

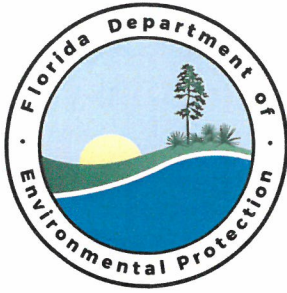
Deer Lake State Park

Approved Unit Management Plan

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks
December 16, 2016





Florida Department of Environmental Protection

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

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

December 19, 2016

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

RE: Haw Creek Preserve State Park (Lease #2992)
Paynes Creek Historic State Park (Lease #2809)
Lake June-in-Winter Scrub Preserve State Park (Lease #4105)
Lake Griffin State Park (Lease #3631)
Deer Lake State Park (Lease #4123)

Dear Ms. Murray:

On **December 16, 2016**, the Acquisition and Restoration Council recommended approval of the above management plans. Therefore, the Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the above mentioned management plans. The next management plan update for these plans is due December 16, 2026.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Ray Spaulding", is written over the typed name.

Raymond V. Spaulding
Office of Environmental Services
Division of State Lands
Department of Environmental Protection

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INTRODUCTION

Deer Lake State Park is located along the Gulf of Mexico in south Walton County (see Vicinity Map). Access to the park is from County Road 30A (or Scenic 30A), a designated Florida Scenic Highway. Access to County Road 30A is from US Highway 98 via County Roads 395, 283, 83, and 393 (see Reference Map). The Vicinity Map also reflects significant land and water resources existing near the park.

Deer Lake State Park was initially acquired on February 6, 1996 with funds from Preservation 2000 (P2000) and the Conservation and Recreation Lands (CARL) program. Currently, the park comprises 2,009.09 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to the park, and on February 6, 1996, the Trustees leased (Lease Number 4123) the property to the Division of Recreation and Parks (DRP) under a 50-year lease. The current lease will expire on June 11, 2046.

Deer Lake State Park is designated single-use to provide public outdoor recreation and other park-related uses. There are no legislative or executive directives that constrain the use of this property (see Addendum 1).

Purpose and Significance of the Park

The purpose of Deer Lake State Park is to conserve and protect unique water resources and natural communities, including coastal dune lakes, within a rapidly growing region, while supporting resource-based public outdoor recreation opportunities for area residents and visitors.

Park Significance

- The park protects Deer Lake, a coastal dune lake, and its unique ecosystem. Coastal dune lakes are rare across the world and found only in south Walton and Bay Counties in the state of Florida. The natural communities of the park are shaped by the lake's interaction with the Gulf of Mexico which contributes to significant ecosystem diversity.
- The park contains 14 distinct natural communities including beach dunes, coastal dune lakes, wet prairie, basin marsh, dome swamp, and sandhill. The park's wet prairies are home to nine species of carnivorous plants. These unique wetland communities are endemic to northwest Florida and extreme southwest Alabama, and boast some of the highest species richness in North America.
- With 26 imperiled plant and animal species, including the Choctawhatchee beach mouse (*Peromyscus polionotus allophrys*), green sea turtle (*Chelonia mydas*), white-top pitcherplant (*Sarracenia leucophylla*), and Cruise's goldenaster (*Chrysopsis gossypina subsp. cruiseana*), the park contributes significantly to the conservation of several threatened and endangered species.

- Exceptional resource-based recreation opportunities are accessible within the park including hiking, birding, fishing, and many beach activities in a remarkable natural environment.

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

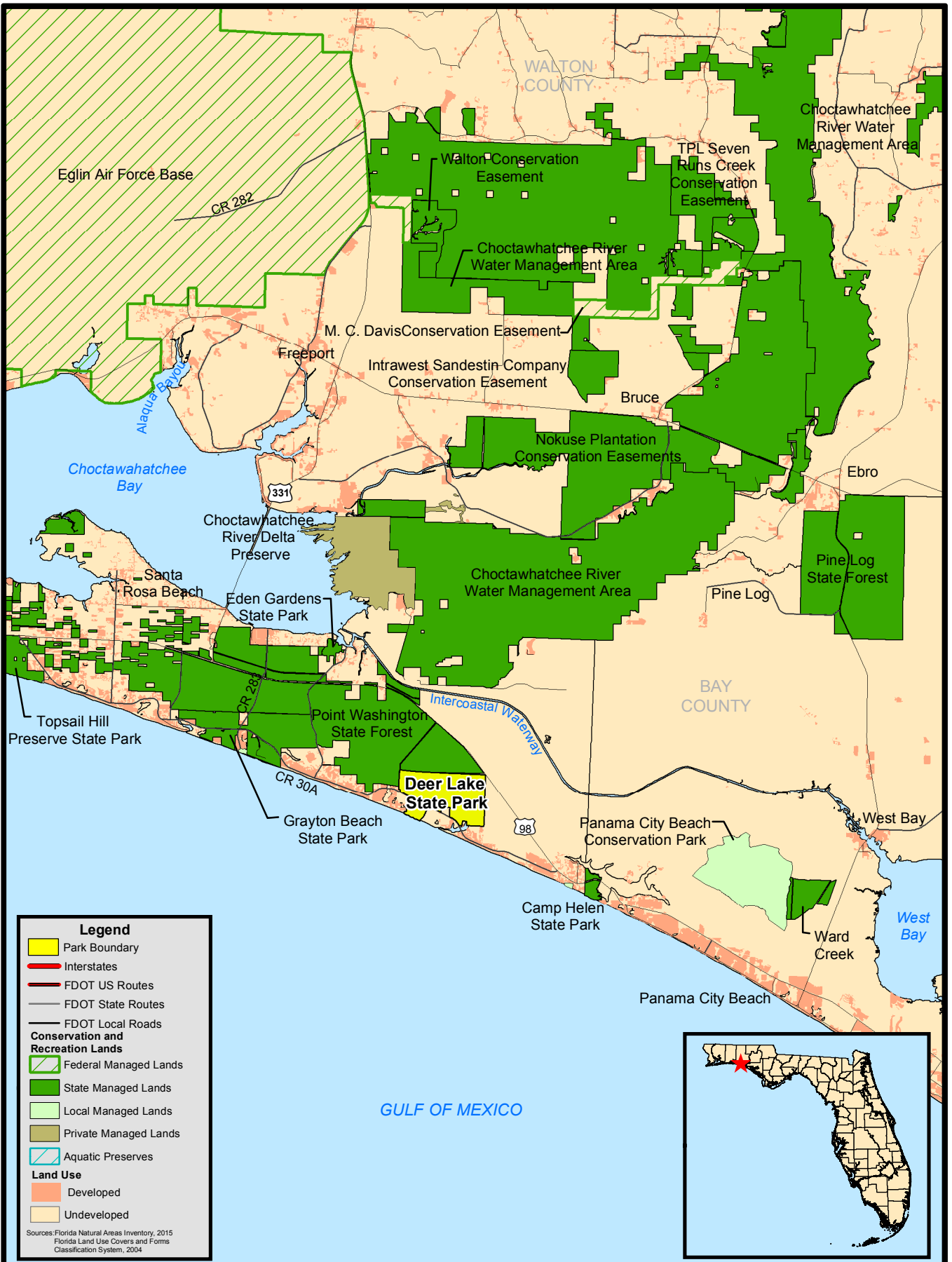
Purpose and Scope of the Plan

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

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

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

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

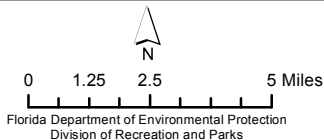


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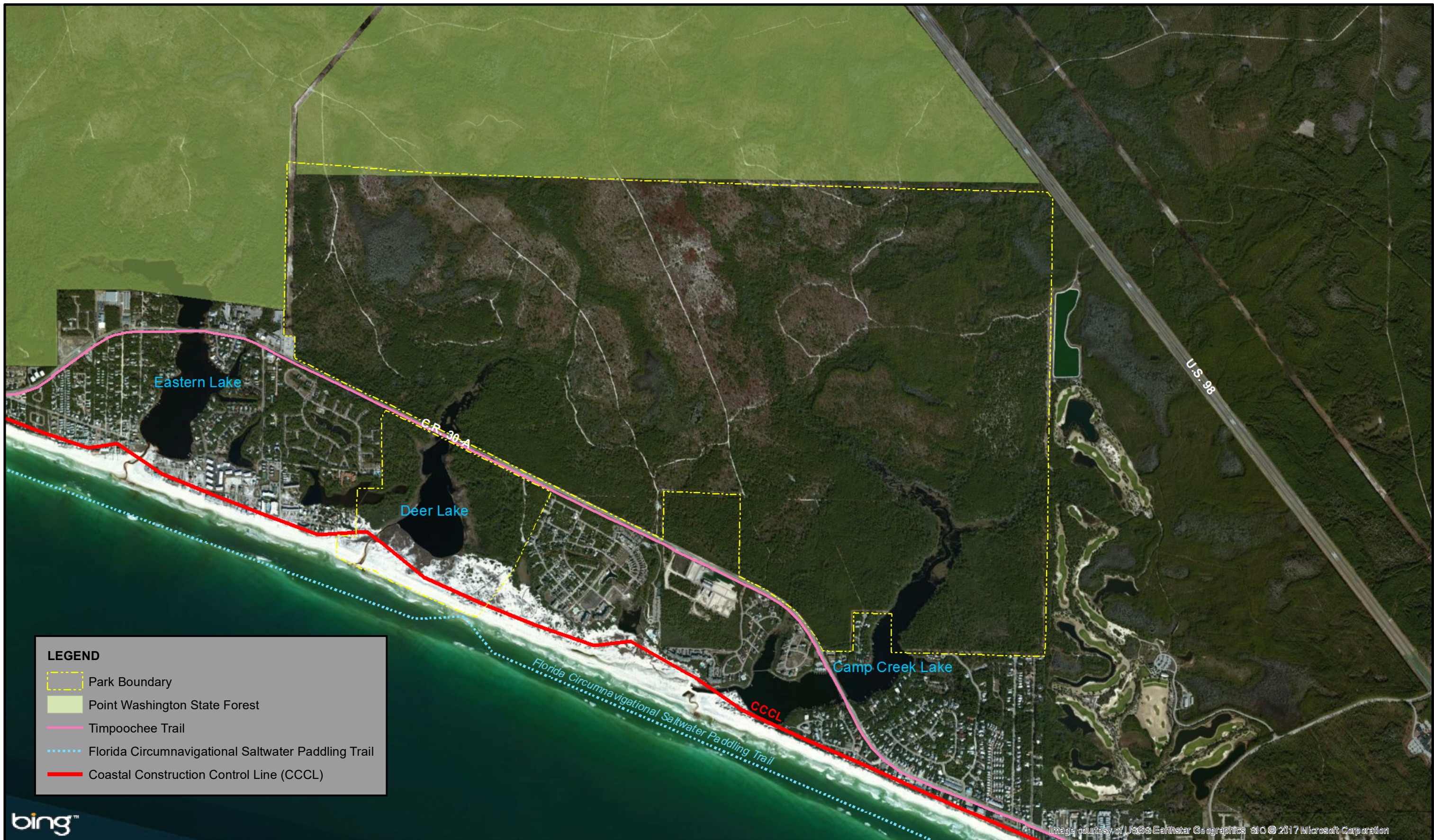
- Park Boundary
- Interstates
- FDOT US Routes
- FDOT State Routes
- FDOT Local Roads
- Conservation and Recreation Lands**
- Federal Managed Lands
- State Managed Lands
- Local Managed Lands
- Private Managed Lands
- Aquatic Preserves
- Land Use**
- Developed
- Undeveloped

Sources: Florida Natural Areas Inventory, 2015
Florida Land Use Covers and Forms Classification System, 2004

DEER LAKE STATE PARK



VICINITY MAP



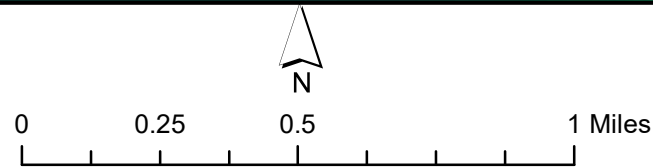
LEGEND

- Park Boundary
- Point Washington State Forest
- Timpooshee Trail
- Florida Circumnavigational Saltwater Paddling Trail
- Coastal Construction Control Line (CCCL)

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DEER LAKE STATE PARK



Florida Department of Environmental Protection
 Division of Recreation and Parks
 Date of Aerial, 2011

REFERENCE MAP

(2) timeframes for completing actions and objectives and (3) estimated costs to complete each action and objective.

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

In the development of this plan, the potential of the park to accommodate secondary management purposes was analyzed. These secondary purposes were considered within the context of DRP's statutory responsibilities and the resource needs and values of the park. This analysis considered the park's natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that timber management and gopher tortoise recipient programs could be accommodated in a manner that would be compatible and not interfere with the primary purpose of resource-based outdoor recreation and conservation. These compatible secondary management purposes are addressed in the Resource Management Component of the plan. 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.

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 timber management and gopher tortoise recipient programs would be appropriate at this park as additional sources of revenue for land management since they are compatible with the park's primary purpose of resource-based outdoor recreation and conservation.

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

Management 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 (DRP) is charged with the responsibility of developing and operating Florida's recreation and parks system. These are administered in accordance with the following policy:

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

The Board of Trustees of the Internal Improvement Trust Fund (Trustees) has granted management authority of certain sovereign submerged lands to the DRP under Management Agreement MA 68-086 (as amended January 19, 1988). The management area includes a 400-foot zone from the edge of mean high water where a park boundary borders sovereign submerged lands fronting beaches, bays, estuarine areas, rivers or streams. The agreement is intended to provide additional protection to resources of the park and nearshore areas and to provide authority to manage activities that could adversely affect public recreational uses.

At Deer Lake State Park, certain management activities are needed within the management zone of sovereign submerged land along the entire shoreline, beginning at the mean high water or ordinary high water line, or from the edge of emergent wetland vegetation and extending waterward for 150 feet. The submerged resources within the buffer zone contain significant species diversity and provide recreational opportunities for park visitors. Visitors are able to access this area from the beach. Management actions occurring within the buffer zone are educational outreach, removal of litter, trash, and other debris, public safety and emergency response activities, protection of listed species (including but not limited to sea turtles and shorebirds), and the monitoring and inventory of natural and cultural resources.

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

regulations, resource management, law enforcement, protection, safety and maintenance.

Park Management Goals

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

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

Management Coordination

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

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

Public Participation

DRP provided an opportunity for public input by conducting a public workshop and an Advisory Group meeting to present the draft management plan to the public. These meetings were held on June 7, 2016 and June 8, 2016, respectively. Meeting notices were published in the Florida Administrative Register, May 27, 2016,

Volume 42 Number 104, included on the Department Internet Calendar, posted in clear view at the park, and promoted locally. The purpose of the Advisory Group meeting is to provide the Advisory Group members an opportunity to discuss the draft management plan (see Addendum 2).

Other Designations

Deer Lake State Park is not within an Area of Critical State Concern as defined in Section 380.05, Florida Statutes, and it is not presently under study for such designation. The park is a component of the Florida Greenways and Trails System, administered by the Department's Office of Greenways and Trails. All waters within the park have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302, Florida Administrative Code. Surface waters in this park are also classified as Class III waters by the Department. This park is 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 Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP), in accordance with Chapter 258, Florida Statutes, has implemented resource management programs for preserving for all time the representative examples of natural and cultural resources of statewide significance under its administration. This component of the unit plan describes the natural and cultural resources of the park and identifies the methods that will be used to manage them. Management measures expressed in this plan are consistent with DEP's overall mission in ecosystem management. Cited references are contained in Addendum 3.

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

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

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

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

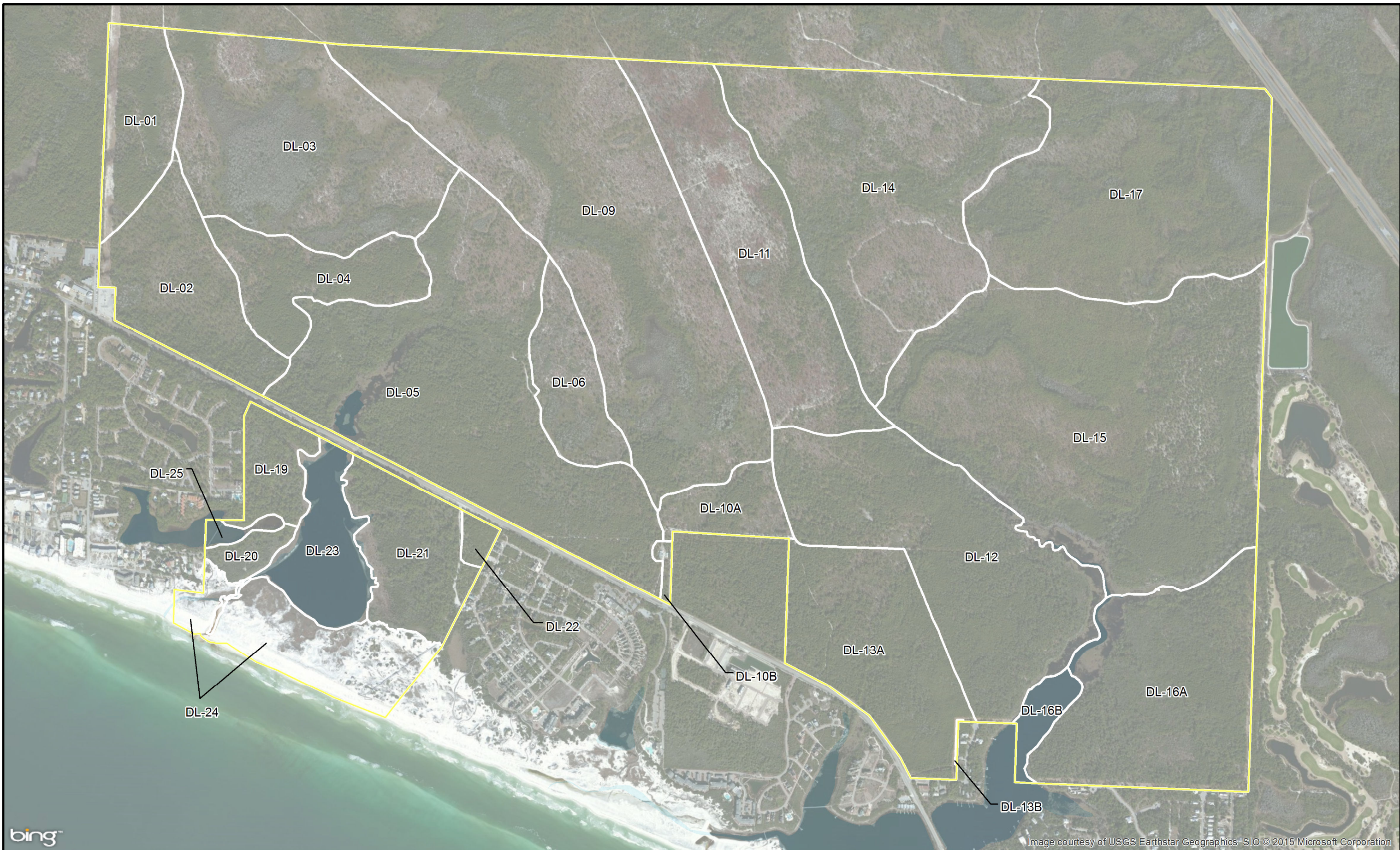
Management Zone	Acreage	Managed with Prescribed Fire	Contains Cultural Resources
DL-01	37.90	Yes	No
DL-02	62.41	Yes	No
DL-03	133.38	Yes	No
DL-04	45.29	Yes	No
DL-05	199.12	Yes	No
DL-06	33.93	Yes	No
DL-09	239.11	Yes	No
DL-10A	21.19	Yes	No
DL-10B	2.26	No	No
DL-11	110.03	Yes	No
DL-12	139.61	Yes	No
DL-13A	82.59	Yes	No
DL-13B	0.24	No	No
DL-14	177.24	Yes	No
DL-15	265.88	Yes	No
DL-16A	113.55	Yes	No
DL-16B	10.11	No	No
DL-17	163.72	Yes	No
DL-19	20.68	Yes	Yes
DL-20	8.26	Yes	No
DL-21	46.41	Yes	No
DL-22	4.32	Yes	No
DL-23	36.09	No	No
DL-24	52.69	No	Yes
DL-25	3.81	No	No

Resource Description And Assessment

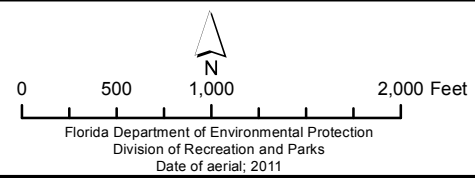
Natural Resources

Topography

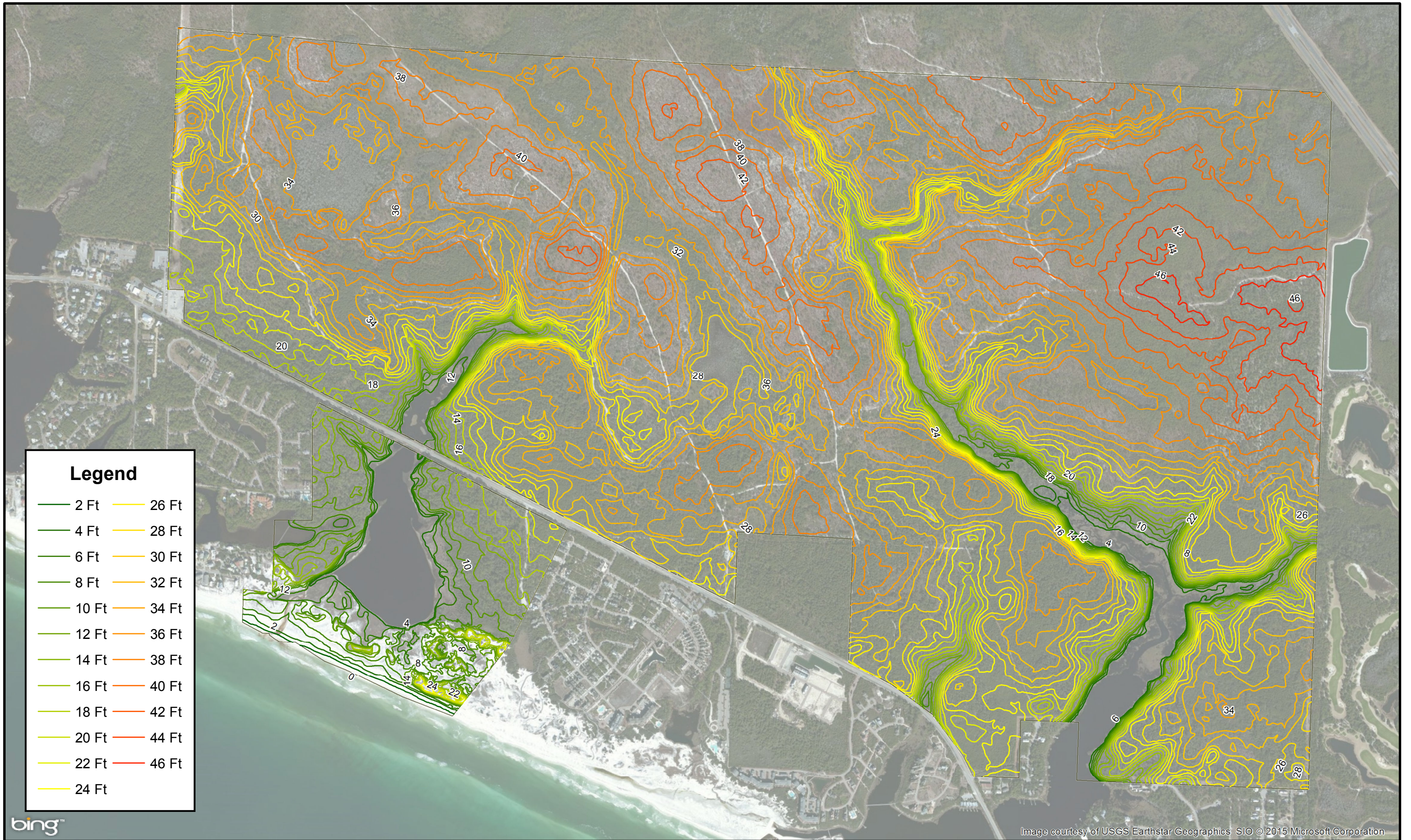
The most notable topographic features at Deer Lake State Park are dunes running along the landward edge of the Gulf beach as well as more interior areas of the beach dune community. Older dunes are well anchored by deep rooted sand live oak (*Quercus geminata*), myrtle oak (*Quercus myrtifolia*), sea oats (*Uniola paniculata*) and scattered southern magnolia (*Magnolia grandiflora*). Elevations along these well established beach dunes can build to well over 25 feet during long periods between major land falling storm events.



DEER LAKE STATE PARK



MANAGEMENT ZONES MAP



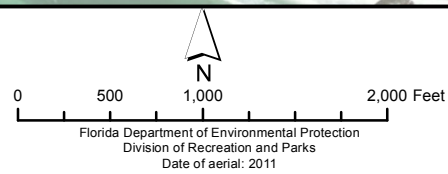
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6 Ft	30 Ft
8 Ft	32 Ft
10 Ft	34 Ft
12 Ft	36 Ft
14 Ft	38 Ft
16 Ft	40 Ft
18 Ft	42 Ft
20 Ft	44 Ft
22 Ft	46 Ft
24 Ft	

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DEER LAKE STATE PARK



TOPOGRAPHIC MAP

The well drained sandy uplands at Deer Lake State Park have elevations up to 46 feet. Longleaf pine (*Pinus palustris*) and Turkey oak (*Quercus laevis*) dominated sandhill community occurs on many of the interior uplands, while sand live oak dominated scrubby flatwoods and Choctawhatchee sand pine (*Pinus clausa* var. *immuginata*) scrub occur along comparable elevations closer to the Gulf. All of the sandy uplands are dissected by numerous drainage ways. Topographic relief along drainage ways, which are shallow and subtle at the beginning, increase gradually and then drop abruptly from 25 feet to near sea level along the lower reaches of Camp Creek. Likewise, elevation change is quite abrupt along the eastern edge of Camp Creek Lake.

Geology

The entire southern area of Walton County lies within the Gulf Coastal Lowlands (Puri and Vernon 1964). This province includes beaches and ancient sand dune ridges that extend inland about 10 to 15 miles. A wedge-shaped terrace, defined by a 25-foot scarp (Schmidt 1984), apparently extends for miles westward along the Panhandle coast, terminating as a scarp toe near Four Mile Village, Walton County. The deep Pleistocene and recent quartz sands, which cover the lower part of the county (Schmidt and Clark 1980), are suspected to overlie this observable scarp feature in the Deer Lake area. Over time, these sands have been reworked and sculpted by the forces of nature, including hurricanes, into the landscape we see today.

In terms of stratigraphy, a quartz sand veneer is found above the well-known Intracoastal Formation that begins at 50 feet (Schmidt 1984). That latter strata which is described as a soft, sandy limestone of Pliocene age with abundant microfossils (Schmidt and Clark 1980), overlies Bruce Creek Limestone at approximately 100 feet (Schmidt 1984). Although limestone is present at approximately 50 feet below land surface, Deer Lake and nearby natural areas contain no obvious karst features.

Soils

Sixteen soil types occur at Deer Lake. Longleaf pine and turkey oak sandhills tend to occur on moderately drained Foxworth and Mandarin sands. While these are generally considered to be xeric pinelands, soil moisture and nutrient content tends to support ample understory herbaceous species including wiregrass (*Aristida stricta*) and broomsedge (*Andropogon virginiana*).

Mixed longleaf and sand pine scrubby flatwoods as well as typical northwest Florida coastal scrub tend to occur on excessively drained Kureb and Lakeland sands. In addition to being exceedingly well drained/droughty soils, readily available nutrient and organic material is also comparably low. Long linear stretches of Lakeland sand 5-12% slopes and Lakeland sand 12-30% slopes occur where the higher scrubby flatwoods abruptly drop off into the basin of Camp Creek Lake, and the well defined lower reaches of Camp Creek. Much smaller areas of Eglin sand and Resota sand also support scrubby flatwoods natural communities at this unit.

Poorly drained upland soils include Leon sand and Hurricane sand. These areas tend to support mesic flatwoods comprised of overstory longleaf pines with a shrub dominated understory that includes gallberry (*Ilex glabra*), glossy fetterbush (*Lyonia lucida*), and saw palmetto (*Serenoa repens*). Some portions of Hurricane sand also support sizable areas of wet prairie natural community, particularly within management zones DL-2 and DL-17.

The park's forested wetland communities, consisting of shrub bog, dome swamp and basin swamp, occur on very poorly drained Dorovan-Pamlico Association, frequently flooded soil, Rutlege fine sand and Pamlico muck.

The park's extensive beach dune community occurs on deep Newhan-Corolla rolling sands, comprised almost entirely of quartz grains accounting for the snow white appearance. The relatively flat Gulf beach consists of unconsolidated materials including quartz sands and pulverized shells. The soil type here is classified as Beaches.

Resource management measures that restore, enhance and maintain intact native plant communities will largely provide for the conservation of soil resources and control soil erosion. Visitor access trails and resource management roads, where necessary, are designed, placed and maintained to avoid acceleration and channelization of surface waters that could lead to gully erosion. Low-water stream crossings are in place in order to avoid significant streambed disturbance and subsequent loss of "stirred up" suspended soils being washed downstream.

