the public. By DRP estimates, visitors during FY 2005/2006 contributed \$952,060 in direct economic impact and the equivalent of 19 jobs to the local economy compared to \$4.8 million and 96 jobs in FY 2003/2004 (Florida Department of Environmental Protection, 2006).

Existing Use of Adjacent Lands

Perdido Key State Park is bisected by State Road 292. The park fronts the Gulf of Mexico to the south and borders the Old River to the north. High density multi-family housing is located immediately east and west of the park. In addition, single family homes within the Perdido Bay residential community are located on an out parcel, north of State Road 292, near the center of the park.

Within five miles of Perdido Key State Park are two additional state parks. Big Lagoon State Park offers beaches, boating, camping, canoeing/kayaking, fishing, nature trails, picnicking, and swimming. Recently acquired Tarkiln Bayou Preserve State Park currently offers hiking and will provide other recreation opportunities as the park is developed. Also nearby, Gulf Islands National Seashore offers beach recreation, swimming, hiking, camping, canoeing/kayaking, fishing, and picnicking. In addition, Escambia County manages numerous county parks providing a variety of recreation facilities including beach access, boat ramps, a campground, and an equestrian park.

Planned Use of Adjacent Lands

The Future Land Use Map for Escambia County identifies all areas surrounding the park as MU-4, a mixed-use category which provides for a complimentary mix of residential, commercial, and tourism related uses (Escambia County, 2005). The Perdido Key Neighborhood Plan (2003) caps development at 8,150 dwelling units which is composed of 7,150 residential dwelling units and 1,000 lodging units (Escambia County, 2005). Currently, Perdido Key is home to 3,425 units, which means 4,725 additional units can be constructed. Based on development trends for the area, it is apparent that residential and lodging development will continue around the park until maximum densities are achieved.

The additional development may disturb wildlife, increase light and noise pollution, degrade water resources, and increase vehicular traffic on adjacent roads. In preparation of the expected increase in traffic, the Perdido Key Neighborhood Plan recommends improving Perdido Key Drive (State Road 292) and adding a bike/pedestrian path. The Florida-Alabama Transportation Planning Organization has recommended widening State Road 292 to 4 lanes from the Alabama state line to the ICWW Bridge. And, the Florida Department of Transportation (FDOT) has budgeted \$1.3 million in 2006 for the P, D and E phase of this widening project. If construction is approved, the Division should work with FDOT on construction plans to minimize the loss of protected habitat and the disturbance to endangered wildlife.

The U.S. Fish and Wildlife Service have proposed a critical habitat designation along portions of coastal dunes in the panhandle of Florida and southern Alabama, including Perdido Key State Park. This proposed critical habitat designation will provide benefits to the beach mice by informing the public of areas that are important for their recovery.

PROPERTY ANALYSIS

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

Recreation Resource Elements

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

Land Area

Perdido Key State Park is located on a barrier island on the Gulf of Mexico. The wide, white, sandy beaches and the rolling sand dunes covered with sea oats make this a pristine oasis along the rapidly developing panhandle. The beach, which provides excellent opportunities for swimming and sunbathing, is the focal point for public use of the park. However, some visitors are jeopardizing the park resources by parking along the shoulder of State Road 292 and walking through the dunes to access the beach.

State Road 292, a busy two-lane highway, essentially splits the park in half. The portion north of the road along Old River contains no facilities and offers limited opportunities for nature study and shoreline fishing. The river frontage is composed of gulf coastal strand and mesic flatwoods vegetation along the water's edge.

Water Area and Shoreline

The property includes over 8,700 linear feet of shoreline on the Gulf of Mexico. The sugar white, sandy high-energy beach is outstanding; it is also the focal point of the recreation activities at this park. The beach provides safe swimming conditions and has been a popular area with local residents and tourists for many years. Surf fishing is of moderate quality.

The north side of the property includes approximately 10,000 linear feet of shoreline on the Old River which is connected to the Intracoastal Waterway. Currently, no public access is available to this shoreline.

Natural Scenery

The park is very scenic, especially when contrasted with the new condominium developments and commercial businesses that are rapidly appearing on Perdido Key. Views from the park offer open vistas of the Gulf of Mexico and Old River, with some intruding views of adjacent development.

Significant Wildlife Habitat

The beach dune community is by far the most important and sensitive wildlife habitat at the park. The beach dunes are the main habitat of the Perdido Key beach mouse, which is listed as an Endangered Species by the U.S. Fish and Wildlife Service due to its rarity and extreme vulnerability to human impacts. Unfortunately, this habitat has been impacted by numerous unauthorized trails over many years, which has resulted in erosion and habitat fragmentation. Fencing and signage has been installed to block these trails. It is anticipated that the beach dune habitat will improve as protective measures are implemented and enforced.

Natural Features

The park's beach and dunes are the outstanding natural features of the site. Protective measures for each of these features will be continued. Enhanced interpretive programs are needed to

explain the nature and function of these interrelated landscapes to park visitors.

Archaeological and Historical Features

One site has been identified as a cultural deposit. Very little is known about this site.

Assessment of Use

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

Past Uses

A portion of the site was once used as a Navy gunnery range. This property has also been used for beach activities. Prior to state acquisition 1978, beachgoers traditionally parked along State Road 292 and accessed the beach by creating numerous paths through the dunes. This practice continues at a significant extent today, even with the existence of two parking lots. These unauthorized trails have damaged the beach dune habitat, which is critical to the survival of the Perdido Key beach mouse. These trails also increase the likelihood of serious dune erosion during storm events. This was evident following Hurricane Ivan, when it was observed that all blowout areas were located at the unauthorized trails.

Recreational Uses

The white, sandy beach is the focal point for recreation activities in the park. Swimming, sunbathing, picnicking, and shoreline fishing are the primary recreation activities available at the park. The property also offers limited opportunities to observe wildlife and study nature.

Other Uses

The park contains a water line easement and an underground power line easement. The disturbance caused by both easements is confined to a narrow path that does not significantly detract from the natural condition of the site.

The Perdido Bay residential community, located across State Road 292 from the gulf shoreline, owns a beach access easement through state park property. A dune crossover has been constructed in an effort to reduce trails through the dune fields.

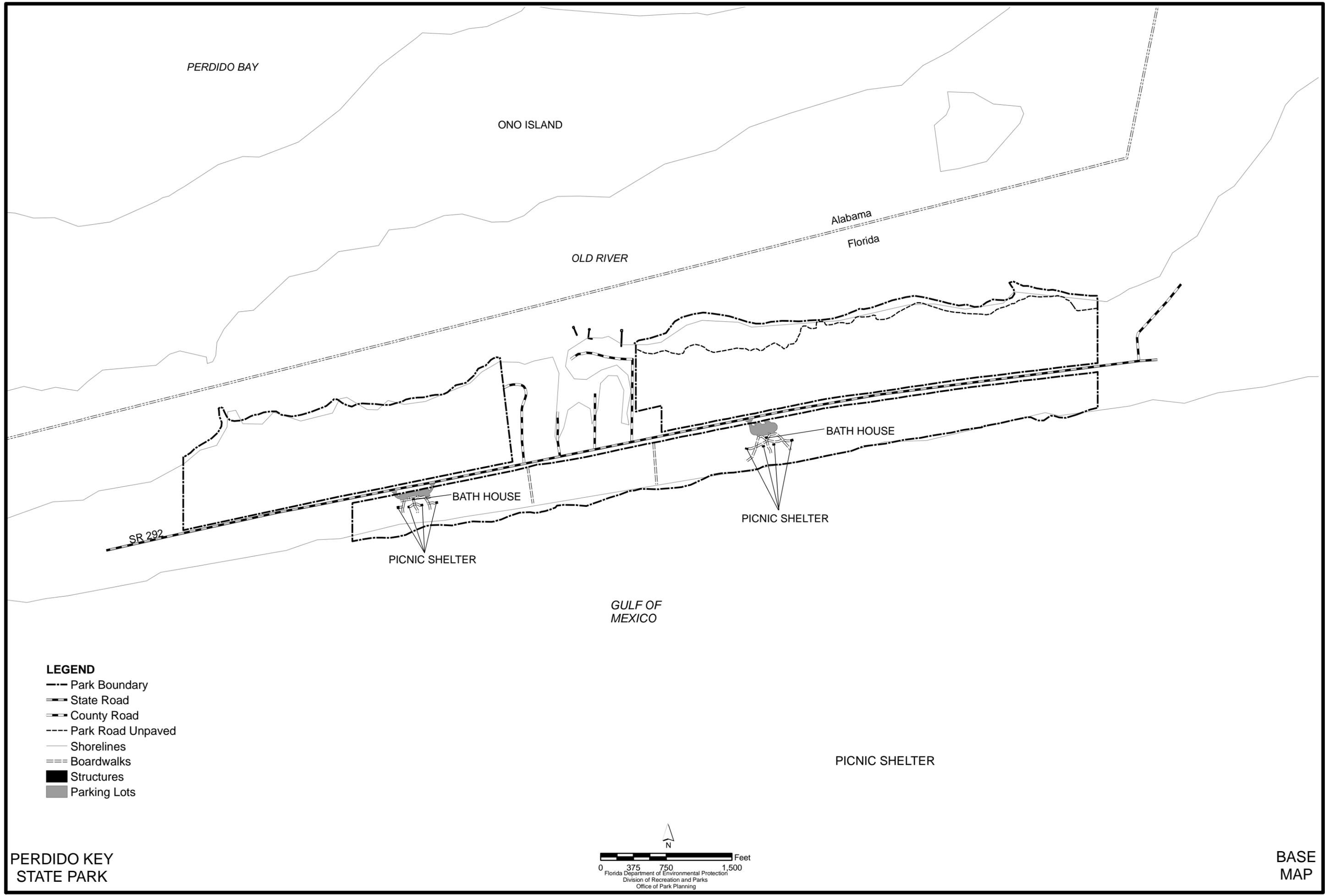
Protected Zones

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

At Perdido Key State Park, the entire property with the exception of the existing beach use areas has been designated as protected zone.

