Lake Griffin State Park

Approved
Unit Management Plan

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks
December 2016

TABLE OF CONTENTS

RESOURCE MANAGEMENT COMPONENT

LAND USE COMPONENT

IMPLEMENTATION COMPONENT

TABLES

MAPS

LIST OF ADDENDA

INTRODUCTION

Lake Griffin State Park is located in Lake County, within the City of Fruitland Park. Access to the park is from U.S. Highway 441/27 (see Vicinity Map). The Vicinity Map also reflects significant land and water resources existing near the park.

Lake Griffin State Park was initially acquired on October 31, 1946 under the Murphy Lands Acts of 1937. Currently, the park comprises 620.69 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to the park and on January 23, 1968, the Trustees leased (Lease Number 3631) the property to DRP under a 99-year lease. The current lease will expire on January 22, 2067.

Lake Griffin 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 Lake Griffin State Park is to provide exceptional resource-based public outdoor recreation opportunities to Florida residents and visitors while ensuring the conservation and protection of valuable natural resources, including diverse imperiled species and unique ecosystems, in Florida's Lake Region.

Park Significance

- The park protects more than 500 acres of marsh and lacustrine natural communities which are hydrologically connected to the Palatlakaha and Apopka Chain of Lakes and Ocklawaha drainage basin at the headwaters of the Green Swamp.

- The park protects critical remaining habitat for local wildlife, including three imperiled plant species and nine imperiled animal species.

- The park protects and interprets the 2nd largest live oak tree in Florida, estimated to be 300 – 500 years old; a regional as well as statewide landmark.

- The park provides public access to and scenic recreation around the park's namesake, Lake Griffin, the 8th largest lake in Florida.

Lake Griffin State Park is classified as a state recreation area in the DRP's unit classification system. In the management of a state recreation area, major emphasis is placed on maximizing the recreational potential of the unit. However, preservation of the park's natural and cultural resources remains important. Depletion of a resource by any recreational activity is not permitted. In order to realize the park's recreational potential the development of appropriate park

facilities is undertaken with the goal to provide facilities that are accessible, convenient and safe, to support public recreational use or appreciation of the park's natural, aesthetic and educational attributes.

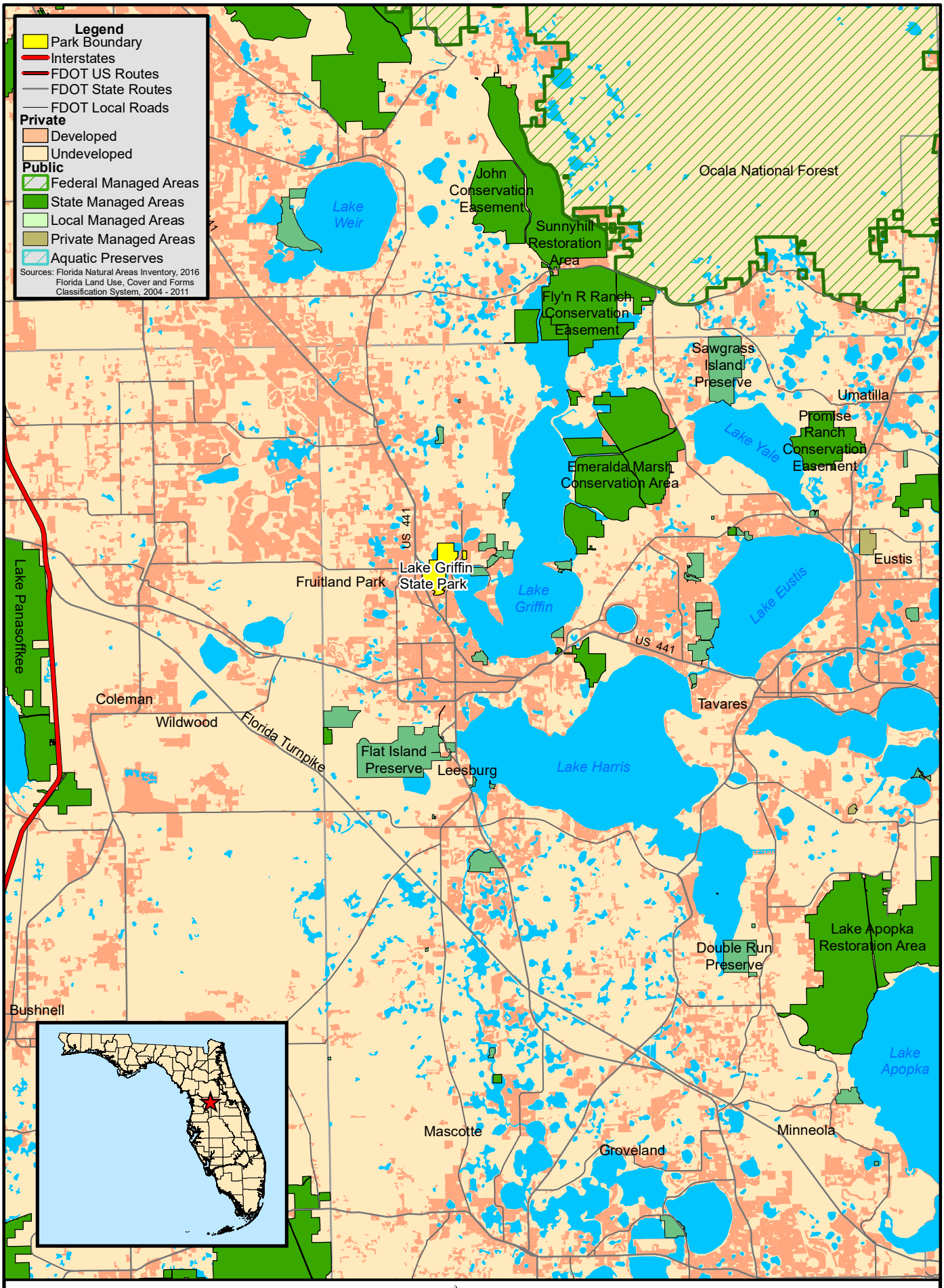
Purpose and Scope of the Plan

This plan serves as the basic statement of policy and direction for the management of Lake Griffin 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: Resource Management Component, Land Use Component and 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, (2) timeframes for completing actions and objectives and (3) estimated costs to complete each action and objective.


Legend
Park Boundary
Interstates
FDOT US Routes
FDOT State Routes
FDOT Local Roads
Private
Developed
Undeveloped
Public
Federal Managed Areas
State Managed Areas
Local Managed Areas
Private Managed Areas
Aquatic Preserves
Sources: Florida Natural Areas Inventory, 2016
Florida Land Use, Cover and Forms
Classification System, 2004 - 2011
Ocala National Forest
John
Conservation
Easement
Lake
Weir
Sunnyhill
Restoration
Area
Fly'n R Ranch
Conservation
Easement
Sawgrass
Island
Preserve
Umatilla
Promise
Ranch
Conservation
Easement
Lake Yale
Emeralda Marsh
Conservation Area
US 441
Lake Griffin
State Park
Fruitland Park
Lake
Griffin
Lake Eustis
Eustis
US 441
Lake Panasofkee
Coleman
Wildwood
Florida Turnpike
Tavares
Flat Island
Preserve
Leesburg
Lake Harris
Lake Apopka
Restoration Area
Double Run
Preserve
Bushnell
Lake
Apopka
Mascotte
Minneola
Groveland
LAKE GRIFFIN
STATE PARK
N
0
1.25
2.5
5 Miles
Florida Department of Environmental Protection
Division of Recreation and Parks
VICINITY
MAP

LAKE GRIFFIN STATE PARK

N

0 750 1,500 3,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

REFERENCE MAP

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.

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 harvesting of fuel wood, hardwood chippings, and mulch 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 harvesting of fuel wood, hardwood chippings, and mulch would be appropriate at this park as additional sources of revenue for land management since it would be 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.

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.

Public Participation

DRP provided an opportunity for public input by conducting a public hearing and an advisory group meeting to present the draft management plan to the public. These meetings were held on Tuesday, July 19 and Wednesday, July 20, 2016, respectively. Meeting notices were published in the Florida Administrative Register, Friday, July 8, 2016, Volume 42, Number 132, 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

Lake Griffin 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

In accordance with Chapter 258, Florida Statutes, the Division of Recreation and Parks (DRP) has implemented resource management programs for preserving for all time the representative examples of natural and cultural resources of statewide significance under its administration. The resource component describes the natural and cultural resources of the park. In addition, the component identifies methods to manage resources. Management measures identified in this plan are consistent with the Florida Department of Environmental Protection's (Department) 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 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, conditions and events that occur beyond park boundaries can affect proper management of resources. The implementation of an evaluation program of ecosystem management is necessary to assess resource conditions, evaluate management activities, and refine management actions. Included is review of local comprehensive plans and development permit applications for park and ecosystem impacts.

Management zones for the entire park are delineated areas that are used to reference management activities (see Management Zones Map). The basis for shape and size of each zone may be determine, for example, by natural community types, burn zones, 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.

Table 1. Lake Griffin State Park Management Zones		
Management Zone	**Acreage**	**Managed with Prescribed Fire**
LG 1A	35.2	Y
LG 1B	128.3	Y
LG 2A	9.3	Y
LG 2B	10.9	Y
LG 3A	4.46	N
LG 3B	8.2	Y
LG 4	138.9	Y
LG 5	77.1	Y
LG 6	17.3	N
LG 7	127.2	Y

RESOURCE DESCRIPTION AND ASSESSMENT
Natural Resources

Topography
Lake Griffin State Park is just west of Lake Griffin; Lake Griffin is the northernmost lake in the series of lakes comprising the Ocklawaha Chain of Lakes in Lake County. The area is within the Central Lakes physiographic division of the Central Lake District (Brooks 1981a). This district contains sandhill karst with solution basins. Specifically, within the DRP there are large solution basins, including Lake Griffin, that are proportionally equal in area to the upland areas.