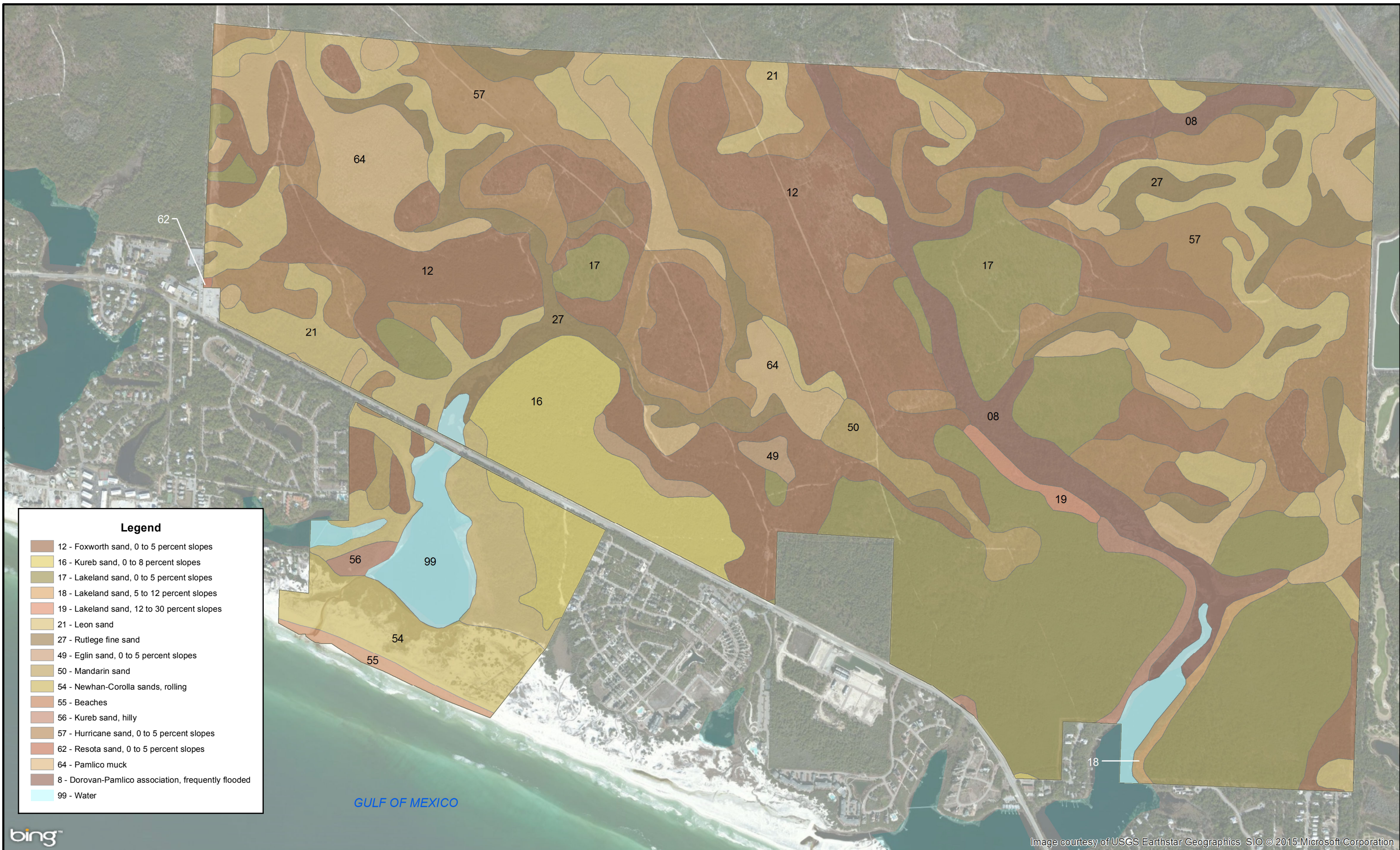
While erosion and reshaping of the beach dune community is considered to be part of the natural process of this storm influenced dynamic coastline, the DRP has gone to great measures to actively enhance the natural recovery of primary dunes following the major land falling hurricanes of recent decades. Major sea oat planting projects were successfully implemented, contributing to rapid re-establishment and growth of the primary dune line along the storm-lashed Gulf of Mexico. Future soil recovery plans within the park's beach dune community will be similarly implemented as necessary, contingent upon funding.

Minerals

There are no known minerals of commercial value at this unit.

Hydrology

The park is located on the eastern side of the Choctawhatchee Basin. This basin encompasses 6,000 square miles (NFWFMD 1978) within southeast Alabama and northwest Florida. The Choctawhatchee River flows through this well delineated basin for a distance of 175 miles (U.S. Army Corps of Engineers 1980) discharging into Choctawhatchee Bay and then into the Gulf of Mexico (Esry 1987). The Intracoastal Waterway to the north of US Highway 98 connects Choctawhatchee Bay to the St. Andrews Bay to the east. The Intracoastal Waterway (ICW) dissects the lower reaches of the Choctawhatchee Basin.



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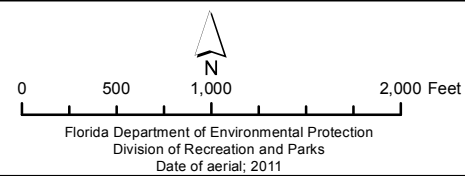
- 12 - Foxworth sand, 0 to 5 percent slopes
- 16 - Kureb sand, 0 to 8 percent slopes
- 17 - Lakeland sand, 0 to 5 percent slopes
- 18 - Lakeland sand, 5 to 12 percent slopes
- 19 - Lakeland sand, 12 to 30 percent slopes
- 21 - Leon sand
- 27 - Rutlege fine sand
- 49 - Eglin sand, 0 to 5 percent slopes
- 50 - Mandarin sand
- 54 - Newhan-Corolla sands, rolling
- 55 - Beaches
- 56 - Kureb sand, hilly
- 57 - Hurricane sand, 0 to 5 percent slopes
- 62 - Resota sand, 0 to 5 percent slopes
- 64 - Pamlico muck
- 8 - Dorovan-Pamlico association, frequently flooded
- 99 - Water

GULF OF MEXICO

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DEER LAKE STATE PARK



SOILS MAP

Two major aquifers are found in Walton County: the shallow sand-and-gravel aquifer and the much deeper Floridan aquifer. The latter is the primary source of drinking water for the county.

The park's local watershed extends into the adjacent Point Washington State Forest. The water table within this overall area is generally very close to the surface. Drainage within the local watershed is from north to south along drainage ways that often include ephemeral streams. Water moves primarily via subsurface percolation and, to some extent, surface sheet flow towards streams or larger wetlands at the headwaters of streams. These drainage ways ultimately discharge into Camp Creek Lake and Deer Lake, both of which have intermittent connections to the Gulf of Mexico.

With the exception of the County Road 30A corridor, all of Deer Lake is contained within the park boundary. Thus nearly all of the lake and shoreline remain in their natural condition. Most significantly, the lake's immediate watershed including subsurface input through percolation is protected and continues to occur largely via natural process.

By contrast, only the upper portion of Camp Creek Lake occurs within the state park boundary. Therefore management measures and policies intended to avoid or mitigate potential impacts to the Lake's water quality and aesthetics can only be implemented by DRP staff, within and around the state-owned portion of Camp Creek Lake. DRP staff should however have direct input in local decision making that will potentially affect the lake. Likewise, staff should remain active in any local coastal dune Lakes advisory groups in order to represent and if necessary defend the Park's mission to preserve these globally significant freshwater bodies found within the unit.

Water levels within the coastal dune lakes are governed by rainfall and corresponding input via subsurface percolation as well as from surface streams such as Camp Creek and other ephemeral streams. When lake levels become high enough, an outlet is eroded through the beach dune and unconsolidated substrate, usually along a well established course established from past "flushing" events. After considerable initial drainage, the freshwater head flowing into the Gulf will drop to a level that allows marine waters to mix into the lake. This scenario is responsible for periodic infusions of nutrients into what are otherwise relatively oligotrophic "low nutrient" freshwater environments. On the majority of coastal dune lakes where residential development occurs, this natural process is altered by pressure to artificially open the lakes' flushing outlets to alleviate concerns of dock and yard flooding.

For the most part, the local hydrology within the unit's boundaries is intact with few alterations. Silvicultural site preparation measures such as root raking, bedding and windrowing were excluded from this property as well as adjacent areas of the Point Washington State Forest. Low-water stream crossings have been constructed at nearly all necessary stream crossing points and serve to avoid or minimize turbidity issues associated with infrequent passage of vehicles for the sole purpose of

resource management. One major low-water crossing still needs to be installed where the northern park boundary crosses the upper stretch of Camp Creek. Past fireline preparation through this stream crossing has caused hydrological disruption in the form of a large “wallowed out” area that serves to retain ephemeral stream flow, particularly during times of lower seepage flow. An appropriately designed and installed low-water crossing at this point would serve to restore both streambed elevation and water flow into the Camp Creek drainage. Additionally, this crossing point will provide the only direct access to over one-third of the park located east of the Camp Creek drainage.

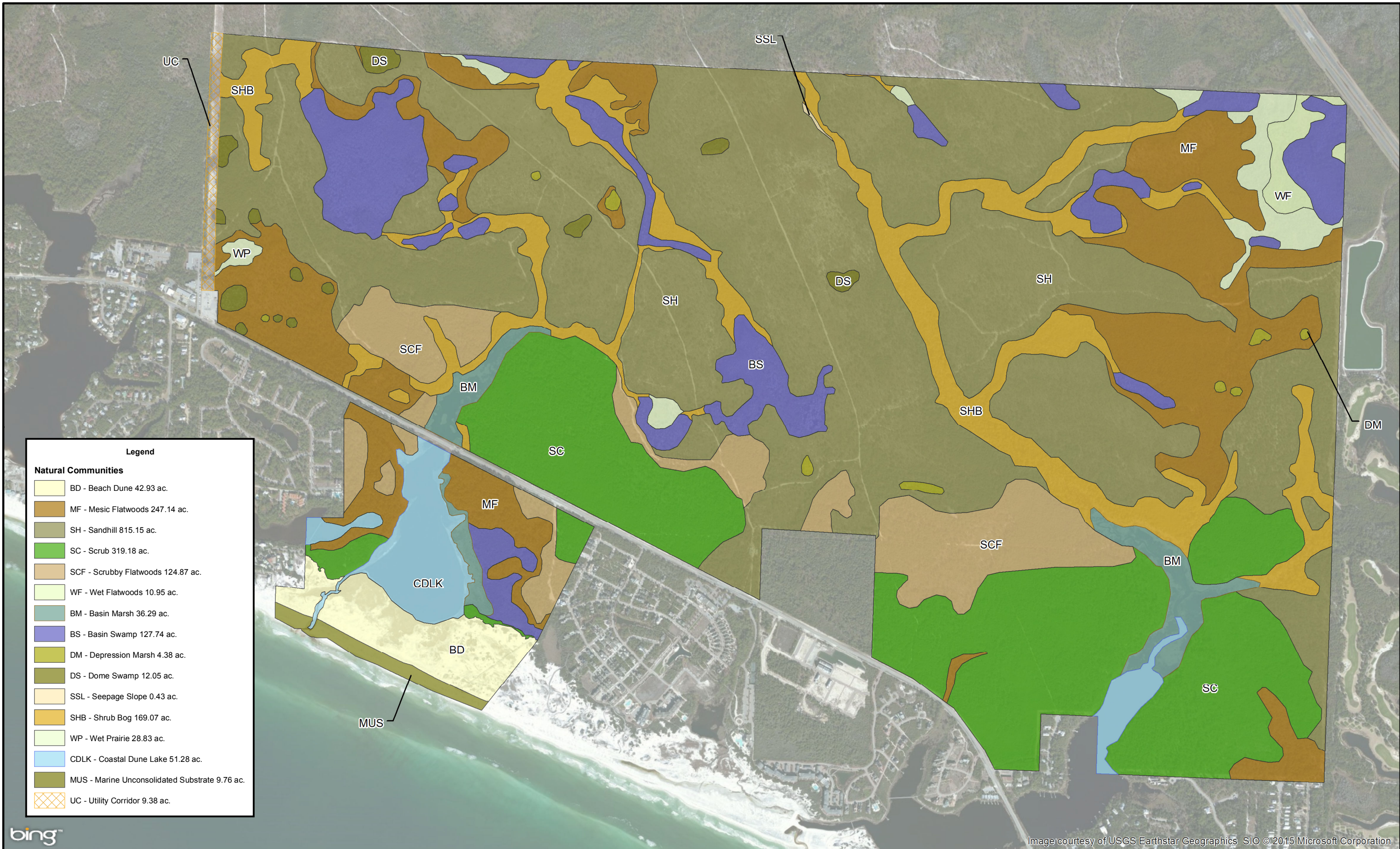
Old fire suppression lines can still be found in some areas within the park. In all cases, these impacts are several decades old, and the impacts have faded over the years. Of more significant concern, however, is the past boundary line preparation along the north side of the park. A firebreak has traditionally been installed between the park and adjacent state forest. Line preparation has included both disking and plowing through wetland natural communities such as wet prairie, basin swamp and shrub bog. This linear disturbance intercepts, impounds and, in some areas, shunts surface and subsurface waters that would otherwise more evenly flow throughout these wetlands. Interagency discussion and cooperation that will serve to restore past wetland impacts and avoid this fireline practice in the future have already been initiated.

The park contains many wet prairie wetlands in various conditions. These are incredibly species-rich natural communities which have unfortunately become very rare due to rapid development, hydrologic alterations and fire exclusion along the coastal plain of northwest Florida. Historic aerial photos and current field surveys indicate that this wetland community was once quite extensive at the park. Today, many of the park’s wet prairies are in poor condition, having been overgrown with titi and other off-site shrubs. These former grass and herbaceous dominated wetlands are in need of frequent fire and careful removal of off-site hardwoods and pines.

Natural Communities

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

The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors such as climate, geology, soil, hydrology and fire frequency generally determine the species composition of an area, and that areas that are similar with respect to those factors will tend to have natural communities with



Legend

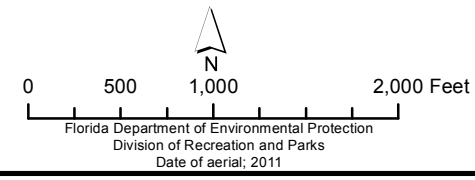
Natural Communities

BD - Beach Dune 42.93 ac.
MF - Mesic Flatwoods 247.14 ac.
SH - Sandhill 815.15 ac.
SC - Scrub 319.18 ac.
SCF - Scrubby Flatwoods 124.87 ac.
WF - Wet Flatwoods 10.95 ac.
BM - Basin Marsh 36.29 ac.
BS - Basin Swamp 127.74 ac.
DM - Depression Marsh 4.38 ac.
DS - Dome Swamp 12.05 ac.
SSL - Seepage Slope 0.43 ac.
SHB - Shrub Bog 169.07 ac.
WP - Wet Prairie 28.83 ac.
CDLK - Coastal Dune Lake 51.28 ac.
MUS - Marine Unconsolidated Substrate 9.76 ac.
UC - Utility Corridor 9.38 ac.

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DEER LAKE STATE PARK



NATURAL COMMUNITIES MAP

similar species compositions. Obvious differences in species composition can occur, however, despite similar physical conditions. In other instances, physical factors are substantially different, yet the species compositions are quite similar. For example, coastal strand and scrub--two communities with similar species compositions--generally have quite different climatic environments, and these necessitate different management programs. Some physical influences, such as fire frequency, may vary from FNAI's descriptions for certain natural communities in this plan.

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

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

Coastal Dune Lake

Desired future condition: The park's coastal dune lakes are permanent freshwater bodies, that are generally oligotrophic (low nutrient levels). Water is derived primarily from lateral subsurface/ground water seepage through the surrounding well-drained soils. The shoreline and immediate watershed are largely undeveloped, protecting natural hydrological process. Storms occasionally provide large inputs of salt water and salinities can vary over the long term. The substrate is primarily composed of quartz sands with organic deposits increasing with water depth. Vegetation is largely restricted to a narrow band near the shore, composed of hydrophytic grasses and floating or emergent aquatic plants.

Description and assessment: Deer Lake, the park's namesake, is the only coastal dune lake entirely located within the park boundary, aside from the County Road 30A corridor that skirts the far northern shoreline. Only the far northern portion of Camp Creek Lake occurs within the park. The remainder of the Lake's shoreline has long established residential development. The eastern half of a small, unnamed lake occurs within the park boundary just west of Deer Lake. All of the park's coastal dune lakes are considered to be in good condition.

Deer Lake and its associated basin marsh is a gently sloping, shallow, elliptic freshwater basin bordered by flatwoods and beach dune. Vegetation is limited to the shallower waters around the perimeter and consists almost exclusively of floating emergents. Fragrant water lily is dominant, however floating hearts and spatterdock can also be found. Shoreline vegetation includes sawgrass, cattail

(*Typha* spp.), common reed (*Phragmites australis*), saltbush, saltmeadow cordgrass (*Spartina patens*) and needlerush (*Juncus roemerianus*).

Upper portions of Camp Creek Lake have high, steeply sloping banks. The high, dry Choctawhatchee sand pine scrub drops fairly abruptly down to the shoreline in these areas, with very little ecotonal transition. Other segments of the lake's shoreline are bordered by low lying shrub bog. The lake's plant life is largely identical to Deer Lake.

General management measures: Management measures for Deer Lake and other portions of coastal dune lakes located within the park, will focus on protection of these rare aquatic habitats as well as the immediate watershed, in order to preserve natural hydrological process, to the extent feasible. Very general water quality monitoring will continue as well.

Scrub

Desired future condition: Within scrub habitats, the dominant species will include sand live oak, myrtle oak and Chapman oak with an overstory of Choctawhatchee sand pine. Other common species will include red bay, wild olive (*Osmanthus americanus*), rusty fetterbush (*Lyonia ferruginea*) and to a lesser extent saw palmetto. The Choctawhatchee sand pines and understory oaks will have varied heights and age classes driven by periodic storm events. Choctawhatchee sand pines, having non-serotinous cones, are continually producing abundant seedlings that are ready to aggressively re-colonize relative openings within the scrub resulting from hurricane blow down and salt kill. Research indicates Choctawhatchee sand pine scrub is primarily shaped and perpetuated by storm events (Parker et al. 2001). Fires having originated in the adjacent sandhills and flatwoods communities will usually make contact with portions of Choctawhatchee sand pine scrub. However, under conditions that mimic natural process, fires generally do not carry or carry poorly into the successional mosaic of live fuels, resulting in very low intensity, incomplete ignition. Very low intensity fire or site specific fire absence within panhandle scrub is evidenced by the presence of older Choctawhatchee sand pines in excess of 100 years that occur along side other various age classes. Frequency to fire exposure should therefore correspond to the fire return interval of the adjacent fire-dependent natural communities. The burn objective will be to give fires set in adjacent natural communities the opportunity to move into the neighboring scrub and allow ignition to the extent that the fuels will carry the fire. A stand replacement, catastrophic fire regime indicative of Peninsular sand pine scrub should not be the model for the Choctawhatchee sand pine scrub communities of the western panhandle.

Large leaved jointweed (*Polygonella macrophylla*) will occur primarily within more southern portions of the scrub community, nearer the Gulf of Mexico where salt-pruning is more influential in limiting scrub vegetation height.

Description and assessment: Areas of scrub at the park range from a few acres to nearly 100 acres in size. Management zones DL-5, DL-10A, DL-12, DL-13A, DL-15,

DL-16A, DL-19, DL-20, DL-21 and DL-22 all contain various size areas of scrub. All are best described as Choctawhatchee sand pine scrub, with the exception of the salt pruned, low oak scrub that comprises the entirety of management zone DL-20. The large area of scrub within management zone DL-5 contains one very narrow "ridge" of longleaf pines and wiregrass. Less than a dozen suppressed longleaf pines occur within an area estimated to be less than one acre in size. This area is therefore included in with the surrounding scrub natural community designation. Fire will be directly applied to this area when this management zone is prescribed burned.

The park's areas of Choctawhatchee sand pine scrub contain all or most of the following species: Choctawhatchee sand pine, sand live oak, myrtle oak, Chapman oak, Conradina rosemary, gopher apple, saw palmetto, wild olive, rusty fetterbush, high bush blueberry (*Vaccinium corymbosum*), woody goldenrod, red bay, black senna (*Seymeria cassioides*), silver croton (*Croton argyranthemus*), dune rosemary, large-leaved jointweed, October flower (*Polygonella polygama*), sandy field beaksedge (*Rhynchospora megalocarpa*), turkey oak, false indigo, tall golden aster (*Chrysopsis linearifolia*), cottonweed, Gulf Coast Lupine and prickly pear cactus. In many areas deer moss lichen (*Cladonia* spp.) is abundant. Sand pines often form a closed canopy. Areas of scrub community range from fair-good condition.

General management measures: Management measures for the park's scrub community will focus primarily on protection. While prescribed fire will not be directly applied within this community, the park's scrub will be routinely exposed to proximity fires applied within adjacent fire-dependent natural communities.

Scrubby Flatwoods

Desired future condition: The dominant tree species of scrubby flatwoods will be longleaf pine. Mature sand pines will typically not be present. There will be a diverse shrubby understory with some relatively open patches. A scrub-type oak "sub-canopy" will vary in height from three to eight feet and there will be a variety of oak age classes/heights across the landscape. Dominant shrubs will include sand live oak, myrtle oak, yaupon holly, saw palmetto and rusty fetterbush. Cover by herbaceous species will often be well below 40% and, where present, will include wiregrass, broomsedge (*Andropogon* sp.), chalky bluestem (*Andropogon virginicus* L. var. *glaucus*) and Gulf bluestem grass (*Schizachyrium maritima*). Fire return intervals should be long enough to allow for maximal acorn production, to provide for wildlife. An optimal fire return interval range of 5-12 years would allow for acorn production while preventing or at least significantly limiting the encroachment of off-site sand pine.

Description and assessment: At Deer Lake, scrubby flatwoods occur toward the southern portion of the park on excessively well drained upland soils. These communities are generally situated between sandhill and Choctawhatchee sand pine scrub. In most areas, the overstory is currently a mix of sand pine and longleaf pine. The understory is dominated by sand live oak and myrtle oak in some cases

interspersed with small areas of very little vegetation. In most areas, the number of sand pines is disproportionately high, often represented by various age classes that have volunteered into these areas, largely aided by the absence of periodic fire. In all cases, the oldest longleaf pines are considerably older than the oldest sand pines. Other characteristic understory species include woody goldenrod, gopher apple and October flower. Areas with significant herbaceous species, are few and scattered. The parks areas of scrubby flatwoods are considered to be in poor-fair condition.

General management measures: Management measures for the park's scrubby flatwoods will include periodic prescribed burning. In some areas, fire return intervals may be higher where sandhill community is immediately adjacent. Removal of well established off-site sand pines via timber harvest will also be necessary and will be determined by land managers according to the site.

Seepage Slope

Desired future condition: Within seepage slopes, trees will be few or absent. The soil, having experienced leaching due to nearly constant subsurface drainage, will be relatively nutrient poor. Groundcover will be dense and will be exceptionally species-rich. Dominant species will be wiregrass and/or sedges. Pitcherplants (*Sarracenia* spp.), other carnivorous plants, and terrestrial orchids will be present and abundant in some areas. The optimal fire return interval for this community is 2-4 years.

Description and assessment: A classic seepage slope occurs along approximately 200 feet of dissected topography between the high dry sandhill and Camp Creek drainage within the northeast portion of management zone DL-11. This ecotonal community is kept continuously moist by groundwater seepage, having percolated downslope from the adjacent sandhill towards Camp Creek. The seepage slope is an open grass and herbaceous plant dominated community, maintained by subsurface hydrology and relatively frequent fires that sweep down hill from the adjacent fire type pineland. The suite of species is almost identical to the park's wet prairies. A distinguishing difference is the presence of white fringed orchid (*Platanthera blephariglottis* var. *conspicua*). Thus far, the DL-11 seepage slope is home to the majority of this species at the park. Also remarkable, is the presence of both purple pitcherplant (*Sarracenia rosea*) and white top pitcherplant in very close proximity.

Considerable organic material has accumulated within the upper soil horizon due to decades of hardwood intrusion associated with fire exclusion. Re-establishing proper soil characteristics will be a very long process accomplished primarily through continued removal of off-site hardwood regrowth and routine prescribed burning.

The only notable impact within the immediate watershed occurs about 200 feet to the north where in the past, the adjacent land manager has periodically plowed a fire line along the northern park boundary with the state forest. This has created a "sunken" line that tends to intercept any sheet flow at ground surface and shunt

the water due east into the Camp Creek drainage. However, hydrology is very much intact and unaltered immediately within the seepage slope itself, and this natural community is considered to be in good condition.

General management measures: Management measures for this natural community will focus on routine prescribed burning in conjunction with the established fire return interval of the adjacent sandhill. Additionally, hand removal of evergreen, woody shrubs such as titi will be implemented as necessary. A hardened low-water crossing is also planned about 200 feet upstream where the park boundary crosses the Camp Creek drainage. While improving access to the east side of the park, this infrastructure will help minimize downstream turbidity associated with infrequent equipment crossings.

Wet Prairie

Desired future condition: Trees will be very few or absent. Groundcover will be dense and exceptionally species-rich. The dominant perennial species will be wiregrass. Pitcherplants (*Sarracenia* spp.), other carnivorous plant species, and terrestrial orchids are present and abundant as well. Other typical wet prairie plant species should include goldcrest (*Lophiola americana*), clubmoss (*Lycopodium* spp.), hat pins (*Eriocaulon* spp.), butterwort (*Pinguicula lutea*), yellow meadow beauty (*Rhexia lutea*), tall meadow beauty (*Rhexia alifanus*), toothache grass (*Ctenium aromaticum*), redroot (*Lachnanthes caroliniana*), marsh pink (*Sabatia* spp.), St. John's wort (*Hypericum* spp.), Barbara's button (*Marshallia tenuifolia*), yellow-eyed grass (*Xyris* spp.), milkweed (*Asclepias lanceolata*) and several species of milkworts (*Polygala* spp.).

Description and assessment: The park's wet prairies are herbaceous communities found on continuously wet, but not inundated, soils. These areas typically occur along or adjacent to wetland drainage ways such as shrub bog and basin swamp and can range in size from less than an acre, to several acres. Wet prairie, in good condition similar to the above description, occurs in management zones DL-2 and DL-6. Degraded wet prairie, estimated to be in fair – poor condition occurs in management zones DL-9 and DL-17. These latter areas have largely become grown over, succeeding to shrub bog, in the long absence of fire. The optimum fire return interval for this natural community is two to four years.

General management measures: Management measures for wet prairie will focus on the reintroduction and routine application of prescribed fire. Hand clearing or mechanical removal of off-site hardwoods will be an initial management measure in some areas in order to remove the stems and branches of larger off-site hardwoods and allow prescribed fires to more effectively carry into and across the wet prairie sites. Continued removal of shrubby hardwood regrowth may be necessary.

Beach Dune

Desired future condition: The beach dune community is a series of sand ridges or "dune fields," extending for hundreds of feet inland from the high energy coastline.

A significant primary dune ridge will occur immediately landward of the open, tidally influenced beach or marine unconsolidated substrate. Vegetation along the primary dune will consist of herbaceous dune forming grass species such as sea oats and beach grass (*Panicum amarum*). Other typical species may include sea rocket (*Cakile constricta*) and beach morning glory (*Ipomea imperati*). Occasionally shrubs such as seashore elder (*Iva imbricata*) and saltbush may be scattered within the herbaceous vegetation.

Behind the primary dune line, will be an extended area of undulating secondary dune ridges and alternating swales. The secondary dunes will be well anchored primarily with sand live oak, myrtle oak and dune rosemary (*Ceratiola ericoides*).

Description and assessment: The park's beach dune community is consistent with the above description, with a well established, high primary dune line. This primary dune line greatly diminishes as it runs parallel to Deer Lake. This area, particularly nearer the lake's outlet, has experienced multiple storm surge over wash events associated with major land falling hurricanes in 1995, 2004 and 2005. Sea oats are dominant along the primary dune line where their deep labyrinth of roots serve to anchor the unconsolidated quartz sand. Other plants include beach grass, sea rocket, beach morning glory, seashore elder, saltbush and ice plant (*Sesuvium portulacastrum*).

The secondary dunes extend landward for nearly 1,000 feet. This area has also been impacted by past storm surge events that have washed in from the west near the coastal dune lake outfall, where the primary dune line is much lower. Associated escarpment erosion along dune faces is prevalent, however many tall dune features still persist and continue post storm recovery. Many plants occur here and include, sand live oak, myrtle oak, Cruise's golden aster (*Chrysopsis gossypina* subsp. *Cruiseana*), Godfrey's golden aster (*Chrysopsis godfreyii*), October flower (*Polygonella polygama*), tread softly (*Cnidocolus stimulosus*), dune rosemary, southern magnolia, yaupon (*Ilex vomitoria*), woody goldenrod (*Chrysoma pauciflosculosa*), gopher apple (*Licania michauxii*), cottonweed (*Froelichia floridana*), saw palmetto, red bay (*Persea borbonia*), Conradina (*Conradina canesens*), rosemary pea, seaside pennywort (*Hydrocotyle bonariensis*), Whitlow-wort (*Paronychia erecta*), Gulf Coast lupine (*Lupinus westianus*) and sand squares (*Paronychia rugelii*). There are several large swales within the secondary dune field that are ephemerally wet. These areas are currently dominated by two species of sedge, flat sedge (*Cyperus lecontei*) and beakrush (*Rhynchospora* spp.). The park's beach dune community is considered to be in good condition.

General management measures: Management measures will focus on community and habitat protection, including removal of non-indigenous predators that impact native imperiled species. Nesting surveys of imperiled shorebird species will also be conducted, as well as efforts to more accurately locate and monitor species of imperiled plants. Dune restoration activities such as mass sea oat plantings, will be initiated per need and available funding. Unapproved activities that would result in fragmentation or impacts to sensitive vegetation and resulting erosion, will not be allowed.

Sandhill

Desired future condition: The dominant pine of the park's sandhill will be longleaf pine. Herbaceous cover should be over 60% of the area or greater, typically of wiregrass, and is less than three feet in height. In addition to groundcover and pines characteristics, there will be scattered individual trees, clumps, or ridges of onsite oak species such as turkey oaks, sand post oak (*Quercus margaretta*), and blue-jack oak (*Quercus incana*). In old growth conditions, sand post oaks will commonly be 150-200 years old, and some turkey oaks will be over 100 years old. The optimal fire return interval for the park's sandhill community is two to four years.

Description and assessment: Prior to state acquisition, longleaf pines were harvested, to varying extents, within all of the park's sandhill. Today, most areas of sandhill have a scattered overstory of multi-aged longleaf pines comprised of both older trees that were not harvested, and natural regeneration. The most prevalent hardwood species is turkey oak, which adds structural and ecological diversity as well as much needed fine fuel in the form of on-site, broadleaf hardwood litter. It is primarily the longleaf pine needle cast and turkey oak litter that carry understory fire in areas where wiregrass density is low. Other on-site native hardwoods include bluejack oak and, to a far lesser extent, sand post oak. Sand live oak and myrtle oak are also sparingly present due to coastal proximity and influence.