Existing Facilities

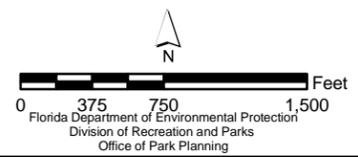
Recreation facilities. Recreation facilities have been developed at two use areas along the gulf beach. Each of these beach use areas contains four medium size picnic shelters, a restroom



LEGEND

-  Park Boundary
-  State Road
-  County Road
-  Park Road Unpaved
-  Shorelines
-  Boardwalks
-  Structures
-  Parking Lots

PERDIDO KEY
STATE PARK



BASE
MAP

building with outdoor showers, and paved parking for 50 vehicles. Dune crossovers are provided at both areas. Entry fees are collected in honor boxes.

Two additional dune crossovers have been constructed in recent years in an effort to reduce unauthorized trails through the dune fields. One is located across the street from the Perdido Bay residential community and follows their beach access easement. The second crossover is positioned across the street from the Perdido Key Chamber of Commerce. Visitors are asked to park their vehicles at the Chamber. The Division is working with FDOT to establish crosswalks and informational signage at these locations on State Road 292. FDOT prohibits parking on the right-of-way of State Road 292.

All park facilities have been rebuilt following their destruction during Hurricane Ivan and are now open to the public.

Support facilities. Support facilities for Perdido Key State Park are located at nearby Big Lagoon State Park.

CONCEPTUAL LAND USE PLAN

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

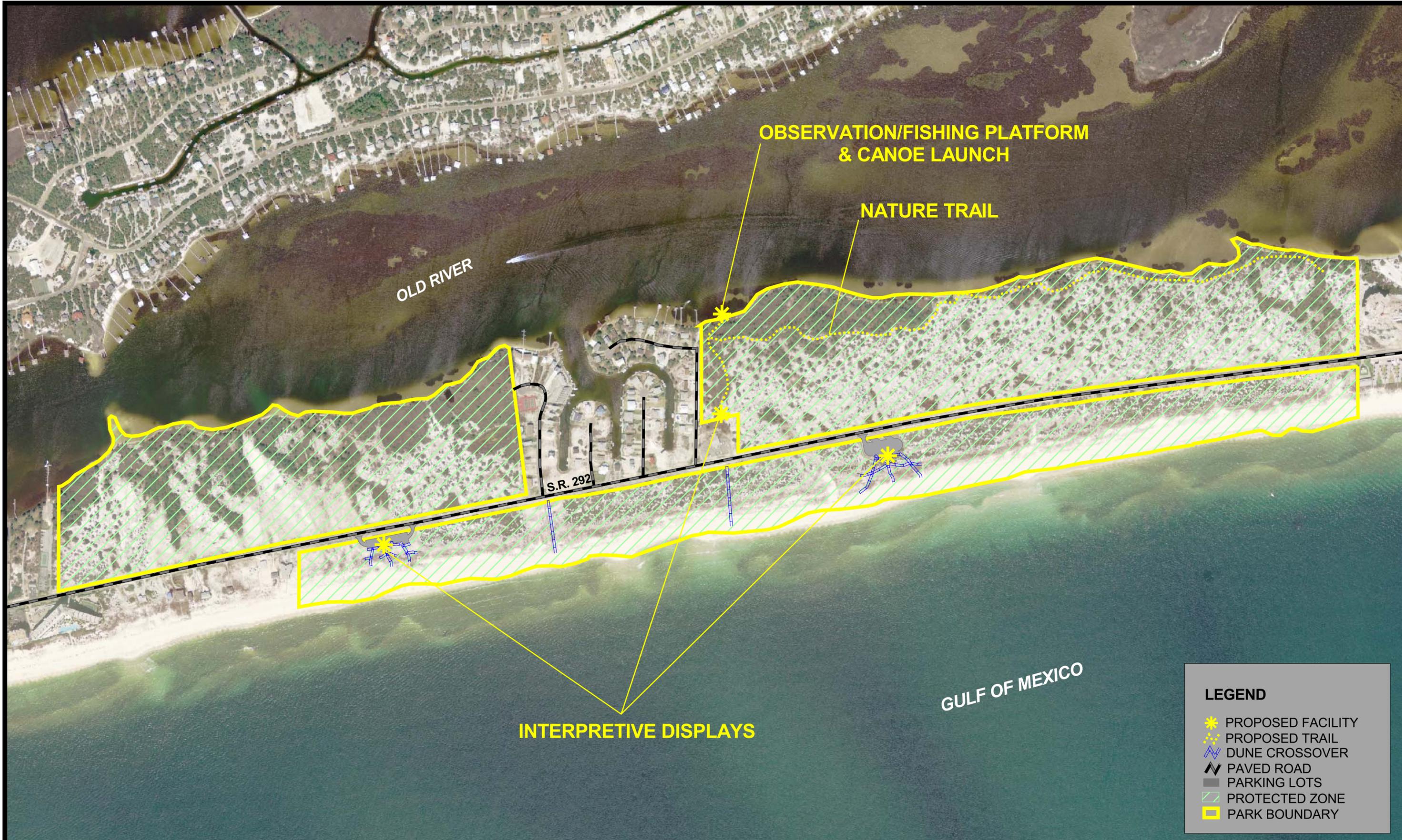
During the development of the unit management plan, the Division assesses potential impacts of proposed uses on the resources of the property. Uses that could result in unacceptable impacts are not included in the conceptual land use plan. Potential impacts are more thoroughly identified and assessed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

Potential Uses and Proposed Facilities

There is potential to improve the interpretive program and establish a new nature trail on the north side of State Road 292 at Perdido Key State Park. At this time, the parking capacity at the two existing beach use areas appears to be adequate to the demand for public access, and no new parking facilities or other development is proposed in the beach dune natural community.

Recreation Facilities

Interpretive Improvements. Three interpretive displays are recommended to educate visitors about the beach dune natural community, endangered species, and park management strategies.



OBSERVATION/FISHING PLATFORM
& CANOE LAUNCH

NATURE TRAIL

OLD RIVER

S.R. 292

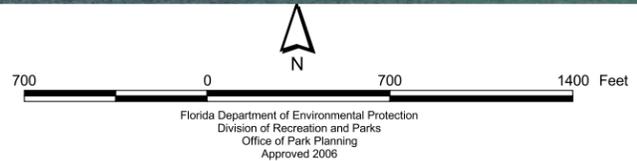
GULF OF MEXICO

INTERPRETIVE DISPLAYS

LEGEND

-  PROPOSED FACILITY
-  PROPOSED TRAIL
-  DUNE CROSSOVER
-  PAVED ROAD
-  PARKING LOTS
-  PROTECTED ZONE
-  PARK BOUNDARY

PERDIDO KEY STATE PARK



CONCEPTUAL LAND USE PLAN

One display should be located at each of the beach use areas with the third located at the entrance to the proposed nature trail.

Nature Trail. A nature trail is recommended for the area that fronts the Old River. The trailhead will be located at the Chamber of Commerce. The first 1000 feet of the trail, which will bring visitors to an observation and fishing platform on the Old River, will be universally accessible. From the observation platform, visitors may continue to follow an existing unpaved park road along the Old River to the eastern boundary of the park.

A canoe and kayak launch will be included in the design of the proposed observation and fishing platform on the Old River. A few additional parking spaces will be provided on park property to support this use. Formal consultation with US Fish and Wildlife Service, Florida Fish and Wildlife Conservation Commission, and Escambia County will be required before the parking or ADA trail project could proceed.

Support Facilities

For many years, the Division of Recreation and Parks has attempted to address problems stemming from park visitors parking on the right-of-way of State Road 292 and walking through the beach dune community at this state park. Sand fencing across these unauthorized trails and the construction of two additional boardwalk connections from the highway to the beach has been implemented in recent years. Unfortunately, the practice of walking through the dunes has continued, causing additional degradation of the critical habitat area of the federally endangered Perdido Key beach mouse.

During the reconstruction of park facilities following Hurricane Ivan, the Division installed a low, smooth-wire fence along the state road right-of-way and a post and beam fence along the eastern and western boundaries south of State Road 292 in an effort to prevent continued impacts to the beach dune and beach mouse habitat. The Division is coordinating with the Florida Department of Transportation to erect signs along State Road 292 to prohibit parking on the right-of-way. The Division is also working with the Florida State Park Patrol, the Florida Highway Patrol, and the Escambia County Sheriffs Office to enforce no parking on the right-of-way. Division staff will monitor the effectiveness of this new boundary fencing and, if compliance is unsatisfactory, a standard boundary fence will replace the existing fence. The goal is to provide fencing that prevents unauthorized entry while being aesthetically compatible with the adjoining beach community.

Facilities Development

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

Recreation Facilities

Interpretive Displays (3)
Accessible Trail (1000 ft.)

Observation/Fishing Platform
Canoe Launch

Support Facilities

None

Existing Use and Optimum Carrying Capacity

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

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

Table 1--Existing Use And Optimum Carrying Capacity

Activity/Facility	Existing Capacity		Proposed Additional Capacity		Estimated Optimum Capacity	
	One Time	Daily	One Time	Daily	One Time	Daily
Beach Recreation	306	612			306	612
Nature Trail			10	40	10	40
TOTAL	306	612	10	40	316	652

Optimum Boundary

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

Addendum 1—Acquisition History and Advisory Group List and Staff Report

Perdido Key State Park Acquisition History

Purpose and Sequence of Acquisition

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

On May 19, 1978, the Trustees purchased the initial area of Perdido Key State Park, from Stephens College for \$3,097,000. The purchase was funded with EEL bond proceeds. Since this initial purchase, the Trustees acquired several additional parcels under the EEL program, and added them to Perdido Key State Park.

On October 4, 1983, the Trustees leased Perdido Key State Park to the Division of Recreation and Parks (Division) under Lease No. 3193. This lease is for a period of thirty (30) years, which will expire on October 4, 2013.

According to Lease No. 3193, the Division manages Perdido Key State Park to preserve natural barrier island and dune system, maintain and preserve the native plant communities, protect native wildlife, maintain productivity in Older River, maintain storm protection functions, and provide outdoor activities compatible with these environmental protection purposes.

Title Interest

The Trustees hold fee simple title to Perdido Key State Park.

Special Conditions On Use

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

Outstanding Reservations

Following is a listing of outstanding rights, reservations, and encumbrances that apply to Perdido Key State Park.

Instrument:	Warranty Deed
Instrument Holder:	Floyd Federal Savings and Loan Association
Beginning Date:	May 26, 1978
Ending Date:	Forever
Outstanding Rights, Uses, Etc.:	The deed is subject to the rights of the United States of America and the State of Florida to all lands below high water mark of the Gulf of Mexico and set back requirement from the line of high water as provided by Chapter 161.052, Florida Statutes.