Elevations at the unit range from just below 60 feet at Dead River to about 100 feet in the uplands. The highest points occur west of the campground area, in the northern part of the main unit, and in the satellite parcel to the east of the main park.

Geology
The major geological formation underlying the unit is the Hawthorne Formation of the middle to upper Miocene (Brooks 1981b). The formation has Groveland Park facies and is deeply weathered clayey sand and granular sand with beds of kaolinitic sand. The unweathered lower portion is greenish phosphatic sand and sandy clay.

Soils
The Natural Resources Conservation Service (formerly the U.S. Soil Conservation Service) identified ten soil types in Lake Griffin State Park in the soil survey of Lake County. The locations of these soil types within the unit are on the Soils Map. Addendum 3 contains detailed descriptions of the soil types within this unit.

Limited soil erosion occurs at Lake Griffin State Park. Due to the slope in the campground, soils are subject to washing into the nearby basin swamp. Control methods are being pursued. Previously proposed recommendations included

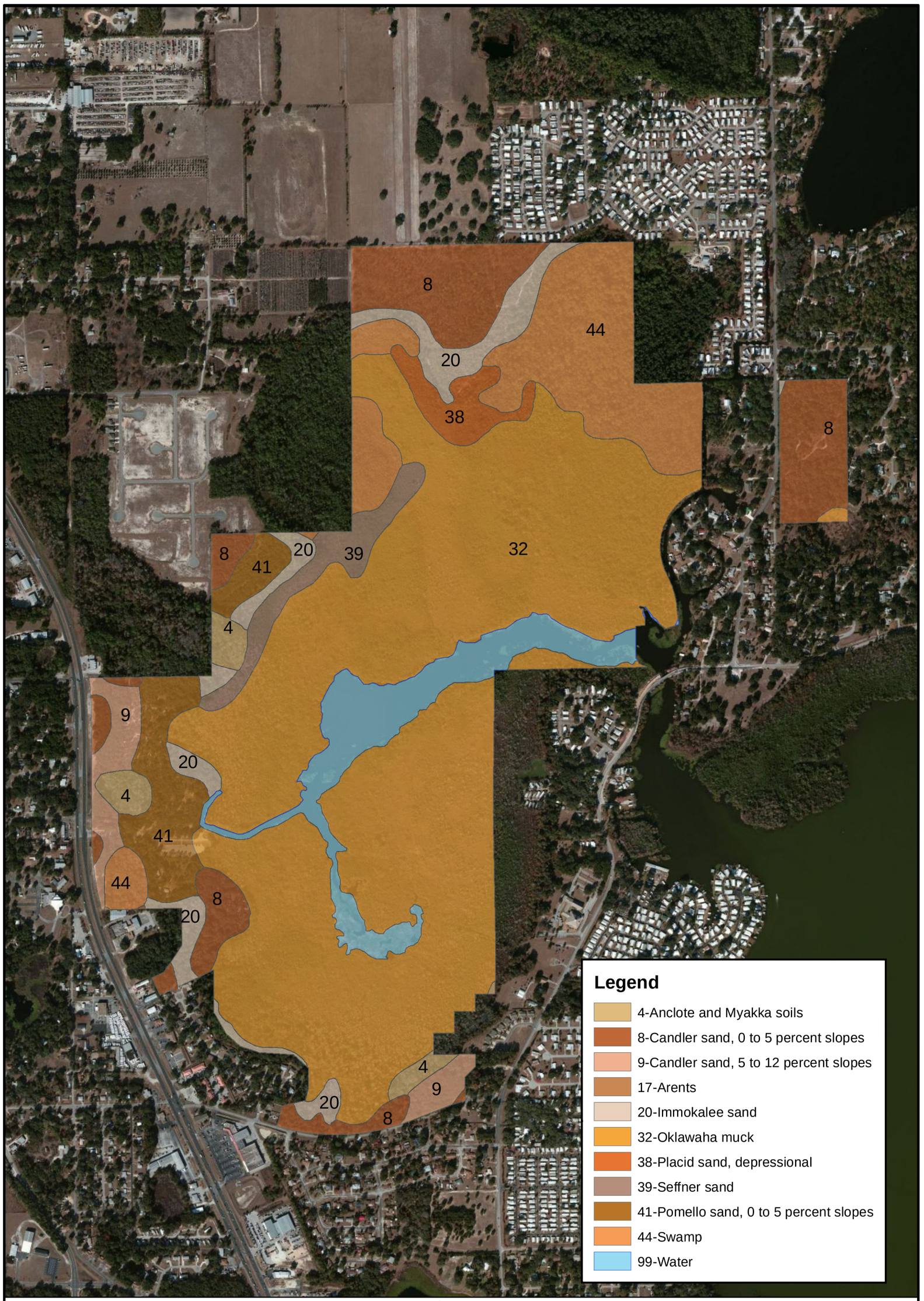
LAKE GRIFFIN STATE PARK

N

0 500 1,000 2,000 Feet

Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

MANAGEMENT ZONES MAP


8
44
20
38
8
8
41
20
39
32
4
9
20
4
41
44
8
20
4
9
20
8
Legend
4-Anclote and Myakka soils
8-Candler sand, 0 to 5 percent slopes
9-Candler sand, 5 to 12 percent slopes
17-Arents
20-Immokalee sand
32-Oklawaha muck
38-Placid sand, depressional
39-Seffner sand
41-Pomello sand, 0 to 5 percent slopes
44-Swamp
99-Water
LAKE GRIFFIN STATE PARK
N
0
500
1,000
2,000 Feet
Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011
SOILS MAP

reducing the number of campsites, relocating campsites, planting buffers, and installing barriers to prevent campers from creating paths for stormwater runoff. To date, park staff has implemented native vegetation plant buffers between sites and have also installed barriers to concentrate visitor traffic to appropriate areas. These measures have noticeably reduced erosion in these areas, although some erosion is still occurring, and a long-term solution is not clear at this time. More information regarding the park's hydrology and how the current development within the campground is contributing to the erosion needs to be documented and possible solutions then evaluated.

When the boat launch and picnic area parking lot were built many years ago, few controls for runoff and erosion were included. The slope of this paved area was allowing stormwater to run directly into the Dead River, leading to Lake Griffin. The park worked with Lake County Water Authority to install a stormwater retrofit in 2003; this project successfully reduced the runoff into the Dead River. Future management activities will follow generally accepted best management practices to prevent soil erosion and conserve soil and water resources on site.

Minerals

There are no known mineral deposits at Lake Griffin State Park.

Hydrology

Lake Griffin State Park lies within the Ocklawaha River drainage basin (Hand et al 1996). The river's headwaters originate south of the unit in the Green Swamp and the Palatlakaha Chain of Lakes and Lake Apopka. The Palatlakaha Chain and Lake Apopka feed into the Ocklawaha Chain of Lakes. A series of water control structures exist on this chain and water levels are manipulated. Lake Griffin, which lies just east of the park, is one of the Ocklawaha Chain of Lakes, also known as the Harris Chain of Lakes. At the north end of Lake Griffin, the actual Ocklawaha River channel starts. The river flows north eventually emptying into the St. Johns River. The St. John's River Water Management District is responsible for water control in the unit as well as the surrounding Ocklawaha River basin.

The Dead River, which connects to Lake Griffin, is within the unit's boundaries. The park boundary does not include Lake Griffin proper. The Dead River is a natural feature with man-made channels connected to it. The Dead River is surrounded by extensive, but degraded, basin marsh. The basin marsh has been invaded by hardwood shrubs such as wax myrtle (*Myrica cerifera*) and Carolina willow (*Salix caroliniana*). The restoration feasibility of the marsh to a more herbaceous condition should be evaluated and pursued if possible. The successful restoration of this community may be more closely related to water level rise than any other management technique. The park has no control over lake water levels, but should work with local officials to have input on park-related issues. The portion of the Dead River that is within the unit's boundary is designated as an Outstanding Florida Water.

Two manmade ditches exist within the park. One enters unit boundaries at the southwest corner of the park and follows the park's south boundary adjacent to the

Florida Medical Industries Inc. property. The second ditch enters the unit from the west boundary north of the Ranger Station. Both were installed in the early to mid-1900s. At that time stormwater treatment was not regulated in the same manner as today. Both ditches direct stormwater down slope eastward and into park wetlands where it then percolates or evaporates.