Prevalent understory species include wiregrass, false indigo (*Baptisia lanceolata*), blackroot (*Pterocaulon pycnostachyum*), orange milkweed (*Asclepias tuberosa*), gopher apple, small fruited pawpaw (*Asimina parviflora*), greeneyes (*Berlandiera pumila*), woody goldenrod, silver croton (*Croton argyranthemus*), bracken fern (*Pteridium aquilinum*) and prickly pear cactus (*Opuntia stricta*). Based on the presence, relative abundance and distribution of key on-site plant species such as longleaf pine, turkey oak and wiregrass, the park's sandhill is considered to be in fair condition. Although species proportions and structure have been influenced due to decades of fire exclusion, nearly all of the sandhill areas are able to carry prescribed fire in their current condition, with positive restoration results. Continued prescribed fire application will help determine whether some areas may require very site specific reintroduction of wiregrass.

A small number of gopher tortoises (*Gopherus polyphemus*) occur throughout the park's sandhill. Many more inactive burrows are indicative of a larger historical population in these areas.

The southeastern pocket gopher (*Geomys pinetis*) has reestablished populations in the park's high dry sandhill areas. The sandy mounds of these colonial burrowers are readily visible in many areas. Similar to the gopher tortoise, they are considered a keystone species as their burrows provide habitat for commensals including numerous invertebrates.

Other animals commonly encountered within the park's sandhill include six-lined racerunner (*Cnemidophorus sexlineatus sexlineatus*), southern fence lizard

(*Sceloporus undulatus undulatus*), eastern mole (*Scalopus aquaticus*), white-tailed deer (*Odocoileus virginianus*), eastern cottontail (*Sylvilagus floridanus*), eastern diamondback rattlesnake (*Crotalus adamanteus*), dusky pygmy rattlesnake (*Sistrurus miliarius barbouri*), southern toad (*Bufo terrestris*) and pine woods treefrog (*Hyla femoralis*).

General management measures: Management measures for the park's sandhill will primarily focus on the routine application of prescribed fire. Selective removal of off-site pines and hardwoods will also be conducted as necessary. Gopher tortoise burrow surveys will also be conducted following prescribed burns.

Basin Marsh

Desired future condition: Basin marshes are dominated by sawgrass (*Cladium jamaicense*). Other emergent grasses and sedges are also present. Low shrub species such as wax myrtle, saltbush (*Baccharis halimifolia*), buttonbush (*Cephalanthus occidentalis*) and titi (*Cyrilla racemiflora*) may be present along the perimeter, however sedges and grasses will dominate the interior with an open vista. Other typical vegetation will include common reed (*Phragmites australis*), pickerelweed (*Pontederia cordata*), arrowheads (*Sagittaria* spp.) and pineland St. John's wort (*Hypericum fasciculatum*). Although the marshes hold water year round, the emergent sawgrass will carry fires introduced from adjacent uplands. The optimal fire return interval for this community is 2-12 years depending on fire frequency of adjacent communities.

Description and assessment: The sawgrass dominated basins, located between the coastal dune lakes and associated drainage ways, are best described as basin marsh. These are pronounced wetland basins that are contiguous with the northern portions of Deer Lake and Camp Creek Lake. Both of these basin marshes are dominated by sawgrass. The limited areas of open water have a fairly dense cover of fragrant water lily (*Nymphaea odorata*). Other floating, emergents such as floating hearts (*Nymphoides aquatica*) and spatterdock (*Nuphar luteum*) are also present. Arrowheads and yellow-eyed grass (*Xyris* spp.) grow along the marsh edge, and along shallow or emerged mud ridges within the marsh. High Choctawhatchee sand pine scrub abruptly drops down to the marsh edge along long segments of both of the park's basin marshes. Flat sedge (*Cyperus lecontei*), seaside seedbox (*Ludwigia maritima*), sunflowers (*Helianthus* sp.), meadow beauties (*Rhexia* spp.), Pluchea (*Pluchea rosea*) and rosemary pea (*Chamaecrista fasciculata*) are but a few of the species that occur at the scrub/marsh boundary. Other segments of marsh perimeter have a dense growth of shrubs that include titi, buttonbush, glossy fetterbush, wax myrtle, saltbush, pineland St. John's wort and sweet pepper bush (*Clethra alnifolia*). Both of the park's basin marshes are considered to be in good condition.

General management measures: Management measures for the park's basin marsh wetlands will include prescribed burning in association with fire return intervals of adjacent fire type communities. Additional focus will be on habitat and watershed protection.

Basin Swamp

Desired future condition: The park's basin swamps are forested basin wetlands that are variable in size, shape and species composition and will have an extended hydroperiod typically 180 days. Mixed species canopies are common, and typically consist of pond cypress (*Taxodium ascendens*), Blackgum (*Nyssa aquatica* var. *biflora*) and sweetbay (*Magnolia virginiana*). Other canopy species can include slash pine, red maple (*Acer rubrum*) and dahoon holly (*Ilex cassine*). The understory shrub component is concentrated around the perimeter. Typical shrub species include titi, large gallberry (*Ilex coriacea*), Virginia willow (*Itea virginica*) and wax myrtle (*Myrica cerifera*). Once inside the perimeter shrubs, the interior understory is relatively open and limited to scattered ferns and occasional patches of spoon flower (*Peltandra sagittifolia*), lizard's tail (*Saururus cernuus*) and sphagnum moss (*Sphagnum* spp.). The very poorly drained soil will typically have a surface layer of black muck to a depth of 25 inches with very high organic content.

Description and assessment: The park's basin swamps are forested wetlands that occur in relatively large scale depressions that were most likely ancient coastal swales that existed during higher sea levels. These wetlands often form the headwaters of or are contiguous with regional drainage ways that empty into the coastal dune lakes. The closed canopy is typically comprised of pond cypress, blackgum and sweetbay magnolia. The upper half of the large basin swamp in the southern portion of management zone DL-9 consists of a stand of "dwarf" pond cypress, with enough sunlight penetrating the nearly closed canopy to support scattered yellow pitcherplants (*Sarracenia flava*) and white top pitcherplants (*Sarracenia leucophylla*). Other good examples of basin swamp occur within management zones 3 and 17. The basin swamp at the far north end of management zone 17 has all of the previously mentioned overstory species including ash (*Fraxinus* spp.). Large basin swamps such as these often serve as headwaters for the park's ephemeral streams such as Camp Creek.

There have been no major, immediate hydrological disruptions within the park's basin swamps. Based on the presence of characteristic vegetation and their relative proportions, this community type is considered to be in good condition.

General management measures: Management measures will focus on habitat and watershed protection. Additionally, this community will be exposed to fire as determined by the fire return interval of the surrounding fire-type communities. When ever possible, prescribed fires will be applied in such a manner as to aggressively burn into the shrub dominated perimeter.

Shrub bog

Desired future condition: Shrub bogs, where they remain, will consist of dense stands of evergreen shrubs as well as scattered sweetbay and slash pine. By far, the dominant species is titi, which often forms large monotypic stands that range from 3-15 feet in height. Shrub bog is found along linear portions of the park's drainage ways, often immediately adjacent to an ephemeral stream. In most cases,

the overall width of this community will be rather narrow, and confined to the lower elevations immediately adjacent to ephemeral streams. Soils are mucky and often saturated during periods of normal to above average rainfall. The optimal fire return interval for this community is dependent on the surrounding communities. Fires from adjacent fire type uplands will be allowed to enter bog ecotone.

Description and assessment: The park's shrub bogs are titi dominated wetlands that most often follow natural drainage ways. In some areas, titi has moved "upslope" due to long term fire exclusion, into former wet prairie. These areas are being identified, and restoration measures involving prescribed burning and careful removal of off-site titi are being implemented. Through restoration measures, streamside shrub bog will revert back, in many areas, to relatively thin, linear communities that demarcate the park's major drainage ways.

Other areas of shrub bog occur on relatively large, irregularly shaped wetland basins that, similar to basin swamp, are reservoirs in the local watershed that slowly release water to ephemeral streams or drainage ways. Examples occur at the far north end of management zones 9 and 14. The key characteristic is the dominance of titi.

The lower segment of Camp Creek, as well as the tributary originating from the golf course to the east, flow through well defined "ravine-like" topography. A very narrow, but distinct band of upland hardwood type vegetation occurs along the steep slopes, primarily on the western and southern sides of the respective creeks. Although absorbed within the shrub bog map unit, species such as sourwood (*Oxydendron arboreum*), mature live oak, sand live oak, yellow poplar (*Liriodendron tulipifera*), pignut hickory (*Carya glabra*), red buckeye (*Aesculus pavia*) and Florida anise (*Illicium floridanum*) can be found in these "ravine-like" areas. The park's shrub bog community is considered to be in good condition.

General management measures: Management measures for some portions of this natural community will be closely aligned with the restoration of former wet prairie, via careful removal of off-site titi. All areas of shrub bog will be exposed to prescribed fire in conjunction with adjacent fire type natural communities. Large portions of this natural community are expected to be redesignated as seepage slope or wet prairie as these areas are restored.

Depression Marsh

Desired future condition: Depression marsh is characterized as containing low emergent herbaceous and shrub species which will be dominant over most of the area and include open vistas. Trees will be few and if present, will occur primarily in the deeper portions of the community. There will be little accumulation of dead grassy fuels due to frequent burning. Depending on the site, dominant vegetation may include maidencane (*Panicum hemitomon*), panic grasses (*Panicum* spp.), Curtiss' sandgrass (*Calamovilfa curtissii*), St. John's wort (*Hypericum fasciculatum*) and blackgum as scattered hydrophytic shrubs and trees. The optimal fire return

interval for this community is 2-10 years depending on fire frequency of adjacent communities.

Description and assessment: A few very small, isolated wetlands are best described as depression marsh. These are ephemeral, grass dominated wetlands surrounded by fire type natural communities such as sandhill and mesic flatwoods. Dominant vegetation is identical to the above description, depending upon the site. All depression marshes are considered to be in good condition.

General management measures: Management measures will focus on prescribed burning in conjunction with fire return intervals of the surrounding fire type natural communities, as well as protection of immediate watershed.

Dome Swamp

Desired future condition: The park's dome swamps are isolated, forested, depression wetlands occurring within a surrounding fire maintained natural community. The characteristic dome appearance will be created by smaller trees that grow on the outer edge (shallower water and less peat) and larger trees that grow in the interior. The dome appearance will also be enhanced by fires burning around the wetland perimeter and occasionally carrying through some or all interior surface fuels.

Pond cypress will dominate, but blackgum may also form a pure stand or occur as a co-dominant. Other subcanopy species may include red maple, dahoon holly (*Ilex cassine*), swamp bay (*Persea palustris*) and sweetbay. Shrubs may be absent to moderate along an ecotonal perimeter and can include Virginia willow, glossy fetterbush, wax myrtle, and titi. An herbaceous component may range from absent to dense and include ferns, maidencane, sedges, lizards tail, and sphagnum moss (*Sphagnum* spp.).

Description and assessment: There are a number of relatively small-sized, round-shaped, forested wetlands that are distinguished by one common feature. They occur as isolated wetlands, completely surrounded by upland, fire-type natural communities. These dome swamps are very similar, in canopy forming species, to the park's basin swamps. Pond cypress and sweetbay are typically dominant, however blackgum is often present as well.

The best example of dome swamp occurs at the far north end of management zone DL-3. This wetland is dominated by pond cypress, with smaller trees near the perimeter and larger trees towards the interior. Several of the park's smaller dome swamps have open, grassy understories and are ringed by a dense growth of Curtiss' sandgrass (*Calamovilfa curtissii*). Such examples occur within the surrounding sandhill of management zones 9 and 11.

A power grid station associated with the adjacent power line right-of-way was constructed along the western edge of the dome swamp in the southwest corner of management zone DL-2. Despite this impact within the immediate watershed, this

natural community's apparent structure appears to be relatively unaltered. All of the park's dome swamps are considered to be in good condition.

General management measures: Management measures will focus on habitat and watershed protection. Additionally, this community will be exposed to fire as determined by the fire return interval of the surrounding fire-type communities. Fires will be allowed to burn into or around the edges of dome swamps, in effort to sustain the natural processes that shape and influence these embedded wetlands.

Mesic Flatwoods

Desired future condition: Dominant pines will be longleaf pine, with slash pine *Pinus elliottii* naturally occurring along ecotonal margins with adjacent, forested, wetland communities. Native herbaceous groundcover should be over at least 50% of the area and less than three feet in height. Saw palmetto will comprise no more than 30% of total shrub species cover, and are also less than three feet in height. Other shrub species will include gallberry, glossy fetterbush, blueberry (*Vaccinium* spp.), and huckleberry (*Gaylussacia* spp.). Shrubs will generally be knee-high or less, and there are few if any large trunks of saw palmetto along the ground. The optimal fire return interval for this community is two to four years.

Description and assessment: The park's mesic flatwoods generally occur on relatively poorly drained upland soils, often adjacent to forested wetlands. These areas can have a more densely scattered overstory of longleaf pines. Slash pines are found here as well, typically at or near wetland/flatwoods boundaries. Woody evergreen shrubs such as gallberry, glossy fetterbush and huckleberry are often dominant. Other mesic flatwoods areas have a higher proportion of grasses and herbaceous species such as wiregrass, bushy beardgrass (*Andropogon glomeratus*), blazing star (*Liatris tenuifolia*), Deer tongue (*Carphephorus* spp.), sunbonnets (*Chaptalia tomentosa*), Little wicky (*Kalmia angustifolia*), yellow flax (*Linum floridanum*), marsh pink (*Sabatia brevifolia*) and several species of meadow beauty (*Rhexia* spp.).

A large area of mesic flatwoods spanning portions of management zones DL-15 and DL-17 was planted with slash pines approximately 35 years ago. The area was not rowed and bedded so that today, this portion of mesic flatwoods is aesthetically similar to non planted areas. The most notable difference is the much higher density of overstory pines, weighted heavily to slash rather than longleaf. The same suite of understory species found within the park's other mesic flatwoods areas are found here as well.

Based on the presence, relative abundance and distribution of key on-site plant species, the park's mesic flatwoods is considered to be in fair condition. Understory live fuel loading is still relatively high within some areas, due to long fire exclusion prior to State acquisition. Where prescribed burning has been implemented, understory herbaceous plants have responded very well. With continued burning, proper species proportions will continue to improve.

General management measures: Management measures for the park's mesic flatwoods will focus on routine application of prescribed fire. All of the mesic flatwoods will be burned in conjunction with portions of adjacent or embedded fire type communities, chiefly sandhill and wet prairie.

Wet Flatwoods

Desired future condition: Dominant pines will be longleaf pine, slash pine and pond pine (*Pinus serotina*). Pond cypress may reach canopy in some locations. The multi-age canopy will be open. Native herbaceous cover is at least 80%. Pitcherplants and other plants such as terrestrial orchids may be present and abundant in some areas. Common shrubs will include sweetpepperbush, fetterbush, large gallberry, titi, and wax myrtle (*Myrica cerifera*). Species proportions, however, will be weighted heavily towards herbaceous plants. The optimal fire return interval for this community is two to four years.

Description and assessment: Wet flatwoods occur in the northeast portion of management zone DL-17, as an irregular band between forested basin swamp and degraded wet prairie. Longleaf pine is dominant, with slash pine occurring along the basin swamp ecotone. The understory here was historically very open and dominated by wiregrass. Given the close proximity to wet prairie, pitcherplants and associated species were probably abundant as well. While wiregrass is still present, along with a few scattered pitcherplants, understory species proportions have shifted heavily towards woody shrubs, chiefly titi. Sweet pepperbush, large gallberry, wax myrtle and fetterbush (aka glossy lyonia) are also fairly abundant. This natural community is badly in need of fire and is considered to be in fair to poor condition.

General management measures: Management measures for the park's wet flatwoods will focus on routine application of prescribed fire.

Marine Unconsolidated Substrate

Desired future condition: Marine unconsolidated substrate will consist of expansive unvegetated, open areas of mineral based substrate composed primarily of quartz grain sand and, to a lesser extent, ground up shell material. Desired conditions include preventing soil compaction, dredging activities, and disturbances such as the accumulation of pollutants.

Description and assessment: The park's beach along the Gulf of Mexico is described as a marine unconsolidated substrate. This area is completely unvegetated aside from a few dune building plants near the transition towards the primary dune line. The remainder of the beach can often be tidally submerged depending upon the severity of tidal activity. The park's beach is typical of all Gulf beaches along the northwest Florida coastline, and is composed primarily of quartz sand. It is considered to be in good condition. Despite being a rather small narrow natural community, the park's beach is important nesting habitat for sea turtles and

shorebirds. Additionally, this area is prime foraging habitat for many other shorebirds, seabirds and wading birds.

General management measures: Management measures for the park's beach shall include imperiled species monitoring, delineation and posting of nesting areas, and removal of trash.

Altered Landcover Types

Developed

Parking areas, buildings, campgrounds and other facilities as well as maintained rights-of-way and roadsides are included. On the north side of County Road 30A, park facilities that include an equipment shop and storage are maintained by park staff.

The developed areas within the park will be managed to minimize the effect of the developed areas on adjacent natural areas. Priority invasive plant species (FLEPPC Category I and II species) will be controlled from all developed areas. Other management measures include proper stormwater management and development guidelines that are compatible with prescribed fire management in adjacent natural areas. Defensible space will be maintained around all structures in areas managed with prescribed fire or at risk of wildfires.

Utility Corridor

A utility corridor consisting of a high tension powerline right-of-way occurs along the entire west edge of the park property located north of County Road 30A.

Imperiled Species

Imperiled species are those that are (1) tracked by FNAI as critically imperiled (G1, S1) or imperiled (G2, S2); or (2) listed by the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC) or the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened or of special concern.

Deer Lake State Park is home to many imperiled plant and animal species. The park's wet prairie and seepage slope habitats are exceptionally high in species richness, including white-top pitcherplant, purple pitcherplant (*Sarracenia rosea*), parrot pitcherplant (*Sarracenia psittacina*), spoon-leaved sundew (*Drosera intermedia*), Curtiss' sandgrass, Green milkwort (*Asclepias viridula*), rose pogonia (*Pogonia ophioglossoides*), rosebud orchid (*Pogonia divaricata*), Chapman's crownbeard (*Verbesina chapmanii*), white-fringed orchid and Panhandle meadow beauty. Relative abundance and population health of these imperiled wetland plants continues to improve as wet prairies are restored.

The park's beach dune is home to three other imperiled plant species, Cruise's goldenaster, Godfrey's goldenaster, and Gulf Coast lupine. Population numbers and health appear stable. Large-leaved jointweed occurs in scrubby flatwoods nearer the Gulf of Mexico within management zones DL-21 and DL-22. A few individuals also occur at the southeast corner of management zone DL-13A near the County Road 30A right-of-way. Populations appear to be stable based on observations made since State acquisition in the mid 1990s.

The park provides over half a mile of quality sea turtle nesting habitat. Loggerhead sea turtles (*Caretta caretta*) are the primary nesters, however green sea turtles (*Chelonia mydas*), and leatherback sea turtles (*Dermochelys coriacea*) occasionally nest here as well. There was also one recorded Kemp's Ridley (*Lepidochelys kempii*) nest along the park's beach in 2008. Over the past 13 years, the park has averaged one nest per year, with two being the highest number of nests recorded in a single season. Daily nesting surveys are conducted by Walton County Turtle Watch volunteers under the park's permit.

The high, dry, sandy soils of the park's sandhill and scrub communities are ideal habitat for the gopher tortoise (*Gopherus polyphemus*). Active burrows are very few and far between, due in part to decades of fire exclusion and corresponding habitat degradation within the park and surrounding lands. There is also, however, anecdotal information that these animals were considered a food source by locals well into the mid-20th Century. Remaining tortoises are protected on the park and surrounding state lands, however, reintroduction of additional individuals may prove necessary due to very low remaining numbers, and very little available recruitment from adjacent areas.

The open beach along the Gulf of Mexico and the adjacent beach dune community provide shorebird nesting habitat for snowy plovers (*Charadrius nivosus*) and least terns (*Sternula antillarum*). Depending on the season three to five pair of snowy plovers nest within the park boundary; however, there is connectivity between the park and the adjacent WaterSound community. After hatching, families of plovers (i.e., adults with flightless chicks) will move onto the park from the WaterSound property to forage, since there is far less human disturbance within the park boundary. Least terns do not nest at the park every year. The presence of least terns appears to be driven by the presence of mammalian predator species and colonies typically range from 1 to 14 pair. During the nesting season (February – August) the park is monitored for nesting activity on a weekly basis. Nests are located and monitored for fate (hatch or fail). If nests fail, efforts are made to determine why. If nests hatch, efforts are made to color band both the adults and chicks. Bands are used in the short-term to monitor fledge rates and establish local population abundance. Over the long term, banding is used to determine adult and juvenile survival, movement patterns and recruitment. Emphasis is placed on the chicks because they establish known-age cohorts. Banding efforts for snowy plovers began in 2008 at most panhandle State Parks, however did not include Deer Lake until 2010.

Snowy plover hatch rates are generally variable, but fledge rates have been consistently low for unknown reasons. Shorebird productivity appears to be impacted by coyote nest predation, off-leash dogs and vehicle traffic within the plovers primary foraging area near the shoreline. Coyotes are a severe threat to successful shorebird nesting at this park. In 2012, coyotes depredated all active nests. As a result, all nesting pairs reestablished themselves at Grayton Beach where USDA trappers successfully removed several coyotes prior to the nesting season. Vehicle traffic is a persistent problem at Deer Lake as the beach is traversed by County and law enforcement vehicles routinely patrolling Walton County beaches. As a disturbance source approaches, the chicks often crouch in the vehicle ruts as protection. During the winter months, the adults roost in the tire ruts as a break from the wind. Dogs have been an additional threat. Off-leash dogs have numerous been observed chasing plover chicks near the Deer Lake outfall, and dog tracks are often observed in the posted nesting habitat.

The Deer Lake snowy plover population has remained at 4-5 pairs (8-10 individuals) each year at any given time. Prior to banding it was assumed that these were the same pair each year. Since banding, it has become apparent that there is constant movement of nesting plovers from WaterSound, Deer Lake, Grayton Beach and Topsail, thus this number of nesting pairs may be the site's carrying capacity. It is reasonable to conclude that the health of the local population may need to include the trend from all of these sites combined rather than separately.

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

- Demarcating potential shorebird habitat by enclosing the perimeter of the habitat and buffer area with appropriate fencing, signage and rope using guidelines from the Florida Shorebird Alliance (Avissar et al. 2012).
- Encouraging and focusing visitor activities into areas less suitable for shorebird nesting habitat.
- Monitoring during the nesting season to identify and protect new breeding sites.
- Providing interpretive and educational outreach to the public prior to and during the nesting season to encourage visitor use that protects shorebirds and their habitat.
- When the same breeding sites are used year after year, posting the protected area will occur prior to the season (pre-posting).
- When new breeding sites are indicated, appropriate measures will be implemented, including demarcating new protected areas and expanding or initiating interpretive programs.

- Coordinating with the FWC and local law enforcement agencies to ensure compliance with park rules and shorebird protection, as needed.

When it is necessary to limit recreational activities or visitor access to protect nesting habitat, park staff or volunteers will provide onsite interpretation to educate visitors about the management of imperiled shorebird habitat and identify suitable recreational areas. Pre-posting the identified habitat areas combined with early public notification regarding the park's shorebird protection program will improve visitor compliance with park rules and promote broad-based public stewardship of shorebird nesting, resting, and foraging habitats in the park. For more information and details of monitoring protocols, please visit DRP's shorebird and seabird management plan.

Black skimmers (*Rynchops niger*), Wilson's plovers (*Charadrius wilsonia*) and sandwich terns (*Thalasseus sandvicensis*) also regularly use the park as foraging and resting habitat.

The piping plover (*Charadrius melodus*) commonly overwinters in Florida. During the winter months, a few piping plovers are usually observed foraging near the Deer Lake outfall, particularly during migration.

The brown pelican (*Pelecanus occidentalis*) utilizes the park for foraging and loafing. The large seabirds are frequently observed gliding in formations along the surf line in search of bait fish, or loafing along the open beach near the Deer Lake outlet. The nearest active nesting site is located about 25 miles to the east on a spoil island near the Port of Panama City in the St. Andrews Bay. Many of the core breeding sites in the western Gulf were heavily impacted by the 2010 Deep Water Horizon oil spill. The long term implications of this man-made, environmental disaster on the brown pelican are yet to be determined.

The coastal dune lakes, basin marshes and other wetlands provide good foraging habitats for wading birds, including little blue heron (*Egretta caerulea*), reddish egret (*Egretta rufescens*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*) and white ibis (*Eudocimus albus*). Wading birds, particularly the snowy egret, can often be found foraging along the open Gulf beach. All wading birds depend on healthy, productive wetland environments as primary foraging habitats.

Raptors such as the Southeastern American kestrel (*Falco sparverius paulus*) are primarily fly overs.

Choctawhatchee beach mice (*Peromyscus polionotus allophrys*) occur at the park and adjacent Water Sound property. An augmentation to this population of 7 pairs was carried out in 2005. Donor mice originated from Topsail Hill Preserve State Park. The park and FWC have been monitoring beach mice using tracking tubes to determine presence or absence in different locations of the dunes. Tubes are checked every month by park staff. Based on monitoring efforts, the local population is currently considered stable. No trapping has been conducted on the park to determine population size.

Table 2 contains a list of all known imperiled species within the park and identifies their status as defined by various entities. It also identifies the types of management actions that are currently being taken by DRP staff or others, and identifies the current level of monitoring effort. The codes used under the column headings for management actions and monitoring level are defined following the table. Explanations for federal and state status as well as FNAI global and state rank are provided in Addendum 6.

Table 2. Imperiled Species Inventory						
Common and Scientific Name	Imperiled Species Status				Management Actions	Monitoring Level
	FWC	USFWS	FDACS	FNAI		
PLANTS						
Green milkweed <i>Asclepias viridula</i>	LT	N		S2,G2	1,4,10	Tier 2
Curtiss' sandgrass <i>Calamovilfa curtissii</i>	LT	N		S3,G3	1,4,10	Tier 2
Godfrey's goldenaster <i>Chrysopsis godfreyi</i>	LE	N		S2,G2	10	Tier 2
Cruise's goldenaster <i>Chrysopsis gossypina</i> subsp. <i>cruiseana</i>	LE	N		S2,G5 T2	10	Tier 2
Spoon-leaved sundew <i>Drosera intermedia</i>	LT	N		S3,G5	1,4,10	Tier 2
Gulf Coast lupine <i>Lupinus westianus</i>	LT	N		S3,G3	1,10	Tier 2
White-fringed orchid <i>Platanthera blephariglottis</i> var. <i>conspicua</i>	N	N	LT		1,10	Tier 2
Rosebud orchid <i>Pogonia divaricata</i>	N	N	LT		1,10	Tier 2
Rose pogonia <i>Pogonia ophioglossoides</i>	N	N	LT		1,10	Tier 2
Large-leaved jointweed <i>Polygonella macrophylla</i>	LT	N		S3,G3	1,10	Tier 2
Panhandle meadow beauty <i>Rhexia salicifolia</i>	LT	N		S2,G2	1,10	Tier 2
White-top pitcherplant <i>Sarracenia leucophylla</i>	LE	N		S3,G3	1,4,10	Tier 2
Parrot pitcherplant <i>Sarracenia psittacina</i>	N	N	LT		1,4,10	Tier 2

Table 2. Imperiled Species Inventory						
Common and Scientific Name	Imperiled Species Status				Management Actions	Monitoring Level
	FWC	USFWS	FDACS	FNAI		
Purple pitcherplant <i>Sarracenia rosea</i>	N	N	LT		1,4,10	Tier 2
Chapman's crownbeard <i>Verbesina chapmanii</i>	N	N	LT		1,10	Tier 2
REPTILES						
Loggerhead sea turtle <i>Caretta caretta</i>	FT	LT		S3,G3	10	Tier 2
Green sea turtle <i>Chelonia mydas</i>	FE	LE		S2,G3	10	Tier 2
Leatherback sea turtle <i>Dermochelys coriacea</i>	FE	LE		S2,G2	10	Tier 2
Gopher tortoise <i>Gopherus polyphemus</i>	ST	C		S3,G3	1,6,7,8,10,13	Tier 2
Kemp's Ridley sea turtle <i>Lepidochelys kempii</i>	FE	LE		S1,G1	10	Tier 2
BIRDS						
Piping plover <i>Charadrius melodus</i>	FT	LT		S2,G3	10	Tier 2
Snowy plover <i>Charadrius nivosus</i>	ST	N		S1,G4	10	Tier 4
Wilson's plover <i>Charadrius wilsonia</i>	N	N		S2,G5	10	Tier 2
Little blue heron <i>Egretta caerulea</i>	SSC	N		S4,G5	4,10	Tier 1
Reddish egret <i>Egretta rufescens</i>	SSC	N		S2,G4	4,10	Tier 1
Snowy egret <i>Egretta thula</i>	SSC	N		S3,G5	4,10	Tier 1
Tricolored heron <i>Egretta tricolor</i>	SSC	N		S4,G5	4,10	Tier 1
White ibis <i>Eudocimus albus</i>	SSC	N		S4,G5	4,10	Tier 1
Southeastern American Kestrel <i>Falco Sparverius paulus</i>	ST	N		S3,G5 T4	10	Tier 2

Table 2. Imperiled Species Inventory						
Common and Scientific Name	Imperiled Species Status				Management Actions	Monitoring Level
	FWC	USFWS	FDACS	FNAI		
Brown pelican <i>Pelecanus occidentalis</i>	SSC	N		S3,G4	10	Tier 2
Black skimmer <i>Rynchops niger</i>	SSC	N		S3,G5	4,10	Tier 2
Least tern <i>Sterna antillarum</i>	ST	N		S3,G4	10	Tier 2
Sandwich tern <i>Thalasseus sandvicensis</i>	N	N		S2,G5	10	Tier 2
MAMMALS						
Choctawhatchee beach mouse <i>Peromyscus polionotus allophrys</i>	FE	LE		S1,G5 T1	3,10	Tier 2

Management Actions

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

Monitoring Level

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

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

Exotic and Nuisance Species

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

Exotic plant species that currently occur at the park include torpedo grass (*Panicum repens*), cogon grass (*Imperata cylindrica*), Chinese wisteria (*Wisteria sinensis*), mimosa (*Albizia julibrissin*) and Japanese climbing fern (*Lygodium japonicum*). Cogongrass occurs as individual plants or small clumps of plants within management zones DL-1, DL-21 and DL-22. All sites are in maintenance control. Torpedo grass occurs in small patches within management zones DL-1, DL-2, DL-5 and DL-24. All sites are in maintenance control. Wisteria occurs as individual clumps within management zones DL-10B. These areas are in maintenance control. Mimosa occurs as scattered individuals along the residential boundary of management zone DL-16A. This area is in maintenance control. Japanese climbing fern occurs as isolated spots within management zone DL-21. These areas are in maintenance control.