Perdido Key State Park Acquisition History

Instrument: Warranty Deed
Instrument Holder: Stephens College
Beginning Date: May 19, 1978
Ending Date: Forever
Outstanding Rights, Uses, Etc.: The deed is subject to a utility easement in favor of Gulf Power Company.

Instrument: Land Patent
Instrument Holder: United States of America
Beginning Date: March 13, 1984
Ending Date: Forever
Outstanding Rights, Uses, Etc.: In the event title to the property is transferred or the property is used for any purpose other than the purpose for which it is conveyed to the state, title to the property shall revert to the instrument holder.

**Big Lagoon State Park, Perdido Key State Park and Tarkiln Bayou Preserve State Park
Advisory Group Members**

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**Big Lagoon State Park, Perdido Key State Park and Tarkiln Bayou Preserve State Park
Advisory Group Members**

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Medora Mullins
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Represented by:

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Louise Miller (Big Lagoon neighbor)
5100 Choctaw Avenue
Pensacola, Florida 32507

Lauren Baggett (Perdido Key neighbor)
7204 Captain Kidd Reef
Perdido Key, Florida 32507

Jack O. Croke (Tarkiln Bayou neighbor)
3333 Pitcher Plant Circle
Pensacola, Florida 32506

Big Lagoon State Park, Perdido Key State Park and Tarkiln Bayou Preserve State Park Advisory Group Staff Report

The Advisory Group meeting to review the proposed land management plans for Big Lagoon State Park, Perdido Key State Park and Tarkiln Bayou Preserve State Park was held at Big Lagoon State Park on May 23, 2006 at 9am.

Chairman Mike Whitehead (Escambia County Commission) was represented by Robert Turpin. Tom LeDew (Florida Division of Forestry) was represented by Adam Parden. Shelley Alexander (Fort Pickens State Park Aquatic Preserve) was represented by Deborah Holland. Jerry Eubanks (Gulf Islands National Seashore) was represented by Nina Kelson. Chris Davis (Friends of Perdido Pitcher Plant Prairie) was represented by Jim Veal. Dr. John Himes (Florida Fish and Wildlife Conservation Commission), Sandra Sneckenberger (US Fish and Wildlife Service), David Wilks (Florida Department of Transportation), Mark Vance (West Florida Canoe and Kayak Club), and Sharon Maxwell (Northwest Florida Sierra Club) were not in attendance. All other appointed Advisory Group members were present as well as Chuck Brevik (US Navy). Attending staff were Danny Jones, Eric Kiefer, Lance Logan, Anne Harvey, Lew Scruggs and Brian Burket.

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

Summary of Advisory Group Comments

Nina Kelson (Gulf Islands National Seashore) had no comments.

Robert Turpin (Escambia County) expressed support for boating and paddling improvements proposed in plans. He stated there is a lack of public boating access to Perdido Bay and asked that consideration be given to constructing a boat ramp along the shoreline of Tarkiln Bayou Preserve. He also recommended canoe/kayak access to the Old River at Perdido Key State Park. He recommended a mechanism to collect horse manure along trails in Tarkiln Bayou Preserve on a regular basis. He identified a county need for a wide variety of recreation uses. He asked if the parks have noise control rules. Lance Logan replied no, other than quiet hours in the camping area at night. Mr. Turpin expressed support for road access to the shoreline at Tarkiln Bayou since it allows access to all citizens but suggested the plan include measures to ensure that it be done sensitively. He requested that the park staff talk to him about future beach renourishment efforts. He suggested the possibility of providing fishing piers or platforms where appropriate. He commended the staff for their good management of these parks.

Deborah Holland (Fort Pickens Aquatic Preserve) had no comments.

Al Hoffman (Friends of Big Lagoon/Perdido Key) complimented the plans and voiced his appreciation for the reconstruction of facilities lost during recent hurricanes.

Louise Miller (adjacent landowner) stated that the existing boat ramp at Big Lagoon needs improvements. Lance Logan replied that the staff is working on this issue. Ms. Miller asked about the expiration of the park leases and wondered if there was any threat of losing these state parks. Lew Scruggs responded that the leases will be renewed as their expiration dates near and there is absolutely no threat of losing these parks. Ms. Miller then asked about the missing cost

**Big Lagoon State Park, Perdido Key State Park and Tarkiln Bayou Preserve State Park
Advisory Group Staff Report**

estimate for the new amphitheater building. Brian Burket said the project is estimated at \$1.75 million and will be added to the plan. Ms. Miller asked about the number of seats in the proposed amphitheater. Mr. Logan stated the current design identifies seating for 295 individuals, which is a slight reduction from the previous capacity. Al Hoffman stated that the CSO provided input on the design of the building and requested that consideration be given to maximizing the number of seats. Ms. Miller then asked who decides what functions and events can be held at the parks. Mr. Logan replied that the decision is made at the park level and that once the restrooms are reopened, more functions and events will be approved.

Lauren Baggett (adjacent landowner) corrected a labeling error on the Reference Map. She recommended providing paddling access and a boat ramp on the Old River at Perdido Key. She requested that a safe pedestrian crossing be provided across SR 292 to access the dune crossovers. In addition, she voiced concern over the removal of certain predator species from Perdido Key State Park.

Maggie Gray (fishing representative) requested that the park improve their maintenance of the existing boat ramp. Lance Logan responded that this is being addressed. Ms. Gray asked where new boat ramp lanes would be located at Big Lagoon State Park. Lew Scruggs replied that if new lanes are necessary to improve boating access, they would be located near the existing boat ramp area and the exact site determined during the engineering and design phase.

Jack Croke (adjacent landowner) commented on the “preserve” classification for Tarkiln Bayou and expressed concern over the proposed road and parking near the Perdido Bay shoreline. He, instead, recommended that access be limited to those arriving by trail. He stated that wildlife appears to be disappearing from the Tarkiln Bayou area. He requested that this state park be preserved as natural as possible.

Richard Freisinger (Escambia Soil and Water Conservation District) cautioned that horse use could lead to erosion problems at Tarkiln Bayou Preserve. Anne Harvey replied that the staff is looking into providing low water crossings, routing trails around certain areas, and conducting a hydrological survey of the preserve to minimize impact from trail use.

Medora Mullins (equestrian representative) stated that she regularly rides her horses within Tarkiln Bayou Preserve and mentioned that there is a large, supportive and potentially active group of equestrians in the area. She then shared the following suggestions for enhancing the proposed equestrian use areas: omit installing a water trough but instead water faucets and plastic tubs; recommend 12’x12’ paddocks with a roof instead of a corral; picketing poles and/or hitching posts in the shade; shaded trailer parking on a firm surface but not asphalt; campers should have access to dump station at Big Lagoon; allow fishing and horse swimming at borrow pits on Bauer and Sorrento Roads; keep all existing service roads east of Bauer Road open to horse use; and adding a waste collection facility in the equestrian use areas. She requested neighborhood gates off Havburg and Nighthawk Lanes. She then offered the help of local equestrian groups to assist in the development of trails and use areas as well as their monitoring and clean-up on a regular basis. She suggested that timber gained from thinning of the planted pine area could be used to construct paddocks. She confirmed that the width of the trails could support horse drawn carts. She requested that horse use be added to page 37 of the Tarkiln Bayou plan and made suggestions for the species list in Addendum 4.

Vernon Compton (hiking representative) commended the staff on the development of plans

Big Lagoon State Park, Perdido Key State Park and Tarkiln Bayou Preserve State Park Advisory Group Staff Report

with an appropriate balance of access and protection. Mr. Compton stated his support of the “preserve” designation for Tarkiln Bayou. He expressed appreciation for the focus on trails, both land and water, in the plans and supported separation of user groups where appropriate. He appreciated the discussion of external impacts in the plans and encouraged the Division to coordinate with FDOT to include bike/pedestrian improvements, stormwater enhancements and wildlife crossings in the design of their proposed road projects. He voiced support for the staff’s efforts to control beach access at Perdido Key. He discussed his concern for the survival of the beach mouse and support for the removal of exotic species. He suggested that the proposed nature trail at Perdido Key could be made into a loop trail if worked into the design of road improvements along Perdido Key Drive. He stated his support for the Division’s policy on ATV use in state parks. He acknowledged the high quality resources at Tarkiln Bayou Preserve and supported passive use along the bayou and the separation of the primitive camping area from the beach use area. As for timber management, he recommends keeping some of the slash pines to promote diversity in future restoration areas.

J.J. Bachant-Brown (Gulf Coastal Plain Ecosystem Partnership) commends all three plans for being ecologically attentive. She pointed out that prescribed burning is a big need and encouraged the staff to work with neighbors to promote fire wise communities. Anne Harvey responded that this effort is already underway. Ms. Bachant-Brown stated her support for conducting hydrological studies at Big Lagoon State Park and connecting park facilities to municipal sewer. She requested that the cost estimates addendum include research needs. She asked about erosion along the Old River shoreline at Perdido Key State Park. Anne Harvey replied that erosion is minimal. Ms. Bachant-Brown expressed her support for the Division’s efforts to control beach access at Perdido Key. For the Tarkiln Bayou management plan, she agreed with the “preserve” designation and the low level of development proposed. She also agreed that a boat ramp at Tarkiln Bayou Preserve is not feasible and suggested a partnership with the Navy to make their adjacent boat ramp available to the public. Chuck Brevik responded that the Navy is generally opposed to public use of Blue Angel Recreation Area and is opposed to a new ramp at the state park. Mark Gibson replied that a dialogue would need to be initiated between the Navy and the County to discuss this possibility.

Jim Veal (Friends of the Perdido Pitcher Plant Prairie) commended the partners for their efforts to help protect these lands. He requested that the plans contain specificity on the timing of prescribed fires. He proposed limiting access and development at Tarkiln Bayou Preserve. He recommended improving the existing trailhead and having visitors hike to the shoreline instead of developing a road. In response, Lew Scruggs discussed the Division’s role of providing recreation opportunities, the conceptual plans for the Tarkiln peninsula, and explained the reality of the carrying capacity listed in the plan. Mr. Veal supported primitive camping as long as there is sufficient buffer from the shoreline. He stated that boating to DuPont Point is a wonderful experience and does not recommend a boater access dock. He suggested that, if acquired, Bronson Field could support active recreation areas for the park. He suggested coordinating with FDOT to elevate Bauer Road to provide safe crossing for wildlife and recreation users. He criticized the construction of the new sidewalk at Tarkiln Bayou Preserve as not being done sensitively. He asked that consideration be given to changing the name of Tarkiln Bayou Preserve State Park to the Perdido Pitcher Plant Preserve State Park.