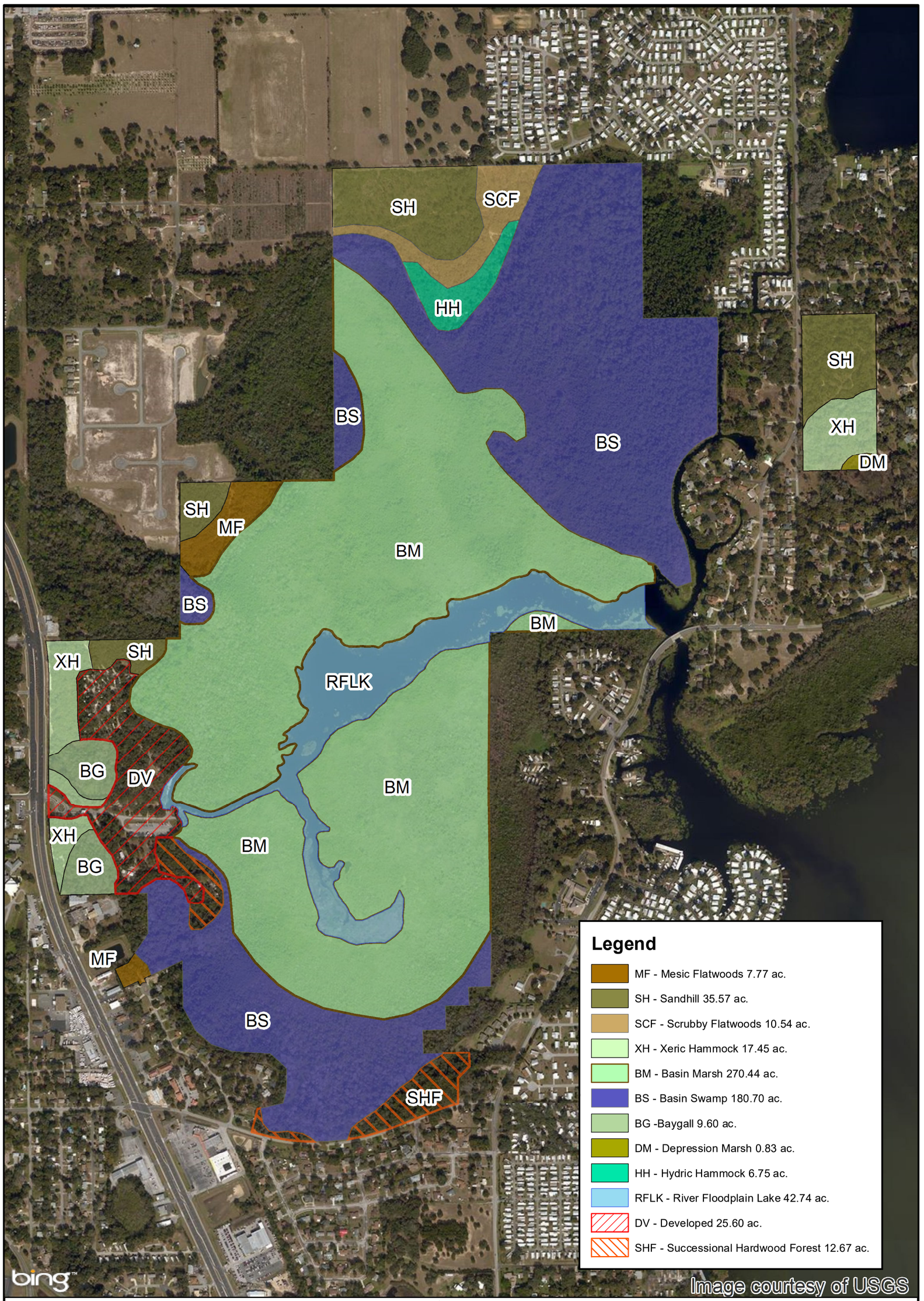
The recent widening of U.S. Highway 441 in 2012 required the construction of offsite retention ponds to mitigate for the additional stormwater that will be generated due to the increased impervious surface area. However, no previous impacts (e.g., the ditches on park property) were considered or mitigated by this project. At this time, it does not appear that the ditches within the park associated with stormwater drainage can be diverted. Obvious assumed impacts include altered water levels and hydroperiod within the park, potential offsite containments funneled into park, and exotic plant introduction. A hydrological survey of the park, which includes the current impacts to the park associated with these ditches and possible remediation will need to be conducted before actions can be prescribed.

Soil and groundwater contamination occurred at the park in the past from a mercury thermometer factory on adjoining property to the south owned by Florida Medical Industries. Discharge by the adjacent facility was believed to have entered wetlands within the park; this discharge has since been eliminated. The issue of contamination was investigated by FDEP; cleanup measures for the factory site were prescribed and completed. The cleanup was managed by the FDEP Waste Cleanup Program. As mercury remained in the soil above residential contaminant standards, the property owner had to institute a control measure. In this case, a two-foot soil cover was placed over the contaminated areas, and the site is not believed to be a risk to the park as it currently exists (pers. comm. J. White).

Natural Communities

This section of the management plan describes and assesses each of the natural communities found in the state park. It also describes the desired future condition of each natural community and identifies the actions that will be required to bring the community to its desired future condition (DFC). 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 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,



LAKE GRIFFIN STATE PARK

N

0 500 1,000 2,000 Feet

Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

NATURAL COMMUNITIES MAP

coastal strand and scrub, two communities with similar species compositions, generally have quite different climatic environments that necessitate different management programs. Some physical influences, such as fire frequency may vary from FNAI descriptions for certain natural communities in this plan.

At the point in time when the park's natural communities have reached their desired future condition, they are considered to be in a maintenance status and share certain basic characteristics and management requirements. These include the maintenance of the optimal fire return intervals for fire dependent communities, the maintenance control of non-native plant and animal species, the maintenance of natural hydrological functions (including historic water flows and water quality), the maintenance of proper vegetative structure that represents the natural diversity of the community, the maintenance of healthy populations of plant and wildlife species (including those that are imperiled or endemic), and the maintenance of intact ecotones between natural communities across the landscape.

The park contains ten distinct natural communities as well as altered landcover and developed areas (see Natural Communities Map).

MESIC FLATWOODS

Desired future condition: An overstory of longleaf pine (*Pinus palustris*) should be present with slash pine intermixed in wetter areas of the community type. Native herbaceous groundcover is over at least 50 percent of the area and is less than three feet in height. Saw palmetto (*Serenoa repens*) shrub component comprises no more than 50 percent of total shrub species cover, and are also less than three feet in height. Shrub species include saw palmetto, gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), runner oak (*Quercus elliottii*), dwarf live oak (*Q. minima*), shiny blueberry (*Vaccinium myrsinites*), and dwarf huckleberry (*Gaylussacia dumosa*). Shrubs are generally 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 2-5 years.

Description and assessment: Mesic flatwoods occur between the basin swamp and sandhill communities in the northern part of the park (LG01a and LG01b). In the past limited burning of these flatwoods areas has occurred related to concerns over creating duff fires near an urban area. A portion of this natural community exists south of the sandhill portion of LG01a it will receive fire as frequently as the sandhill portion of the zone. A small area of mesic flatwoods exists south of the southern fire line in LG01a. No exotic plants have been located in this community to date. This community is considered to be in fair condition.

General management measures: Prescribed fire should be applied regularly to this community where it is contained by a fire line to prevent invasion by swamp-adapted trees such as red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), and red bay (*Gordonia lasianthus*). Growing season fire is preferred when site conditions allow to provide full ecological benefit.

SCRUBBY FLATWOODS

Desired future condition: scrubby flatwoods have an open canopy of widely spaced pine trees and a low, shrubby understory dominated by scrub oaks and saw palmetto, often interspersed with areas of barren white sand. Principal canopy species are longleaf pine (*Pinus palustris*) and slash pine (*P. elliottii*) in northern and Central Florida. The shrub layer consists of one or more of the four scrub oaks, sand live oak (*Quercus geminata*), myrtle oak (*Q. myrtifolia*), Chapman's oak (*Q. chapmanii*), and scrub oak (*Q. inopina*), and typical shrubs of mesic flatwoods including saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*), rusty staggerbush (*Lyonia ferruginea*), fetterbush (*L. lucida*), coastalplain staggerbush (*L. fruticosa*), and deerberry (*Vaccinium stamineum*). The shrub layer of scrubby flatwoods is not solely comprised of oaks; grasses and dwarf shrubs make up a substantial portion of the cover. Grasses include wiregrass (*Aristida stricta* var. *beyrichiana*), broomsedge bluestem (*Andropogon virginicus*), and little bluestem (*Schizachyrium scoparium*); dwarf shrubs include dwarf live oak (*Quercus minima*), runner oak (*Q. elliottii*), dwarf huckleberry (*Gaylussacia dumosa*), gopher apple (*Licania michauxii*), and shiny blueberry (*Vaccinium myrsinites*). A variety of forbs, many typical of drier types of mesic flatwoods, are present including coastalplain honeycomb-head (*Balduina angustifolia*), narrowleaf silkgrass (*Pityopsis graminifolia*), October flower (*Polygonella polygama*), and sweet goldenrod (*Solidago odora*). Bare sand openings are often present but are generally small. Fire return intervals between 5 and 15 years, variability in season and frequency of prescribed fires to produce a mosaic of burned and unburned patches would be most desirable for maintaining high biotic diversity in this community.

Description and assessment: scrubby flatwoods can be found on the northern side of the park in LG01a, adjacent to the sandhill community. No exotic plant or animal species have been detected. This community is in good condition.

General management measures: ongoing application of prescribed fire into this community is necessary to keep it in a good condition. The zone should continue to be surveyed for exotic plants and animals and control measures implemented when exotic species are detected.

SANDHILL

Desired future condition: Dominant pines are usually longleaf pine. Herbaceous cover is 80 percent or greater, and is less than 3 feet in height. In addition to groundcover and pines characteristics, there are scattered individual trees, clumps or ridges of onsite oak species (usually turkey oaks (*Q. laevis*), sand post oak (*Q. margaretta*), and blue-jack oak (*Q. incana*)). In old growth conditions, sand post oaks are commonly 150-200 years old, and some turkey oaks are over 100 years old. The Optimal Fire Return Interval for this community is 1-3 years.