All of the above mentioned infested areas are routinely monitored and treated utilizing appropriate and approved herbicides and application techniques, designed for maximum effectiveness while avoiding or minimizing non-target damage. All exotic plant removal efforts have been conducted by trained park staff, and have included approximately 0.30 acre total since approval of the last management plan.

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

Table 3. Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	FLEPPC Category	Distribution	Management Zone(s)
PLANTS			
Mimosa <i>Albizia julibrissin</i>	I	1	DL-16A
Cogon grass <i>Imperata cylindrical</i>	I	1,2	DL-1, DL-21, DL-22
Japanese climbing fern <i>Lygodium japonicum</i>	I	1	DL-21
Torpedo grass <i>Panicum repens</i>	I	1,2	DL-1, DL-2, DL-5, DL-24
Chinese wisteria <i>Wisteria sinensis</i>	II	1,2	DL-10B

Distribution Categories

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

Exotic animal species include non-native wildlife species, free ranging domesticated pets or livestock, and feral animals. Because of the negative impacts to natural systems attributed to exotic animals, the DRP actively removes exotic animals from state parks, with priority being given to those species causing the greatest ecological damage. Oil spill funds associated with the 2010 Deep Water Horizon disaster now provide for a full time predator management position for the State Parks in coastal Walton County. Efforts are underway to extend this position to ten years.

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

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

Special Natural Features

It is rare to find freshwater bodies in such close proximity to the marine area. Because of this proximity and the unique interactions between the adjacent freshwater and saltwater environments, Coastal dune lakes are considered globally rare natural communities and special natural features at this park.

Cultural Resources

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

Condition Assessment

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

Level of Significance

Applying the criteria for listing in the National Register of Historic Places involves the use of contexts as well as an evaluation of integrity of the site. A cultural resource's significance derives from its historical, architectural, ethnographic or archaeological context. Evaluation of cultural resources will result in a designation of NRL (National Register or National Landmark Listed or located in an NR district),

NR (National Register eligible), NE (not evaluated) or NS (not significant) as indicated in the table at the end of this section.

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

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

Prehistoric and Historic Archaeological Sites

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

Description: There are three archaeological sites located within or partially within the State Park. Two of these are prehistoric sites. WL877 is located at the northwest edge of Deer Lake along the only well elevated stretch of lake shore. The site appears to be a somewhat diffuse artifact scatter and possible midden that is associated with the Weeden Island period. Roughly two thirds of the site appears to be within the park, while the remainder spills over into the County Road 30A road corridor. The site was discovered in 1992 while a gas pipeline was being installed along County Road 30A, and likely represents a camp site or other short-term occupation. Native Americans would have had very good access to a permanent freshwater source while hunting and gathering marine resources. The site consists of moderate density Weeden Island ceramic and lithic scatter. Diagnostics identified Wakulla Check Stamped Rim, Weeden Island Plain and check stamped sherds. The lithic artifacts recovered are all made of white chert and suggest tool maintenance rather than tool manufacture. Artifacts were recovered from surface scatter and screened from eight shovel test pits excavated along a transect within the road corridor.

Site WL63 is described in the Florida Master Site File as a prehistoric artifact scatter dating to the Paleo-Indian, Santa Rosa-Swift Creek, and Fort Walton periods. The site encompasses a large area behind the primary dune line spanning the western dune field of the WaterSound private development and extending into the far eastern portion of the state park dune field. The site was first discovered in 1960 with the surface find of the stem of a Paleo-Indian white quartz point. Also found within this same back dune area was about one-half of a Carrabelle Punctate vessel

of large size (possibly 12-inch rim diameter). It is not believed to be associated with the point. More Carrabelle Punctate and additional Weeden Island sherds were discovered as surface finds in 1979. No midden or other trace of habitation has been identified. This site may be contiguous with WL103 located within the eastern dune field of the WaterSound property.

Site WL2020 is an iron shipwreck most likely dating from the late 19th-early 20th century. The shipwreck was discovered in 2004, having been exposed by Hurricane Ivan. The wreck is located within the surf zone in roughly two feet of water, several hundred feet west of the park's boardwalk beach access. Visible remains at the time of discovery, consisted of a section of iron deck partially uncovered by the recent wave action. A portion of the iron deck 23 feet wide was visible and providing temporary habitat to a variety of small sea life including crabs, blennies and other small fish. A large cleat, measuring one foot-three inches long and four inches wide was visibly bolted to the deck structure on the starboard side. It is estimated that the site is 25 feet wide by 75 feet long. Bottom sediment is coarse white sand consistent with this region's coastline. The wreck was covered up by shifting sands within weeks of discovery. It is not deeply buried and probably covers and uncovers regularly with storm events.

Condition Assessment: Site WL877 has been partially disturbed by the construction of County Road 30A. The portion of this site located within the park boundary has not been impacted by erosion, looting or otherwise disturbed, and is considered to be in good condition.

There have been no apparent signs of looting to WL63; however, the site is subject to wind and storm surge erosion inherent to this highly dynamic natural area. Currently the site is considered to be in good condition.

The shipwreck site WL2020 is effectively buried in the sandy bottom within the surf zone and is stable. Like all iron shipwrecks, the site is subject to the corrosive properties of marine waters. Currently the site is not exposed which offers maximum protection, and is therefore considered to be in good condition.

General management measures: No immediate management actions are deemed necessary, for the park's three recorded sites, other than periodic monitoring and protection. It is recommended that the WL63 site be monitored following storm events that may expose additional artifacts and lead to new surface finds.

Historic Structures

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

Description: There are currently no historic structures located on the park.

Collections

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

Description: The Park does not maintain extensive collections of archaeological artifacts. If artifacts are recovered for purposes of FMSF registry, they are forwarded to the Bureau of Archaeological Resources (BAR) as per DRP procedure. Detailed management goals, objectives and actions for the management of cultural resources in this park are discussed in the Cultural Resource Management Program section of this component. Table 4 contains the name, reference number, culture or period, and brief description of all the cultural sites within the park that are listed in the Florida Master Site File. The table also summarizes each site’s level of significance, existing condition and recommended management treatment. An explanation of the codes is provided following the table.

Table 4. Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	Culture/Period	Description	Significance	Condition	Treatment
WL877	Weeden Island	Campsite/ possible midden	NE	G	P
WL63	Fort Walton, Santa Rosa-Swift Creek	Artifact scatter / possible campsite	NE	G	P
WL2020	Historic (late 19 th – early 20 th century)	Shipwreck	NE	G	P

Significance

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

Condition

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

Recommended Treatment

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

Resource Management Program

Management Goals, Objectives and Actions

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

While the DRP utilizes the ten-year management plan to serve as the basic statement of policy and future direction for each park, a number of annual work plans provide more specific guidance for DRP staff to accomplish many of the resource management goals and objectives of the park. Where such detailed planning is appropriate to the character and scale of the park's natural resources, annual work plans are developed for prescribed fire management, exotic plant management and imperiled species management. Annual or longer-term work plans are developed for natural community restoration and hydrological restoration. The work plans provide the DRP with crucial flexibility in its efforts to generate and implement adaptive resource management practices in the state park system. The work plans are reviewed and updated annually. Through this process, the DRP's resource management strategies are systematically evaluated to determine their effectiveness. The process and the information collected is used to refine techniques, methodologies and strategies, and ensures that each park's prescribed management actions are monitored and reported as required by Sections 253.034 and 259.037, Florida Statutes.

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

Natural Resource Management

Hydrological Management

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

The natural hydrology of most state parks has been impaired prior to acquisition to one degree or another. Florida's native habitats are precisely adapted to natural drainage patterns and seasonal water level fluctuations, and variations in these factors frequently determine the types of natural communities that occur on a

particular site. Even minor changes to natural hydrology can result in the loss of plant and animal species from a landscape. Restoring state park lands to original natural conditions often depends on returning natural hydrological processes and conditions to the park. This is done primarily by filling or plugging ditches, removing obstructions to surface water "sheet flow," installing culverts or low-water crossings on roads, and installing water control structures to manage water levels.

Assessment of the park's hydrological restoration needs was accomplished during field visits associated with the unit plan revision. Impacts to natural hydrological function have been described earlier in this plan. Those items where restoration measures are deemed feasible, are identified below as hydrological restoration objectives along with associated management actions.

Objective: Improve natural hydrological conditions and functions of 0.6 acre of seepage slope natural community and approximately 70 acres of contiguous wetlands within the Camp Creek drainage way.

Management action for the above objective shall be the installation of 185 linear feet of low-water crossing at the north end of management zones DL-11 and DL-14. The crossing shall be designed and installed to match the natural elevation of the streambed within the project footprint and will be constructed with Geosynthetic fabric and grey limerock or rock of equivalent or greater density.

Objective: Monitor and analyze water resources of the park.

Baseline water quality data collection/monitoring of the park's surface water resources will continue to be accomplished via LAKEWATCH monitoring of Deer Lake. In addition to subsurface seepage input, Deer Lake has drainage way connection and receives at least ephemeral flow from nearly all of the wetlands on the western two thirds of the park. Camp Creek Lake is also routinely monitored via trained volunteers through the Florida LAKEWATCH program coordinated through the University of Florida's Institute of Food and Agricultural Sciences.

Natural Communities Management

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

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

Prescribed Fire Management

Prescribed fire is used to mimic natural lightning-set fires, which are one of the primary natural forces that shaped Florida's ecosystem. Prescribed burning

increases the abundance and health of many wildlife species. A large number of Florida's imperiled species of plants and animals are dependent on periodic fire for their continued existence. Fire-dependent natural communities gradually accumulate flammable vegetation; therefore, prescribed fire reduces wildfire hazards by reducing these wild land fuels.

All prescribed burns in the Florida state park system are conducted with authorization from the FDACS, Florida Forest Service (FFS). Wildfire suppression activities in the park are coordinated with the FFS.

Objective: Within 10 years, have 1,130 acres of the park maintained within the optimum fire return interval.

Table 5 contains a list of all fire-dependent natural communities found within the park, their associated acreage and optimal fire return interval, and the annual average target for acres to be burned.

The park is partitioned into management zones including those designated as burn zones (see Management Zones Table and Map). Prescribed fire is planned for each burn zone on the appropriate interval. The park's burn plan is updated annually because fire management is a dynamic process. To provide adaptive responses to changing conditions, fire management requires careful planning based on annual and very specific burn objectives. Each annual burn plan is developed to support and implement the broader objectives and actions outlined in this ten-year management plan.

The park's fire-dependent natural communities include sandhill, mesic flatwoods, wet flatwoods, scrubby flatwoods, wet prairie, basin marsh, depression marsh and seepage slope. Prescribed burning is the primary tool to manage for fire adapted wildlife species such as the gopher tortoise and southeastern pocket gopher. All of the park's management zones containing fire-dependent communities are delineated by perimeter fire lines. While not all portions of every fire-maintained management zone may carry fire, the entire zone is usually included in the burn prescription and functionally treated as the "burn zone." All fire lines are inspected

annually and perimeter vegetation mowed in order to maintain proper width. Management zones scheduled to be burned in a given year are also lightly disked along the outside edge in order to add the necessary mineral soil component. The park shares a common boundary with the adjacent Point Washington State Forest to the north. This boundary line runs through many extensive wetlands including highly diverse and productive wet prairies. The park should continue coordinating with local FFS managers to eliminate the need for segments of fire line through these wetlands, through cooperative burns that will include adjoining agency lands. Similar discussion and coordination should be continued with local St. Joe Company land managers in order to include the adjacent stand of pines just east of management zone 17 into the larger FFS/FPS burn block.

All lands located south of US Highway 98 in Walton County are delineated as “critical smoke sensitive area” by the FFS. The park has a very good working relationship with the local and regional FFS, and have coordinated acceptable wind directions by which to burn each of the park’s fire-maintained management zones based on proximity to nearby roads and development.

Table 5. Prescribed Fire Management		
Natural Community	Acres	Optimal Fire Return Interval (Years)
Sandhill	829	2-4
Mesic flatwoods	250	2-4
Scrubby flatwoods	125	5-12
Basin marsh	35	2-12
Wet prairie	33	2-4
Wet flatwoods	12	2-4
Depression marsh	6	2-10
Seepage slope	0.6	2-4
Annual Target Acreage*	294-608	
*Annual Target Acreage Range is based on the fire return interval assigned to each burn zone. Each burn zone may include multiple natural communities.		

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

Natural Communities Restoration

In some cases, the reintroduction and maintenance of natural processes is not enough to reach the natural community desired future conditions in the park, and active restoration programs are required. Restoration of altered natural communities to healthy, fully functioning natural landscapes often requires substantial efforts that may include mechanical treatment of vegetation or soils and reintroduction or augmentation of native plants and animals. For the purposes of this management plan, restoration is defined as the process of assisting the recovery and natural functioning of degraded natural communities to desired future condition, including the re-establishment of biodiversity, ecological processes, vegetation structure and physical characters.

Examples that would qualify as natural communities' restoration, requiring annual restoration plans, include large mitigation projects, large-scale hardwood removal and timbering activities, roller-chopping and other large-scale vegetative modifications. The key concept is that restoration projects will go beyond management activities routinely done as standard operating procedures such as routine mowing, the reintroduction of fire as a natural process, spot treatments of exotic plants, and small-scale vegetation management.

Following are the natural community/habitat restoration and maintenance actions recommended to create the desired future conditions in the wet prairie communities.

Objective: Conduct habitat/natural community restoration activities on 220 acres of former seepage slope/wet prairie community, 102 acres of scrubby flatwoods and 17 acres of sandhill.

Removal of off site woody shrubs and trees from long fire excluded wet prairie and seepage slope sites will be the highest priority regarding natural community restoration. A combination of hand removal, and mechanical removal will be utilized as per specific site conditions. Regular application of prescribed fire will be a high priority for all management zones containing wet prairies. Removal of woody biomass via fire, mechanical and hand removal will help restore proper soil moisture within wet prairie and seepage slope soils, all of which will begin slowly re-establishing impoverished (nutrient poor) soil conditions that favor the suite of carnivorous plants characteristic of these herbaceous wetlands. Some sites may require follow up efforts to remove persistent off-site hardwoods that impede or limit the effectiveness of prescribed burns. Desired fire effects within wet prairie and seepage slope portions of management zones will be a major factor influencing the development of burn prescriptions. The effectiveness of prescribed fire within these wetlands shall be evaluated and documented during regularly scheduled post burn evaluations. If necessary, additional management actions will be recommended at that time.

Approximately 102 total acres of scrubby flatwoods community has been invaded by sand pines from nearby scrub, due to decades of fire exclusion. The sand pines should be removed via timber harvest. The branches and tops should be left scattered throughout the harvest areas, in order to help improve understory fuel continuity for post harvest burning. A relatively complete prescribed burn of the post-harvest areas will be highly desirable in order to largely consume the high numbers of sand pine seedling and remaining seed bank.

While some areas have a descent representation of relict groundcover and on-site oak species, other areas may require reintroduction of key species such as sand live oak, myrtle oak and Chapman's oak. A restoration plan that includes these elements, needs to be developed.

Approximately 17 acres of sandhill community located along the eastern side of management zone DL-16A is in need of natural community restoration. Over the

years, sand pines have encroached into this area following what appears to have been selective removal of former longleaf pine. All of the Choctawhatchee sand pines in this sandhill map unit should be included into any timber removal projects proposed for other areas of the park. Consistent with previous recommendations, the stems and tops should be evenly scattered through the harvest area in order to provide additional surface fuels for prescribed burning. All longleaf pines, regardless of size and age class shall be left. DRP staff can collect longleaf seeds and propagate seedlings to augment natural regeneration from relict longleaf within the site, if natural regeneration, following sand pine harvest is inadequate. Sustained follow-up removal of inevitable sand pine regeneration must be included in this project.

Natural Communities Improvement

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

There are currently no natural community/habitat improvement actions necessary at the park.

Imperiled Species Management

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

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

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

Ongoing inventory and monitoring of imperiled species in the state park system is necessary to meet the DRP's mission. Long-term monitoring is also essential to ensure the effectiveness of resource management programs. Monitoring efforts

must be prioritized so that the data collected provides information that can be used to improve or confirm the effectiveness of management actions on conservation priorities. Monitoring intensity must at least be at a level that provides the minimum data needed to make informed decisions to meet conservation goals. Not all imperiled species require intensive monitoring efforts on a regular interval. Priority must be given to those species that can provide valuable data to guide adaptive management practices. Those species selected for specific management action and those that will provide management guidance through regular monitoring are addressed in the objectives below.

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

DRP staff will continue to build and refine the park's inventory lists for flora and fauna. Documentation of any newly-identified imperiled species will be a priority.

Objective: Monitor nine selected imperiled animal species in the park.

A well-established monitoring protocol is in place that applies to all species of sea turtles. FWC has established a marine turtle program to monitor nesting activity, document mortalities statewide, conduct research on the biology of the various species and provide data for managing and evaluating coastal development effects. The Statewide Nesting Beach Survey (SNBS) program was initiated in 1979 under a cooperative agreement between the Florida Fish & Wildlife Conservation Commission (FWC) and the U.S. Fish & Wildlife Service. Its purpose is to document the total distribution, seasonality and abundance of sea turtle nesting in Florida. Three species of sea turtles, loggerhead, green, and leatherback have historically nested at Deer Lake or adjacent beaches. Kemp's ridley, have been infrequently sighted or recorded nesting within the immediate coastline as well. All three species are listed as either threatened or endangered under the Endangered Species Act. The Index Nesting Beach Survey (INBS) is a detailed monitoring program in conjunction with SNBS. This program was established to measure seasonal productivity, allowing comparisons between beaches and between years. Currently Deer Lake State Park is not an Index Beach. The nearest Index Beach is Panama City Beach located about ten miles east in neighboring Bay County.

As part of the SNBS, sea turtle nesting surveys are conducted at the park each morning during the nesting season (May 15st – October 31st) by Walton County Turtle Watch volunteers under the park's permit. Loggerhead, Green, and leatherback sea turtles are known to nest along the park's beach, however one Kemp's Ridley's nest has been recorded as well. All monitoring, nest marking activities and data reporting are done in accordance with the FWC marine turtle program SNBS.

Gopher tortoise presence or absence will be established via burrow surveys. Burrow surveys will be conducted within a given management zone with favorable habitat, following prescribed burns. Burrow surveys will follow established FWC protocol.

Established State and Federal monitoring protocol for shorebird nesting is currently followed at Deer Lake State Park in coordination with FWC. All shorebird nesting habitats are protected from visitor impacts, with documented nesting sites for imperiled species delineated, signed and roped off during the nesting season (February– August). Species monitored at the Tier 2 level include Wilson’s plover and piping plover (over wintering survey only). The snowy plover has a long and uninterrupted history of nesting at the park, and is monitored at the tier 4 level. Monitoring involves locating and marking all imperiled shorebird nests via GPS and accurate determination of fledging success. This requires a level and continuity of monitoring that is best met by well trained and specialized staff, with primary focus on shorebird management. Species specific Imperiled Species Management Plans are currently being developed by FWC for shorebirds.

The USFWS has designated 40 acres of of the State Park as critical habitat for Choctawhatchee beach mouse. Presence/absence and population estimates for this imperiled species will continue to be monitored in coordination with the FWC, via tracking tubes. Tracking tube use data is shared and archived between both agencies.

Objective: Monitor and document 15 selected imperiled plant species in the park.

Green milkweed, Curtiss’ sandgrass, spoon-leaved sundew, Panhandle meadow beauty, white-top pitcherplant, purple pitcherplant, parrot pitcherplant, rosebud orchid, Chapman’s crownbeard and rose pogonia all occur within wet prairie and seepage slope natural communities. Curtiss’ sandgrass also often occurs around the perimeter of the park’s smaller dome swamps and depression marshes. White-top pitcherplant has also been found within more open canopy portions of dwarf cypress dominated basin swamp. White-fringed orchid is currently only known to occur within the park’s single delineated seepage slope natural community at the northeast of management zone DL-11. At a minimum, these known habitats should be surveyed several times throughout the first growing season following prescribed burns.

Godfrey’s goldenaster, Cruise’s goldenaster and Gulf Coast lupine occur primarily within the beach dune community. Large-leaved jointweed only occurs within portions of scrubby flatwoods and scrub located nearer the Gulf of Mexico.

GPS mapping surveys shall be conducted to record single or group occurrence of all of the above-mentioned species. Surveys should be targeted based on the above information and aided by the current natural communities map. Any detrimental habitat conditions or impacts should be noted, along with site specific recommendations to improve the habitat for the imperiled plant species. If necessary, park staff should seek the assistance of District Biological staff.

Exotic Species Management

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

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

Objective: Annually treat 0.15 acres of exotic plant species in the park.

All infested areas delineated in Table 3 of this plan will be routinely inspected and monitored to determine when follow-up treatments will be necessary. All treatments will be coordinated with appropriate District Biological staff. If new infestation sites are identified, they will be treated, recorded and monitored in the DRP's exotic plant database.

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

As previously stated, in the Imperiled Species description portion of this plan, coyotes are present on the park and adjacent lands. The animals are considered a non-indigenous predator and have severely impacted the nesting success for imperiled sea shorebirds at this park. Coyotes are also well documented predators of sea turtle nests. Solitary nesters such as snowy plovers have been very heavily depredated. Sustained coyote removal efforts are necessary at this park in order to successfully manage for both sea turtles and shorebirds. All removal efforts are now coordinated through the full time trapper position.

Cultural Resource Management

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

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

The management of cultural resources is often complicated because these resources are irreplaceable and extremely vulnerable to disturbances. The advice of historical and archaeological experts is required in this effort. All activities related to land clearing, ground disturbing activities, major repairs or additions to historic structures listed or eligible for listing in the National Register of Historic Places must be submitted to the FDOS, Division of Historical Resources (DHR) for review and comment prior to undertaking the proposed project. Recommendations may include, but are not limited to concurrence with the project as submitted, pre-testing of the project site by a certified archaeological monitor, cultural resource

assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effect. In addition, any demolition or substantial alteration to any historic structure or resource must be submitted to DHR for consultation and the DRP must demonstrate that there is no feasible alternative to removal and must provide a strategy for documentation or salvage of the resource. Florida law further requires that the DRP consider the reuse of historic buildings in the park in lieu of new construction and must undertake a cost comparison of new development versus rehabilitation of a building before electing to construct a new or replacement building. This comparison must be accomplished with the assistance of DHR.

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

Assessments/evaluations of the park's upland recorded archaeological sites (WL877 and WL63) will be conducted. Such assessments should include an examination of each site with a discussion of any threats to the site's condition such as natural erosion; vehicular damage; horse, bicycle or pedestrian damage; looting; construction including damage from firebreak construction; animal damage; plant or root damage or other factors that might cause deterioration of the site. This evaluation should attempt to compare the current condition with previous evaluations using photo points or high resolution scanning or similar techniques. In addition to the assessment and evaluation, a regular monitoring program for the two recorded terrestrial archaeological sites will be designed and implemented.

The accessibility of Site WL2020 for assessment will be evaluated annually.

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

Deer Lake State Park was included in the 2011 Archaeological Resource Sensitivity Modeling conducted by The University of South Florida, Alliance for Integrated Spatial Technologies. No new archaeological sites were identified at the park during this study. Additional research in the form of a targeted Level 1 Archaeological Survey of the park's three recorded archaeological sites is recommended.

Park staff will update the park's data in the FMSF as new archaeological sites are discovered, or new information on currently recorded sites is revealed via assessments/ evaluations or approved archaeological investigation.

In cooperation with the Florida Bureau of Archaeological Research, develop and adopt a procedure for accepting artifacts and other probable cultural materials recovered and turned over by visitors and for forwarding them to the Bureau.

Review all potential ground disturbance activities according to the DHR matrix of disturbance. Coordinate any anticipated, major ground disturbance events through the DHR.

Special Management Considerations

Timber Management Analysis

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

During the development of this plan, an analysis was made regarding the feasibility of timber management activities in the park. It was determined that primary management objectives of the unit will require a one-time harvest of approximately 120 acres of Choctawhatchee sand pine considered to be off-site within aforementioned areas of degraded scrubby flatwoods and sandhill natural communities. Park and District staff shall coordinate with the FFS, Region 1, Other State Lands Forester to design and implement the restoration harvest.

Coastal/Beach Management

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

Storm surge associated with major land falling hurricanes in 2004 and 2005 severely impacted the State Park, resulting in the need for dune restoration work. From July 2005 through the summer of 2006, restoration proceeded with focus on large scale sea oat replanting in order to begin recovery of the primary dunes. Additional sea oat plantings occurred in 2010. This restoration approach begins with mass revegetation of deep rooted on-site plants, rather than artificial, post-storm sand dune creation by scraping and pushing with heavy equipment. The result has been the steady growth of heavily vegetated, deeply anchored primary dunes. Similar recovery efforts will be conducted following future storm events as needed and contingent on funding.

The most significant management concern along the park's beachfront is protecting nesting habitat for imperiled sea turtles, as well as nesting, resting and foraging habitats for imperiled shorebirds. The primary dunes are also critical habitat for Choctawhatchee beach mice. Any proposed development, restoration or nourishment projects will need to be compatible with and sensitive to both sea turtle, shorebird and beach mouse management.

The Trustees have granted management authority of certain sovereign submerged lands to the DRP under Management Agreement MA 68-086 (as amended January 19, 1988). Management of Deer Lake State Park includes certain management activities within the management zone of sovereign submerged land along the entire beach, beginning at the mean high water or ordinary high water line, or from the edge of emergent wetland vegetation and extending waterward for 150 feet. This area comprises the marine unconsolidated substrate natural community of the park. The submerged resources within the buffer zone significantly increase the species diversity within the park and offers additional recreational opportunities for park visitors. Visitors are able to access this area from the beach. Management actions occurring within the buffer zone include educational outreach, removal of trash, litter, and other debris, public safety and emergency response activities, protection of listed species (including but not limited to sea turtles and shorebirds), and the monitoring and inventory of natural and cultural resources.

Extension of the park's boundary into sovereign submerged land, 150 feet beyond the Gulf of Mexico shoreline is needed to manage and protect the park's coastal communities, including the listed species that occur there (including but not limited to rare plants, sea turtles, shorebirds and beach mice). The park also needs the same boundary extension into sovereign submerged bottom to manage the three coastal dunes lakes on the park. These lakes are considered by FNAI to be globally rare and imperiled. Walton County is permitted to artificially open the lakes to the Gulf at a set lake level. The artificial openings encourage vegetation to establish lower on the shoreline and the lake to become more saline over time shifting the lake to a more estuarine character. The park should work with the county and DEP Beaches and Coastal Systems to reduce the number of artificial openings and allow the coastal dune lakes to open naturally.

The Deer Lake outlet naturally meanders west through the beach dune and off of the park property where it ephemerally drains into the Gulf of Mexico during periods of excessive precipitation. In recent years, the outlet has been artificially redirected in order to drain to the Gulf within the park boundary, thus improving direct beach access for residents to the immediate west, and alleviating erosion concerns.

Arthropod Control Plan

Mosquito control occurs on some state parks. All DRP lands are designated as "environmentally sensitive and biologically highly productive" in accordance with Section 388.4111, Florida Statutes. If a local mosquito control district proposes treatment, the DRP works with them to adopt a mutually agreeable plan. By policy

of the DEP since 1987, treatment plans may not include aerial adulticiding but typically allow larviciding. DRP policy also allows park managers to request typical truck spraying (adulticide fogging) in public use areas even in the absence of a treatment plan. The DRP does not authorize new physical alterations of marshes through ditching or water control structures. Mosquito control plans temporarily may be set aside under declared threats to public or animal health, or during a Governor's Emergency Proclamation.

Only the park's resident ranger area has been designated for the occasional application of adulticide for mosquito control.

Resource Management Schedule

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

Land Management Review

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation and recreation lands titled in the name of the Board of Trustees are being managed for the purposes for which they were acquired and in accordance with their approved land management plans. The DRP considered recommendations of the land management review team and updated this plan accordingly.

Deer Lake State Park was subject to a land management review on May 3, 2012. 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 Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP). These responsibilities are to preserve representative examples of original natural Florida and its cultural resources, and to provide outdoor recreation opportunities for Florida's citizens and visitors.

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. Additional input is received through public workshops, and through environmental and recreational-user groups. With this approach, the DRP 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 expressed in general terms.

External Conditions

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

Deer Lake State Park is located within Walton County about 30 miles west of Panama City, 35 miles east of Fort Walton Beach, and 8 miles east of Seaside in the northwest part of the state (See Vicinity Map). Approximately 255,000 people live within 30 miles of the park (US Census 2010). According to the US Census Data (2013), approximately 17% of residents in the county identify as black, Hispanic or Latino, or another minority group. Nearly half (44%) of residents can be described as youth or seniors, and 67% of the population is of working age (16 to 65) (US Census Bureau 2010). Walton County ranked 22nd statewide in per capita personal income at \$37,976 (just below the statewide average of \$41,497) (US Bureau of Economic Analysis 2013).

Deer Lake State Park is one of ten state parks located between Mexico Beach and Pensacola in an area known as the "Emerald Coast." The Emerald Coast is one of the most popular tourist destinations in Florida (Visit Florida! 2010). Sweeping beaches, clear gulf water and moderate climate are characteristic of the region. It is estimated that nearly 8.1 million tourists visit the area every year, with peak visitation occurring during the summer months of June, July and August (Visit Florida! 2010). At this time of the year, total population climbs to nearly four times the permanent resident population (Visit Florida! 2010; US Census 2010).