Annelise Reunert (Audubon Society) stated she was thrilled to hear support coming from so many different groups at this meeting and suggested that it could lead to ecotourism opportunities. She agreed with comments shared by GCPEP and the Friends of the Pitcher Plant

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Prairie. She observed that the number of pitcher plants have greatly increased in recent years thanks to proper management of the preserve. She asked about Escambia County's effort to develop new boat ramps. She identified the need for a safe crossing of SR 292 from the Chamber of Commerce to the beach dune crossover. She recommended pump-out stations for boats to help protect water quality at the swimming areas and encouraged boater education programs. She commended the state for their quick response to provide beach access following the recent hurricanes and criticized the county for the condition of their beach access areas.

Lance Logan (Park Manager) expressed his appreciation for the input and support from each advisory group member. He discussed the importance of prescribed fires and welcomed phone calls if anyone has questions.

Adam Parden (Florida Division of Forestry) stated that the plans were thorough and encouraged the promotion of fire wise developments. He said DOF would be providing input on the fire plan for these parks.

Chuck Brevik (U.S. Navy) commented that dialogue is ongoing between the Navy and DEP regarding the possibility of transferring a portion of Bronson Field through which an entrance road could be routed. He then stated the Navy would prefer that Tarkiln Bayou Preserve be kept as natural as possible.

Mark Gibson (U.S. Navy) expressed his support for changing the name of the preserve to Perdido Pitcher Plant Preserve State Park. He mentioned his Commanding Officer's support for the Tarkiln Bayou Preserve. He stated support for the prescribed fire program and exotic species removal efforts. He expressed support for live cage trapping of nuisance wildlife and stated that he does not support the use of leg traps and the trapping of red foxes. He commented that the proposed road would bring too many people to the Tarkiln peninsula and the Navy would require security fencing along the northern boundary. In response to earlier comments, he stated that the Navy does not want to open Blue Angel Recreation Area to the public. He requested that the proposed boundary line through Bronson Field, shown on the Conceptual Land Use Plan, be pushed slightly south. He commented that only the eastern ditch along the northern boundary of the Tarkiln peninsula is causing problems in the state park and, therefore, only recommended restoring this ditch and not the western ditch. He recommended that park development at Tarkiln Bayou Preserve be kept minimal and stated that the other two plans look good.

Dave Marnell (Perdido Key Beach Area Chamber of Commerce) asked why the number of seats at the amphitheater was reduced. Lance Logan replied that permitting required the footprint of the building to be reduced, thus the number of seats. Mr. Marnell suggested that the Chamber might be able to help speed up the permitting process. If Bronson Field is acquired, he suggested that the best use of this land would be to address civic needs, such as ball fields. He requested better maintenance of the existing boat ramp at Big Lagoon. Lance Logan responded that the park staff is working to improve the situation by removing sand more frequently. Mr. Marnell suggested that he could help notify the community about plans for prescribed fires. In response to an earlier comment, he stated that the county is working to improve three beach access areas on Perdido Key by July 1, 2006. He expressed his support for considering fishing piers at the parks, where possible. He then asked how exotic animals are trapped. Anne Harvey explained the agency guidelines.

**Big Lagoon State Park, Perdido Key State Park and Tarkiln Bayou Preserve State Park
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Summary of Written Comments

Dr. Kathleen Cantwell (Defenders of Wildlife) provided a list of park-specific comments for each management plan. The following is a summarized version of her comments.

Big Lagoon State Park: Dr. Cantwell stated that the biggest threats to the park appear to be a lack of connectivity to other conservation lands and the alteration of its hydrology. She agreed that prescribed fire, the restoration program and plant/animal inventory are of paramount importance. She supported the reconstruction of the amphitheater/nature center after funding is secured for the plant/animal inventories and the burn program and staffing is obtained to adequately maintain and protect the park. She commented that the normal, historic hydrology should be restored as much as possible but should not include the removal of beavers from the basin swamp. She provided multiple reasons for not removing the beavers. She expressed concern that after expensive building and renovations are done, they will pose a problem for a vigorous burn program. She agreed that bat boxes should be installed before the new amphitheater is built. She encouraged the placement of signage along the sea grass beds as soon as possible as a means of protection. She recommended that the park contact FDOT early in their road improvement planning to coordinate park hydrology solutions. She requested that consideration be given to the niche coyotes fill in the ecosystem before a decision is made about their removal. She encouraged the park to take an active role in local land use planning and discuss potential impacts with their neighbors. She recommended the plan discuss how waste is managed at the park. She suggested that FEMA funds could be used to help with debris removal. She questioned the location of the new amphitheater building near the shoreline. She expressed strong support for paddling improvements and linkage of the park's wastewater to the municipal system. She recommended that the expansion of the boat ramp wait until the wastewater system be connected to municipal sewer.

Perdido Key State Park: Dr. Cantwell agreed with the main objectives of protecting listed species and educating the public, both visitors and neighbors, about their potential impacts. She strongly supported increased staffing to help monitor, educate and enforce these goals.

Tarkiln Bayou Preserve State Park: Dr. Cantwell disagreed with selective timber removal and referenced the foresters' Timber Management Analysis recommendation to use prescribed fire to manage this area. She expressed support for the other restoration plans, prescribed burn program, exotic removal, plant/animal inventories, monitoring of water quality, fencing boundaries and pursuing new acquisitions. She requested that park development wait until adequate staffing is provided. She agreed with using old jeep trails for hiking trails. She asked what happened to the gopher tortoises and suggested that this could be a good reintroduction site for healthy tortoises. She stated that the natural communities described are in good condition and just need a vigorous burn program. She strongly agreed that the park needs at least two full-time staff. She recommended finding alternative funding sources to help pursue acquisition of the optimum boundary. She agreed with the conceptual plans to restrict vehicular access to the northwest part of

Big Lagoon State Park, Perdido Key State Park and Tarkiln Bayou Preserve State Park Advisory Group Staff Report

the park and agreed that this area should be the area of developed facilities and to keep facilities away from DuPont Point. However, she does not believe the carrying capacity is realistic without full-time staff support to protect the natural resources. She recommended that the park provide the best available composting toilets or state-of-the-art septic systems that can reduce up to $\frac{3}{4}$ of nitrogen.

Jimmie Jarratt (West Florida Canoe and Kayak Club) requested that “canoeing” be added to page 6, Recreation Goal 1-B of the Big Lagoon plan. He requested information about the proposed primitive campsite at Big Lagoon: facilities, number of people, and reservation process. He also asked if there are plans to provide a canoe launch directly into Tarkiln Bayou. He expressed thanks for all the “efforts in providing canoeing and kayaking access to these wonderful waterways.” In response to his questions, primitive campsites usually accommodate 6 to 8 visitors and typically include a stabilized tent area and a fire ring. In addition, there are no plans for providing a canoe launch into the bayou.

Staff Recommendations

The staff recommends approval of the proposed management plans for Big Lagoon State Park, Perdido Key State Park and Tarkiln Bayou Preserve State Park as presented with the following significant changes:

Prescribed Burns. It is harder every year to burn in these ever sprawling, urbanizing areas. The best we can do is to target a general time of year for planned burns. Park staff will continue to interpret prescribed burning to the adjacent public, and provide notification of our intentions to burn specific areas via the standard “Good Neighbor Letter.”

Timber Removal at Tarkiln Bayou Preserve State Park. Currently, the timber assessment is fairly non-committal as to whether or not we will cut trees in planted areas or not. This is a good thing, since the longer-term results of burning will largely determine whether timber harvest will be necessary. We agree that slash pines, along with longleaf, naturally occur on the property. Therefore, there is not a dire need to remove an off-site species of pine to pave the way for natural community restoration. The main rationale for pine thinning at Tarkiln Bayou Preserve State Park is to restore a more natural (low) pine overstory density in select areas of the preserve that used to be open wet prairies. No single species of pine would be targeted for total eradication from a given restoration zone, only unnaturally high density.

Removal of Beavers at Big Lagoon State Park. As recently as the late 1980s, the park contained two small wet prairies that were characterized by open (treeless) grassy areas with abundant white top and red pitcherplants. Both areas were inundated with standing water from beaver dams, and today are best described as overgrown, titi and bay swamps. The statewide pitcherplant resource management evaluation recommends that at least some small representative example of the former pitcherplant habitat be restored for white-top reintroduction. If beaver activity is still posing a flooding problem in the selected restoration site, then the park will coordinate with Florida Fish and Wildlife Conservation Commission to remove the animals from that immediate area and breach their dams. This should not be interpreted that the park will henceforth remove all beavers from all portions of the park.

Protection of Seagrass Beds at Big Lagoon State Park. At one time, park staff coordinated

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with the Office of Coastal and Aquatic Managed Areas (CAMA) to place “no wake” buoys off the park’s eastern shoreline. Park staff will readdress this issue with CAMA and Escambia County’s Division of Marine Resources staff to determine if it is still feasible to place “no wake/seagrass” signs or buoys in the near shore waters off the east beach use area.

Cost Estimates Addendum. The Division is beginning to develop project scopes for hydrological restoration/enhancement work at Tarkiln Bayou Preserve State Park. Cost estimates for restoration and well as the staff hours involved in project research and coordination will be added to the cost addendum.

Regarding the Big Lagoon State Park hydrological research study, the plan describes a very general GIS survey intended to gain a more accurate picture of current surface hydrological regimes and a better understanding of the park’s roll in storm water handling for the immediate area. Such a survey would help guide future restoration. An estimate for this research is already provided in the cost addendum.

The cost estimate for the new amphitheater building was missing from the advisory group draft of the management plan. The cost is estimated at \$1.75 million and will be added to the addenda for Big Lagoon State Park.

Fishing Platform at Big Lagoon State Park. A fishing platform is proposed for the shoreline of Big Lagoon to enhance this recreational opportunity. The recommended location is just to the east of the current boat ramp, an area known to be popular with local fishermen.