Description and assessment: Sandhill occurs in two separate areas of the park. The first area of sandhill occurs on a satellite parcel located to the east of the main park unit. This satellite parcel is divided into two management zones (LG02a and LG02b). The condition of LG02a is fair to poor, and the condition of LG02a is poor due to a historic lack of fire allowing succession to mesic or xeric hammock. There is currently no recorded burn history for either of these zones. LG02a is very unique and critical to the park, because it supports a naturally occurring population of the

federally endangered clasping warea (*Warea amplexifolia*). Lake Griffin is one of only a few publicly-owned parcels where warea is found. LG-02a contains the original 'parent colony' of warea for the park. Prior to the early 1990s, the natural communities on the parcel were allowed to succeed to xeric hammock, with the exception of one small (approximately 0.1 acre) area. After district biological staff received a grant from the U.S. Fish and Wildlife Service in 1993, concerted restoration efforts began in LG-02a. The ongoing community restoration project for clasping warea is improving the overall quality of the remnant sandhills on this parcel (see information in Designated Species section).

The second area of sandhill is the northwest corner of LG01a. This sandhill is in good condition. LG01a had a good burn history with short (2-3 year) fire return interval and continual burning until approximately 1997. After 1997 the zone was not burned for 13 years. Relict sandhill, now mostly xeric hammock, also occurred to the east of the intact regularly burned sandhill. In 2007-2008 efforts were made to include this relict sandhill into the zone confines of LG01a in order to include this area in this zone's burning cycle and hopefully reintroduce fire and begin restoration of this area to sandhill. Fire lines were installed around the xeric hammock to include it into LG01a. In 2010 the zone with additional acres was burned in the early growing season (May). Mechanical treatment by a chainsaw crew followed the prescribed fire to reduce the hardwoods not impacted by fire that were encroaching into the sandhill and also to open up the canopy of the xeric hammock to allow sunlight to penetrate to the ground. LG01a also contains a population of clasping warea. This population is the result of extensive work to expand Lake Griffin State Park's population of this listed species. Efforts to establish this plant here date back to the mid-1980s. This site has also been the subject of a graduate student's thesis experiment focusing on warea (Black 1999). Natalgrass (*Melinis repens*) has established within the zone and will require frequent and repeated herbicide treatment to bring it under control and ultimately eradicate it.

General management measures: Management of the sandhill community will include the continued removal of exotic plant species and the application of prescribed fire. Some sandhill areas which are degraded will require ongoing restoration prior to burning. More specific management details can be found in the Resource Management Program section of this plan. As discussed in the introduction of this management plan, harvesting of select forest products to enhance restoration may be appropriate for certain tracts.

XERIC HAMMOCK

Desired future condition: Typically considered a late successional stage of scrub or sandhill that generally occurs in small isolated patches on excessively well drained soils. Vegetation consists of a low closed canopy dominated by live oak that provides shady conditions. Typical plant species may also include Chapman's oak, and laurel oak. Sand pine, slash pine or longleaf pine may also be a minor component. The understory will typically include saw palmetto, fetterbush, myrtle oak, yaupon (*Ilex vomitoria*), Hercules' club (*Aralia spinosa*) and Florida rosemary. Sparse groundcover layer of wiregrass and other herbaceous species may exist but are typically absent. A continuous leaf litter layer may be present. Overgrown scrub

in need of fire and/or mechanical treatment should not be confused with true xeric hammock. The fire return interval will be the same as the interval for the adjoining pyric community.

Description and assessment: Several areas have succeeded or are in the process of succeeding into this community type. LG01a, LG02a, LG02b, LG03a, LG-06, LG-04, and LG-07 contain xeric hammock or have areas in the process of succeeding to xeric hammock. Many of the park facilities have been placed in this community, and in some cases, have entirely displaced it. This is especially the case in the campground, although historically, the campground area consisted of sandhill. The campground will be maintained as hammock.

General management measures: Management activities to reverse the successional processes are ongoing in LG-01a and LG-02a. Where possible, xeric hammock should be incorporated into the fire regimes of the fire-type communities surrounding them, as in LG01a, with the intent being to impact the edges and push the xeric hammock back incrementally with each burn. After fire is applied assessments should be made and mechanical treatment options appropriate for the site should be considered to further reduce the oak component if fire is not effective. As discussed in the Introduction of this management plan, harvesting of select forest products to enhance restoration may be appropriate for certain tracts.

BASIN MARSH

Desired future condition: Basin marshes include emergent herbaceous and low shrub species dominating most of the area with an open vista. Trees will be few and if present occur primarily in the deeper portions of the community. Dominant vegetation in basin marsh will include maidencane (*Panicum hemitomon*), cutgrass (*Leersia* sp.), common reed (*Phragmites australis*), pickerelweed (*Pontederia cordata*), arrowheads (*Sagittaria* sp.), buttonbush (*Cephalanthus occidentalis*), St. John's wort (*Hypericum fasciculatum*), and coastalplain willow (*Salix caroliniana*). Water level fluctuations and regular high water periods are required to maintain this community structure. The Optimal Fire Return Interval for this community is 2-10 years depending on fire frequency of adjacent communities.

Description and assessment: Basin marsh represents the largest community type at the unit; found on either side of the Dead River. Hardwoods are invading in many areas of the marsh due to a lack of fluctuation in water levels and due to a lack of periodic fire. The marsh is currently in poor condition but is restorable, depending on lake level management, removal of hardwoods, and application of prescribed fire.

General management measures: This community requires high water levels for extended periods to reduce hardwood encroachment. During drier times, fire would have moved into the marsh from the surrounding uplands (to the north and west). These fires would have swept through the marsh and extinguished themselves at the edge of the lake. Management objectives may include prescribed burning and mechanical treatments; however, these treatments must be combined with

fluctuating water levels to successfully reduce the invading population of hardwoods and increase the population of herbaceous marsh species.

BASIN SWAMP

Desired future condition: Basin swamps are forested basin wetlands that are highly variable in size, shape, and species composition and will hold water most days of the year. While mixed species canopies are common, the dominant trees will be pond cypress and swamp tupelo. Other canopy species can include slash pine (*Pinus elliottii*), red maple (*Acer rubrum*), dahoon holly (*Ilex cassine*), sweetbay (*Magnolia viginiana*), loblolly bay (*Gordonia lasianthus*), and sweetgum (*Liquidambar styraciflua*). Depending upon fire history and hydroperiod, the understory shrub component can be throughout or concentrated around the perimeter. Shrub species can include a variety of species including Virginia willow (*Itea virginica*), swamp dogwood (*Cornus foemina*), wax myrtle (*Myrica cerifera*), and titi (*Cyrilla racemiflora*). The herbaceous component will also vary and may include a diversity of species such as maidencane (*Panicum hemitomon*), ferns, arrowheads (*Sagittaria* spp.), lizard's tail (*Saururus cernuus*), false nettle (*Boehmeria cylindrica*), and sphagnum moss (*Sphagnum* spp.). Soils will typically consist of acidic, nutrient poor peat that is often overlying a clay lens or other impervious layer.

Description and assessment: This community occurs immediately upslope of the basin marsh. This community is intact but suffers from the invasion of exotic plants and low water levels associated with Lake Griffin. This community is in fair to poor condition.

General management measures: A small ditch was constructed at some point in the past to drain a wetland area south of the campground. The ditch runs to the east towards the basin marsh. Efforts should be made to remove and restore this ditch if possible. Several exotic plant species have occurred along this ditch and have been removed. This area should continue to be checked for exotics and treated as necessary.

BAYGALL

Desired future condition: Baygall consists of a wet densely forested, peat filled depression typically near the base of a slope. Seepage from adjacent uplands will maintain saturated conditions. Medium to tall trees will mainly consist of sweetbay (*Magnolia virginiana*), loblolly bay (*Gordonia lasianthus*), and/or swamp bay (*Persea palustris*). Occasionally sparse pines (*Pinus* spp.) may also exist. A thick understory consisting of gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), dahoon (*Ilex cassine*), titi (*Cyrilla racemiflora*), and red maple (*Acer rubrum*) will be typical with climbing vines such as greenbriar (*Smilax* spp.) and muscadine grape (*Vitis* spp.) will usually be abundant. The dominant baygall species are fire intolerant indicating an infrequent Optimal Fire Return Interval of 25-100 years. Frequent fires from adjacent communities should be allowed to enter baygall ecotone when conditions allow. Under drought conditions, when organic soils are dry, fire should be excluded if the expected smoldering cannot be mitigated.

Description and assessment: This community is located near the southwest corner of the unit. There is a shallow ditch near the south boundary of the unit which may adversely affect this community. Exotic plants are found within this community and treated when detected. In other respects, this system seems to be in good condition.

General management measures: Survey for and treatment of exotic plants in this community should be continued. The feasibility of removing or plugging the ditch in this community should be explored and implemented if possible.

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; one can often see the soil surface through the vegetation when the community is not inundated. Dominant vegetation in basin marsh and depression marsh may include maidencane (*Panicum hemitomon*), panic grasses (*Panicum* spp.), cutgrass (*Leersia* sp.), common reed (*Phragmites australis*), pickerelweed (*Pontederia cordata*), arrowheads (*Sagittaria* sp.), buttonbush (*Cephalanthus occidentalis*), St. John's wort (*Hypericum fasciculatum*), and coastalplain willow (*Salix caroliniana*). The Optimal Fire Return Interval for this community is 2-10 years depending on fire frequency of adjacent communities.