The park is located in the Northwest Vacation Region, which includes Bay, Calhoun, Escambia, Franklin, Gulf, Holmes, Jackson, Liberty, Okaloosa, Santa Rosa, Walton, and Washington counties (Visit Florida 2013). According to the 2013 Florida Visitor Survey, approximately 12.5% of domestic visitors to Florida visited this region. Roughly 95% visitors to the region traveled to the Northwest for leisure purposes. The top activities for domestic visitors were beach/waterfront and culinary/dining experience. Summer was the most popular travel season, but visitation was generally spread throughout the year. Most visitors traveled by non-air (95%), reporting an average of 4 nights and spending an average of \$135 per person per day (Visit Florida 2013).

The population of Walton County grew slowly in the mid-twentieth century, averaging 4% growth per decade from 1940 to 1970 (UF 2010). In the 1970s, population growth jumped up steeply to more than 30% (UF 2010). Throughout the 1980s, 1990s, and 2000s, Walton County maintained an average rate of growth of 36% (BEBR 2010, U.S. Census Bureau 2010). Although sustained development occurred along the coastal areas of Walton County, many natural areas remain. This is due in part to the amount of protected land, which includes three state parks, two preserves and a state forest, but may also be attributed to the pattern of growth that took place within the county. Many communities implemented smart growth policies, particularly New Urbanism, which promotes walkability and preservation of natural areas. The most notable of these communities is Seaside, which is located approximately one-half mile east of the park boundary. The most densely developed areas of Walton County occur along the gulf, near the Okaloosa and Bay County boundaries.

Over the last decade, the region suffered a number of setbacks that have affected the park. Active hurricane seasons in 2004 and 2005 changed coastal habitat, damaged infrastructure and disrupted park operations. The Deepwater Horizon oil spill in 2010 caused ecological upset within the region, as well as negative impacts on tourism. Perceptions about the condition of coastal parks and other resultant factors may have negatively affected park attendance. In addition, a depressed economic climate from 2008 through the end of the decade led to slowed development, tourism and population growth in the area.

Several resource-based recreation opportunities exist in the surrounding area. Topsail Hill Preserve, Grayton Beach, and Camp Helen State Parks are located along the gulf coast beaches within 15 miles of the park boundary. While Camp

Helen is a day use park, Topsail Hill Preserve and Grayton Beach State Parks offer overnight accommodations. All of the parks offer beach activities, fishing, wildlife viewing and nature trails. Grayton Beach State Park contains a section of the Timpoochee Trail, a 19-mile paved shared-use trail (formerly known as the 30A Walton County bike path) that extends from Dune Allen Beach to Rosemary Beach. The trail provides connections to Deer Lake and Topsail Hill Preserve State Parks and goes through the towns of Santa Rosa Beach, Blue Mountain Beach, Grayton Beach, WaterColor, Seaside, Seagrove and Seacrest. The paved trail is a popular amenity for pedestrians and bicyclists because it provides a safe route to many destinations along Scenic Highway 30A.

Managed by the Florida Fish and Wildlife Conservation Commission (FWC), Point Washington State Forest and Wildlife Management Area (WMA), Choctawhatchee River WMA, Lafayette Creek WMA, and Pine Log State Forest WMA offer trails, fishing, paddling, and hunting. Pine Log State Forest contains a segment of the Florida National Scenic Trail.

Florida's Statewide Comprehensive Outdoor Recreation Plan (SCORP) indicates that participation rates in this region for freshwater beach activities, saltwater non-boat fishing, freshwater boat fishing, freshwater boat-ramp use, hiking, RV/trailer camping, and hunting are higher than the state average with demand for additional facilities increasing through 2020 (FDEP 2013).

Existing Use of Adjacent Lands

Deer Lake State Park is broken into two parcels. One parcel is to the north of County Road 30A (CR 30A) and the other is to the south of the county road adjacent to the Gulf of Mexico. The northern portion of the park is bound to the east US Highway 98 and the Camp Creek Golf Club. Surrounding Camp Creek Golf Club is undeveloped land owned by St. Joe Company that is used for silviculture. Adjacent to the northern boundary of Deer Lake State Park is Point Washington State Forest.

CR 30A is also known as Scenic Highway 30A. The scenic highway is a 28 mile corridor that follows the coast of Florida along the Gulf of Mexico. Along the drive, there are Old Florida traditional homes, Seaside cottages, and miles of greenway trails. Running along CR 30A is the Timpoochee Trail, a shared-use trail that allows for biking, jogging, and walking, in addition to allowing pedestrian access to Deer Lake State Park.

South of CR 30A, the properties adjacent to Deer Lake State Park are mostly used for residential purposes. These properties are zoned as single-family residential, and the densities range from high-density residential to medium-density residential. Residential developments on both sides of Deer Lake's coastal dune lake are resort communities, and the development to the east, WaterSound Beach, includes commercial and multi-family residential existing land use designations.

Planned Use of Adjacent Lands

Adjacent lands to the northern portion of the park are designated for large-scale agriculture in the form of timber plantations. South of CR 30A, surrounding lots are designated on the future land use map for neighborhood infill, residential preservation, and traditional neighborhood development. Properties designated for Neighborhood Infill (NI) are targeting unplatted or vacant parcels where adjacent lands have been developed. Uses on infill lands should be directed toward single-family and multi-family residential uses. Residential Preservation (RP) designation protects existing residential subdivisions with a maximum of one dwelling unit per lot. Traditional Neighborhood Development (TND) is intended to promote walkability with development densities that can support transit-oriented development. Design standards for TND are flexible and encourage compact development. Properties between Grayton Beach State Park and Deer Lake State Park are specified for resort use (depicted as Court Ordered Overlay (COO) on the future land use map). The COO allows for a mixed-use future land use designation. This designation permits a maximum density of 8 dwelling units per acre along CR 30A, a maximum density for resorts adjacent to the Gulf of Mexico of 12 dwelling units per acre, and no more than 20% of the total land area for non-residential commercial purposes (Walton County Comprehensive Plan, Appendix A-Topsail Consent Final Judgement).

The adjacent Grayton Beach and Seaside/WaterColor communities have nearly reached their maximum build-out potential spatially, yet development could occur as infill, and development density and intensity could also increase. Development in the surrounding areas could also lead to increased vehicular traffic on the roadways that divide the park property. Additional low- and medium-density commercial and office uses are also anticipated in the area surrounding the park. Although the surrounding area is expected to grow over time, the pattern of development over the last ten years, as well as the popularity of the Emerald Coast as a tourist destination, suggests that the pace of growth is likely to fluctuate with the overall economic climate.

One such development of regional impact (DRI) that has been subject to the overall economic climate in Walton County is the Town of Prominence. In 2007, the Walton County Board of County Commissioners approved the Town of Prominence DRI. The parcel for this development is bisected by CR 30A, with the northern portion protruding into Deer Lake State Park and the southern portion to the east of the WaterSound Beach community. The master plan for the Town of Prominence is consistent with Walton County's Traditional Neighborhood Development standards, which calls for at least 5% of the neighborhood area to be designated for public uses and at least one public square, along with residential and commercial uses. Encompassing 77 acres, the development was scheduled for four phases to be completed by the end of 2017, incorporating 650 total residential units and 200,000 square feet for commercial uses. Although construction stalled following the 2008 economic recession, construction has resumed.

Florida Greenways and Trails System

The Florida Greenways and Trails System (FGTS) is made up of existing, planned and conceptual non-motorized trails and ecological greenways that form a connected, integrated statewide network. The FGTS serves as a green infrastructure plan for Florida, tying together the greenways and trails plans and planning activities of communities, agencies and non-profit organizations throughout Florida. Trails include paddling, hiking, biking, multi-use and equestrian trails. The Office of Greenways and Trails maintains a priority trails map and gap analysis for the FGTS to focus attention and resources on closing key gaps in the system.

In some cases, existing or planned priority trails run through or are adjacent to state parks, or they may be in close proximity and can be connected by a spur trail. State parks can often serve as trailheads, points-of-interest, and offer amenities such as camping, showers and laundry, providing valuable services for trail users while increasing state park visitation.

The Florida Circumnavigational Saltwater Paddling Trail, or the CT, spans 1,515 miles along Florida's coast, from Pensacola to Fort Clinch. Segment 2, a 63-mile link from Grayton Beach State Park to St. Joseph Peninsula State Park, runs through Deer Lake State Park.

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.

Recreational Resource Elements

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

Land Area

About three-quarters of the over 2,000 acres within the park boundary of Deer Lake State Park is comprised of mesic flatwoods, sandhill, scrub, and scrubby flatwoods. These natural communities are conducive to hiking and wildlife

viewing on the park's interpretive trail, as well as provide potential sites for primitive camping.

Water Area

The main attraction of the park are the coastal dune lakes. Deer Lake is entirely contained within the park boundaries, while the northern arm of Camp Creek Lake is located in the southeastern portion of the park. The boardwalk in Deer Lake State Park allows for interpretation and wildlife viewing around the coastal dune lake.

Shoreline

Along with public access to white sand beaches and the Gulf of Mexico, Deer Lake State Park also contains about 43 acres of beach dunes that provide the barrier between the ocean and the coastal dune lake that shares the park's name. In addition to swimming and other beach activities, the shoreline offers fishing opportunities.

Natural Scenery

Although they account for only a small percentage of the total park area, the wet prairie and seepage slope natural communities in Deer Lake State Park provide dense, species-rich biodiversity. Pitcherplants, other carnivorous plants, terrestrial orchids, and summer wildflowers can be viewed in these areas from the park's interpretive trails, which is also ideal for birding and wildlife viewing.

Significant Habitat

Given the diverse natural communities within the park, Deer Lake State Park provides habitat for several imperiled species. The beach dunes are particularly important to three species of plover (Piping, Snowy, and Wilson's), four species of sea turtle (leatherback, loggerhead, green, Kemp's ridley), and the Choctawhatchee beach mouse. In addition to the gopher tortoise in the sandhill and scrub natural communities, the park has several viewing opportunities for wildlife enthusiasts.

Natural Features

The park's primary natural feature is the coastal dune lake. Coastal dune lakes are rare throughout the world, and, in Florida, can only be found in Bay and Walton County. Additionally, the beach dunes that protect the coastal dune lake from the Gulf of Mexico provide significant habitat for imperiled species whose populations are attempting to be rehabilitated by wildlife biologists.

Archaeological and Historical Features

Prehistoric artifact scatter and possible midden has been discovered around the park. An iron shipwreck from the late 19th-early 20th century has also been discovered off the shoreline, west of the park's boardwalk beach access. While these features are not currently highlighted by the park, they may represent possible historical interpretation opportunities.

Assessment of Use

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

Past Uses

Silviculture was the primary land use at Deer Lake prior to its acquisition by the State, and beach recreation has historically been the primary recreational use. Hunting has occurred on the property north of CR 30A in the past and continues in Point Washington State Forest. Hiking and off-road bicycling were also popular activities north of CR 30A, on both the state forest and the state parklands.

Future Land Use and Zoning

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

According to the Walton County Land Development Code (LDC), the existing land use (zoning) of the park property is "Park and Recreation" (PR) (Walton County 2015). This designation applies to land that is municipally-owned and provides for civic and public uses, including parks and passive recreation activities (Walton County 2015). Setback and buffer restrictions applicable to development within this existing land use designation are outlined in the LDC. The park is designated as "Conservation" on the county Future Land Use Map (FLUM) (Walton County 2011). This designation allows for state parks with zero development density except for recreation and conservation uses as outlined in the management plan (Walton County 2015). No conflicts between proposed park development and the existing or future land use designations are expected to occur.

The Coastal Construction Control Line (CCCL) passes through the park. Development seaward of the line is limited by the comprehensive plan; however, public infrastructure providing shoreline access, natural resource conservation or protection, as well as some types of park facility development

are permitted (Walton County 2010). Proposed development at or seaward of the line should involve coordination with county planning officials.

Current Recreational Use and Visitor Programs

Currently, Deer Lake State Park is day use only and does not allow overnight camping. The coastal dune lake is the main attraction of the park, and the quarter-mile dune boardwalk provides a panoramic view of Deer Lake. From the boardwalk, public beach access is provided for shoreline fishing, swimming, and other beach activities.

The park has one picnic pavilion and one self-composting restroom facility in the parking lot near the beginning of the dune boardwalk. North of CR 30A, the one-mile interpretive Forest Loop and half-mile Lake trail allows visitors to hike through the scrub natural community and along the park's wetland areas that contain an abundance of biodiversity. This trail is particularly useful for birding and wildlife viewing.

For the park, the number of visitors is undercounted. This has occurred due to the ability of adjacent community residents to access the park from the beach. In order to alleviate this issue, the park's staff works with neighboring communities to provide residents with park passes. Additionally, coordination with the Walton County Tourism Development Council has taken place to highlight the park's recreation opportunities. Emerging residential developments on adjacent land is expected to increase park attendance in the future.

Deer Lake State Park recorded 6,737 visitors in fiscal year (FY) 2014/2015. By DRP estimates, the FY 2014/2015 visitors contributed \$616,173 in direct economic impact, the equivalent of adding 10 jobs to the local economy (FDEP 2015).

Other Uses

Choctawhatchee Electric Cooperative (CHELCO) maintains an overhead power line corridor that runs the length of the western border of the park, along with a utility station on the north side of CR 30A.

Protected Zones

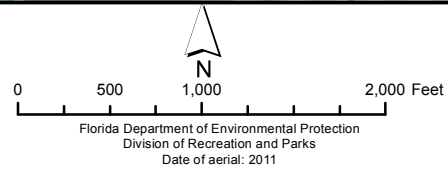
A protected zone is an area of high sensitivity or outstanding character from which most types of development are excluded as a protective measure. Generally, facilities requiring extensive land alteration or resulting in intensive resource use, such as parking lots, camping areas, shops or maintenance 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.



Legend

- Park Boundary
- County Road
- Park Road Stabilized
- Park Road Unstabilized
- US Highway
- Walkways
- Hiking Trail
- Nature Trail
- Structures
- Parking Lot

DEER LAKE STATE PARK



BASE MAP

Image courtesy of USGS Earthstar Geographics. SIO © 2016 Microsoft Corporation

At Deer Lake State Park all wetlands and floodplain as well as beach dune, wet flatwoods, basin marsh, basin swamp, depression marsh, dome swamp, seepage slope, shrub bog, wet prairie, coastal dune lake, marine unconsolidated substrate natural communities, and known imperiled species habitat have been designated as protected zones. The park's current protected zone is delineated on the Conceptual Land Use Plan.

Existing Facilities

The recreation facilities and the support facilities for Deer Lake State Park are in two different areas of the park. From the main entrance to the park, all of the recreation facilities, except the mile-long Forest Loop and half-mile Lake trail, are located south of CR 30A. At the end of the entry road and adjacent to the parking lot, the picnic pavilion, self-composting restroom, interpretive panel, and the beginning of the quarter-mile boardwalk can be found. The Forest Loop and Lake trail, located north of CR 30A, wanders through the forest near the northern arm of Deer Lake. The three storage/shop buildings and staff residence are also north of CR 30A, although they are accessed by a separate service road and are located to the west of Camp Creek Lake in the southeastern portion of the park (see Base Map).

Recreation Facilities

Day Use Area

Picnic Pavilion – Small
Restroom – Primitive
Boardwalk
Trailhead
Interpretive Panel
Parking Area (12 unpaved spaces)

Trails

Shared-Use Trail (1 mile)
Nature Trail (0.5 miles)

Support Facilities

Shop/Residence Area

Storage – Equipment (2)
Shop
Residence

Entrance Area

Honor Box
Entrance Sign

Conceptual Land Use Plan

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

development plan for the park and a site plan for specific facilities based on this conceptual land use plan, as funding becomes available. During the development of the conceptual land use plan, the DRP assessed the potential impact of proposed uses or development on the park resources and applied that analysis to determine the future physical plan of the park as well as the scale and character of proposed development. Potential resource impacts are also identified and assessed as part of the site planning process once funding is available for facility development. At that stage, design elements (such as existing topography and vegetation, sewage disposal and stormwater management) and design constraints (such as imperiled species or cultural site locations) are investigated in greater detail. Municipal sewer connections, advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Creation of impervious surfaces is minimized to the greatest extent feasible in order to limit the need for stormwater management systems, and all facilities are designed and constructed using best management practices to limit and avoid resource impacts. Federal, state and local permit and regulatory requirements are addressed during facility development. This includes the design of all new park facilities consistent with the universal access requirements of the Americans with Disabilities Act (ADA). After new facilities are constructed, park staff monitors conditions to ensure that impacts remain within acceptable levels.

Potential Uses

Public Access and Recreational Opportunities

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

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

Objective: Maintain the park's current recreational carrying capacity of 676 users per day.

The park will continue to provide the current range of recreational day use opportunities. These recreation opportunities include nature trail hiking, fishing, birding and wildlife viewing, and other beach activities. The white sand beaches, diverse ecosystem, and coastal dune lakes will continue to be highlighted as the park's main assets.

Objective: Expand the park's recreational carrying capacity by 260 users per day.

In addition to maintaining the park's current carrying capacity, new activities will be developed to encourage increased park usage. Up to three primitive campsites are proposed to allow for the overnight use of the park. Two small picnic pavilions are called to be constructed in the parking area, along with the

development of new hiking and biking trails using existing unstabilized park roads to create a trail network that connects with nearby Point Washington State Forest and then on to Grayton Beach State Park.

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

There is currently one interpretive panel in the park near the entrance to the beach dune board. In this location, the natural communities are dense basin swamp and scrub. As such, the interpretive panel explains the surrounding natural communities and their importance to the coastal dune lake ecosystem.

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

The coastal dune lake, along with the forest and wetland ecosystem, should be highlighted throughout the park with interpretive signage. This signage will allow visitors to learn about the unique ecology of Deer Lake State Park and will encourage deeper appreciation of the natural communities found at the park. There are two possible locations for the new interpretive signage. Along the boardwalk over the coastal dunes, there are two observation decks that would be ideal locations for interpretive signage to inform visitors about the coastal dunes natural community, as well as the coastal dune lake that gives the park its name. Additionally, north of CR 30A at the expanded trailhead, an interpretive panel could illustrate the trail network of the park and highlight the wildlife viewing and birding opportunities that the trails offer. On the beach near the dune lake outflow, signage should notify beach users of the sensitive habitat for nesting shorebirds and sea turtles.

Proposed Facilities

Capital Facilities and Infrastructure

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

The proposed development concept for Deer Lake State Park will work to improve services and recreational opportunities for the public, as well as enhance the park staff's ability to properly manage the land and achieve maintenance conditions. New facilities to enrich the visitor's experience will include improved parking and day use amenities, additional trails, and primitive campsites. For the park staff, a new park entry and storage facilities are proposed to be constructed.

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

park resources, and to streamline the efficiency of park operations. The following is a summary of improved and new facilities needed to implement the conceptual land use plan for Deer Lake State Park:

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

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

Objective: Improve/repair 3 existing facilities and 0.2 miles of road.

Major repair projects for park facilities may be accomplished within the ten-year term of this management plan, if funding is made available. These include the modification of existing park facilities to bring them into compliance with the Americans with Disabilities Act (a top priority for all facilities maintained by DRP). The following discussion of other recommended improvements and repairs are organized by use area within the park.

Entrance Area

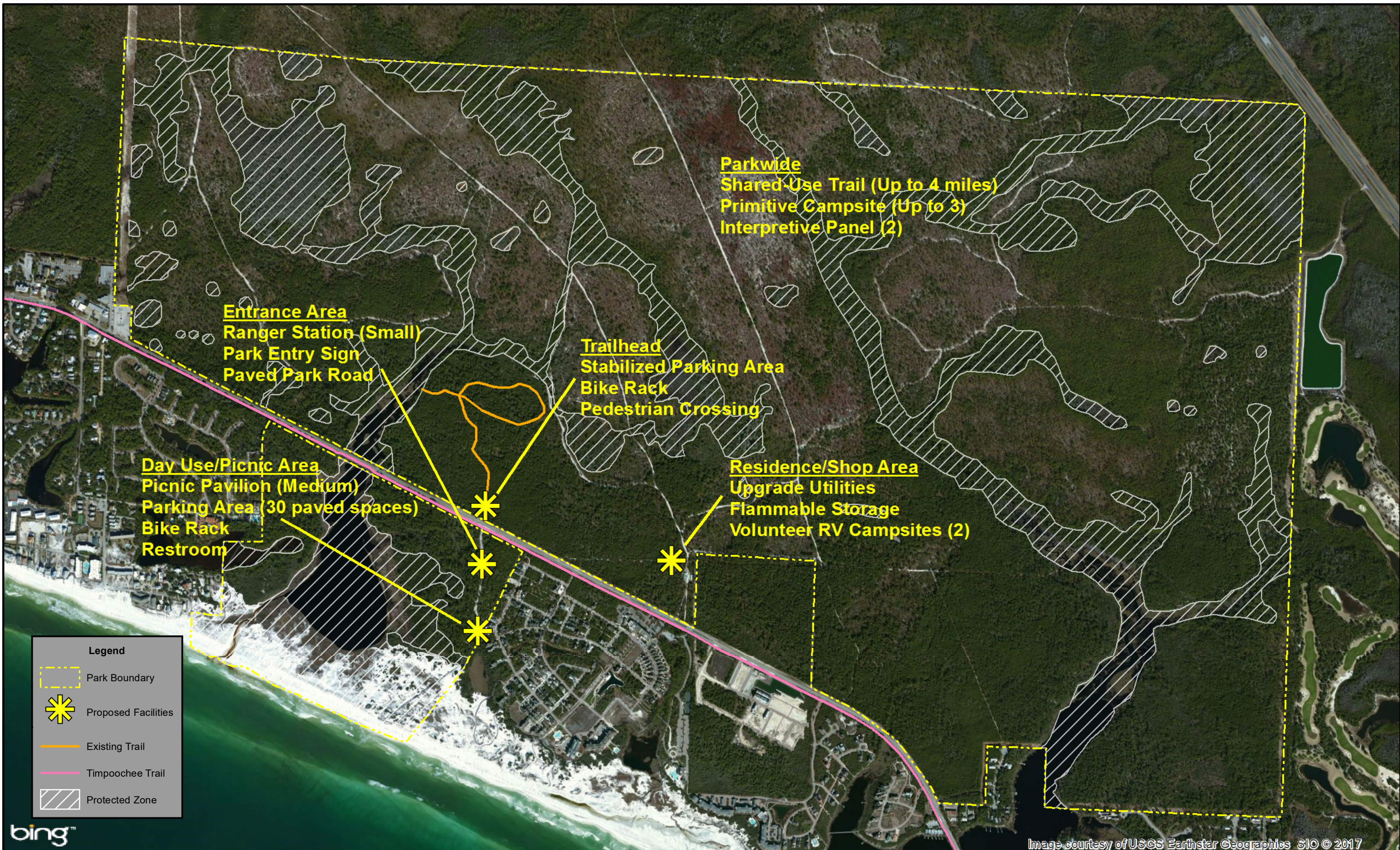
The existing roadway and parking lot for Deer Lake State Park will be improved. Currently, the entry into the park and the drive to the parking area is unstabilized and has a tendency to be flooded in certain parts following rainstorms. To alleviate this issue, the roadway will be paved. The parking lot will also be paved, and an additional 30 parking spaces near the beach access will be included in the improvements. The entrance to the park is difficult to notice and navigate given the unstabilized nature of the entry point. To clearly demarcate the entrance to the park, a new and larger Florida State Parks sign will be placed along CR 30A. In addition to a paved entryway, a ranger station will be constructed to guide guests into the park. The ranger station will include a publicly accessible unisex restroom.

Residence/Shop Area

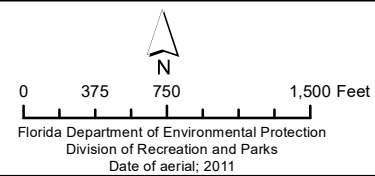
On the north side of CR 30A, utility upgrades (water and sewer) are suggested for the park staff facilities. Near the ranger residence and other storage facilities, a flammable storage unit will be added to the site in order to securely store materials needed for prescribed burns. Also near this location, two RV campsites are suggested to accommodate park volunteers. These support facilities should be designated for areas that avoid disturbing old growth longleaf pines.

Day Use Area

Around the improved parking lot near the beginning of the boardwalk to the beach, a new restroom facility will be constructed along with two small, elevated picnic pavilions. The male and female restroom will be ADA compliant and will replace the existing self-composting unisex restroom.



DEER LAKE PARK NAME



CONCEPTUAL LAND USE PLAN MAP

The Timpoochee Trail along the southern side of CR 30A is a popular route for cyclists, and as such, Deer Lake State Park should incorporate bike parking at locations in the park to encourage increased usage by those biking the trail. Bike parking should be located near the beach access boardwalk, as well as at the trailhead to the Forest and Lake Trails.

Objective: Construct 2 new facilities and 4 miles of trail.

Trailhead

In order to complement the hiking and biking trails north of CR 30A, a proposed trailhead at the beginning of the Forest and Lake trails will be developed to include stabilized parking, interpretive signage, and honor box. Parking will comply with ADA requirements, and the exact location of the parking area will be in a site that minimizes disturbance of the surrounding vegetation. A pedestrian crossing on CR 30A at the entrance to the Deer Lake State Park that connects with the northern trailhead is proposed to facilitate recreational activity between the beach area in the southern portion of the park and the nature trails in the northern portion. This pedestrian crossing should be designed with highly visible components such as flashing lights, pedestrian hybrid beacon, and reflective pavement markings. The DRP will coordinate with Walton County to implement such improvements to the county road.

Parkwide

In addition to the existing day use recreation activities at Deer Lake State Park, the DRP will establish up to three primitive camping areas for overnight use at sites that are to be determined. These camping areas will each hold up to twelve people and will include a fire ring. Potential concession opportunities could be established at the newly constructed ranger station near the entrance of the park.

To expand the trail network in the park, up to four miles of new trails will be created. Similar to the Forest and Lake Trails near Deer Lake, hiking and biking trails should be established west of Camp Creek Lake. These new trails will also complement the efforts to incorporate primitive campsites in the park. In an effort to develop a trail network connecting Deer Lake State Park, Point Washington State Forest, and Grayton Beach State Park, the DRP will coordinate with the Florida Forest Service to determine the feasibility of such a trail and camping corridor. The desired outcome of creating trail connectivity with surrounding and nearby conservation land is to establish a trail network that extends beyond the park that will allow for multi-day hiking and camping excursions throughout the extensive conservation greenway in southern Walton County.

Facilities Development

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

Recreation Facilities

Day Use Area

Picnic Pavilion (Medium)
Parking Area (30 paved spaces)
Bike Rack
Restroom

Parkwide

Shared-Use Trail (Up to 4 miles)
Primitive Campsite (Up to 3)
Interpretive Panel (2)

Trailhead

Stabilized Parking Area
Bike Rack
Pedestrian Crossing

Support Facilities

Entrance Area

Ranger Station (Small)
Park Entry Sign
Paved Park Road

Residence/Shop Area

Upgrade Utilities
Flammable Storage
Volunteer RV Campsites (2)

Recreational Carrying Capacity

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 6).

The recreational carrying capacity for this park is a preliminary estimate of the number of users the unit could accommodate after the current conceptual development program has been implemented. When developed, the proposed

new facilities would approximately increase the unit's carrying capacity as shown in Table 6.

Activity/Facility	Existing Capacity*		Proposed Additional Capacity		Estimated Recreational Capacity	
	One Time	Daily	One Time	Daily	One Time	Daily
Trails						
Shared Use (Unpaved)	10	40	40	160	50	200
Nature	5	20			5	20
Picnicking	8	16	32	64	40	80
Swimming	260	520			260	520
Shoreline Fishing	40	80			40	80
Primitive Camping			36	36	36	36
TOTAL	323	676	108	260	431	936
*Existing capacity revised from approved plan according to DRP guidelines.						

Optimum Boundary

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

Identification of parcels on the optimum boundary map is intended solely for planning purposes. It is not to be used in connection with any regulatory purposes. Any party or governmental entity should not use a property's identification on the optimum boundary map to reduce or restrict the lawful rights of private landowners. Identification on the map does not empower or

suggest that any government entity should impose additional or more restrictive environmental land use or zoning regulations. Identification should not be used as the basis for permit denial or the imposition of permit conditions.

One parcel has been identified in the optimum boundary, totaling approximately 1.2 acres. Located adjacent to the northeast corner of the park, the parcel runs along US Highway 98 and has a private, unstabilized road that bounds its southern border. Acquisition of this property would secure access to the park from US Highway 98 for park staff to carry out restoration efforts in the northern portion of the park.

No lands are considered surplus to the needs of the park.



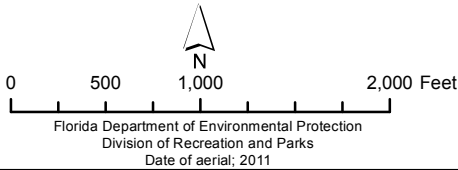
Legend

- Park Boundary
- Optimum Boundary

bing

Image courtesy of USGS Earthstar Geographics - SIO © 2016 Microsoft Corporation

DEER LAKE STATE PARK



OPTIMUM BOUNDARY MAP

IMPLEMENTATION COMPONENT

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

Management Progress

Since the approval of the last management plan for Deer Lake State Park in 2004, significant work has been accomplished and progress made towards meeting the DRP's management objectives for the park. These accomplishments fall within three of the five general categories that encompass the mission of the park and the DRP.

Resource Management

Natural Resources

- Conducted 22 prescribed burns, totaling 1,774 acres (acreage includes zones burned more than once over the past 10 years).
- Improved hydrology to five seepage streams by installing five low water crossings (Management zones 4, 6, 9, 14 & 17)
- Established or improved 15 miles of fire lines.
- Conducted mechanical fuel reduction operations along nearly 2 miles of park boundary with residential interface, in the interest of wildfire abatement.
- Restored approximately 10 acres of wet prairie through hand removal of fire suppressed woody vegetation, in order to improve habitat for imperiled plant species (largely carnivorous plants).
- Conducted seasonal (March – October) sea turtle and shorebird nesting surveys.
- Treated 2 acres for invasive exotic plants.
- Mapped locations for three imperiled plant species: Godfrey's golden aster (DL-24), Cruise's golden aster (DL-24), and large-leaved jointweed (DL-21, 22, 13A)

Management Plan Implementation

This management plan is written for a timeframe of ten years, as required by Section 253.034 Florida Statutes. The Ten-Year Implementation Schedule and Cost Estimates (Table 7) summarizes the management goals, objectives and actions that are recommended for implementation over this period, and beyond. Measures are identified for assessing progress toward completing each objective and action. A time frame for completing each objective and action is provided. Preliminary cost

estimates for each action are provided and the estimated total costs to complete each objective are computed. Finally, all costs are consolidated under the following five standard land management categories: Resource Management, Administration and Support, Capital Improvements, Recreation Visitor Services and Law Enforcement.