Canoe/Kayak Access at Perdido Key State Park. A canoe and kayak launch will be included in the design of the proposed observation and fishing platform on the Old River. A few additional parking spaces will be provided on park property to support this use. Formal consultation with US Fish and Wildlife Service, Florida Fish and Wildlife Conservation Commission, and Escambia County will be required before the parking or ADA trail project could proceed.

Equestrian Use Areas at Tarkiln Bayou Preserve State Park. Many of the facility recommendations shared about the proposed equestrian use areas will be incorporated into the management plan for Tarkiln Bayou Preserve State Park. In addition, park staff will seek additional input from equestrian groups in the future when funding becomes available to develop these use areas.

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Addendum 2—References Cited

Tarkiln Bayou Preserve State Park—References Cited

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Tarkiln Bayou Preserve State Park—References Cited

Addendum 3—Soils Descriptions

Perdido Key State Park Soils Descriptions

Beaches. This map unit is in the coastal lowlands in the southern part of the county. It is a miscellaneous land type that consists of narrow strips of tidewashed sand on the coast and on barrier islands. Beaches are subject to daily flooding by fluctuating tides and wave action. The shape and slope of the beaches commonly change due to storm surges and wave action. Most areas have a uniform, gentle slope, but some areas have a short, steep slope at the water's edge. Individual areas are long and narrow, generally ranging from 200 to 500 feet in width. Most areas of Beaches consist of thick deposits of thinly stratified fine white sand. In most areas, common or many shell fragments and dark sand grains are throughout the profile. A typifying profile was not selected. Important properties of Beaches— Seasonal high water table: Apparent, at the surface to a depth of 1/2 foot throughout the year Available water capacity: Very low Permeability: Rapid Flooding: Very frequent for very brief periods due to fluctuating tides Included in mapping are a few small areas of Newhan, Corolla, and Duckston soils. The Newhan and Corolla soils are on sand dunes and are not subject to daily flooding by fluctuating tides. The poorly drained Duckston soils are in shallow swales and other depressions. Included soils make up less than 10 percent of the map unit. Individual areas generally are less than 1 acre in size This map unit is not suited to cultivated crops, pasture, hay, woodland, or most urban uses because of the flooding, wetness, and the instability of the landforms. Beaches provide access to the Gulf of Mexico and are used extensively for recreational activities. The capability subclass is VIIIw. This map unit has not been assigned a woodland ordination symbol or an ecological community.

Corolla Series. The Corolla series consists of very deep, somewhat poorly drained soils that formed in thick deposits of marine sands that have been reworked by wind and wave action. These soils are on the lower parts of dunes and in shallow swales between dunes on the barrier islands and near the coastal beaches on the mainland. The seasonal high water table is influenced by daily tidal fluctuations. In most years, it is at a depth of 1 1/2 to 3 feet throughout the year. These soils are subject to rare flooding. Slopes range from 2 to 6 percent. These soils are thermic, uncoated Aquic Quartzipsamments. Corolla soils are geographically associated with Dirego, Duckston, Kureb, Newhan, and Resota soils. The very poorly drained Dirego soils are in tidal marshes and have a thick, histic epipedon. The poorly drained Duckston soils are in lower positions than the Corolla soils on flats and in swales between dunes.

The excessively drained Kureb and moderately well drained Resota soils are in the higher positions and have spodic materials in the subsoil. The excessively drained Newhan soils are in the higher positions on the dunes. Typical pedon of Corolla sand, in an area of Newhan-Corolla complex, rolling, rarely flooded; in Big Lagoon State Recreation Area, about 2,640 feet south and 675 feet west of the northeast corner of sec. 13, T. 3 S., R. 32 W. A—0 to 5 inches; grayish brown (10YR 5/2) sand; single grained; loose; few fine roots; moderately acid; clear wavy boundary. C1—5 to 28 inches; very pale brown (10YR 7/3) sand; single grained; loose; common medium distinct brown (10YR 4/3) streaks of organic stains; moderately acid; clear wavy boundary. C2—28 to 40 inches; white (N 8/0) sand; single grained; loose; common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation with sharp boundaries throughout the matrix; common medium prominent brown (10YR 4/3) streaks of organic stains; moderately acid; gradual wavy boundary.

C3—40 to 48 inches; white (10YR 8/1) sand; single grained; loose; common fine prominent yellowish red (5YR 5/8) masses of iron accumulation with sharp boundaries throughout the matrix; moderately acid; gradual wavy boundary. C4—48 to 80 inches; light gray (10YR 7/1) sand; single grained; loose; common black sand grains; moderately acid.

Perdido Key State Park Soils Descriptions

Dirego Series. The Dirego series consists of very deep, very poorly drained organic soils that formed in highly decomposed plant materials and the underlying sandy sediments. These soils are in tidal marshes on the barrier islands and adjacent to the coastline. Dirego soils have a high water table within a depth of 1/2 foot throughout the year and are subject to daily flooding by the tides. Slopes are less than 1 percent. These soils are sandy or sandy-skeletal, siliceous, euic, thermic Terric Sulfisaprists. Dirego soils are geographically associated with Corolla, Duckston, Leon, Newhan, and Pickney soils. All of the associated soils are in higher positions than the Dirego soils and are mineral soils. Typical Pedon of Dirego muck, in an area of Dirego muck, tidal; on Santa Rosa Island, about 2.0 miles east of Big Sabine Point and 0.7 mile north of County Road 399; lat. 30 degrees 21 minutes 32 seconds N. and long. 87 degrees 00 minutes 51 seconds W.

Newhan Series. The Newhan series consists of very deep, excessively drained soils that formed in thick deposits of marine sands that have been reworked by wind and wave action. These soils are on dunes on the barrier islands and adjacent to the coastal beaches on the mainland. The seasonal high water table is below a depth of 6 feet throughout the year. Slopes range from 2 to 12 percent. These soils are thermic, uncoated Typic Quartzipsamments. Newhan soils are geographically associated with Corolla, Dirego, Duckston, Kureb, and Resota soils. The somewhat poorly drained Corolla soils are on the lower parts of dunes and in shallow swales between dunes. The very poorly drained Dirego soils are in tidal marshes and have a thick histic horizon. The poorly drained Duckston soils are on flats and in swales between dunes. The Kureb and Resota soils are on dunes and knolls that are not subject to salt spray. The Kureb soils have discontinuous spodic horizons. The Resota soils are moderately well drained. Typical pedon of Newhan sand, in an area of Newhan-Corolla complex, rolling, rarely flooded; about 2,500 feet south and 4,850 feet west of the northeast corner of sec. 34, T. 3 S., R. 32 W. A—0 to 3 inches; gray (10YR 6/1) sand; single grained; loose; few fine roots; slightly acid; clear wavy boundary. C1—3 to 22 inches; light gray (10YR 7/1) sand; single grained; loose; few fine roots; common black sand grains; slightly acid; gradual wavy boundary. C2—22 to 80 inches; white (10YR 8/1) sand; single grained; loose; common black sand grains; slightly acid. The combined thickness of the sandy sediments is more than 80 inches. Reaction ranges from extremely acid to slightly alkaline. Up to 35 percent, by volume, of the soil are fragments of mollusk shell, mostly of sand size. In most pedons, dark sand grains of ilmenite are throughout the profile. The A horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 to 3. The C horizon has hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 or 2. It is sand or fine sand.

Addendum 4—Plant And Animal List

Perdido Key State Park Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Red Maple.....	<i>Acer rubrum</i>	
Pepper-Vine.....	<i>Ampelopsis arborea</i>	
Bushy Beardgrass.....	<i>Andropogon glomeratus</i>	
Broomsedge bluestem.....	<i>Andropogon virginicus</i>	
Wiregrass.....	<i>Aristida stricta</i> var. <i>beyrichiana</i>	
Longleaf wilkweed.....	<i>Asclepias longifolia</i>	
Annual saltmarsh Aster.....	<i>Aster subulatus</i>	
Perennial Salt Marsh Aster.....	<i>Aster tenuifolius</i>	
Salt Bush.....	<i>Baccharis halimifolia</i>	
Saltwort.....	<i>Batis maritima</i>	
Sea Oxeye.....	<i>Borrichia frutescens</i>	
Deer's Tongue.....	<i>Carphephorus odoratissimus</i>	
Partridge-pea.....	<i>Cassia fasciculata</i>	
Wild Sensitive Plant.....	<i>Cassia nictitans</i>	
Butterfly-pea.....	<i>Centrosema virginianum</i>	
Buttonbush.....	<i>Cephalanthus occidentalis</i>	
Rosemary.....	<i>Ceratiola ericoides</i>	
Sand-dune Spurge.....	<i>Chamaesyce ammannioides</i>	
Lamb's Quarters.....	<i>Chenopodium album</i>	
Jamaican Swamp Sawgrass.....	<i>Cladium jamaicense</i>	
Tread -Softly.....	<i>Cnidocolus stimulosus</i>	
Whitemouth dayflower.....	<i>Commelina erecta</i>	
False Rosemary.....	<i>Conradina canesens</i>	
Coreopsis.....	<i>Coreopsis falcata</i>	
Smooth rattle-box.....	<i>Crotalaria pallida</i> var. <i>obovata</i>	
Rabbitbells.....	<i>Crotalaria rotundifolia</i>	
Croton.....	<i>Croton glandulosus</i>	
Beach Tea.....	<i>Croton punctatus</i>	
Fiveangled dodder.....	<i>Cuscuta pentagona</i>	
Pinebarren flatsedge.....	<i>Cyperus retrorsus</i>	
Titi.....	<i>Cyrilla racemiflora</i>	
Starrush.....	<i>Dichromena colorata</i>	
Poor Joe.....	<i>Diodia teres</i>	
Pink Sundew.....	<i>Drosera capillaris</i>	
Southern Fleabane.....	<i>Erigeron quercifolius</i>	
Dog Fennel.....	<i>Eupatorium leptophyllum</i>	
Goldenrod.....	<i>Euthamia minor</i>	
Creeping Morning-glory.....	<i>Evolvulus sericeus</i>	
Fimbristylis.....	<i>Fimbristylis caroliniana</i>	
Milk-pea.....	<i>Galactia volubilis</i>	
Diamond-flower.....	<i>Hedyotis nigricans</i>	
Rockrose.....	<i>Helianthemum corymbosum</i>	
Camphor Weed.....	<i>Heterotheca subaxillaris</i>	
St. John's-wort.....	<i>Hypericum cistifolium</i>	
St. Peter's-wort.....	<i>Hypericum crux-andreae</i>	
Pineweed.....	<i>Hypericum gentianoides</i>	
Gallberry.....	<i>Ilex glabra</i>	