Description and assessment: There is portion of a depression marsh located in the southeast corner of LG02b. Unfortunately, the park only manages a small portion (the northwestern corner) of this marsh. The marsh receives runoff from outside the park and succession is occurring around its edges. Despite these negative impacts, the marsh is in good condition.

General management measures: Due to ownership issues, the park's management of the depression marsh will be minimal. Even with these constraints, the park should remove encroaching hardwoods from the edge of the marsh and talk with the neighbors about doing the same on their properties. This isolated wetland could become a very important breeding area for sandhill amphibians once the adjoining sandhills are fully restored.

HYDRIC HAMMOCK

Desired future condition: hydric hammock is an evergreen hardwood and/or palm forest with a variable understory typically dominated by palms and ferns occurring on moist soils, often with limestone very near the surface. While species composition varies, the community generally has a closed canopy of oaks and palms, an open understory, and a sparse to a moderate groundcover of grasses and ferns. The canopy is dominated by swamp laurel oak (*Quercus laurifolia*) and/or live oak (*Q. virginiana*) with varying amounts of cabbage palm (*Sabal palmetto*), American elm (*Ulmus americana*), sweetbay (*Magnolia virginiana*), red cedar (*Juniperus virginiana*), red maple (*Acer rubrum*), sugarberry (*Celtis laevigata*), sweetgum (*Liquidambar styraciflua*), and water oak (*Q. nigra*). Cabbage palm is a

common to dominant component of hydric hammock throughout most of Florida. Loblolly pine (*Pinus taeda*) may be frequent in some areas, but slash pine (*Pinus elliottii*) is less frequently encountered. In addition to saplings of canopy species, the understory may contain a few small trees and shrubs. American hornbeam (*Carpinus caroliniana*) is often frequent, and various other woody species may be present including swamp dogwood (*Cornus foemina*), small-leaf viburnum (*Viburnum obovatum*), common persimmon (*Diospyros virginiana*), swamp bay (*Persea palustris*), wax myrtle (*Myrica cerifera*), dwarf palmetto (*Sabal minor*), American beautyberry (*Callicarpa americana*), and needle palm (*Rhapidophyllum hystrix*). Vines may be frequent and diverse; common species are eastern poison ivy (*Toxicodendron radicans*), peppervine (*Ampelopsis arborea*), rattan vine (*Berchemia scandens*), trumpet creeper (*Campsis radicans*), climbing hydrangea (*Decumaria barbara*), yellow jessamine (*Gelsemium sempervirens*), greenbriers (*Smilax* spp.), summer grape (*Vitis aestivalis*), and muscadine (*Vitis rotundifolia*). Herb cover, when present, includes mostly graminoids and ferns with the following species commonly encountered: sedges (*Carex* spp.), woodoats (*Chasmanthium* spp.), smooth elephantsfoot (*Elephantopus nudatus*), Carolina scalystem (*Elytraria caroliniensis*), woodsgrass (*Oplismenus hirtellus*), maiden ferns (*Thelypteris* spp.), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis* var. *spectabilis*), toothed midsorus fern (*Blechnum serrulatum*), netted chain fern (*Woodwardia areolata*), and Virginia chain fern (*Woodwardia virginica*). Epiphytes such as golden polypody (*Phlebodium aureum*), air-plants (*Tillandsia* spp.), and shoestring fern (*Vittaria lineata*) increase in frequency to the south.
Species composition is mainly influenced by flooding patterns. In saturated and frequently flooded environments, hydrophytic trees such as swamp tupelo (*Nyssa sylvatica* var. *biflora*) become more abundant. Rises in terrain as well as ecotones to mesic hammock and upland hardwood forest induce a greater cover of upland species, specifically southern magnolia (*Magnolia grandiflora*), pignut hickory (*Carya glabra*), and saw palmetto (*Serenoa repens*).

Hydric hammock occurs on low, flat, wet sites where limestone may be near the surface and soil moisture is kept high mainly by rainfall accumulation on poorly drained soils. Hydric hammock is inundated only for short periods following heavy rains. The normal hydroperiod is seldom over 60 days per year. Fire may be rare or occasional depending on several factors including how often the surrounding community burns and hammock size.

Description and assessment: this community is found in LG01b. The community is in good condition; no exotic plant or animal species have been detected, and the hydrological conditions appear to be unaltered.
General management measures: the zone should continue to be surveyed for exotic plants and animals and control measures implemented when exotic species are detected.

RIVER FLOODPLAIN LAKE
Desired future condition: River floodplain lake can be characterized as a shallow open-water zone, with or without floating or submerged aquatic plants, which is surrounded by basin swamp or floodplain swamp. Although water levels may

fluctuate substantially, they will generally be permanent water bodies but may become dry during extreme droughts. Water flow will generally be non-existent to very slow moving. Existing vegetation can include American white waterlily (*Nymphaea odorata*), American lotus (*Nelumbo lutea*), spatterdock (*Nuphar advena*), duckweed (*Lemna* sp.), coontail (C*eratophyllum demersum*), watermilfoil (*Heterophyllum* sp.), and bladderwort (*Utricularia* sp.). Emergent plants may also occur but the community should be considered a marsh if emergent species dominate the water body. Substrates will be variable and may be comprised of peat, sand, alluvial clay or any combination of these. The water column for a swamp lake will typically be highly tannic with a moderate mineral content. Floodplain lake waters will generally be circumneutral, hard or moderately hard water with high mineral content. Desired future conditions will include minimizing disturbance in adjacent uplands that may result in an increase in sedimentation.

Description and assessment: The Dead River is considered a river floodplain lake. The canal that leads to the boat ramp at the park was dredged as an extension (approximately 1000') to the Dead River in the early to mid-1900s. Lake Griffin, as well as many of the other lakes in the Harris Chain of Lakes has been hypereutrophic due to the historic additions of enriched discharge to the system and due to a lack of fluctuations in lake levels. The Dead River is also affected by this problem and its limited circulation pattern. This community is considered to be in fair to poor condition.

General management measures: Much work is being done in the Ocklawaha River basin by St. Johns River Water Management District and the Lake County Water Authority to remove the discharges and improve the condition of this system. Reductions in the amount of gizzard shad in the lake in 2002 have produced very positive lake improvements, including a significant decrease in algae levels, an increase in Secchi disk depth readings, and a decrease in phosphorus levels. Submerged aquatic vegetation is making a comeback in the lake, as are desirable fish species (Dave Walker, SJRWMD, pers. comm.). The Lake County Water Authority also recently completed its Nutrient Reduction Facility (NuRF) which was designed to improve water quality on the Harris Chain of Lakes by treating and releasing water downstream of Lake Apopka which will result in increased water transparency which in turn will encourage the growth of beneficial submerged aquatic vegetation and improved wildlife habitat.

ALTERED LANDCOVER AND DEVELOPED AREAS

Desired future condition: It is hoped that the ruderal area in LG-07 can be restored to a sandhill community. Cost-effectiveness and consideration of other higher priority restoration projects within the park will determine the extent of restoration measures in ruderal areas.

Description and assessment: An old field ruderal area occurs between the parking area and shop in LG-07. Park staff is in the process of restoring the old field area to sandhills by removing bahiagrass (*Paspalum notatum*) and off-site oaks and planting typical sandhill species.

General management measures: Control of FLEPPC (Florida Exotic Pest Plant Council) Category I and II invasive plant species in ruderal areas will be ongoing. Prescribed fire may be applied for vegetative fuel management and will be required to maintain the site as sandhill once restoration plantings have occurred.

DEVELOPED

Desired future condition: The developed areas within the park will be managed to minimize the effect of the developed areas on adjacent natural areas. Priority invasive exotic plant species will be removed from developed areas. Other management measures include proper stormwater management and development guidelines that are compatible with prescribed fire management in adjacent natural areas.

Description and assessment: Developed areas include the campground, picnic area, boat ramp parking area, shop complex, ranger station, park roads, and residence area.

General management measures: Staff will continue to control invasive exotic plant species in developed areas of the park. Defensible space will be maintained around all structures in areas managed with prescribed fire or at risk of wildfires.

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 (FFWCC) or the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened or of special concern.

Clasping warea is found on the satellite parcel (LG02a and LG02b) at Lake Griffin. This plant species is listed as both federally and state endangered; very few populations are known to occur on public conservation lands. In 1993, district biological staff obtained a USFWS grant for the protection and restoration of this site. Wiregrass planting and oak removal work as well as fencing of the parcel were funded with this grant; the majority of the work was concentrated in LG02a where the warea are found. Due to lack of funding less work has occurred in LG02b, however this area would be a high restoration priority over other areas of the park because it would provide area for the main warea colony to expand. Restoration of the entire satellite parcel (approximately 21 acres) to sandhill (except for one area of depression marsh) is the ultimate goal and efforts are still underway to seek funding to complete this restoration. In addition to improving the habitat quality of the satellite parcel, warea seeds were collected and moved to burn zone LG01a in the main portion of the park by district biological staff; records indicate seeds were first introduced into LG01a in 1987 and 1989. Warea was observed blooming shortly after that, but was not documented again until later direct seeding attempts in 1997 were made by a University of Central Florida graduate student. The 1997 seeding attempt did not produce immediate results, but germination was documented in the winter of 1998 (Black 1999). The ongoing presence of warea has been documented annually since that time; periodic blooming has been observed

between 2000 and 2015 (Stout pers. comm.). Monitoring for the presence of warea in LG01a and LG02a is ongoing and should continue.