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

Statewide priorities for all aspects of land management are evaluated each year as part of the process for developing the DRP's annual legislative budget requests. When preparing these annual requests, the DRP considers the needs and priorities of the entire state park system and the projected availability of funding from all sources during the upcoming fiscal year. In addition to annual legislative appropriations, the DRP pursues supplemental sources of funds and staff resources wherever possible, including grants, volunteers and partnerships with other entities. The DRP's ability to accomplish the specific actions identified in the plan will be determined largely by the availability of funds and staff for these purposes, which may vary from year to year. Consequently, the target schedules and estimated costs identified in Table 7 may need to be adjusted during the ten-year management planning cycle.

**Table 7
Deer Lake State Park Ten-Year Implementation Schedule and
Cost Estimates Sheet 1 of 3**

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.				
Goal I: Provide administrative support for all park functions.				
		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Continue day-to-day administrative support at current levels.	Administrative support ongoing	C	\$363,200
Objective B	Expand administrative support as new lands are acquired, new facilities are developed, or as other needs arise.	Administrative support expanded	C	\$181,600
Goal II: Protect water quality and quantity in the park, restore hydrology to the extent feasible, and maintain the restored condition.				
		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Improve natural hydrological conditions and functions of approximately 0.6 acre of seepage slope natural community and approximately 70 acres of contiguous wetlands within the Camp Creek drainage way.	# Acres restored or with restoration underway	UFN	\$9,500
Action 1	Install 1 low-water crossing	# Crossings/culverts installed	UFN	\$9,500
Objective B	Monitor and analyze water resources of the park.		C	\$5,000
Action 1	Continue to collect data and monitor the park's surface water resources via LAKEWATCH monitoring of Deer Lake.	Data collected; monitoring conducted	ST or LT	\$5,000
Goal III: Restore and maintain the natural communities/habitats of the park.				
		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Within 10 years, have 1,130 acres of the park maintained within optimal fire return interval.	# Acres within fire return interval target	LT	\$320,000
Action 1	Develop/update annual burn plan.	Plan updated	C	\$16,000
Action 2	Manage fire-dependent communities for ecosystem function, structure and processes by burning between 294-608 acres annually, as identified by the annual burn plan.	Average # acres burned annually	C	\$304,000
Action 3	Continue coordination with adjacent property owners to eliminate need for segments of fire line through wetland areas.	# Miles removed	ST or LT	\$500
Objective B	Conduct habitat/natural community restoration activities on 20 acres of wet prairie, 102 acres of scrubby flatwoods and 17 acres of sandhill communities.	# Acres restored or with restoration underway	ST or LT	\$203,000
Action 1	Develop/update site-specific restoration plans	Plans developed/updated	ST	\$3,000
Action 2	Implement restoration plans	# Acres with restoration underway	LT	\$200,000
Goal IV: Maintain, improve or restore imperiled species populations and habitats in the park.				
		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Update baseline imperiled species occurrence inventory lists for plants and animals, as needed.	List updated	C	\$500
Objective B	Monitor and document 8 selected imperiled animal species in the park.	# Species monitored	C	\$52,100
Action 1	Implement monitoring protocols for 4 imperiled species of reptiles including loggerhead sea turtle, green sea turtle, Kemp's Ridley sea turtle and gopher tortoise	# Species monitored	C	\$15,300

* 2016 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

**Table 7
Deer Lake State Park Ten-Year Implementation Schedule and
Cost Estimates Sheet 2 of 3**

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.				
		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Action 2	Implement monitoring protocols for 3 imperiled species of shore birds including piping plover, snowy plover and Wilson's plover	# Species monitored	C	\$32,800
Action 3	Implement monitoring protocols for 1 imperiled species of mammal (Choctawhatchee beach mouse)	# Species monitored	C	\$4,000
Objective C	Monitor and document 15 selected imperiled plant species in the park.	# Species monitored	C	\$2,400
Action 1	Develop monitoring protocols for 15 imperiled plant species, including green milkweed, Curtiss' sandgrass, spoon-leaved sundew, Panhandle meadow beauty, white-top pitcherplant, purple pitcherplant, parrot pitcherplant, rosebud orchid, Chapman's crownbeard, rose pogonia, white-fringed orchid, Godfrey's goldenaster, Cruise's goldenaster, Gulf Coast lupine and large-leaved jointweed.	# Protocols developed	ST	\$400
Action 2	Implement monitoring protocols for the 15 imperiled plant species listed in Action 1 above.	# Species monitored	C	\$2,000
Goal V: Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Annually treat 0.15 acres of exotic plant species in the park.	# Acres treated	C	\$1,600
Action 1	Annually develop/update exotic plant management work plan.	Plan developed/updated	C	\$100
Action 2	Implement annual work plan by treating 0.15 acres in park, annually, and continuing maintenance and follow-up treatments, as needed.	Plan implemented	C	\$1,500
Objective B	Implement control measures on one exotic and nuisance animal species in the park.	# Species for which control measures implemented	C	\$20,000
Action 1	Conduct sustained coyote removal efforts at ths park.	# Animals removed	C	\$20,000
Goal VI: Protect, preserve and maintain the cultural resources of the park.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Assess and evaluate 3 of 3 recorded cultural resources in the park.	Documentation complete	LT	\$1,100
Action 1	Complete 2 assessments/evaluations of archaeological sites. Prioritize preservation and stabilization projects.	Assessments complete	LT, ST	\$500
Action 2	Design and implement regular monitoring programs for 2 cultural sites	# Sites monitored	C	\$500
Action 3	Reassess and reevaluate site WL2020 when natural forces uncover the site making it accessible.	Assessment complete	LT	\$100
Objective B	Compile reliable documentation for all recorded historic and archaeological sites.	Documentation complete	LT	\$3,100
Action 1	Ensure all known sites are recorded or updated in the Florida Master Site File.	# Sites recorded or updated	ST	\$100
Action 2	Conduct Level 1 archaeological survey for the park's three recorded archaeological sites (estimated 10 acres total).	Survey completed	LT	\$3,000

* 2016 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

**Table 7
Deer Lake State Park Ten-Year Implementation Schedule and
Cost Estimates Sheet 3 of 3**

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

Goal VII: Provide public access and recreational opportunities in the park.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Maintain the park's current recreational carrying capacity of 676 users per day.	# Recreation/visitor	C	\$65,500
Objective B	Expand the park's recreational carrying capacity by 260 users per day.	# Recreation/visitor	ST, LT	\$90,700
Objective C	Continue to provide the current repertoire of 1 interpretive, educational and recreational programs on a regular basis.	# Interpretive/education programs	C	\$5,000
Objective D	Develop 2 new interpretive, educational and recreational programs.	# Interpretive/education programs	ST, LT	\$10,000
Goal VIII: Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Maintain all public and support facilities in the park.	Facilities maintained	C	\$196,400
Objective B	Expand maintenance activities as existing facilities are improved and new facilities are	Facilities maintained	C	\$272,000
Objective C	Continue to implement the park's transition plan to ensure facilities are accessible in accordance with the American with Disabilities Act of 1990.	Plan implemented	LT	\$24,000
Objective D	Improve and/or repair 3 existing facilities and 0.2 miles of road as identified in the Land Use Component.	# Facilities/Miles of Trail/Miles of Road	UFN	\$1,667,000
Objective E	Construct 2 new facilities and 4 miles of trail as identified in the Land Use Component.	# Facilities/Miles of Trail/Miles of Road	LT	\$688,300
Summary of Estimated Costs				
	Management Categories			Total Estimated Manpower and Expense Cost* (10-years)
	Resource Management			\$618,300
	Administration and Support			\$544,800
	Capital Improvements			\$1,963,000
	Recreation Visitor Services			\$1,055,900
	Law Enforcement Activities ¹			
		1Law enforcement activities in Florida State Parks are conducted by the FWC Division of Law Enforcement and by local law enforcement agencies.		

* 2016 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Addendum 1—Acquisition History

Deer Lake State Park Acquisition History

Purpose of Acquisition:

The Board of Trustees of the Internal Improvement Fund (Trustees) of the State of Florida purchased the initial area of Deer Lake State Park for the use and benefit of the Outdoor Recreational Development Council of the State of Florida.

Sequence of Acquisition:

On February 6, 1996, the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Trustees) obtained title to a 172.87-acre property located in Walton County. This purchase constituted the initial area of Deer Lake State Park.

The Trustees acquired this 172.87-acre property from St. Joe Paper Company through a Consent Final Judgment. According to this consent judgment, the Trustees paid \$13,705,781 to St. Joe Paper Company for the 172.87-acre property. This acquisition was funded under the Preservation 2000/Additions and Inholdings (P2000/A&I) program.

Once Deer Lake State Park was established, the Trustees released some parcels that it had leased to DRP to manage as part of Grayton Beach State Park from the Grayton Beach State Park lease and amended them to the Deer Lake State Park lease. The two acquisitions, this amendment and the 1996 acquisition, constitute the current area of Deer Lake State Park, which is 2009.09 acres

Management Lease:

On June 12, 1996, the Trustees leased Deer Lake State Park to the State of Florida Department of Environmental Protection, Division of Recreation and Parks (DRP), under Lease No. 4123. This lease is for a period of fifty (50) years, and it will expire on June 11, 2046.

According to Lease No. 4123, DRP manages Deer Lake State Park in order to conserve and protect the park's natural and historical resources. DRP also manages the park to encourage resource-based public outdoor recreation that is compatible with the conservation and protection goals of the property.

Title Interest:

The Trustees holds fee simple title to Deer Lake State Park.

Special Conditions on Use:

Deer Lake State Park is designated as a single-use property to provide resource-based public outdoor recreation and other park related uses. Uses such as water resource development projects, water supply projects, storm-water management projects, and linear facilities and sustainable agriculture and forestry are not consistent with the purposes for which DRP manages this park.

Deer Lake State Park Acquisition History

Outstanding Reservations:

There are no known outstanding issues such as reservations, rights, restrictions or encumbrances that apply to Deer Lake State Park.

Addendum 2—Advisory Group Members and Summary Report

**Deer Lake State Park
Advisory Group Members**

**Local Government
Representatives**

The Honorable Sara Comander,
Chair
Walton County Board of
County Commissioners

Agency Representatives

Matthew Allen, Manager
Deer Lake State Park

Justin Davis, Regional Biologist
Florida Fish and Wildlife
Conservation Commission

Jason Love, Regional Forester
Florida Forest Service

Cathy Johnson, Chair
Choctawhatchee River Soil and
Water Conservation District

**Environmental and
Conservation Representatives**

Celeste Cobena, President
Beach to Bay Connection

Alison McDowell
Choctawhatchee Basin Alliance

**Tourism and Economic
Development Representatives**

Justin Cutshaw, Chair
Walton County Tourist
Development Council

**Recreational User
Representatives**

Tom Daniel, Regional
Representative
Florida Trails Association

Alan Knothe, President
Choctawhatchee Audubon Society

Adjacent Landowners

Tom Wolfe, Residential Property
Owner

Citizens Support Organization

Jan Rieveschi, President
Friends of Grayton Beach and Deer
Lake State Park

Deer Lake State Park Advisory Group Meeting Summary Report

The advisory group meeting to review the proposed unit management plan (UMP) for Deer Lake State Park was held at Eden Gardens State Park on Wednesday, June 8, 2016 at 9:00 AM.

Melody Hughes represented Cathy Johnson for the Choctawhatchee River Soil and Water Conservation District. Ashley Warren represented Justin Davis for the Florida Fish and Wildlife Conservation Commission. Sara Comander, Tom Wolfe, Alison McDowell, Alan Knothe, and Jan Rieveschi were not in attendance. All other appointed advisory group members were present.

Attending Division of Recreation and Parks (DRP) staff members were Raya Pruner, Matthew Allen, John McKenzie, Sine Murray, Jason Mahon, and Tyler Maldonado.

Mr. Maldonado 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

Celeste Cobena (Beach to Bay Connection) commended the DRP and park staff on their natural community restoration efforts at the park. Citing the 30A Mobility Study, she expressed her concern with a potential county road on the western boundary of the park and suggested that the roads in the park should be only used for management purposes. She stated that she also attended the Point Washington State Forest plan meeting, and she supports the UMP's vision of connecting the managed conservation lands in the area by trails. She expressed her support for creating a network of trails throughout the surrounding conservation lands that would facilitate multi-day hiking and camping excursions, stating that visitors would feel safe parking their car at the state park and embarking on their excursion. She noted that the language in the land use component of the UMP should be enhanced to fully articulate the concept of improving connectivity between the state forest and state parks along 30A.

Tom Daniel (Florida Trails Association) supported the plan to develop a network of trails that connects with Point Washington State Forest and inquired about extending the trail network north of US 98. He noted that the term "multi-use" should be defined to clarify which uses will be allowed on the new trails. He also pointed out that the places in which the UMP refers to the US 90 roadway should be corrected to US 98. Mr. Daniel applauded the DRP and park staff's restoration efforts, stating that the Choctawhatchee sand pine is a native invasive plant and should be restored back to the sandhill natural community. He asked about the funding to acquire the northeastern parcel on the optimum boundary. He stated that the acquisition of this property should be a high priority given the importance of access to this portion of the park for prescribed burning and restoration

Deer Lake State Park Advisory Group Meeting Summary Report

purposes. The park has limited access through an agreement with the existing property owner, and Mr. Daniel emphasized the need for permanent access.

Mellody Hughes (Choctawhatchee River Soil and Water Conservation District) expressed her support for improving public access to the park and thanked the DRP for being invited to attend the advisory group.

Jason Cutshaw (Walton County Tourist Development Council) echoed his support for trail connectivity with adjacent and nearby managed conservation lands. He acknowledged the park's role as stewards of the land and its importance to the development of eco-tourism in the local area. He supported prescribed burning at the park and noted that low water crossings are needed to effectively implement restoration efforts. Mr. Cutshaw encouraged physical support for the park and offered the support of his organization in a volunteer capacity for activities such as adopting a trail to maintain.

Ashley Warren (Florida Fish and Wildlife Conservation Commission) commended the DRP on a skillfully crafted plan for the park. She discussed the land management review addendum and stated that the responses were thoroughly addressed in the plan. She noted that the seepage bogs and slopes should continue to be restored. She agreed with the restoration techniques, as well as the monitoring and management of imperiled species. She suggested that shorebird species such as least terns and black skimmers should not be overlooked. Ms. Warren stated that attempts to reduce the density of shorebird and sea turtle predators should be continued in areas of the park where shorebirds and sea turtles nest. In regards to the imperiled species list, she noted that imperiled species identification will be updated in 2017 and the updated list should be included in future plans.

Jason Love (Florida Forest Service) discussed the current descriptions of natural communities. He stated that the current conditions of the natural communities were well written and described how these sections are key when updating the resource management component of the UMP. He noted that according to Florida Statute, state parks that are more than 1,000 acres are required to have a timber assessment conducted by a licensed forester. He discussed the importance of timber management for the overall health of the ecosystem and for restoration purposes. He commented that the imperiled species list should not vary much from the other nearby state parks and adjacent state forest. He stated that some species may be missing from the imperiled species list and others may need to be removed if they are no longer considered imperiled.

Summary of Written Comments from Advisory Group Members

There were no written comments from advisory group members.

Deer Lake State Park Advisory Group Meeting Summary Report

Summary of Public Comments

Caroling Geary informed the group that she recreates in the park often and has a website dedicated to celebrating the park. She stated that she would like to see the deer moss lichen featured in the plan and at the park, and she questioned why the lichen was not included in the resource management component of the UMP. She appreciated the restoration efforts at the park and encouraged the removal of invasive species. She discussed imperiled plant species and was concerned that some species may not be listed in the UMP. She also provided substantive written comments on the UMP for consideration.

Jeff Talbert discussed the restoration efforts underway at the park and stated that there are more acres of ongoing restoration than mentioned in the UMP. He commented that Deer Lake State Park should be a showcase park that highlights the positive impacts of natural community restoration.

Staff Recommendations

The staff recommends approval of the proposed management plan for Deer Lake State Park as presented, with the following significant changes:

- Language will be added to the Land Use Component to emphasize trail connectivity with surrounding conservation lands.
- The Conceptual Land Use Plan map will be updated to accurately reflect the protected zones and proposed developments at the park.

Notes on Composition of the Advisory Group

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

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

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

**Deer Lake State Park
Advisory Group Meeting Summary Report**

interest in the property. Special issues or conditions that require a broader representation for adequate review of the management plan may require the appointment of additional members. The Division's intent in making these appointments is to create a group that represents a balanced cross-section of the park's stakeholders. Decisions on appointments are made on a case-by-case basis by Division of Recreation and Parks staff.

Addendum 3—References Cited

Deer Lake State Park References Sited

- Barnett, J.P. 1973. Sand Pine: Cone and Seed Traits. In sand pine symposium proceedings, ed. USDA Forest Service. Southeastern exp. Stn., USDA For. Serv. Gen. Tech. Rep. SE-2, 253 pp.
- Brose, D.S. 1984. Mississippian Period Cultures in Northwestern Florida. In Perspectives on Gulf Coast Prehistory, ed. By D.D. Davis Ripley P. Bullen Monographs in Anthropology and History. Number 5. The Florida State Museum, University Presses of Florida, Gainesville.
- Burns, R.M. 1973. Fire and Sand Pine. In Sand Pine Symposium proceedings, ed. USDA Forest Service. Southeastern For. Exp. Stn., USDA For. Serv. Gen. Tech. Rep. SE-2, 253 pp.
- Chase, C.A. and J. A. Gore. 1989. Snowy Plover Breeding Distribution Final Performance Report. Nongame Wildlife Section, Florida Game and Freshwater Fish Commission, Tallahassee.
- Esry, D.H. 1987. Monitoring of Choctawhatchee River and Tributary and Black Creek in Southern Walton and Washington Counties, Northwest Florida Water Management District, Tech. File Report 87-3, Tallahassee.
- F.D.A.C.S. n.d. Forest Resource Management Plan for Point Washington State Forest, Walton County Prepared by the Florida Forest Service, Department of Agriculture and Consumer Services, Tallahassee.
- FDEP, Division of Recreation and Parks (DRP). 2004. Deer Lake State Park Unit Management Plan. Tallahassee, Florida.
- FDEP. 2013. *Outdoor Recreation in Florida 2013*. Tallahassee, Florida.
- FDEP. 2014. *Florida State Park System Economic Impact Assessment for Fiscal Year 2013/2014*. Tallahassee, FL.
- FWC. 2007. Marine Turtle Conservation Guidelines. Fish and Wildlife Research Institute, St. Petersburg, Florida.
- Florida Natural Areas Inventory (FNAI). 2010. Guide to the natural communities of Florida. Tallahassee, FL.
- Huck, R., A.F. Johnson, A.J. Parker, W.J. Platt and D.B. Ward, 1997. Management of Natural Communities of Choctawhatchee sand pine (*Pinus clausa* (Engelm.) Sarg. Var. *immuginata* Ward) in the Florida panhandle. Resource Management Notes, Florida Park Service, Florida Department of Environmental Protection. 8(4): 89-91

Deer Lake State Park References Sited

- Johnson, E.D. 2001. Pitcherplants and their habitats in the Florida State Park system. Resource Management Evaluation. Division of Recreation and Parks, Florida Department of Environmental Protection. 111 pp.
- Parker, A.J., K.C. Parker and D.H. McCay, 2001. Disturbance-mediated variation in stand structure between varieties of *Pinus clausa* (sand pine). *Annals of the Association of American Geographers*. 91(1); 28-47.
- Van Zant J.L, and M.C. Wooten 2003. Translocation of Choctawhatchee beach mice (*Peromyscus polionotus allophrys*): hard lessons learned. *Biological Conservation* 112: 405-413.
- University of Florida, Bureau of Economic and Business Research (UFL BEBR). 2014. *Florida Statistical Abstract 2013*.
- U.S. Census Bureau. 2013. *State and County Quickfacts*. <http://quickfacts.census.gov/qfd/index.html>, 2014.
- U.S. Department of Agriculture, Soil Conservation Service. 1989. Soil Survey, Walton County, Florida. Washington, D.C.
- U.S. Department of Commerce, Bureau of Economic Analysis. 2014. 2013 *Personal Income Summary/Per Capital Personal Income*. <http://www.bea.gov/itable/>.
- Visit Florida! 2013. *2013 Florida Visitor Survey*. Tallahassee, Florida.
- Walton County. 2011. Walton County Comprehensive Plan. Walton County, Florida.
- Walton County. 2015. Walton County Land Development Code. Walton County, Florida.

Addendum 4—Soil Descriptions

Deer Lake State Park Soil Descriptions

8 Dorovan-Pamlico association, frequently flooded

This association consists of soils that are nearly level and very poorly drained. They are in a regular and repeating pattern. The landscape is mainly large, hardwood swamps and flood plains of major drainageways. The Dorovan soil is in the middle of the delineation, and Pamlico soil is on the outer part. Mapped areas range from 20 to more than 750 acres. Individual areas of each soil range from 10 to 200 acres. Dorovan soil makes up 50 to 70 percent of the association. Typically, this soil is black muck to a depth of at least 60 inches.

This Dorovan soil has a high water table near or above the surface for most of the year. This soil floods more often than once every 2 years for periods of more than a month. Permeability is moderate, and the available water capacity is very high. The internal drainage rate is slow because of the high water table. Response to drainage is rapid.

Pamlico soil makes up 15 to 25 percent of the association. Typically, this soil is dark reddish brown muck 2 inches thick and black muck to a depth of 30 inches. It is underlain by very dark grayish brown sand to a depth of at least 80 inches.

This Pamlico soil has a high water table near or above the surface for most of the year. This soil floods more often than once every two years for periods of 7 days to 1 month. Permeability is moderate, and the available water capacity is very high. The organic matter content is very high. The internal drainage rate is slow because of the high water table. Response to drainage is rapid.

Included with this association in mapping are areas of poorly drained Rutlege, Bibb, Kinston, and Leon soils.

The natural vegetation is mostly bald cypress, blackgum, sweetbay, sweetgum, titi, and scattered slash pine. The understory may have ferns, greenbrier, grape vines, titi and wax myrtle.

12 Foxworth sand, 0 to 5 percent slopes

This soil is moderately well drained and nearly level to gently sloping. It is on uplands and in elevated areas on flatwoods. Individual areas of this soil range mostly from 10 to more than 200 acres; some areas are as small as 5 acres. Slopes are mostly smooth to convex but are concave in places.

Typically, this soil is sand throughout. The surface layer is about 7 inches thick. It is grayish brown to a depth of 3 inches and brown below that. The underlying material is yellowish brown to a depth of 18 inches, brownish yellow to a depth of 44 inches, yellow to a depth of 54 inches, very pale brown to a depth of 69 inches, and light gray to a depth of at least 80 inches.

Included with this soil in mapping are small areas of Albany, Blanton, Chipley, Lakeland, and Troup soils. Also included are soils similar to Foxworth soil except they have slopes of 5 – 8 percent. Included are areas of soils that have a slight increase in clay content just above a dark color subsoil. The included soils make up less than 15 percent of the map unit.

Deer Lake State Park Soil Descriptions

This Foxworth soil has a high water table that fluctuates between depths of 40 and 72 inches for 1 to 3 months during most years and between 30 and 40 inches for less than 1 month in some years. The available water capacity is low, and permeability is very rapid throughout. The organic matter content is low. Rainfall is rapidly absorbed, and there is little runoff.

The natural vegetation is mostly longleaf pine, slash pine, live oak, post oak, bluejack oak, turkey oak, laurel oak, red oak, water oak, huckleberry and gallberry. Wiregrass is the most common native grass.

16 Kureb sand, 0 to 8 percent slopes

This soil is excessively drained and nearly level to sloping. It is on broad, undulating ridges and short side slopes on upland sandhills and dune-like ridges. Individual areas of this soil range from 50 to 800 acres. Slopes are smooth to convex and concave.

Typically, the surface layer is gray sand 4 inches thick. The subsurface layer is white sand to a depth of 17 inches. The subsoil is sand to a depth of 68 inches. To a depth of 28 inches, it is brownish yellow with white tongues. It is yellowish brown to a depth of 37 inches, brownish yellow to a depth of 47 inches, and yellow below that. The substratum is very pale brown sand to a depth of at least 80 inches.

Included in this soil in mapping are small areas of Corolla, Mandarin, Newhan, and Resota soils. Also included are some areas of Kureb soil mainly along bays and beaches that have abrupt drop off. This soil is designated by the short, steep slope symbol. The included soils make up less than 20 percent of the map unit.

This Kureb soil has a loose, well-aerated root zone to a depth of more than 72 inches. The available water capacity is very low, and permeability is very rapid throughout. The organic matter content is low. This soil does not have a high water table within a depth of 6 feet.

Natural vegetation is mostly sand live oak, Chapman oak, turkey oak, red bay and sand pine. A few inland areas have longleaf pine and a typical sandhill suite of species.

17 Lakeland sand, 0 to 5 percent slopes

This soil is excessively drained and nearly level to gently sloping. It is on broad ridge tops on uplands. Individual areas of this soil range mostly from 40 to more than 300 acres; some areas are as large as 1,000 acres and others are as small as 5 acres. Slopes are mostly smooth to concave but are convex in places.

Typically, the surface layer is dark grayish brown sand 4 inches thick. The underlying material is sand. It is yellowish brown to a depth of 7 inches, brownish yellow to a depth of 60 inches, and light yellowish brown to a depth of at least 80 inches.

Deer Lake State Park Soil Descriptions

Included with this soil in mapping are small areas of Bonifay, Chipley, Dorovan, Eglin, Foxworth, Kenansville, Pamlico, and Troup soils. Also included are areas of soils that have slopes of more than 5 percent but are otherwise similar to Lakeland soil and soils that are similar but have a few thin lamellae below a depth of 65 inches. The lamellae have a cumulative thickness of less than 1 centimeter. The soils containing lamellae generally are along areas near the Choctawhatchee River and are near delineations of Troup soils. A few small wet areas are shown by wet spot symbols. The included soils make up less than 15 percent of the map unit.

This Lakeland soil has low available water capacity. Permeability is rapid. The organic matter content is very low or low. Rainfall is rapidly absorbed in protected areas, and there is little runoff. This soil does not have a high water table within a depth of 6 feet.

The natural vegetation is mostly slash pine, loblolly pine, longleaf pine, turkey oak, post oak, and blackjack oak. In the southern part of the county, the vegetation is often sand pine, sand live oak, saw palmetto, and reindeer moss. Wiregrass is the most common native grass. Other grasses include bluestem, lopsided indiagrass, hairy panicum, splitbeard bluestem, purple lovegrass, and broomsedge bluestem. Some areas have a longleaf pine overstory instead of sand pine.

18 Lakeland sand, 5 to 12 percent slopes

This soil is excessively drained and sloping to strongly sloping. It is mainly on upland side slopes leading to drainageways and around depressions. Individual areas of this soil range mostly from 30 to more than 100 acres; some areas are as small as 5 acres. Slopes are smooth to convex.

Typically, the surface layer is dark grayish brown sand 3 inches thick. The underlying material is sand. It is yellowish brown to a depth of 37 inches and yellowish brown over burnish yellow to a depth of at least 80 inches.

Included with this soil in mapping are small areas of Bonifay, Chipley, Foxworth, and Troup soils. Also included are some areas of Lakeland soil that have abrupt drop off. This soil is designated by the short, steep slope symbol. Areas of soils that have slopes of less than 5 percent and soils that have slopes of more than 12 percent are also included. Small areas of poorly drained soils are at seepage spots in and along stream bottoms and drainageways. The included soils make up less than 20 percent of the map unit.

This Lakeland soil has low available water capacity. Permeability is rapid. The organic matter content is very low or low. Rainfall is absorbed in protected (natural) areas, and there is little runoff. This soil does not have a seasonal high water table within a depth of 6 feet.

Natural vegetation is mostly slash pine, longleaf pine, turkey oak, and blackjack oak. In the southern part of the county, sand pine, sand live oak, Chapman oak and myrtle oak are also present. Common grasses include

Deer Lake State Park Soil Descriptions

wiregrass, bluestem, lopsided indiagrass, hairy panicum, purple lovegrass and broomsedge.

19 Lakeland sand, 12 to 30 percent slopes

This soil is excessively drained and moderately steep and steep. It is on upland side slopes leading to drainageways and depressions. Individual areas of this soil range from 20 to 80 acres. Slopes are mostly concave but are convex in places.

Typically, the surface layer is dark grayish brown and grayish brown sand 5 inches thick. The underlying material is sand to a depth of at least 80 inches. It is burnish yellow to a depth of 40 inches, pale brown to a depth of 60 inches, and very pale brown below that.

Included with this soil in mapping are small areas of Bonifay, Chipley, Dorovan, Foxworth, Pamlico, and Troup soils along slope breaks and streams and around stream heads. Also included in and along narrow stream bottoms and drainageways are small areas of soils that are poorly drained. Areas of soils that are similar to Lakeland soil are included. Some of these soils have slope of 5 to 12 percent, and others have slope of more than 30 percent. A few areas of soils in the southern part of Eglin Air Force Base have slopes as steep as 70 percent. These areas are shown with a short, steep slope symbol. The included soils make up less than 25 percent of the map unit.

This Lakeland soil has low available water capacity. Permeability is rapid. The organic matter content is very low or low. Rainfall is rapidly absorbed into the soil, but runoff in unprotected areas during heavy rainfall is rapid. This soil does not have a high water table within a depth of 6 feet.

Natural vegetation is mostly longleaf pine, slash pine, turkey oak, post oak, and blackjack oak. In the southern part of the county, sand pines are dominant along with sand live oak and myrtle oak.

21 Leon sand

This soil is poorly drained and nearly level. It is on flatwoods. Individual areas of this soil range from 5 to 90 acres. Slope is smooth to convex and ranges from 0 to 2 percent.

Typically, the surface layer is very dark gray sand 9 inches thick. The subsurface layer is gray sand to a depth of 18 inches. The subsoil is dark reddish brown sand to a depth of 22 inches, black loamy sand to a depth of 27 inches, and yellowish brown sand to a depth of 31 inches. Below that is white sand to a depth of 67 inches and very dark gray sand to a depth of at least 80 inches.