* Non-native Species

Perdido Key State Park Plants

**Primary Habitat Codes
(for designated species)**

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Yaupon.....	<i>Ilex vomitoria</i>	
Hairy Indigo.....	<i>Indigofera hirsuta</i>	
Beach Morning-glory.....	<i>Ipomoea imperati</i>	
Railroad Vine.....	<i>Ipomoea pes-caprae</i>	
Saltmarsh Morning-glory.....	<i>Ipomoea sagittata</i>	
Marsh Elder.....	<i>Iva frutescens</i>	
Iva.....	<i>Iva imbricata</i>	
Needlerush.....	<i>Juncus roemerianus</i>	
Southern Red Cedar.....	<i>Juniperus silicicola</i>	
Wicky.....	<i>Kalmia hirsuta</i>	
Saltmarsh Mallow.....	<i>Kosteletzkya virginica</i>	
Peppergrass.....	<i>Lepidium virginicum</i>	
Bearded Spangletop.....	<i>Leptochloa fascicularis</i>	
Fetterbush.....	<i>Leucothoe racemosa</i>	
Blazing Star.....	<i>Liatris tenuifolia</i>	
Gopher Apple.....	<i>Licania michauxii</i>	
Fetterbush.....	<i>Lyonia lucida</i>	
Southern Magnolia.....	<i>Magnolia grandiflora</i>	
Sweetbay.....	<i>Magnolia virginiana</i>	
White Sweet-Clover.....	<i>Melilotus alba</i>	
Wax Myrtle.....	<i>Myrica cerifera</i>	
White Water-lily.....	<i>Nymphaea odorata</i>	
Seaside Evening-primrose.....	<i>Oenothera humifusa</i>	
Prickly Pear.....	<i>Opuntia humifusa</i>	
Beachgrass.....	<i>Panicum amarum</i>	
Fall Panicum.....	<i>Panicum dichotomiflorum</i>	
Switchgrass.....	<i>Panicum virgatum</i>	
Knotgrass.....	<i>Paspalum distichum</i>	
Vaseygrass.....	<i>Paspalum urvillei</i>	
Pokeweed.....	<i>Phytolacca americana</i>	
Sand Pine.....	<i>Pinus clausa</i>	
Slash Pine.....	<i>Pinus elliottii</i>	
Salt Marsh Fleabane.....	<i>Pluchea odorata</i>	
Milkwort.....	<i>Polygala grandiflora</i>	
Bracken.....	<i>Pteridium aquilinum</i>	
Mock Bishop's-weed.....	<i>Ptilimnium capillaceum</i>	
Chapman Oak.....	<i>Quercus chapmanii</i>	
Sand-live Oak.....	<i>Quercus geminata</i>	
Laurel Oak.....	<i>Quercus hemisphaerica</i>	
Myrtle Oak.....	<i>Quercus myrtifolia</i>	
Meadow Beauty.....	<i>Rhexia cubensis</i>	
Natalgrass.....	<i>Rhychelytrum repens</i>	
Winged Sumac.....	<i>Rhus copallina</i>	
Sand Blackberry.....	<i>Rubus cuneifolius</i>	
Dewberry.....	<i>Rubus trivialis</i>	
Sourdock.....	<i>Rumex hastatulus</i>	
Marsh Pink.....	<i>Sabatia brevifolia</i>	

* Non-native Species

Perdido Key State Park Plants

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (for designated species)
Arrowhead.....	<i>Sagittaria lancifolia</i>	
Sagotia.....	<i>Sagotia triflora</i>	
Coastal Plain Willow	<i>Salix caroliniana</i>	
Saw-palmetto	<i>Serenoa repens</i>	
Sea Purslane.....	<i>Sesuvium portulacastrum</i>	
Knotroot Foxtail.....	<i>Setaria geniculata</i>	
Sida	<i>Sida cordifolia</i>	
Greenbrier	<i>Smilax auriculata</i>	
Catbrier	<i>Smilax bona-nox</i>	
Greenbriar	<i>Smilax rotundifolia</i>	
Jackson-brier.....	<i>Smilax smallii</i>	
Nightshade	<i>Solanum americanum</i>	
Black Nightshade.....	<i>Solanum nigrescens</i>	
Seaside Goldenrod	<i>Solidago sempervirens</i>	
Saltmarsh Cordgrass	<i>Spartina alterniflora</i>	
Marshhay.....	<i>Spartina patens</i>	
Gulf Cordgrass.....	<i>Spartina spartinae</i>	
Smutgrass.....	<i>Sporobolus indicus</i>	
Virginia Dropseed.....	<i>Sporobolus virginicus</i>	
St. Augustine Grass.....	<i>Stenotaphrum secundatum</i>	
Queen's Delight.....	<i>Stillingia sylvatica</i>	
Poison Ivy	<i>Toxicodendron radicans</i>	
Common Cattail.....	<i>Typha latifolia</i>	
Sea Oats	<i>Uniola paniculata</i>	
Bladderwort.....	<i>Utricularia biflora</i>	
Sparkleberry.....	<i>Vaccinium arboreum</i>	
Vervain.....	<i>Verbena brasiliensis</i>	
Frost Weed.....	<i>Verbesina virginica</i>	
Ironweed	<i>Vernonia gigantea</i>	
Summer Grape	<i>Vitis aestivalis</i>	
Spanish Bayonet.....	<i>Yucca aloifolia</i>	
Hercules'-club	<i>Zanthoxylum clava-herculis</i>	

Perdido Key State Park Plants

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (for designated species)
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Perdido Key State Park Animals

**Primary Habitat Codes
(for all species)**

Common Name

Scientific Name

Common Name	Scientific Name	Primary Habitat Codes (for all species)
AMPHIBIANS		
Florida Cricket Frog.....	<i>Acris gryllus</i>	14
Oak Toad.....	<i>Bufo quercicus</i>	14
Southern Toad.....	<i>Bufo terrestris</i>	14
Green Treefrog.....	<i>Hyla cinerea</i>	14
Southern Spring Peeper.....	<i>Hyla crucifer</i>	14
Squirrel Treefrog.....	<i>Hyla squirella</i>	14
Southern Chorus Frog.....	<i>Pseudacris nigrita</i>	14
Pig Frog.....	<i>Rana grylio</i>	14
Southern Leopard Frog.....	<i>Rana utricularia</i>	14

REPTILES

American alligator	<i>Alligator mississippiensis</i>	occasional
Florida Cottonmouth.....	<i>Agkistrodon piscivorus</i>	All
Green Anole.....	<i>Anolis carolinensis</i>	All
Loggerhead turtle.....	<i>Caretta caretta</i>	77
Green turtle.....	<i>Chelonia mydas</i>	77
Six-lined Racerunner	<i>Cnemidophorus sexlineatus</i>	All
Southern Black Racer	<i>Coluber constrictor</i>	All
Ea. Diamondback Rattlesnake	<i>Crotalus adamanteus</i>	All
Corn Snake.....	<i>Elaphe guttata</i>	All
Five-lined Skink.....	<i>Eumeces fasciatus</i>	All
Southeastern Five-lined Skink	<i>Eumeces inexpectatus</i>	All
Broad-headed Skink.....	<i>Eumeces laticeps</i>	All
Eastern Hognose Snake.....	<i>Heterodon platyrhinos</i>	All
Kemp's Ridley turtle.....	<i>Lepidochelys kempii</i>	77
Diamondback Terrapin	<i>Malaclemys terrapin</i>	All
Eastern Coachwhip	<i>Masticophis flagellum</i>	All
Banded Water Snake.....	<i>Nerodia fasciata</i>	All
Gulf Salt Marsh Snake.....	<i>Nerodia fasciata clarki</i>	All
Brown Water Snake.....	<i>Nerodia taxispilota</i>	All
Eastern Slender Glass Lizard.....	<i>Ophisaurus attenuatus</i>	All
Eastern Glass Lizard	<i>Ophisaurus ventralis</i>	All
Southern Fence Lizard.....	<i>Sceloporus undulatus</i>	All
Dusky Pygmy Rattlesnake	<i>Sistrurus miliarius</i>	All
Gulf Coast Box Turtle.....	<i>Terrapene carolina</i>	All

BIRDS

Common Loon	<i>Gavia immer</i>	Adj. Water
Pied-billed Grebe	<i>Podilymbus podiceps</i>	Adj. Water
Horned Grebe.....	<i>Podiceps auritus</i>	Adj. Water
American White Pelican	<i>Pelecanus erythrorhynchos</i>	1,77
Double-crested Cormorant.....	<i>Phalacrocorax auritus</i>	1,77
Anhinga.....	<i>Anhinga anhinga</i>	1,77