Scrub buckwheat (*Eriogonum longifolium* var. *gnaphalifolium*), which is listed as federally threatened and state endangered, is also found in LG01a. Management practices that include prescribed burning, oak thinning or removal, and exotic plant removal have been used to enhance the sandhill community for both scrub buckwheat, clasping warea, and sweetscented pigeonwings. Scrub buckwheat readily sprouts from direct seeding (Terry Godts, pers. comm.), which indicates that spreading the species to additional areas may be an efficient method to increase the number of plants.

Sweetscented pigeonwings (*Clitoria fragrans*), which is listed as federally threatened and state endangered, is found in the central portion of LG01a. Prescribed burning, reduction of the density and abundance of oak species, and exotic plant removal are all management practices that benefit this species. Sweet-scented pigeonwings are fairly abundant in LG01a (Stout pers. comm.).

Gopher tortoises (*Gopherus polyphemus*) are present in the sandhill portions of the park and can also be found in various areas of the ruderal and developed area. Since the upland areas at Lake Griffin are extremely limited in size, the gopher tortoise populations will always be in jeopardy of extirpation. It is generally accepted that fire management and good condition sandhills will provide suitable habitat for this species. However, the population is vulnerable to outside influences from adjoining land use changes.

Sand skinks (*Plestiodon reynoldsi*) were documented at the park by district biological staff in 2010; with sand skink trails located in LG01A, LG02B, and LG06. As part of his research into the species genetics, Dr. Henry Mushinsky (University of South Florida) sampled sand skinks in LG06 and collected tail snip samples.

An active bald eagle (*Haliaeetus leucocephalus*) nest (LA132A, located in the northeast corner of the unit) is monitored by the FWC. The nest is located in swamp and no management actions are required. It is located very close to a residential development, so periodic interpretation of eagle nesting habits may be needed for nearby residents.

Sherman's fox squirrel (*Sciurus niger shermani*) and burrowing owl (*Athene cunicularia floridana*) were historically documented as occurring on the property but have not been seen in several years.

Florida black bear (*Ursus americanus floridanus)* have occasionally been in the developed areas around the park and it is likely that bear enter the park, but there has not been a documented sighting within the park boundary. Any sightings of this species within the park should be documented.

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						
Scrub buckwheat *Eriogonum longifolium*		T	E	G4T3, S3	1, 2, 6, 7, 10, 13	1, 2
Clasping warea *Warea amplexifolia*		E	E	G1,S1	1, 2, 6, 7, 10, 13	1, 2
Sweetscented pigeonwings *Clitoria fragrans*		T	E	G3,S3	1, 2, 6, 7, 10, 13	1, 2
REPTILES						
American alligator *Alligator mississippiensis*	FT(S/A)			G5,S4	10, 13	1
Gopher tortoise *Gopherus polyphemus*	ST	C		G3,S3	1, 2, 6, 7, 10, 13	1, 2
Sand skink *Plestiodon reynoldsi*	FT	T		G2,S2	1, 2, 10	1, 2
BIRDS						
Little blue heron *Egretta caerulea*	SSC			G5,S4	10, 13	1
Snowy egret *Egretta thula*	SSC			G5,S3	10, 13	1
Tricolored heron *Egretta tricolor*	SSC			G5,S4	10, 13	1
Black skimmer *Rynchops niger*	SSC				10, 13	1
Least tern *Sterna antillarum*	ST			G4,S3	10, 13	1
MAMMALS						
Florida black bear *Ursus americanus floridanus*	ST			G5T3, S3	1, 2, 10, 13	1

Management Actions:

1. Prescribed Fire
2. Exotic Plant Removal
3. Population Translocation/Augmentation/Restocking
4. Hydrological Maintenance/Restoration
5. Nest Boxes/Artificial Cavities
6. Hardwood Removal
7. Mechanical Treatment
8. Predator Control
9. Erosion Control
10. Protection from Visitor Impacts (Establish Buffers)/Law Enforcement
11. Decoys (Shorebirds)
12. Vegetation Planting
13. Outreach and Education
14. Other

Monitoring Level:

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

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

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

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.

Of the exotic plant species that occur at Lake Griffin, coral ardisia (*Ardisia crenata*), camphor tree (*Cinnamomum camphora*), wild taro (*Colocasia esculenta*), air potato (*Dioscerea bulbifera*), Chinaberry (*Melia azedarach*), Natalgrass (*Melinis repens)* and bahiagrass (*Paspalum notatum*) pose the greatest threat, due to their ability to readily invade and disrupt natural communities. Sprenger's asparagus fern (*Asparagus densiflorus*), mimosa (*Albizia julibrissin*), and paper mulberry (*Broussonetia papyrifera*) also occur throughout the property and are treated upon detection. Chinese tallow (*Sapium sebiferum*) is occasionally seen and treated upon detection. Many of these exotics occur along the fence lines where the park adjoins private property and roads, and occurrences are caused by seed spread from private property as well as equipment.

Park staff survey for exotics and conduct treatments in-house. Contractual services have also been used to remove mature camphor tree infestations. Locations and treatments of exotics are recorded and entered into a statewide exotic plant database. Since approval of the last management plan in 2004, the park had treated 142.9 acres by the conclusion of fiscal year 2011 – 2012.

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. 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			
Rosary pea *Abrus precatorius*	I	2	LG-06, LG-07
Mimosa *Albizia julibrissin*	I	1	LG-01a
		2	LG-02b, LG-07
		6	LG-02a
Coral ardisia *Ardisia crenata*	I	2	LG-07
		6	LG-04
Sprenger's asparagus-fern *Asparagus aethiopicus*	I	2	LG-02b
		6	LG-02a, LG-07
Camphor-tree *Cinnamomum camphora*	I	1	LG-07
		2	LG-03a, LG-04, LG-06, LG-07
		3	LG-07
		6	LG-06
Wild taro *Colocasia esculenta*	I	2	LG-05
Air-potato *Dioscorea bulbifera*	I	2	LG-04, LG-06
		6	LG-02a, LG-04, LG-06, LG-07
Flamegold tee *Koelreuteria elegans*	II	6	LG-06
Lantana *Lantana camara*	I	1	LG-07
		2	LG-02b, LG-04, LG-06, LG-07
		6	LG-02a, LG-07
Cat's claw vine *Macfadyena unguis-cati*	I	6	LG-07
Natalgrass *Melinis repens*	I	2	LG-01a, LG-02a, LG-02b, LG-04, LG-06, LG-07

Table 3. Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
		6	LG-03a, LG-07
Nandina *Nandina domestica*	I	2	LG-02b
Tuberous sword fern *Nephrolepis cordifolia*	I	1	LG-01a
		3	LG-02b
		6	LG-02a, LG-07
Skunk vine *Paederia foetida*	I	1	LG-01a
		2	LG-07
Guinea grass *Panicum maximum*	II	6	LG-07
Water-lettuce *Pistia stratiotes*	I	2	LG-05
Water spangles *Salvinia minima*	I	2	LG-05
Bowstring hemp *Sansevieria hyacinthoides*	II	2	LG-07
Chinese tallow tree *Sapium sebiferum*	I	6	LG-07
Tropical soda apple *Solanum viarum*	I	6	LG-06
Wedelia *Sphagneticola trilobata*	II	1	LG-07
Arrowhead vine *Syngonium podophyllum*	I	6	LG-07
Caesar's weed *Urena lobata*	I	2	LG-04, LG-06, LG-07
		6	LG-01a, LG-02b, LG-07

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, DRP actively removes exotic animals from

state parks, with priority being given to those species causing the greatest ecological damage.

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

A former champion live oak (*Quercus virginiana*) exists in the xeric hammock, just south of the entrance of the park. A short walking trail leads out to the tree and its significance is interpreted to the public through signage.

A champion pond pine (*Pinus serotina*) formerly stood at Lake Griffin State Park, in the basin swamp near the western boundary, but was struck and killed by lightning sometime after 2004.

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. Likewise, a high-quality collection of artifacts from a significant archaeological site would be significant. 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: One archeological site is recorded for Lake Griffin State Park, and a second site is pending as it was recently submitted to the FMSF. Lake Griffin State Park falls within the East and Central Lake Archaeological Region, as defined by Drs. Jerald Milanich and Charles Fairbanks (1980). The area around Lake Griffin State Park was occupied and utilized by Native Americans during the full sequence of Pre-Columbian cultural periods, beginning with the Paleo Indian, and continuing through the Archaic, Mount Taylor, Orange, Transitional, and St. Johns Periods. Technological changes observed in the archaeological record, and evidence of increasing populations, marked each progressive period. The list of Native American cultures also included the Seminole, although they are primarily descended from Lower Creeks who fled to north Florida from Georgia and Alabama in the 18th Century (Milanich and Fairbanks 1980, Milanich 1994, Stanton 2001).

The one site currently listed with the FMSF is the LA2366 Jenna T. site, which is a mid-20th century home site consisting of concrete foundation pillars and debris piles consisting of brick, metal and glass near the park entrance in LG-06. The site is overgrown with vegetation and is not likely to be encroached upon by park visitors due to its lack of accessibility from public areas of the park; it should continue to be monitored for physical threats in the future.

There has not been a Phase I survey conducted within the park boundaries, though other sites in the FMSF have been documented in the local area. No other archaeological sites have been encountered within the park at this time, though some lithic scatter was observed in 2010 by district biological staff in LG-01a, an area that may have medium archaeological sensitivity based upon LIDAR scan modeling carried out in 2010 (Collins et al. 2010). This site is in the process of being documented and submitted to the FMSF for consideration.