Included with this soil in mapping are small areas of Chipley, Hurricane, Mandarin, and Rutlege soils. Rutlege soils are the most common inclusion. Also included are a few areas of soils similar to Leon soil except they have a surface layer that is thicker, have a Bh horizon that is more than 30 inches

Deer Lake State Park Soil Descriptions

below the surface, or more than half of the dark color subsoil is weakly cemented. The included soils make up less than 15 percent of the map unit.

This Leon soil has a high water table at a depth of 10 to 40 inches for periods of more than 9 months during most years. The high water table is at a depth of less than 10 inches for 1 to 4 months during periods of high rainfall and recedes to a depth of more than 40 inches during very dry seasons. The available water capacity is very low in the surface and subsurface layer and low in the subsoil. Permeability is rapid in the surface and subsurface layers, moderate to moderately rapid in the subsoil, and very rapid below that. The organic matter content is low to moderate.

The natural vegetation is mostly longleaf pine, slash pine, water oaks, and wax myrtle. The understory is saw palmetto, running oak, fetterbush, and gallberry. Common native grasses include wiregrass, chalky bluestem, hairy panicum and lopsided indiagrass.

27 Rutlege fine sand

This soil is very poorly drained and nearly level. It is in shallow depressions (sometimes called ponds, bays, or sinks) and along stream or creek flood plains and upland flats. Individual areas of this soil range from 5 to 80 acres. Slopes are smooth to concave and are less than 2 percent.

Typically, the surface layer is black fine sand 17 inches thick. The underlying material is fine sand to a depth of at least 80 inches. It is grayish brown to a depth of 22 inches, light brownish gray to a depth of 60 inches, and light gray below that.

Included with this soil in mapping are small areas of Chipley, Hurricane, Leon, Pamlico, and Pickney soils. Also commonly included are soils similar to this Rutlege soil except they have a dark color surface layer less than 10 inches thick, have a dark color subsoil below a depth of 50 inches, have a loamy subsoil that is mixed or stratified below a depth of 60 inches, or have a loamy sand surface layer. The included soils make up less than 30 percent of the map unit.

This Rutlege soil has a high water table at or near the surface for long periods of the year. Shallow ponding is common. Brief flooding is common in areas adjacent to creeks and streams. The available water capacity is high in the surface layer and low in the underlying material. Permeability is rapid throughout. However, internal drainage is slow when impeded by the high water table. Response to artificial drainage is rapid. The organic matter content is high or very high.

Natural vegetation is mostly evergreen hardwoods and pond pines or slash and loblolly pines. The understory is huckleberry, wax myrtle and green briars. Wiregrass can be dominant in seepage slopes and wet prairies.

Deer Lake State Park Soil Descriptions

49 Eglin sand, 0 to 5 percent slopes

This soil is somewhat excessively drained and nearly level to gently sloping. It is on low uplands. Individual areas of this soil range mostly from 10 to 200 acres; some areas are as small as 3 acres. Slopes are mostly smooth to convex but are concave in places.

Typically, the surface layer is dark grayish brown sand 2 inches thick. The subsurface layer is sand to a depth of 68 inches. It is yellowish brown to a depth of 5 inches, light yellowish brown to a depth of 62 inches, and yellowish brown below that. The subsoil is sand to a depth of at least 80 inches. It is dark brown to a depth of 75 inches and dark reddish brown below that.

Included with this soil in mapping are small areas of Chipley, Foxworth, Hurricane, and Lakeland soils. Also included are some areas of soils that have a light gray, compact fine and very fine sand layer above the subsoil and some areas of soils that have gray mottles above a depth of 40 inches. Small areas of soils similar to Eglin soil except they have thinner coatings of organic matter on the sand grains are included. The included soils make up less than 20 percent of the map unit.

This Eglin soil does not have a high water table within a depth of 6 feet. In most year, the high water table is between depths of 72 and 80 inches in winter and early spring. After heavy rains, the water table can rise to a depth of 60 inches for periods of less than 1 month. The available water capacity is generally low. Permeability is rapid in the surface and subsurface layers and moderately rapid in the subsoil. The organic matter content is low or moderately low.

Natural vegetation is mostly sand pine, longleaf pine, sand live oak, laurel oak, post oak, bluejack oak, and turkey oak.

50 Mandarin sand

This soil is somewhat poorly drained and nearly level. It is in slightly elevated areas on flatwoods. Individual areas of this soil range from 3 to 50 acres. Slopes are smooth to concave.

Typically, the surface layer is gray sand about 8 inches thick. The subsurface layer is light gray sand to a depth of about 21 inches. The subsoil extends to a depth of 60 inches. It is black sand to a depth of 23 inches, very dark gray fine sand to a depth of 25 inches, dark reddish brown sand to a depth of 38 inches, and yellowish brown sand below that. The substratum is white sand to a depth of at least 80 inches.

Included with this soil in mapping are small areas of Chipley, Foxworth, Hurricane, Leon, Resota, and Rutledge soils.

The Mandarin soil has a high water table at a depth of 20 to 40 inches for 4 to 6 months during most years and below a depth of 40 inches for 6 to 8 months. The high water table is at a depth of 10 to 20 inches for up to 2 weeks after periods of heavy rainfall in some years. The available water capacity is very

Deer Lake State Park Soil Descriptions

low or low in the surface and subsurface layers and moderate or low in the subsoil. Permeability is rapid in the surface and subsurface layers, moderate in the upper part of the subsoil, and rapid in the lower part. The organic matter content is very low to moderate.

The natural vegetation is mostly longleaf pine, slash pine, turkey oak, saw palmetto, running oak and fetterbush. Lower lying areas within this soil unit at Deer Lake State Park support myrtle-leaved holly.

54 Newhan-Corolla sands, rolling

This map unit consists of Newhan and Corolla soils in undulating dune-like areas adjacent to the Gulf of Mexico. These soils are gently sloping to steep. Newhan soil is excessively drained, and Corolla soil is moderately well drained or somewhat poorly drained by comparison. Areas of these soils are too intricately mixed and too small to be mapped separately at the selected scale. Individual areas of soils within the map unit range from less than 1 acre to 5 acres.

Newhan soil makes up about 35 to 55 percent of the map unit. Typically, the surface layer is light gray sand about 5 inches thick. The underlying material to a depth of 80 inches or more is white sand that contains horizontal bands of black heavy minerals.

Permeability of this soil is very rapid throughout. The available water capacity and organic matter content are very low. This soil does not have a high water table within a depth of 6 feet.

Natural vegetation is sparse. It is chiefly stunted sand pine, sand live oak, sea oats, rosemary, woody goldenrod, Conrada and beach grass.

55 Beaches

Beaches are narrow strips of tide washed sand along the Gulf of Mexico. The sand is white and has few heavy minerals. Beaches range from 200 to 500 feet in width. As much as half of the beach can be covered by saltwater daily by high tide and wave action, and all of it can be covered during storms. The shape and slope of the beaches commonly change with every storm. Most areas have a uniform, gentle slope, but a short, stronger slope is at the water's edge. Beaches generally have no vegetation, but inland edges are sometimes sparsely covered with sea oats.

The high water table ranges from the surface to a depth of 4 feet or more. The depth varies depending on distance from the water, height of the beach, effect of storms, and time of year. Permeability is very rapid.

Included in mapping are sand dunes on the north side. The dunes are generally Newhan and Corolla soils. They are not subject to wave action except during storms, but they commonly receive salt spray.

Deer Lake State Park Soil Descriptions

56 Kureb sand, hilly

This soil is excessively drained and strongly sloping to steep. It is on dune-like ridges. Individual areas of this soil range from 20 to 80 acres. Slopes are concave and convex.

Typically, the surface layer is gray sand 2 inches thick. The subsurface is sand to a depth of 45 inches. It is light gray to a depth of 12 inches and white below that. The subsoil is brownish yellow sand to a depth of at least 80 inches.

This Kureb soil has a loose, well-aerated root zone to a depth of more than 72 inches. The available water capacity is very low and permeability is rapid throughout. The organic matter content is very low to moderately low. Fertilizers are rapidly leached from the soil. Rainfall is rapidly absorbed into the soil, but runoff in unprotected areas is rapid during heavy rainfall. This soil does not have a high water table within a depth of 6 feet.

Natural vegetation in areas near the Gulf of Mexico largely consists of salt-pruned sand live oak.

57 Hurricane sand, 0 to 5 percent slopes

This soil is somewhat poorly drained and nearly level. It is in slightly elevated areas on flatwoods. Individual areas of this soil generally range from 10 to more than 100 acres; a few are as small as 3 acres. Slopes are smooth to slightly convex.

Typically, the surface layer is very dark gray sand 5 inches thick. The subsurface layer is sand to a depth of 63 inches. It is brown to a depth of 14 inches, yellowish brown to a depth of 22 inches, brownish yellow to a depth of 47 inches, and white below that. The subsoil is black sand to a depth of at least 80 inches.

Included with this soil in mapping are small areas of Chipley, Foxworth, Leon, Mandarin, and Rutlege soils. Also included are poorly drained soils in which the surface layer is underlain by a shallow, weakly developed, dark color subsoil. Also included are soils similar to this Hurricane soil except they are poorly drained and areas of soils in which the content of clay increases just above the deep, dark color subsoil. The included soils make up less than 15 percent of the map unit.

This Hurricane soil has a high water table within 20 to 40 inches of the soil surface for 3 to 6 months in most years and below a depth of 40 inches for the rest of the year. The available water capacity is low in the surface and subsurface layers and moderate in the subsoil. Permeability is rapid in the surface and subsurface layers and moderately rapid in the subsoil. The organic matter content is very low to moderately low.

Natural vegetation is characteristic of mesic flatwoods with longleaf pine, slash pine, palmetto, gallberry, wiregrass and fetterbush dominating the landscape. Slightly drier portions of this map unit support longleaf pine, turkey oak

Deer Lake State Park Soil Descriptions

sandhills. Slightly lower lying areas at Deer Lake State Park support wet prairie natural communities.

62 Resota sand, 0 to 5 percent slopes

This soil is moderately well drained and nearly level to gently sloping. It is on moderately elevated ridges on flatwoods. Individual areas of this soil range mostly from 10 to more than 50 acres; some areas are as small as 5 acres. Slopes are mostly smooth to convex but are concave in places.

Typically, the surface layer is gray sand 3 inches thick. The subsurface is light gray sand 10 inches thick. The subsoil is sand to a depth of 53 inches. To a depth of 19 inches, it is yellowish brown with light gray tongues, and to a depth of 31 inches, it is yellowish brown. It is brown below that. The substratum is white sand to a depth of at least 80 inches.

This Resota soil has a high water table at a depth of 40 to 60 inches for up to 4 months in most years and at a depth of 60 to 80 inches in dry seasons. The available water capacity is very low, and permeability is very rapid throughout. The organic matter content is low or very low. Rainfall is rapidly absorbed, and there is little runoff.

The natural vegetation is mostly longleaf pine and turkey oak. Some areas are dominated by sand pine, sand live oak and woody goldenrod.

63 Pickney sand, depressional

This soil is very poorly drained and nearly level. It is in drainageways and depressional areas of the flatwoods. Individual areas of this soil range from 5 to 100 acres. Slopes are smooth to convex and are less than 2 percent.

Typically, the surface layer is black sand 37 inches thick. The underlying material is dark gray or very dark gray sand to a depth of at least 80 inches.

This Pickney soil is ponded for more than 4 months annually. During the drier seasons, the high water table can recede to a depth of 20 inches. The available water capacity is very low to moderate. Permeability is rapid throughout; however, internal drainage is low when impeded by the high water table. The organic matter content is high. Response to artificial drainage is rapid.

The natural vegetation is mostly titi, sweet bay, blackgum and bald cypress.

64 Pamlico muck

This soil is poorly drained and nearly level. It is in depressional areas of the flatwoods. Individual areas of this soil range from 3 to 100 acres. Slopes are smooth to convex and are less than 2 percent.

Typically, the surface layer is black muck 25 inches thick. The underlying material is sand to a depth of at least 60 inches. It is black to a depth of 28 inches, very dark gray to a depth of 35 inches, dark gray to a depth of 42 inches, and gray below that.

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This Pamlico soil has a water table up to 2 feet above the surface for 6 months in most years. Permeability is moderate or moderately rapid, and the available water capacity is very high. The organic matter content is very high. The internal drainage is slow because of the high water table.

This soil type typically supports large basin swamps. The natural vegetation within these areas is usually bald cypress, black gum and sweetbay. An ecotonal area around the perimeter can contain a dense growth of titi and large sweet gallberry, particularly in long fire excluded areas.

99 Water

Areas mapped as water represent various basin soils and overlying organic materials comprising lakebeds. They occur within the coastal dune lakes.

Addendum 5—Plant and Animal List

Deer Lake State Park Plants

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (for imperiled species)
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PTERIDOPHYTES

Foxtail clubmoss.....	<i>Lycopodium alopecuroides</i>	
Clubmoss.....	<i>Lycopodium appressum</i>	
Japanese climbing fern.....	<i>Lygodium japonicum</i>	
Cinnamon fern.....	<i>Osmunda cinnamomea</i>	
Royal fern.....	<i>Osmunda regalis</i>	
Bracken fern.....	<i>Pteridium aquilinum</i>	
Resurrection fern.....	<i>Polypodium polypodioides</i>	

GYMNOSPERMS

Southern red cedar.....	<i>Juniperus silicicola</i>	
Slash pine.....	<i>Pinus elliotii</i>	
Longleaf pine.....	<i>Pinus palustris</i>	
Choctawhatchee sand pine.....	<i>Pinus clausa</i> var. <i>immuginata</i>	
Pond pine.....	<i>Pinus serotina</i>	
Pond cypress.....	<i>Taxodium ascendens</i>	

MONOCOTS

Andropogon.....	<i>Andropogon brachystachus</i>	
Bushy beardgrass.....	<i>Andropogon glomeratus</i>	
Chalky bluestem.....	<i>Andropogon virginicus</i> var. <i>glaucus</i>	
Bottlebrush threeawn.....	<i>Aristida spiciformis</i>	
Wiregrass.....	<i>Aristida stricta</i>	
Bottlebrush threeawn.....	<i>Aristida spiciformis</i>	
Giant cane.....	<i>Arundinaria gigantea</i>	
Curtiss' sandgrass.....	<i>Calamovilfa curtissii</i>	WP, WF, MF
Grass pink.....	<i>Calopogon barbatus</i>	
Coast sandspur.....	<i>Cenchrus incertus</i>	
Sawgrass.....	<i>Cladium jamaicense</i>	
Toothache grass.....	<i>Ctenium aromaticum</i>	
Flatsedge.....	<i>Cyperus lecontei</i>	
Flatsedge.....	<i>Cyperus retrorsus</i>	
White top sedge.....	<i>Dichromena latifolia</i>	
Umbrella Grass.....	<i>Fuirena scirpoidea</i>	
Water spider orchid.....	<i>Habenaria repens</i>	
Hypoxis.....	<i>Hypoxis juncea</i>	
Cogon grass.....	<i>Imperata cylindrica</i>	
Black needlerush.....	<i>Juncus roemarianus</i>	
Redroot.....	<i>Lachnanthes caroliniana</i>	
Maidencane.....	<i>Panicum hemitomon</i>	

* Non-native Species

Deer Lake State Park Plants

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Torpedo grass.....	<i>Panicum repens</i> *	
Redtop Panic.....	<i>Panicum rigidulum</i>	
Spoonflower.....	<i>Peltandra sagittifolia</i>	
White-fringed orchid.....	<i>Plantanthera blephariglottis</i>	SSL
Rosebud Orchid.....	<i>Pogona divaricata</i>	WP
Rose pogonia.....	<i>Pogonia ophioglossoides</i>	WP
Sandyfield beakrush.....	<i>Rhynchospora megalocarpa</i>	
Gulf Bluestem grass.....	<i>Schizachyrium maritima</i>	
Saw palmetto.....	<i>Serenoa repens</i>	
Blue-eyed grass.....	<i>Sisyrinchium rosulatum</i>	
Greenbrier.....	<i>Smilax auriculata</i>	
Saltmeadow chordgrass.....	<i>Spartina patens</i>	
Coastal dropseed.....	<i>Sporobolus virginicus</i>	
Shoe Buttons.....	<i>Syngonanthus flavidulus</i>	
Spanish Moss.....	<i>Tillandsia usneoides</i>	
Spiderwort.....	<i>Tradescantia hirsutiflora</i>	
Cattail.....	<i>Typha</i> spp.	
Sea oats.....	<i>Uniola paniculata</i>	
Yellow-eyed grass.....	<i>Xyris baldwinii</i>	
Spanish bayonet.....	<i>Yucca aloifolia</i>	
Yucca.....	<i>Yucca filamentosa</i>	

DICOTS

Red maple.....	<i>Acer rubrum</i>	
Mimosa.....	<i>Albizia julibrissin</i> *	
Yellow colic root.....	<i>Aletris lutea</i>	
Milkweed.....	<i>Asclepias connivens</i>	
Milkweed.....	<i>Asclepias humistrata</i>	
Milkweed.....	<i>Asclepias lanceolata</i>	
Orange milkweed.....	<i>Asclepias tuberosa</i>	
Green milkweed.....	<i>Asclepias viridula</i>	WP
Red buckeye.....	<i>Aesculus pavia</i>	
Hazel alder.....	<i>Alnus serrulata</i>	
Small-fruited Pawpaw.....	<i>Asimina parviflora</i>	
Aster.....	<i>Aster eryngiifolius</i>	
Seabeach Atriplex.....	<i>Atriplex pentandra</i>	
Aureolaria.....	<i>Aureolaria pedicularia</i>	
Yellow foxglove.....	<i>Aureolaria flava</i>	
Saltbush.....	<i>Baccharis halimifolia</i>	
Yellow Buttons.....	<i>Balduina angustifolia</i>	
False Indigo.....	<i>Baptisia lanceolata</i>	
Bartonia.....	<i>Bartonia verna</i>	
Greeneyes.....	<i>Berlandiera pumila</i>	
Buckthorn.....	<i>Bumelia lanuginosa</i>	

* Non-native Species

Deer Lake State Park Plants

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Burmannia.....	<i>Burmannia biflora</i>	
Burmannia.....	<i>Burmannia capitata</i>	
Sea-rocket.....	<i>Cakile constricta</i>	
Wild sage.....	<i>Calamintha coccinea</i>	
Beauty berry.....	<i>Callicarpa americana</i>	
Carphephorous.....	<i>Carphephorous corymbosus</i>	
Deer's tongue.....	<i>Carphephorus odoratissimus</i>	
Pignut hickory.....	<i>Carya glabra</i>	
Buttonbush.....	<i>Cephalanthus occidentalis</i>	
Centella.....	<i>Centella asiatica</i>	
Butterfly pea.....	<i>Centrosema virginianum</i>	
Rosemary.....	<i>Ceratiola ericoides</i>	
Rosemary Pea.....	<i>Chamaecrista fasciculata</i>	
Dune spurge.....	<i>Chamaesyce ammannioides</i>	
Sunbonnets.....	<i>Chaptalia tomentosa</i>	
Bush Goldenrod.....	<i>Chrysoma pauciflosculosa</i>	
Godfrey's golden aster.....	<i>Chrysopsis godfreyi</i>	BD
Cruise's golden aster.....	<i>Chrysopsis gossypina</i> ssp. <i>cruiseana</i>	BD
Pepper bush.....	<i>Clethra alnifolia</i>	
Black titi.....	<i>Cliftonia monophylla</i>	
Tread Softly.....	<i>Cnidocolus stimulosus</i>	
Conradina.....	<i>Conradina canesens</i>	
Horseweed.....	<i>Conyza canadensis</i>	
Hawthorne.....	<i>Crataegus</i> spp.	
Rabbit-bells.....	<i>Crotalaria rotundifolia</i>	
Silver croton.....	<i>Croton argyranthemus</i>	
White titi.....	<i>Cyrilla racemiflora</i>	
Drosera.....	<i>Drosera tracyi</i>	
Drosera.....	<i>Drosera intermedia</i>	SSL, WP
Sun-dew.....	<i>Drosera capillaris</i>	
Euphorbia.....	<i>Euphorbia discoidalis</i>	
Daisy fleabane.....	<i>Erigeron vernuus</i>	
Hat pins.....	<i>Eriocaulon decangulare</i>	
Hat pins.....	<i>Eriocaulon compressum</i>	
Rattlesnake master.....	<i>Eryngium yuccifolium</i>	
Coral bean.....	<i>Erythrina herbacea</i>	
Ash.....	<i>Fraxinus</i> sp.	
Cottonweed.....	<i>Froelichia floridana</i>	
Milk-pea.....	<i>Galactia microphylla</i>	
Blanketflower.....	<i>Gaillardia aestivalis</i>	
Dwarf Huckleberry.....	<i>Gaylussacia dumosa</i>	
Huckleberry.....	<i>Gaylussacia mosieri</i>	
Yellow Jessamine.....	<i>Gelsemium sempervirens</i>	
Sun flower.....	<i>Helianthus</i> sp.	
Rayless sunflower.....	<i>Helianthus radula</i>	
Sneezeweed.....	<i>Helenium vernale</i>	

* Non-native Species

Deer Lake State Park Plants

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Camphor weed.....	<i>Heterotheca subaxillaris</i>	
Seaside pennywort.....	<i>Hydrocotyle bonariensis</i>	
Winged St. John's wort.....	<i>Hypericum cistifolium</i>	
St. Andrews cross.....	<i>Hypericum crux-andreae</i>	
Pineland St. John's wort.....	<i>Hypericum fasciculatum</i>	
Hypericum.....	<i>Hypericum reductum</i>	
Sand holly.....	<i>Ilex ambigua</i>	
Dahoon.....	<i>Ilex cassine</i>	
Large Gallberry.....	<i>Ilex coriacea</i>	
Gallberry.....	<i>Ilex glabra</i>	
Myrtle leaf Holly.....	<i>Ilex myrtifolia</i>	
American holly.....	<i>Ilex opaca</i>	
Yaupon.....	<i>Ilex vomitoria</i>	
Florida anise.....	<i>Illicium floridanum</i>	
Virginia willow.....	<i>Itea virginica</i>	
Beach morning-glory.....	<i>Ipomoea imperati</i>	
Seashore elder.....	<i>Iva imbricata</i>	
Little wicky.....	<i>Kalmia angustifolia</i>	
Lantana.....	<i>Lantana camara*</i>	
Peppergrass.....	<i>Lepidium virginianum</i>	
Blazing star.....	<i>Liatris tenuifolia</i>	
Gopher Apple.....	<i>Licania michauxii</i>	
Pine lily.....	<i>Lilium catesbaei</i>	
Florida toadflax.....	<i>Linaria floridana</i>	
Yellow flax.....	<i>Linum floridanum</i>	
Tulip tree, yellow poplar.....	<i>Liriodendron tulipifera</i>	
Lobelia.....	<i>Lobelia floridana</i>	
Goldcrest.....	<i>Lophiola americana</i>	
Seedbox.....	<i>Ludwigia alterniflora</i>	
Ludwigia.....	<i>Ludwigia leptocarpa</i>	
Seaside seedbox.....	<i>Ludwigia maritima</i>	
Gulf coast Lupine.....	<i>Lupinus westianus</i>	BD, SC
Fetterbush.....	<i>Lyonia ferruginea</i>	
Glossy fetterbush.....	<i>Lyonia lucida</i>	
Southern magnolia.....	<i>Magnolia grandiflora</i>	
Sweetbay.....	<i>Magnolia virginiana</i>	
Barbara's buttons.....	<i>Marshallia tenuifolia</i>	
Partridge berry.....	<i>Mitchella repens</i>	
Bayberry.....	<i>Myrica heterophylla</i>	
Wax myrtle.....	<i>Myrica cerifera</i>	
Spatterdock.....	<i>Nuphar luteum</i>	
Waterlily.....	<i>Nymphaea odorata</i>	
Floating hearts.....	<i>Nymphoides aquatica</i>	
Blackgum.....	<i>Nyssa aquatica</i> var. <i>biflora</i>	
Evening-primrose.....	<i>Oenothera laciniata</i>	
Cactus.....	<i>Opuntia stricta</i>	

* Non-native Species

Deer Lake State Park Plants

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Wild Olive.....	<i>Osmanthus americanus</i>	
Sourwood.....	<i>Oxydendrum arboreum</i>	
Whitlow-wort.....	<i>Paronychia erecta</i>	
Sandsquares.....	<i>Paronychia rugelii</i>	
Red bay.....	<i>Persea borbonia</i>	
Swamp bay.....	<i>Persea palustris</i>	
Butterwort.....	<i>Pinguicula lutea</i>	
Grass-leaved goldenaster.....	<i>Pityopsis graminifolia</i>	
Fleabane.....	<i>Pluchea rosea</i>	
Milkwort.....	<i>Polygala cymosa</i>	
Yellow thimbles.....	<i>Polygala lutea</i>	
Wild bachelor's button.....	<i>Polygala nana</i>	
Large-leaved jointweed.....	<i>Polygonella macrophylla</i>	SC, SCF
October flower.....	<i>Polygonella polygama</i>	
Wire weed.....	<i>Polygonella gracilis</i>	
Polypremum.....	<i>Polypremum procumbens</i>	
Pickrel weed.....	<i>Pontederia cordata</i>	
Blackroot.....	<i>Pterocaulon pycnostachyum</i>	
Sand live oak.....	<i>Quercus geminata</i>	
Bluejack oak.....	<i>Quercus incana</i>	
Turkey oak.....	<i>Quercus laevis</i>	
Sand post oak.....	<i>Quercus margaretta</i>	
Myrtle oak.....	<i>Quercus myrtifolia</i>	
Live oak.....	<i>Quercus virginiana</i>	
Water oak.....	<i>Quercus nigra</i>	
Meadowbeauty.....	<i>Rhexia alifanus</i>	
Meadowbeauty.....	<i>Rhexia petiolata</i>	
Panhandle meadow beauty.....	<i>Rhexia salicifolia</i>	MF, WP
Yellow meadowbeauty.....	<i>Rhexia lutea</i>	
Swamp honeysuckle.....	<i>Rhododendron serrulatum</i>	
Sand Blackberry.....	<i>Rubus cuneifolius</i>	
Dock.....	<i>Rumex hastatulus</i>	
Marsh pink.....	<i>Sabatia angularis</i>	
Marsh pink (ten petals).....	<i>Sabatia dodecandra</i>	
Marsh pink.....	<i>Sabatia brevifolia</i>	
Blue sage.....	<i>Salvia azurea</i>	
Lizard's tail.....	<i>Saururus cernuus</i>	
Trumpets.....	<i>Sarracenia flava</i>	
White top pitcherplant.....	<i>Sarracenia leucophylla</i>	WP, SSL
Decumbent/purple pitcherplant.....	<i>Sarracenia rosea</i>	SSL
Parrott pitcherplant.....	<i>Sarracenia psittacina</i>	WP
Sensitive briar.....	<i>Schrankia microphylla</i>	
Bladderpod*.....	<i>Sesbania vesicaria</i>	
Sea purslane.....	<i>Sesuvium portulacastrum</i>	
Black senna.....	<i>Seymeria cassioides</i>	

* Non-native Species

Deer Lake State Park Plants

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Corkwood.....	<i>Stillingia aquatica</i>	
Poison ivy.....	<i>Toxicodendron radicans</i>	
Blue Curls.....	<i>Trichostema dichotomum</i>	
Deer tongue.....	<i>Trilisa odoratissima</i>	
Venus' looking glass.....	<i>Triodanis biflora</i>	
Bladderwort.....	<i>Utricularia biflora</i>	
Horned bladderwort.....	<i>Utricularia cornuta</i>	
Purple bladderwort	<i>Utricularia purpurea</i>	
Small purple bladderwort.....	<i>Utricularia resupinata</i>	
Highbush blueberry.....	<i>Vaccinium corymbosum</i>	
Glaucous blueberry.....	<i>Vaccinium darrowii</i>	
Shiny blueberry.....	<i>Vaccinium myrsinites</i>	
Chapman's crownbeard.....	<i>Verbesina chapmanii</i>	WP
Possum haw.....	<i>Viburnum nudum</i>	
Bog white violet.....	<i>Viola lanceolata</i>	
Chinese wisteria.....	<i>Wisteria sinensis</i> *	

* Non-native Species

Deer Lake State Park Animals

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

Florida cricket frog.....	<i>Acris gryllus dorsalis</i>	DM, DS, BM, BS, SHB
Mole salamander.....	<i>Ambystoma talpoideum</i>	MF, SH
Two-toed amphiuma.....	<i>Amphiuma means</i>	BS, SHB
Southern toad.....	<i>Bufo terrestris</i>	MTC
Narrow-mouthed toad.....	<i>Eleutherodactylus planirostris</i>	MTC
Southern two-lined salamander.....	<i>Eurycea cirrigea</i>	BS, SHB, DM, DS
Dwarf salamander.....	<i>Eurycea quadridigitata</i>	BS, DS, DM, SHB
Green treefrog.....	<i>Hyla cinerea</i>	MTC
Pine woods treefrog.....	<i>Hyla femoralis</i>	SH, MF, WF
Southern spring peeper.....	<i>Pseudacris crucifer</i>	BM, BS, DM, SHB, DS
Squirrel treefrog.....	<i>Hyla squirella</i>	MTC
Central newt.....	<i>Notophthalmus viridescens</i> <i>louisianensis</i>	MTC
Southern chorus frog.....	<i>Pseudacris nigrita nigrita</i>	BM, BS, DM, SHB, DS
Little grass frog.....	<i>Pseudacris ocularis</i>	BM, BS, DM, SHB, DS
Ornate chorus frog.....	<i>Pseudacris ornate</i>	BM, BS, DM, SHB, DS
Mud salamander.....	<i>Pseudotriton montanus</i>	BM, BS, SHB, DM, DS
Bronze frog.....	<i>Rana clamitans</i>	BM, BS, DM, SHB, DS
Pig frog.....	<i>Rana grylio</i>	BM, BS, DM, SHB, DS
Southern leopard frog.....	<i>Rana utricularia</i>	BM, BS, DM, SHB, DS
Siren.....	<i>Siren sp.</i>	BS, SHB, DS