* Non-native Species

Perdido Key State Park Animals

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (for all species)
American Bittern.....	<i>Botaurus lentiginosus</i>	Adj. Water
Great Blue Heron	<i>Ardea herodias</i>	All
Great Egret.....	<i>Casmerodius albus</i>	All
Cattle Egret.....	<i>Bubulcus ibis</i>	All
Green-backed Heron	<i>Butorides striatus</i>	All
Little Blue Heron	<i>Egretta caerulea</i>	Wet Areas
Snowy Egret.....	<i>Egretta thula</i>	Wet Areas
Tricolored Heron.....	<i>Egretta tricolor</i>	Wet Areas
Wooduck.....	<i>Aix sponsa</i>	Adj. Water
Mallard.....	<i>Anas platyrhynchos</i>	Adj. Water
Redhead.....	<i>Aythya americana</i>	Adj. Water
Ring-necked Duck	<i>Aythya collaris</i>	Adj. Water
Common Goldeneye	<i>Bucephala clangula</i>	Adj. Water
Bufflehead.....	<i>Bucephala albeola</i>	Adj. Water
Common Merganser.....	<i>Mergus merganser</i>	Adj. Water
Bald Eagle.....	<i>Haliaeetus leucocephalus</i>	Flyover
Merlin.....	<i>Falco columbaris</i>	Flyover
Southeastern Kestrel	<i>Falco sparvarious paulus</i>	Flyover
Peregrin Falcon	<i>Falco peregrinus</i>	Flyover
Cooper's Hawk	<i>Accipiter cooperi</i>	Flyover
Black Vulture	<i>Coragyps atratus</i>	Flyover
Turkey Vulture.....	<i>Cathartes aura</i>	Flyover
Mississippi Kite	<i>Ictinia mississippiensis</i>	Flyover
Swallow-tailed Kite	<i>Elanoides forficatus</i>	Flyover
Red-shouldered Hawk.....	<i>Buteo lineatus</i>	Flyover
Red-tailed Hawk	<i>Buteo jamaicensis</i>	Flyover
Osprey	<i>Pandion haliaetus</i>	All
Northern Bobwhite.....	<i>Colinus virginianus</i>	All
Purple Gallinule	<i>Porphyryla martinica</i>	1,77
Common Moorhen	<i>Gallinula chloropus</i>	1,77
American Coot.....	<i>Fulica americana</i>	1,77
Black-bellied Plover.....	<i>Pluvialis squatarola</i>	1,77
Snowy plover	<i>Charadrius alexandrinis</i>	1,77
Piping plover.....	<i>Charadrius melodious</i>	1,77
Semipalmated Plover	<i>Charadrius semipalmatus</i>	1,77
Killdeer	<i>Charadrius vociferus</i>	1,77
Willet.....	<i>Catoptrophorus semipalmatus</i>	1,77
Ruddy Turnstone.....	<i>Arenaria interpres</i>	1,77
Sanderling	<i>Calidris alba</i>	1,
Dunlin	<i>Calidris alpina</i>	1,77
Laughing Gull	<i>Larus atricilla</i>	1,77
Bonaparte's Gull.....	<i>Larus philadelphia</i>	1,77
Ring-billed Gull	<i>Larus delawarensis</i>	1,77
Herring Gull.....	<i>Larus argentatus</i>	1,77
Least tern.....	<i>Sterna antillarum</i>	1,77
Caspian Tern.....	<i>Sterna caspia</i>	1,77
Royal Tern	<i>Sterna maxima</i>	1,77

* Non-native Species

Perdido Key State Park Animals

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (for all species)
Sandwich Tern	<i>Sterna sandvicensis</i>	1,77
Common Tern	<i>Sterna hirundo</i>	1,77
Black Tern.....	<i>Chlidonias niger</i>	1,77
Black Skimmer.....	<i>Rynchops niger</i>	1,77
Mourning Dove.....	<i>Zenaida macroura</i>	All
Common Ground-dove	<i>Columbina passerina</i>	All
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	8
Eastern Screech-Owl.....	<i>Otus asio</i>	8
Common Nighthawk.....	<i>Chordeiles minor</i>	Flyover
Chuck-will's-widow	<i>Caprimulgus carolinensis</i>	8
Chimney Swift	<i>Chaetura pelagica</i>	Flyover
Ruby-throated Hummingbird.....	<i>Archilochus colubris</i>	Flyover
Belted Kingfisher	<i>Ceryle alcyon</i>	All
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	8
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	8
Northern Flicker.....	<i>Colaptes auratus</i>	8
Pileated Woodpecker	<i>Dryocopus pileatus</i>	8
Eastern Phoebe.....	<i>Sayornis phoebe</i>	Flyover
Great Crested Flycatcher.....	<i>Myiarchus crinitus</i>	Flyover
Eastern Kingbird.....	<i>Tyrannus tyrannus</i>	Flyover
Purple Martin	<i>Progne subis</i>	Flyover
Tree Swallow	<i>Tachycineta bicolor</i>	Flyover
Blue Jay.....	<i>Cyanocitta cristata</i>	8
Fish Crow.....	<i>Corvus ossifragus</i>	All
Carolina Chickadee.....	<i>Parus carolinensis</i>	8
Tufted Titmouse.....	<i>Parus bicolor</i>	8
Brown-headed Nuthatch	<i>Sitta pusilla</i>	8
Carolina Wren.....	<i>Thryothorus ludovicianus</i>	8
Golden-crowned Kinglet.....	<i>Regulus satrapa</i>	All
Ruby-crowned Kinglet.....	<i>Regulus calendula</i>	All
Blue-gray Gnatcatcher	<i>Poliottila caerulea</i>	All
American Robin	<i>Turdus migratorius</i>	All
Gray Catbird.....	<i>Dumetella carolinensis</i>	All
Northern Mockingbird	<i>Mimus polyglottos</i>	All
Brown Thrasher	<i>Toxostoma rufum</i>	All
Cedar Waxwing	<i>Bombycilla cedrorum</i>	8
European Starling*.....	<i>Sturnus vulgaris</i>	All
White-eyed Vireo.....	<i>Vireo griseus</i>	8
Red-eyed Vireo	<i>Vireo olivaceus</i>	All
Northern Parula.....	<i>Parula americana</i>	8
Yellow-rumped Warbler	<i>Dendroica coronata</i>	8
Pine Warbler	<i>Dendroica pinus</i>	8
Palm Warbler	<i>Dendroica palmarum</i>	8
Black-and-white Warbler.....	<i>Mniotilta varia</i>	8
Prothonotary Warbler.....	<i>Protonotaria citrea</i>	8
Common Yellowthroat.....	<i>Geothlypis trichas</i>	8
Hooded Warbler.....	<i>Wilsonia citrina</i>	8

* Non-native Species

Perdido Key State Park Animals

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (for all species)
Summer Tanager.....	<i>Piranga rubra</i>	8
Scarlet Tanager	<i>Piranga olivacea</i>	8
Northern Cardinal	<i>Cardinalis cardinalis</i>	8,14
Painted Bunting.....	<i>Passerina ciris</i>	8
Indigo Bunting	<i>Passerina cyanea</i>	8
Rufous-sided Towhee	<i>Pipilo erythrophthalmus</i>	14
Field Sparrow.....	<i>Spizella pusilla</i>	All
Savannah Sparrow	<i>Passerculus sandwichensis</i>	All
Swamp Sparrow	<i>Melospiza georgiana</i>	Flyover
White-throated Sparrow.....	<i>Zonotrichia albicollis</i>	Flyover
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	77
Eastern Meadowlark	<i>Sturnella magna</i>	14
Brown-headed Cowbird*	<i>Molothrus ater</i>	8
Orchard Oriole	<i>Icterus spurius</i>	8
American Goldfinch.....	<i>Carduelis tristis</i>	8

MAMMALS

Coyote*	<i>Canis latrans</i>	All
Nine-banded Armadillo	<i>Dasypus novemcinctus</i>	All
Beaver	<i>Castor canadensis</i>	77
Opossum	<i>Didelphis marsupialis</i>	All
Feral Cat*	<i>Felis familiaris</i>	All
Striped Skunk.....	<i>Mephitis mephitis</i>	All
Whitetailed Deer	<i>Odocoileus virginianus</i>	All
Cotton Mouse.....	<i>Peromyscus gossypinus</i>	All
Perdido Key Beach Mouse.....	<i>Peromyscus polionotus trysillepsis</i>	All
Eastern Mole	<i>Scalopus aquaticus</i>	All
Eastern Gray Squirrel.....	<i>Sciurus carolinensis</i>	8
Hispid Cotton Rat	<i>Sigmodon hispidus</i>	All
Marsh Rabbit.....	<i>Sylvilagus palustris</i>	All
Gray Fox	<i>Urocyon cinereoargenteus</i>	All
Red Fox*	<i>Vulpes fulva</i>	All

Habitat Codes

TERRESTRIAL

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

PALUSTRINE

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

LACUSTRINE

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

LACUSTRINE—Continued

51. Swamp Lake

RIVERINE

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

ESTUARINE

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

MARINE

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

SUBTERRANEAN

79. Aquatic Cave
80. Terrestrial Cave

MISCELLANEOUS

81. Ruderal
82. Developed

MTC Many Types Of Communities
OF Overflying

Addendum 5—Designated Species List

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

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

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

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

FNAI GLOBAL RANK DEFINITIONS

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

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

LEGAL STATUS

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

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

STATE

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

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

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

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

Perdido Key State Park Designated Species—Plants

Common Name/ Scientific Name	FDACS	<u>Designated Species Status</u>	
		USFWS	FNAI
Godfrey's goldenaster <i>Chrysopsis godfreyi</i>	LE		G2,S2
Little ladies' -tresses <i>Spiranthes tuberosa</i>	LT		

Perdido Key State Park Designated Species—Plants

Common Name/ <i>Scientific Name</i>	FDACS	<u>Designated Species Status</u> USFWS	FNAI
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Perdido Key State Park Designated Species—Animals

Common Name/ Scientific Name	Designated Species Status		
	FFWCC	USFWS	FNAI
REPTILES			
American alligator <i>Alligator mississippiensis</i>	LS	T(S/A)	G5, S4
Eastern diamondback rattlesnake <i>Crotalus adamanteus</i>			G4, S3
Loggerhead Turtle <i>Caretta caretta</i>	LT	LT	G3, S3
Green Turtle <i>Chelonia mydas</i>	LE	LE	G3, S2
Kemp's Ridley turtle <i>Lepidochelya kempfi</i>	LE	LE	G1, S1
Diamondback terrapin <i>Malaclemys terrapin</i>			G4,S4
BIRDS			
Great Egret <i>Ardea alba</i>		LS	G5, S3
Snowy Plover <i>Charadrius alexandrinus</i>	LT	LT	G4, S1
Piping Plover <i>Charadrius melodus</i>	LT	LT	G3,S2
Little Blue Heron <i>Egretta caerulea</i>	LS		G5, S4
Snowy Egret <i>Egretta thula</i>	LS		G5, S3
Tricolored Heron <i>Egretta tricolor</i>	LS		G5, S4
Swallow-tailed Kite <i>Elanoides forficatus</i>			G5, S2
Southeastern American Kestrel <i>Falco sparverius paulus</i>	LT		G5T4, S3
Bald Eagle <i>Haliaeetus leucocephalus</i>	LT	LT	G4, S3
Osprey <i>Pandion haliaetus</i>	LS		G5, S3S4
Painted Bunting <i>Passerina ciris</i>			G5, S3
Brown Pelican <i>Pelecanus occidentalis</i>	LS		G4, S3
Black Skimmer <i>Rynchops niger</i>	LS		G5, S3
Least tern <i>Sterna antillarum</i>	LT		G4, S3
Royal tern <i>Sterna maxima</i>			G5, S3
Sandwich tern <i>Sterna sandvicensis</i>			G5, S2