An archaeological predictive model has been completed for the park (Collins et al. 2010). The model predicts areas of high, medium, and low probability of historical and/or cultural resources. Approximately 19% of the park falls in a high to medium sensitivity area. The terrestrial site model, when verified using the Florida Master Site File site location data, captured all of the recorded sites known at the time in the designated high and medium sensitivity areas.

Condition assessment: The condition of the LA2366 (the Jenna T. site) is considered to be good, based on its current stability. Park staff will continue to monitor the site to ensure its current condition.

General management measures: Today, vegetative growth, vandalism, and animal burrowing may threaten one of the recorded sites. One site is further threatened by its remote location from frequent staff work locations and the resulting difficulties maintaining a park staff presence, and by easy access by unauthorized visitors.

Evaluation of sites that do not currently have significance determined will be required and will help guide the management of these sites. All other archaeological sites should receive preservation treatments, which are essentially monitoring and maintenance.

There are also two natural resource areas that have been identified as visible in old photographs and have remained a culturally recognizable feature since Lake Griffin State Park was acquired. These are the large live oak located in management zone LG-07 near the park entrance, and a large stand of saw palmetto also located in LG-07 in the southern edge of the picnic area.

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 eleven historic buildings in the park built between 1963-1974 that have or will reach 50 years of age during the 10-year period covered by this plan. FMSF forms for the buildings are currently being prepared by Bureau of Natural Resources and Cultural Resources (BNCR) staff. All buildings are currently in use at the park and include the Picnic Area Restroom (BL046001), the Ranger Residence (BL046002), the Campground Bathhouse (BL046003), Shop - Shelter (BL046004), Sewage Treatment Building (BL046005), Manager's Residence (BL046006), Entrance Station (BL046007), Paint Locker (BL046008), the Picnic Shelter (BL046009), the Boathouse (BL046010) and the Equipment Shelter (BL046011). The architecture of the historic buildings is reminiscent of Florida Park Service buildings constructed during the middle of the 20th century.

Condition Assessment: All historic buildings are in good condition as of August 2012. They are in daily use by park staff and visitors and continually maintained. The large live oak and giant saw palmetto stand are in good conditions.

General management measures: The historic buildings should be inspected regularly, to identify potential threats or damage, and necessary rehabilitation treatments. The DHR should be consulted for guidance with rehabilitation treatments. The space around the large live oak should be not be impacted by deep ground disturbing activities within the drip line of the tree nor should heavy equipment which could compact its roots be driven overtop the trees roots. Beyond that, other management above normal resource protection measures are necessary at this time for the large live oak. No management measures other than preservation are necessary at this time for the giant palmetto stand.

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 itself does not currently maintain any collections of archeological artifacts or archival materials. Collections do exist within the park but consist primarily of tools, signs, maps, and plans that reflect changes within the park since its opening.

Condition Assessment: The pieces collected are in varying conditions, but are considered by management to be worthy of protecting to interpret the changes within the park over the past half century.

General management measures: No official assessment of the items collected has been made. This should be completed prior to prescribing management measures.

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
Jenna T. Site LA2366	American – 20th Century	Home Site	NS	Good	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 DRP's management goals for Lake Griffin 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, 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 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, 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 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.

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

A comprehensive hydrological assessment has not been completed for the park. The extent of the restoration need with regard to the park's hydrological systems is not fully known. This will be required prior to prescribing restoration needs. However, hydrological impacts have been observed by park staff which are likely negatively impacting the park resources. Features currently existing in the park which are suspected to have hydrological impacts are two drainage ditches constructed prior to current water runoff and treatment permitting requirements. The feasibility and impact of removing these ditches is unknown. Culverts exist on the western boundary of the park under Highway 441 and direct the runoff water into the ditches. A separate culvert on the south boundary of the park in the newest acquisition property also directs stormwater runoff into the park. Water level manipulations associated with the Chain of Lakes could be contributing to the degradation of the marsh systems adjacent to the Dead River. Funding

opportunities to conduct hydrological assessments should be sought and priorities for hydrological restoration should then be set.

Objective: Restore natural hydrological conditions and functions to approximately 1 acre of basin swamp natural community.
The ditch impacting the basin swamp community in LG06 should be filled or blocked. This would restore approximately 1 acre of the basin swamp. This acreage is an estimate and could change pending the completion of a hydrological assessment. Secondary benefits to hydrologically connected community types would result from this restoration. Park staff should consult with the Department of Transportation (DOT) and Lake County to pursue this project.

Objective: Analyze impacts of park roads on surface drainage and determine corrective measures.
Documentation of natural resource impacts by runoff as a result of park infrastructure should be made. The recent entrance road realignment project should be monitored and any impacts to park resources should be photographed. Corrective measures should be requested immediately.

Natural Communities Management

Goal: Restore and maintain the natural communities/habitats of the park.
As discussed above, 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 44 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 "Annual Target Acreage" range is calculated by dividing the total acreage of each natural community by the low end and by the high end of the "Optimal Fire

Return Interval" to provide a range for that natural community. The sum of all of the ranges for each natural community represents the total "Annual Target Acreage Range" for the park:

Table 5. Prescribed Fire Management		
Natural Community	Acres	Optimal Fire Return Interval (Years)
Sandhill	39.9	1-3
Mesic Flatwoods	6.3	2-5
**Depression Marsh	1.3	1-3
**Basin Marsh	190.3	2-5
Annual Target Acreage*	50-138	
*Annual Target Acreage Range is based on the fire return interval assigned to each burn zone. Each burn zone may include multiple natural communities. **This natural community is fire type, but requires extensive restoration work prior to being burned.		

The park is partitioned into management zones, including those designated as burn zones (see Management Zones Table and Map). It is important to note that a management zone delineation line does not necessarily correspond with a physical line or fuel break on the ground. 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.

Pre-burn preparation is an important consideration when applying fire to areas that have had fire excluded for long periods. Perimeter and internal firebreaks should be maintained and established according to agency policy. They should provide for adequate park protection and safe prescribed fire application. The complexity of the burn unit including the structure and height of the fuel within the zone and the receptiveness of fuels adjacent to the zone should be taken into account when preparing the firebreaks. Fire lines twice as wide as the fuel heights adjacent to the fire line is a general guideline for fire line preparation (i.e., 10-foot fuel heights adjacent to line = 20-foot-wide firebreak). Mechanical treatment of fuels adjacent to the firebreak may be needed to burn the zone safely. Perimeter lines need to be wide enough for defense and to allow fire equipment to move safely down the line. When widening the firebreaks, the vegetation along the boundary or fence line should be removed first to allow the perimeter break to function as such (the presence of wetlands, large native trees, or protected plant species that pose no line defense threat may be an exception). Any additional widening can then be made on the zone side of the firebreak. Work was completed on the fire line around LG01a to provide adequate line width and to also include additional fire-type acreage into the zone.

In sandhill and flatwoods areas, the buildup of leaf litter or duff beneath large pines can endanger those pines if fires burn during periods of low humidity or drought. Raking duff away from the bases of these trees will help prevent destruction of surface feeder roots and will minimize the danger of cambium damage from a smoldering subsurface fire.

Some of the old pines in the park may have been tapped for turpentine prior to park acquisition. The cat-faces left by the turpentine practices greatly increase the risk of killing these older trees during prescribed burns due to gaps left in the protective bark. These trees are also somewhat of a cultural resource as they depict a previous land use and are relicts of the turpentine industry. Prior to burning, underbrush and leaf litter should be raked from the canopy zones of cat-faced pines where reasonably feasible to do so. If located near firebreaks, cat-faced pines can be hosed down with water prior to ignition.

Preparation and planning for wildfires or escaped prescribed burns within the park should also be a component of the park's prescribed burn plan. Preferred fire suppression techniques and guidelines should be identified and discussed with the local FFS staff prior to the need for fire suppression within the park. Sensitive resources such as wetlands, imperiled species, and cultural sites should be identified and mapped and that information conveyed to FFS prior to any suppression activities.

In developing prescribed burn plans for the fire-adapted communities in the park, every effort should be made to mimic natural fire regimes in both timing. Fire season and fire-return interval are both critical components of a fire regime. In most cases after initial fuel reduction burns have been completed during the non-growing season, all burns should then be conducted during the natural lightning season, given staffing and weather constraints. However, non-growing season burns are favorable as a last resort to prevent the zone from going into backlog.

The basin marsh contained within Lake Griffin State park is in an altered state. The plant communities dominating this habitat have succeeded to a denser cover with more hardwoods than is desirable due hydrological alterations. Water levels are lower than historic levels and the dewatering of this community and presumably the lack of fire has led to its degradation. In its current state, applying fire to the basin marsh community alone may not meet the ecological need of the community and may produce undesirable outcomes such as prolonged burning of organic deposits. Hydrological restoration may be required prior to the application of fire in this community.

The sandhill community is the next largest fire-type community within the park and is currently the highest priority for burning. The majority of the sandhill is considered good quality and burnable in its current state, specifically the sandhill in LG01a which contains 21 acres of sandhill. However, 19 acres of sandhill within LG02a and LG02b is in a later successional state due to past disturbances and fire exclusion and will require restoration work prior to the application of fire. A number

of imperiled fire-adapted species occur within the sandhill community at the park. Clasping warea, sand skink, scrub buckwheat, and gopher tortoise have all been documented in LG01a, LG02a, and/or LG02b. These species benefit from the application of fire to this community, and fire is the main management tool used to maintain the habitats in which they occur. The timing of fire is especially important for clasping warea given its annual life cycle and endangered status. Special consideration for clasping warea should be given when burning LG01a and LG02.