REPTILES

Florida cottonmouth.....	<i>Agkistrodon piscivorus conanti</i>	BM, BS, DS, SHB
American alligator.....	<i>Alligator mississippiensis</i>	BM, CDLK
Green anole.....	<i>Anolis carolinensis carolinensis</i>	MTC
Atlantic loggerhead turtle.....	<i>Caretta caretta caretta</i>	MUS
Green sea turtle.....	<i>Chelonia mydas</i>	MUS
Common snapping turtle.....	<i>Chelydra serpentina</i>	BM, BS
Florida cooter.....	<i>Chrysemys floridana floridana</i>	CDLK, BM
Six-lined racerunner.....	<i>Cnemidophorus sexlineatus</i>	SC, SCF
Southern black racer.....	<i>Coluber constrictor Priapus</i>	MTC
Eastern diamondback Rattlesnake.....	<i>Crotalus adamanteus</i>	SH
Leatherback sea turtle.....	<i>Dermochelys coriacea</i>	MUS
Southern ringneck snake.....	<i>Diadophis punctatus</i>	MF
Corn snake.....	<i>Elaphe guttata guttata</i>	MF, SH
Five-lined skink.....	<i>Eumeces fasciatus</i>	MTC
Southeastern five-lined skink.....	<i>Eumeces inexpectatus</i>	MTC

* Non-native Species

Deer Lake State Park Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Broad-headed skink.....	<i>Eumeces laticeps</i>	MTC
Mud snake.....	<i>Farancia abacura</i>	BM, BS
Gopher tortoise.....	<i>Gopherus polyphemus</i>	SH, SCF
Eastern kingsnake.....	<i>Lampropeltis getulus getulus</i>	MTC
Scarlet kingsnake.....	<i>Lampropeltis triangulum elapsoides</i>	MTC
Eastern coachwhip.....	<i>Masticophis flagellum flagellum</i>	BD
Florida water snake.....	<i>Nerodia fasciata pictiventris</i>	CDLK, BM
Rough green snake.....	<i>Opheodrys aestivus</i>	MTC
Eastern glass lizard.....	<i>Ophisaurus ventralis</i>	MTC
Southern fence lizard.....	<i>Sceloporus undulatus undulatus</i>	MTC
Ground skink.....	<i>Scincella lateralis</i>	MTC
Dusky pygmy rattlesnake.....	<i>Sistrurus miliarius barbouri</i>	MTC
Stinkpot.....	<i>Sternotherus odoratus</i>	CDLK, BM, BS, SHB
Gulf coast box turtle.....	<i>Terrapene carolina major</i>	MTC
Eastern ribbon snake.....	<i>Thamnophis sauritus sauritus</i>	MTC
Eastern garter snake.....	<i>Thamnophis sirtalis sirtalis</i>	MTC
Florida softshell.....	<i>Trionyx ferox</i>	CDLK, BM, BS

BIRDS

Wood duck.....	<i>Aix sponsa</i>	BM, CDLK
Northern pintail.....	<i>Anas acuta</i>	BM, CDLK
Green-winged teal.....	<i>Anas crecca</i>	BM, CDLK
Blue-winged teal.....	<i>Anas discors</i>	BM, CDLK
Mallard.....	<i>Anas platyrhynchos</i>	BM, CDLK
Redhead.....	<i>Aythya americana</i>	BM, CDLK
Ring-necked duck.....	<i>Aythya collaris</i>	BM, CDLK
Greater scaup.....	<i>Aythya marila</i>	BM, CDLK
Bufflehead.....	<i>Bucephala albeola</i>	CDLK, Gulf of Mexico
Common goldeneye.....	<i>Bucephala clangula</i>	BM, CDLK
Hooded merganser.....	<i>Lophodytes cucullatus</i>	BM, CDLK
Red-breasted merganser.....	<i>Mergus serrator</i>	CDLK, Gulf of Mexico
Common loon.....	<i>Gavia immer</i>	Gulf of Mexico
Horned grebe.....	<i>Podiceps auritus</i>	CDLK
Pied-billed grebe.....	<i>Podilymbus podiceps</i>	CDLK
American white pelican.....	<i>Pelecanus erythrorhynchos</i>	OF
Brown pelican.....	<i>Pelecanus occidentalis</i>	OF
Double-crested cormorant.....	<i>Phalacrocorax auritus</i>	OF
Northern gannet.....	<i>Morus bassanus</i>	Gulf of Mexico
Anhinga.....	<i>Anhinga anhinga</i>	BM, CDLK, OF
Great egret.....	<i>Ardea alba</i>	MUS, BS, CDLK, BM, DM
Great blue heron.....	<i>Ardea herodias herodias</i>	MUS, BS, CDLK, BM, DM
American bittern.....	<i>Botaurus lentiginosus</i>	CDLK, BM
Cattle egret.....	<i>Bubulcus ibis</i>	MTC
Green heron.....	<i>Butorides virescens</i>	BS, CDLK, BM

* Non-native Species

Deer Lake State Park Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Little blue heron.....	<i>Egretta caerulea</i>	MTC
Reddish egret.....	<i>Egretta rufescens</i>	MUS, BM, CDLK
Snowy egret.....	<i>Egretta thula</i>	MUS, BM, CDLK
Tricolored heron.....	<i>Egretta tricolor</i>	MUS, BM, CDLK
Least bittern.....	<i>Ixobrychus exilis</i>	BM, CDLK
Yellow-crowned night-hero	<i>Nyctanassa violacea</i>	BS, BM
White ibis.....	<i>Eudocimus albus</i>	BM, CDLK, BS
Turkey vulture.....	<i>Cathartes aura</i>	OF
Black vulture.....	<i>Coragyps atratus</i>	OF
Wild turkey.....	<i>Meleagris gallopavo</i>	MTC
Osprey.....	<i>Pandion haliaetus</i>	OF
Cooper's hawk.....	<i>Accipiter cooperii</i>	OF
Sharp-shinned hawk.....	<i>Accipiter striatus</i>	OF
Red-tailed hawk.....	<i>Buteo jamaicensis</i>	OF
Red-shouldered hawk.....	<i>Buteo lineatus</i>	OF
Broad-winged hawk.....	<i>Buteo platypterus</i>	OF
Northern harrier.....	<i>Circus cyaneus</i>	OF
Bald eagle.....	<i>Haliaetus leucocephalus</i>	OF
Mississippi kite.....	<i>Ictinia mississippiensis</i>	OF
Southeastern American kestrel.....	<i>Falco sparverius paulus</i>	OF
American coot.....	<i>Fulica americana</i>	CDLK, BM
Purple gallinule.....	<i>Porphyryla martinica</i>	CDLK, BM
Sora.....	<i>Porzana carolina</i>	CDLK
Piping plover.....	<i>Charadrius melodus</i>	BD
Southeastern snowy plover.....	<i>Charadrius nivosus</i>	BD
Semipalmated plover.....	<i>Charadrius semipalmatus</i>	BD
Killdeer.....	<i>Charadrius vociferus</i>	RD
Wilson's plover.....	<i>Charadrius wilsonia</i>	BD
Black-bellied Plover.....	<i>Pluvialis squatarola</i>	BD
Water pipit.....	<i>Anthus spinoletta</i>	CDLK
Spotted sandpiper.....	<i>Actitis macularius</i>	MUS
Ruddy turnstone.....	<i>Arenaria interpres</i>	MUS
Sanderling.....	<i>Calidris alba</i>	MUS
Dunlin.....	<i>Calidris alpina</i>	MUS
Semipalmated sandpiper.....	<i>Calidris pusilla</i>	MUS
Common snipe.....	<i>Gallinago gallinago</i>	BD, CDLK
American woodcock.....	<i>Scolopax minor</i>	SC, SCF, BM
Greater yellowlegs.....	<i>Tringa melanoleuca</i>	MUS
Willet.....	<i>Tringa semipalmata</i>	MUS
Solitary sandpiper.....	<i>Tringa solitaria</i>	MUS
Black tern.....	<i>Chlidonias niger</i>	MUS
Bonaparte's gull.....	<i>Chroicocephalus Philadelphia</i>	MUS
Laughing gull.....	<i>Leucophaeus atricilla</i>	MUS
Herring gull.....	<i>Larus argentatus</i>	MUS

* Non-native Species

Deer Lake State Park Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Ring-billed gull.....	<i>Larus delawarensis</i>	MUS
Black skimmer.....	<i>Rynchops niger</i>	MUS, CDLK
Least tern.....	<i>Sternula antillarum</i>	MUS
Common tern.....	<i>Sterna hirundo</i>	MUS
Forster's tern.....	<i>Sterna forsteri</i>	MUS
Royal tern.....	<i>Thalasseus maximus</i>	MUS
Sandwich tern.....	<i>Thalasseus sandvicensis</i>	MUS
Rock pigeon.....	<i>Columba livia</i> *.....	DV
Common ground-dove.....	<i>Columbina passerina</i>	BD, MTC
Eurasian collared dove.....	<i>Streptopelia decaocto</i> *.....	DV
Mourning dove.....	<i>Zenaida macroura</i>	MTC
Northern bobwhite.....	<i>Colinus virginianus</i>	SH, MF
Yellow-billed cuckoo.....	<i>Coccyzus americanus</i>	SHB
Black-billed cuckoo.....	<i>Coccyzus erythrophthalmus</i>	SHB
Short-eared owl.....	<i>Asio flammeus</i>	MTC
Eastern screech owl.....	<i>Megascops asio</i>	MTC
Barred owl.....	<i>Strix varia</i>	SHB, BS, BM
Chuck-will's-widow.....	<i>Caprimulgus carolinensis</i>	SH
Whip-poor-will.....	<i>Caprimulgus vociferus</i>	SH
Common nighthawk.....	<i>Chordeiles minor</i>	SH, OF
Chimney swift.....	<i>Chaetura pelagica</i>	OF
Ruby-throated hummingbird.....	<i>Archilochus colubris</i>	MTC
Belted kingfisher.....	<i>Megaceryle alcyon</i>	BM, CDLK
Northern flicker.....	<i>Colaptes auratus</i>	MTC
Pileated woodpecker.....	<i>Dryocopus pileatus</i>	BS
Red-bellied woodpecker.....	<i>Melanerpes carolinus</i>	SH, MF, WF
Red-headed woodpecker.....	<i>Melanerpes erythrocephalus</i>	SH, MF, WF
Hairy woodpecker.....	<i>Picoides villosus</i>	SH, MF, WF
Yellow-bellied sapsucker.....	<i>Sphyrapicus varius</i>	SH, MF, WF
Eastern wood-Pewee.....	<i>Contopus virens</i>	MF
Acadian flycatcher.....	<i>Empidonax virescens</i>	MF, BS, SHB
Great-crested flycatcher.....	<i>Myiarchus crinitus</i>	MF, BS, SHB
Eastern phoebe.....	<i>Sayornis phoebe</i>	MF, SHB
Eastern bluebird.....	<i>Sialia sialis</i>	MTC
Red-breasted nuthatch.....	<i>Sitta Canadensis</i>	MTC
Brown-headed nuthatch.....	<i>Sitta pusilla</i>	SH, MF
Eastern kingbird.....	<i>Tyrannus tyrannus</i>	MTC
Loggerhead shrike.....	<i>Lanius ludovicianus</i>	OF
Yellow-throated vireo.....	<i>Vireo flavifrons</i>	MTC
White-eyed vireo.....	<i>Vireo griseus</i>	MTC
Red-eyed vireo.....	<i>Vireo olivaceus</i>	MTC
Solitary vireo.....	<i>Vireo solitarius</i>	MTC
Fish crow.....	<i>Corvus ossifragus</i>	MUS, CDLK
Blue jay.....	<i>Cyanocitta cristata</i>	MTC
Barn swallow.....	<i>Hirundo rustica</i>	BD
Purple martin.....	<i>Progne subis</i>	OF

* Non-native Species

Deer Lake State Park Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	OF
Tree swallow	<i>Tachycineta bicolor</i>	OF
Marsh wren	<i>Cistothorus platensis</i>	BM
Carolina wren	<i>Thryothorus ludovicianus</i>	MTC
House wren	<i>Troglodytes aedon</i>	MTC
Winter wren	<i>Troglodytes troglodytes</i>	MTC
Ruby-crowned kinglet	<i>Regulus calendula</i>	MTC
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>	WP, SHB
Hermit thrush	<i>Catharus guttatus</i>	SH, SCF
Gray-cheeked thrush	<i>Catharus minimus</i>	SH, SCF
Wood thrush	<i>Hylocichla mustelina</i>	SCF
American robin	<i>Turdus migratorius</i>	MTC
Gray catbird	<i>Dumetella carolinensis</i>	MTC
Northern mockingbird	<i>Mimus polyglottos</i>	MTC
Brown thrasher	<i>Toxostoma rufum</i>	MTC
European starling	<i>Sturnus vulgaris*</i>	DV
Cedar waxwing	<i>Bombycilla cedrorum</i>	OF
Yellow-rumped warbler	<i>Dendroica coronata</i>	MTC
Prairie warbler	<i>Dendroica discolor</i>	MTC
Yellow-throated warbler	<i>Dendroica dominica</i>	MTC
Palm warbler	<i>Dendroica palmarum</i>	MTC
Yellow warbler	<i>Dendroica petechia</i>	MTC
Pine warbler	<i>Dendroica pinus</i>	MTC
Common yellowthroat	<i>Geothlypis trichas</i>	MTC
Black-and-white warbler	<i>Mniotilta varia</i>	MTC
Northern parula	<i>Parula americana</i>	MTC
Prothonotary warbler	<i>Protonotaria citrea</i>	MTC
American redstart	<i>Setophaga ruticilla</i>	MTC
Orange-crowned warbler	<i>Vermivora celata</i>	MTC
Hooded warbler	<i>Wilsonia citrina</i>	MTC
Savannah sparrow	<i>Passerculus sandwichensis</i>	MF, WP
Field sparrow	<i>Spizella pusilla</i>	MF, WP
Chipping sparrow	<i>Spizella passerina</i>	MTC
White-throated sparrow	<i>Zonotrichia albicollis</i>	MTC
Northern cardinal	<i>Cardinalis cardinalis</i>	MTC
Indigo bunting	<i>Passerina cyanea</i>	SHB
Rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>	MTC
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>	MTC
Scarlet tanager	<i>Piranga olivacea</i>	MTC
Summer tanager	<i>Piranga rubra</i>	MTC
Red-winged blackbird	<i>Agelaius phoeniceus</i>	CIS, MS, RD
Orchard oriole	<i>Icterus spurius</i>	MAH
Brown-headed cowbird	<i>Molothrus ater</i>	CS
Boat-tailed grackle	<i>Quiscalus major</i>	BD
Common grackle	<i>Quiscalus quiscula</i>	MTC

* Non-native Species

Deer Lake State Park Animals

Common Name	Scientific Name	Primary Habitat Codes (for imperiled species)
Eastern meadowlark.....	<i>Sturnella magna</i>	MF, WP
House finch.....	<i>Carpodacus mexicanus</i>	MTC
Purple finch.....	<i>Carpodacus purpureus</i>	MTC
Tufted titmouse.....	<i>Parus bicolor</i>	MTC
Carolina chickadee.....	<i>Parus carolinensis</i>	MTC
Pine siskin.....	<i>Spinus pinus</i>	MTC
American goldfinch.....	<i>Spinus tristis</i>	MTC
House sparrow.....	<i>Passer domesticus</i> *	DV

MAMMALS

Virginia opossum.....	<i>Didelphis virginiana</i>	CS, DV, MTC
Unidentified bat species.....		OF
Eastern cottontail.....	<i>Sylvilagus floridanus</i>	MT
Marsh rabbit.....	<i>Sylvilagus palustris</i>	MTC
Beaver.....	<i>Castor Canadensis</i>	BM (occasional)
Pocket gopher.....	<i>Geomys pinetis</i>	SH
Eastern woodrat.....	<i>Neotoma floridana</i>	MTC
Cotton mouse.....	<i>Peromyscus gossypinus</i>	MTC
Choctawhatchee beach mouse.....	<i>Peromyscus polionotus allophrys</i>	BD
Eastern gray squirrel.....	<i>Sciurus carolinensis</i>	MTC
Hispid cotton rat.....	<i>Sigmodon hispidus</i>	BM (grassy shoreline)
Eastern mole.....	<i>Scalopus aquaticus</i>	SH
Nine-banded armadillo.....	<i>Dasyus novemcinctus</i> *	MTC
White-tailed deer.....	<i>Odocoileus virginianus</i>	MTC
Coyote.....	<i>Canis latrans</i> *	MTC
Domestic cat.....	<i>Felis catus</i> *	MTC
River otter.....	<i>Lutra canadensis</i>	CDLK, BM
Striped skunk.....	<i>Mephitis mephitis</i>	MTC
Raccoon.....	<i>Procyon lotor</i>	MTC
Gray fox.....	<i>Urocyon cinereoargenteus</i>	MTC
Red fox.....	<i>Vulpes fulva</i>	MTC
Bottle-nosed dolphin.....	<i>Tursiops truncatus</i>	Gulf of Mexico

* Non-native Species

Primary Habitat Codes

TERRESTRIAL

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

PALUSTRINE

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

Primary Habitat Codes

Wet Prairie WP

LACUSTRINE

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

RIVERINE

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

SUBTERRANEAN

Aquatic Cave ACV
Terrestrial Cave TCV

ESTUARINE

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

MARINE

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

Primary Habitat Codes

ALTERED LANDCOVER TYPES

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

MISCELLANEOUS

Many Types of Communities.....	MTC
Overflying	OF

Addendum 6—Imperiled Species Ranking Definitions

Imperiled Species Ranking Definitions

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

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

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

FNAI GLOBAL RANK DEFINITIONS

- G1 Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or fabricated factor.
- G2 Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
- G3 Either very rare or local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
- G4 apparently secure globally (may be rare in parts of range)
- G5 demonstrably secure globally
- GH of historical occurrence throughout its range may be rediscovered (e.g., ivory-billed woodpecker)
- GX believed to be extinct throughout range
- GXC extirpated from the wild but still known from captivity or cultivation
- G#? Tentative rank (e.g., G2?)
- G#G# range of rank; insufficient data to assign specific global rank (e.g., G2G3)
- G#T# rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)
- G#Q..... rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)

Imperiled Species Ranking Definitions

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

Imperiled Species Ranking Definitions

LEGAL STATUS

FEDERAL

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

- LE Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.
- PE Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.
- LT Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.
- PT Proposed for listing as Threatened Species.
- C Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.
- E(S/A) Endangered due to similarity of appearance.
- T(S/A) Threatened due to similarity of appearance.
- EXPE, XE..... Experimental essential population. A species listed as experimental and essential.
- EXPN, XN.... Experimental non-essential population. A species listed as experimental and non-essential. Experimental, nonessential populations of endangered species are treated as threatened species on public land, for consultation purposes.

STATE

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

- FE Federally-designated Endangered
- FT Federally-designated Threatened
- FXN..... Federally-designated Threatened Nonessential Experimental Population
- FT(S/A) Federally-designated Threatened species due to similarity of appearance

Imperiled Species Ranking Definitions

ST..... Listed as Threatened Species by the FWC. Defined as a species, subspecies, or isolated population, which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat, is decreasing in area at a rapid rate and therefore is destined or very likely to become an endangered species within the near future.

SSC..... Listed as Species of Special Concern by the FWC. Defined as a population which warrants special protection, recognition or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance or substantial human exploitation that, in the near future, may result in its becoming a threatened species.

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

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

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

Addendum 7—Cultural Information

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (revised March 2013)

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

A. General Discussion

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

B. Agency Responsibilities

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

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

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

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

C. Statutory Authority

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

D. Management Implementation

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

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (revised March 2013)

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

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

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

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at:

http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

* * *

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

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

Phone: (850) 245-6425

Toll Free: (800) 847-7278

Fax: (850) 245-6435

Eligibility Criteria for National Register of Historic Places

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

- 1) Districts, sites, buildings, structures, and objects may be considered to have significance in American history, architecture, archaeology, engineering, and/or culture if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
 - a) are associated with events that have made a significant contribution to the broad patterns of our history; and/or
 - b) are associated with the lives of persons significant in our past; and/or
 - c) embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and/or
 - d) have yielded, or may be likely to yield, information important in prehistory or history.

- 2) Ordinarily cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years shall not be considered eligible for the *National Register*. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:
 - a) a religious property deriving its primary significance from architectural or artistic distinction or historical importance; or
 - b) a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
 - c) a birthplace or grave of an historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; or
 - d) a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, distinctive design features, or association with historic events; or

Eligibility Criteria for National Register of Historic Places

- e) a reconstructed building, when it is accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and no other building or structure with the same association has survived; or a property primarily commemorative in intent, if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
- f) a property achieving significance within the past 50 years, if it is of exceptional importance.

Preservation Treatments as Defined by Secretary of Interior's Standards and Guidelines

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

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

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

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

Addendum 8—Timber Management Analysis

Deer Lake State Park Timber Management Analysis

Deer Lake State Park is designated single use by the Board of Trustees of the Internal Improvement Trust (Trustees) to provide for public outdoor recreation and the preservation of natural and cultural resources. Timber management activities proposed in this plan are consistent with this designation as they are a "one time" activity intended as an initial natural communities' restoration measure designed to improve the quality of the natural resources within the unit. Sustained timber harvest from quality natural communities considered to be in maintenance condition is not consistent with single use designation and will not be considered.

Timber Stand 1

Stand 1 consists of a total of 26 acres spanning adjacent portions of Management Zones 4 and 5, where natural encroachment of Choctawhatchee sand pine has occurred for several decades. The timber analysis is for sand pine only, as any longleaf pine, slash pine or on-site oaks found growing within this defined stand will not be harvested. The density of sand pines within Stand 1 is estimated at 700-1000 stems per acre. The trees are up to 50 years in age and range in diameter dbh (diameter at breast height) from 1 to 12 inches. The average dbh is 5-7 inches. The tallest trees are about 40 feet in height. There are scattered longleaf pines that are roughly 100 years old within the stand. The understory of this stand is open with very little woody or herbaceous vegetation, with the exception of a few small islands of wiregrass. In most areas the understory is best described as sand pine litter and deer moss lichen. Slope is very gently rolling, and there is a titi dominated, shrub bog, wetland branch that protrudes into the middle of the stand. This wetland is contiguous with the titi branch that runs along the east side of the stand. Due to concerns over impacts to low water crossings from heavy logging trucks, recommended access to Stand 1 is from the north through the adjacent Point Washington State Forest. Specifically, the stand will be accessed using the resource management road that splits MZ 1 and MZ 3.

Timber Stand 2

Stand 2 consists of a total of 8 acres spanning adjacent portions of Management Zones 9 and 6 where natural encroachment of Choctawhatchee sand pine has occurred for several decades. The timber analysis is for sand pine only, as any longleaf pine, slash pine or on-site oaks found growing within this defined stand will not be harvested. The density of sand pines within Stand 2 is estimated at 600-1000 stems per acre. The trees are up to 50 years in age and range in diameter dbh from 1 to 10 inches. The average dbh is 5-6 inches. The tallest trees are about 40 feet in height. There are scattered longleaf pines that are greater than 80 years old within the stand. The understory of this stand is open with very little woody or herbaceous vegetation, with the exception of widely scattered wiregrass and a few understory oaks. Slope is relatively flat and there is a basin swamp wetland along the north side of the stand. This stand is best accessed from the Shop Road entrance off of County Road 30A.

Timber Stand 3

Stand 3 consists of 5 acres within Management Zone 10 where natural encroachment of Choctawhatchee sand pine has occurred for several decades. The timber analysis is for sand pine only, as any longleaf pine, slash pine or on-site oaks found growing within this defined stand will not be harvested. The density of sand pines within Stand 3 is estimated at 700-1000 stems per acre. The trees are up to 50 years in age and range in diameter dbh from 1 to 12 inches. The average dbh is 5-7 inches. The tallest trees are about 40 feet in height. There are scattered longleaf pines that are greater than 80 years old within the stand. The understory of this stand is open with very little woody or herbaceous vegetation, with the exception of widely scattered wiregrass and a few understory oaks. Slope is relatively flat and there are no wetlands within or adjacent to the stand. This stand is best accessed from the Shop Road entrance off of County Road 30A.

Timber Stand 4

Stand 4 consists of a total of 57 acres spanning adjacent portions of Management Zones 12 and 13A where natural encroachment of Choctawhatchee sand pine has occurred for several decades. The timber analysis is for sand pine only, as any longleaf pine, slash pine or on-site oaks found growing within this defined stand will not be harvested. The density of sand pines within Stand 4 is estimated at 700-1000 stems per acre. The trees are up to 50 years in age and range in diameter dbh from 1 to 12 inches. A few of the sand pines are larger than 12 inches dbh. The average dbh is 6-7 inches. The tallest trees are about 40 feet in height. There are scattered longleaf pines that are greater than 80 years old within the stand. Much of the understory of this stand within MZ 12 is open with very little woody or herbaceous vegetation, with the exception of widely scattered wiregrass and a few understory oaks. The majority of the understory within MZ 13A is much more overgrown with understory oaks. Many of the understory oaks here are on-site species including sand live oak and bluejack oak as well as some myrtle oak. Slope is relatively flat across the majority of the stand, with the exception of the far eastern edge where the elevation abruptly drops about 25 feet down to the adjacent floodplain of lower Camp Creek. This stand is best accessed from the Shop Road entrance off of County Road 30A.

Timber Stand 5

Stand 5 consists of 17 acres within Management Zone 16A where natural encroachment of Choctawhatchee sand pine has occurred for several decades. This is a former sandhill site, with relict "old growth" turkey oaks scattered within. The timber analysis is for sand pine only, as any longleaf pine, slash pine or on-site oaks found growing within this defined stand will not be harvested. The density of sand pines within Stand 5 is estimated at 700-1000 stems per acre. Some of the older sand pines are over 50 years in age and range in dbh from 8-12 inches. However the majority of sand pines range from 10-30 years in age and range in diameter dbh from 1 to 6 inches. The average dbh for the entire stand is estimated to be 6-7 inches. The tallest trees are about 40 feet in height. There are scattered

Deer Lake State Park Timber Management Analysis

longleaf pines that are over 100 years old within the stand. The understory is relatively open with widely scattered wiregrass. Access through the zone is limited due to overcrowding of sand pines. Slope is relatively flat across the majority of the stand, with the exception of the far northern edge where the elevation abruptly drops about 25 feet down to the adjacent floodplain of lower Camp Creek. This stand is best accessed from the resource management entrance at the southeast corner MZ 16A. This access point is located at the end of Sea Crest Drive.

Addendum 9—Land Management Review

Deer Lake State Park Land Management Review


Memorandum

Florida Department of Environmental Protection

July 20, 2012

TO: Marianne Gengenbach, Program Administrator
Division of State Lands 

FROM: Parks Small, Chief, Bureau of Natural and Cultural Resources
Division of Recreation and Parks

Albert Gregory, Chief, Office of Park Planning 
Division of Recreation and Parks

SUBJECT: Response to Draft Land Management Review (LMR)
Deer Lake State Park

The Land Management Review draft report provided to DRP determined that management of Deer Lake State Park by the Division of Recreation and Parks met the two tests prescribed by law. Namely, the review team concluded that the land is being managed for the purposes for which it was acquired and in accordance with the land management plan.

Below are Additional Recommendations and Checklist Findings (items the LMR determined should be further addressed in the management plan update) of the draft LMR report, with our manager's response to each. The responses were prepared via a coordinated effort of the park, district office, and our offices.

The team recommends that seepage slopes and wet prairies be a high priority for management and restoration. (VOTE: 7+, 0-)

Managing Agency Response: Agree; seepage slope will remain a high priority for restoration at this park.

The team recommends that the Florida Park Service pursue a partnership with other agencies to establish a baseline for monitoring groundwater levels as it relates to natural communities. (VOTE: 7+, 0-)

Managing Agency Response: Agree; the Division will pursue a partnership to establish baseline groundwater levels.

PLAN REVIEW

Increased natural resources survey/management resources, specifically the other habitat management effects monitoring, with documentation in the management plan.

Managing Agency Response: The Division feels that the current management effects monitoring efforts at the park are adequate to provide enough information to make informed land management decisions. The Division agrees that the current monitoring efforts should be described in the management plan. A description and justification of the park's monitoring program will be included in the updated management plan.

Increased restoration of ruderal areas, specifically beach dune restoration and seepage slope/wet prairie restoration, with documentation in the management plan.

Managing Agency Response: The general goals of the beach dune and seepage slope/wet prairie restoration currently underway will be mentioned in the update of the management plan in general terms. Site specific details are currently outlined in a more detailed restoration plan. The Division

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agrees that a general description of park's restoration program should be included in the updated management plan and the site specific restoration plan will be referenced.

Increased monitoring of non-native, invasive & problem species, specifically the prevention and control of pest/pathogens, with documentation in the management plan.

Managing Agency Response: Agree; a more detailed description of non-native and invasive species distribution and current monitoring efforts will be included in the updated management plan as will a description of the general approach to pests and pest pathogens.

The need for surface water monitoring, specifically water quality, with documentation in the management plan.

Managing Agency Response: Park and District staff will not be able to maintain a water quality monitoring program on their own. Instead, staff will attempt to enlist assistance of the Water Management District (or local Water Authority or local health department) to assist the park in regular water quality/quantity monitoring.

Adjacent property concerns to be addressed, specifically discussion of potential surplus land determination, with documentation in the management plan.

Managing Agency Response: Agree; the Division will address adjacent property concerns and the determination of surplus lands in the update of the management plan.

FIELD REVIEW

Natural communities, regarding sandhill, blackwater stream and seepage slope, with documentation in the management plan.

Managing Agency Response: Agree; the intent to return sandhill, blackwater stream and seepage slope to maintenance condition will be outlined in the updated Unit Management Plan and will reference detailed, site specific, restoration plans. The Division disagrees that the restoration should exceed the area, or pace that is addressed in the site specific restoration plans.

Resource management prescribed fire, specifically the frequency, with documentation in the management plan.

Managing Agency Response: Agree; Park staff will continue to increase the frequency of prescribed burns to meet targeted fire return intervals. Discussion about the Division's burn database, the District 1 annual burn plan and an explanation of fire return intervals to meet the ecological objectives will be included in the update of the Unit Management Plan.

The need for infrastructure, specifically staffing and funding, with documentation in the management plan.

Managing Agency Response: Agree; if it is determined that additional 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. The updated unit management plan will address land management funding needs. However, Division funding is determined annually by the Florida Legislature and funds are allocated to the 160 state parks according to priority needs.

Thank you for your attention.

/gk

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