Perdido Key State Park Designated Species—Animals

Common Name/ <i>Scientific Name</i>	<u>Designated Species Status</u>		
	FFWCC	USFWS	FNAI
MAMMALS			
Perdido Key Beach Mouse <i>Peromyscus polionotus trisyllepsis</i>	LE	LE	G5T1,S1

Addendum 6—Priority Schedule And Cost Estimates

Perdido Key State Park Priority Schedule And Cost Estimates

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

RESOURCE MANAGEMENT

1. Assistance with the resource management needs, particularly prescribed fire preparation at Big Lagoon and Tarkiln Bayou, and endangered species monitoring and management at Perdido Key. **Estimated Cost: \$100,000 /yr.**
2. Replacement of boardwalks around the existing beach use areas to allow better dune recovery. **Estimated Cost: \$ 500,000**
3. Development and maintenance of interpretive materials , including kiosks, displays, and signage to educate the public about the sensitive nature of the park and the rare and endangered wildlife that live on the park. **Estimated Cost: \$ 25,000.**
4. Resource management funds to help cover the cost of non-native predator control. **Estimated Cost: \$ 10,000 per year.**
5. Resource management equipment (live traps for feral cats, traps for use in beach mouse population monitoring, **Estimated Cost: \$1,000/YR**

VISITOR SERVICES/RECREATION

1. Gate keeping and administrative assistance. **Estimated Cost: \$ 35,000 / yr.**

CAPITAL IMPROVEMENTS

Development Area or Facilities	Cost
Interpretive Improvements	
Interpretive Display / Kiosk.....	\$60,000.00
Nature Trail	
4 In. Concrete Sidewalk.....	\$20,000.00
Observation Deck.....	\$30,000.00
Support Structures	
Park Fence.....	\$91,020.00
Sub-Total.....	\$201,020.00
20 Percent Contingency Fee	\$40,204.00
Total	\$241,224.00

Perdido Key State Park Priority Schedule And Cost Estimates

Additional Information

ENAI Descriptions

DHR Cultural Management Statement

Land Management Review Report—June 10, 2003

Descriptions Of Natural Communities Developed By FNAI

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

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

The levels of the hierarchy are:

Natural Community Category - defined by hydrology and vegetation.

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

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

TERRESTRIAL COMMUNITIES

XERIC UPLANDS
COASTAL UPLANDS
MESIC UPLANDS
ROCKLANDS
MESIC FLATLANDS

PALUSTRINE COMMUNITIES

WET FLATLANDS
SEEPAGE WETLANDS
FLOODPLAIN WETLANDS
BASIN WETLANDS

LACUSTRINE COMMUNITIES

RIVERINE COMMUNITIES

SUBTERRANEAN COMMUNITIES

MARINE/ESTUARINE COMMUNITIES

Definitions of Terms Used in Natural Community Descriptions

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

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

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

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

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

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

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

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

Descriptions Of Natural Communities Developed By FNAI

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Descriptions Of Natural Communities Developed By FNAI

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Descriptions Of Natural Communities Developed By FNAI

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Descriptions Of Natural Communities Developed By FNAI

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Descriptions Of Natural Communities Developed By FNAI

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

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

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

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

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

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

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

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

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

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

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

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

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

DEFINITIONS OF TERMS Terrestrial and Palustrine Natural Communities

Physiography

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

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

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

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

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

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

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

Hydrology

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

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

usually inundated - surface water present except during droughts

Climatic Affinity of the Flora

tropical - community generally occurs in practically frost-free areas

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

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

Fire

annual fire - burns about every 1-2 years

frequent fire - burns about every 3-7 years

occasional fire - burns about every 8-25 years

rare fire - burns about every 26-100 years

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

Descriptions Of Natural Communities Developed By FNAI

LATIN NAMES OF PLANTS MENTIONED IN NATURAL COMMUNITY DESCRIPTIONS

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

**Management Procedures For Archaeological And Historical Sites And Properties
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A. GENERAL DISCUSSION

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

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

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

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

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

B. STATUTORY AUTHORITY

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

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

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

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

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

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

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

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

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

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

C. MANAGEMENT POLICY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

D. MANAGEMENT IMPLEMENTATION

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

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

A. Historic Sites

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

B. Archaeological Sites

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

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

E. ADMINISTERING AGENCY

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

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

Contact Person

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

**Management Procedures For Archaeological And Historical Sites And Properties
On State-Owned Or Controlled Lands (Revised August, 1995)**

Land Management Review of Perdido Key State Park

Escambia County (Lease No.3193): June 10, 2003

Prepared by Division of State Lands Staff

William Howell, OMC Manager
Bonnie Malloy, Administrative Assistant

For

Perdido Key State Park Review Team

Final September 22, 2003

Land Manager:	<u>DRP</u>
Area:	<u>290 Acres</u>
County:	<u>Escambia County</u>
Mngt. Plan Revised:	<u>5/6/1998</u>
Mngt. Plan Update Due:	<u>5/6/2008</u>

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Management Review Team Members

Agency Represented	Team member Appointed	Team member In attendance
Division of Forestry	Tom Serviss	Tom Serviss
DEP	Glen Butts	Glen Butts
Escambia County	Kevin Briski	Kevin Briski
FWCC	Karen Lamonte	Karen Lamonte
Conservation Org.	Riley Hoggard	Riley Hoggard
DRP District 1	John Bente	John Bente
Soil and Water Conservation District	Richard Freisinger	Richard Freisinger
Manager	Joseph Smith	Joseph Smith

Process for Implementing Regional Management Review Teams

Legislative Intent and Guidance:

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

Review Site

The management review of Perdido Key State Park considered approximately 284 acres in Escambia County that are managed by the Division of Recreation and Parks (DRP). The team evaluated the extent to which current management actions are sufficient, whether the land is being managed for the purpose for which it was acquired, and whether actual management practices, including public access, are in compliance with the management plan. The DRP revised the management plan on May 6, 1998, and the management plan update was due on May 6, 2008.

Review Team Determination

1. Is the land being managed for the purpose for which it was acquired? **All team members agreed that Perdido Key State Park is being managed for the purpose for which it was acquired.**

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

Commendations to the Managing Agency

The team commends the manager and staff for their efforts to limit unauthorized access across the dunes, for habitat protection and restoration, for the monitoring of the beach mouse, and for the control of feral cats.

Exceptional Management Actions

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

Exceptional management actions

1. Management and protection the Beach Dune, Mesic Flatwoods, Scrub, Marine Unconsolidated Substrate, and Estuarine Tidal Marsh communities.
2. Protection and preservation of listed plants and animals.
3. Protection, survey and preservation of cultural sites.
4. Excellent prescribed fire program including area burned, appropriate frequency, and high quality burns.
5. Excellent job of restoring the dunes with sand fencing and plantings..
6. Excellent control of feral cats.
7. Exceptional signage boundary delineation.
8. Excellent roads/parking, water access, recreational opportunities.
9. Exceptional waste disposal, buildings, and sanitary facilities.
10. Excellent surface water testing.

Recommendations and Checklist Findings

Recommendations

The following recommendations resulted from a discussion and vote of review team members.

1. The team recommends that DRP continue to encourage DOT to post the entire length of the park with no parking signs and to use only compatible fill materials to maintain the road shoulders.

Manager's Response: Agree. Staff has meet with DOT on this issue - before and after this review - and DOT has agreed to give this action full consideration. They have also agreed to use compatible materials for fill along the road shoulders.

2. The team recommends that DRP work with the Chamber of Commerce to address allowing limited public parking for the boardwalk across from the chamber building, in the chamber parking lot.

Manager's Response: [The following response is based upon the following clarification from Bill Howell on 8/4/03: "When the team visited this site, there were several vehicles in the dune area next to the boardwalk that is across from the Chamber of Commerce. There was one car in the Chamber parking lot. The team wondered if a sign could be placed next to the Chamber sign that stated that certain parking spaces could be used by beachgoers, to avoid further destruction of the dune. The team did not hear from DRP that this had already been done or attempted."]

Agree. Parking in the Chamber parking lot has been an ongoing agreement. We will consult with the Chamber and install suggested signage as needed and allowed by the chamber. This signage should be

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consistent with planned DOT signage.

3. The team recommends that DRP address in an action plan, the specific steps DRP plans to take to minimize anthropogenic impacts to the habitat of the beach mouse.

Manager's Response: Agree, although we are not certain what is meant by an "action plan." In the next revision of the Unit Management Plan, we will include actions that we plan to continue or undertake.

Checklist findings

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

1. Discussion in the management plan of the need for more fencing and signage (p).

Manager's Response: [The following response is based upon the following clarification from Bill Howell on 8/4/03: "Some of the team members felt strongly that more fencing should be placed along the south side of the road to keep beachgoers from crossing the dunes and damaging vegetation. Signage would be to inform drivers that they can not park on the side of the road to access the beach. ..."]

Agree. We will discuss the need for continuing and expanding our ongoing fencing program.

2. Discussion in the management plan of potential impacts from road widening p).

Manager's Response: Agree (assuming the referenced road is SR 292), but it should be noted that widening of this road is not in the current Perdido Key Neighborhood Plan adopted by Escambia County.

3. Discussion in the management plan of the need for water access on the bay side of the property (p).

Manager's Response: [The following response is based upon the following clarification from Bill Howell on 8/4/03: "The team discussed during their walk to the bay, that access to the water by foot on the bay side would be nice."]

Disagree. State Park land use plans are developed through a public process and are approved by the Acquisition and Restoration Council. It is beyond the scope of the review team's responsibilities to plan facilities or land use on state lands.

4. Discussion in the management plan of the need for more interpretive displays regarding the turtles and beach mouse (p).

Manager's Response: Agree. A kiosk should be built in each beach use area contingent on funding.

5. Discussion in the management plan of inadequate staff and funding for this park (f).

Manager's Response: Agree. There are currently no FTE staff assigned to the park. OPS Staff are utilized when funding allows, and volunteers are also utilized. If it is determined that additional FTE staff are needed at the time of the next unit management plan revision, it will be included in the plan. However, no new staff can be assigned to this or any other park unit unless they are appropriated by the Legislature or reassigned from other units. Additional staff is needed by a majority of parks statewide which is why we regularly seek positions, volunteers, and partners. Funding is determined annually by the Florida Legislature and the Governor and Cabinet.