The majority of the mesic flatwoods community, 5.7 acres, exists in LG01a. Very few acres of this community, 0.5 acres, are found between the sandhill and basin swamp communities. The portion of the community which exits within the fire line of zone LG01a will continue to be burned along with the sandhill in this zone. The mesic flatwoods that exist south of the containment line cannot be burned at this time due to lack of containment and the risk of burning extensive deposits of organic material in LG01b.

The one depression marsh community located in the park is found in the southeast corner of LG02b. this area would ideally be burned along with the rest of LG02b to reduce woody encroachment and organic materials, however LG02b is not currently in a burnable state and would not receive fire successfully under safe burning conditions. The majority of this depression marsh extends beyond the park boundary and occurs on private property; just over 1 acre of the depression marsh exists within the park. It would be ideal to include at least a portion, if not all, of this depression marsh in the burn regime of zone LG02b; this will depend on line construction feasibility and landowner permission being granted.

In order to track fire management activities, 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 and experience, backlog, if burn objectives have been met, etc. The database is also used for annual burn planning which allows 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 Community 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 and habitat restoration and maintenance actions recommended to create the desired future conditions in the sandhill community.

Objective: Conduct habitat and natural community restoration activities on 18 acres of degraded sandhill community.

The Natural Community Map shows most of LG02a and LG02b as sandhill. This designation is based on the soil type, historic aerials, and relict plant species found on the site. The long-term restoration goal is to restore all of the current hammock community in LG02 to sandhill. This will require the removal of large oaks and the installation and maintenance of a perimeter fire break around this parcel to allow for the safe application of fire. The fuel composition in LG02a is patchy, and burnable areas do exist as a result of previous restoration wiregrass plantings. The majority of the remainder of this zone is oaky and shaded and will require mechanical fuel treatments and wiregrass plantings prior to successful burning. LG02a may benefit from a dormant season fuel reduction burn prior to moving to a growing season fire regime. LG02b has succeeded further away from sandhill than LG02a. It will not burn under manageable fire weather conditions in its current state and will require extensive sandhill restoration including large oak removal and native groundcover plantings prior to burning. Fire should eventually be applied to these zones every 1-3 years. Highest priority should be given to the restoration of LG02a due to the current presence of clasping warea. Zone LG02b would follow in priority order. Photo points should be installed at various points around the project area and the phases of the project should be documented with photographs. Current monitoring for clasping warea should be continued, and monitoring for sand skinks should be implemented.

An important consideration for both mechanical treatment and fire management of LG02a is the presence of the endangered clasping warea. Burning and any mechanical treatments should be planned with the ecological requirements of this species in mind and executed with the objective of no detrimental effects to this plant species. Heavy equipment should not be permitted within the plant colony. Fire planning for this zone should include review and consideration of clasping warea life history. Information on clasping warea is limited and continued searches for newly available information and consultations with other warea land managers should be ongoing. Because clasping warea is an annual, burning should be timed to avoid key reproduction cycles such as germination, sprouting, blooming, and seeding. Clasping warea has not been observed in LG02b. Mechanical treatment requiring heavy equipment will most likely be required at some point for restoration practices in this area. Heavy equipment should also be excluded from the area where sand skink tracks have been documented in LG02b.

Natural Community 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.

Objective: Conduct natural community and habitat improvement activities on 4 acres of community sandhill.

LG01a contains the best sandhill in the park. It is an intact sandhill with much plant diversity, but is small in size. This zone is currently in a burnable state and considered to be in rotation. Spring growing season fire every 1-3 years is ideal for LG01a. Keeping this zone on a short fire return interval now that the extended backlog has been removed will be a high priority for resource management at this park.

Small scale hardwood reduction projects following burns should continue in the zone where fire is not able to penetrate oaks until the oak density is reduced to levels which can be maintained by the application of fire. The zone contains pockets of oak and edge effects as a result of burning on limited wind directions. There is an oak component in the eastern and southern portions of the zone which has expanded. Oak removal has been conducted along the north fire line and should be continued into the zone focusing on water oaks (*Quercus nigra*), laurel oaks (*Quercus laurifolia*), and live oaks. Following prescribed burns, larger oaks which are not impacted should be selected for removal in an effort to open up the canopy to promote more sandhill ground cover species to colonize and expand. This process should begin in the best portion of the sandhill and work out into lesser quality habitat. Turkey oaks should be removed selectively and a low density of mature trees should be maintained.

An important fire management consideration for LG01a is the presence of the endangered clasping warea. Burning is the best management practice for these areas at this time, however it should be planned with warea in mind and executed with an objective of no detrimental effects to this plant species. Fire planning for this zone should include review of clasping warea life history. Information on clasping warea is limited and continued searches for newly available information and consultations with other warea land managers should be ongoing. Because clasping warea is an annual, burning should be timed to avoid key reproduction cycles such as germination, sprouting, blooming, and seeding. Sand skink tracks have also been observed in this zone. Any ground disturbing activities should be excluded from areas where clasping warea and sand skinks have been documented.

Photo points are already established at LG01a and they should be used annually to document changes to the vegetation structure. Current monitoring for clasping warea should be continued, and monitoring for sand skinks should be implemented.

Imperiled Species Management

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

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 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.

Objective: Monitor and document 2 selected imperiled animal species in the park.

Park and District staff will monitor and document the park's gopher tortoise population per the DRP's established guidelines. All attempts will be made to survey for gopher tortoises following prescribed burns. Survey techniques will follow current accepted best practices.

Monitoring for sand skinks will be conducted and their locations documented. In addition to pedestrian surveys conducted during the spring, cover boards should be considered as a sampling tool.

The DRP will continue to depend upon the partnerships with other agencies and academic institutions in the monitoring of imperiled species and to expand the park's documentation of species occurrences within the park.

Objective: Monitor and document 2 selected imperiled plant species in the park.
Park and District staff will continue to monitor known locations of clasping warea and scrub buckwheat. A monitoring protocol currently exists for clasping warea and may be used to monitor scrub buckwheat.

Exotic Species Management

Goal: Remove exotic and invasive plants and animals from the park and conduct needed maintenance control.
DRP actively removes invasive exotic species from state parks, with priority being given to those causing the ecological damage. Removal techniques may include mechanical treatment, herbicides or biocontrol agents.

Objective: Annually treat 10 acres of exotic plant species in the park.
On average, the exotic plant removal need is at least 10 acres per year. Highest priority for exotic plant removal should be placed on keeping the intact natural communities within the park free of exotics and any small infestations eliminated before they grow too large to control in-house. Plant species ranked as Category I or II by the Florida Exotic Pest Plant Council (FLEPPC) are the highest priority for treatment. After initial treatment, regular follow-up monitoring of the treated site to detect regrowth or new infestations should be conducted and follow-up treatments done. Infestations should be mapped and infestation and treatment information entered regularly into the FPS Exotic Plant Database.

Objective: Implement control measures on 2 nuisance and exotic animal species in the park.
The park occasionally has to remove feral or stray cats and dogs from the property. These animals should be turned over to the county animal control facility. This park currently has no impacts from feral hogs and does not require removal activities at this time.

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 DRP's statutory responsibilities and an analysis of the park's resource needs and values. The long-term management goal for forest communities in the state park system is

to maintain or re-establish old-growth characteristics to the degree practicable, with the exception of those communities specifically managed as early successional.

A timber management analysis was not conducted for this park since its total acreage is below the 1,000-acre threshold established by statute. Timber management will be re-evaluated during the next revision of this management plan.

Arthropod Control Plan

Lake Griffin State Park does have an Arthropod Control Plan in place. All DRP lands are designated as "environmentally sensitive and biologically highly productive" in accordance with Ch. 388 and Ch. 388.4111 Florida Statutes. If a local mosquito control district proposes a treatment plan, DRP works with the local mosquito control district to achieve consensus. DRP does not authorize new physical alterations of marshes through ditching or water control structures. By policy of DEP since 1987, aerial adulticiding is not allowed, but larviciding and ground adulticiding (truck spraying in public use areas) can be authorized by the park manager. Mosquito control plans temporarily may be set aside under declared threats to public or animal health by State Officials. Treatment records are maintained by the Lake County Mosquito and Aquatic Plant Management Division.

Additional Considerations

Lake Griffin State Park has management authority of 400-foot of sovereign submerged lands along the Dead River where it is within the park's boundary. A private landowner has constructed a dock on park property which also extends into this sovereign submerged land. The dock is located in the northeast portion of LG05 north of a housing development. Efforts to address the dock construction have been made with no resolution to date. Options to remove the dock from park property should be evaluated or to otherwise remedy this construction on park property per approved agency policies and state regulations.

Cultural Resource Management

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. DRP is implementing the following goals, objectives, and actions, as funding becomes available, to preserve the cultural resources found in Lake Griffin 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, or modifications to the proposed project to avoid or mitigate potential adverse effects. In addition, any demolition or substantial alteration to any historic structure or resource must be submitted to DHR for consultation and DRP must demonstrate that there is no feasible alternative to removal and must provide a strategy for documentation or salvage of the resource. Florida law further requires that DRP consider the reuse of historic buildings in the park in lieu of new construction and must undertake a cost comparison of new development versus rehabilitation of a building before electing to construct a new or replacement building. This comparison must be accomplished with the assistance of DHR.

Objective: Assess and evaluate 1 of 1 recorded cultural resource in the park.

The one recorded site will be assessed during the duration of this plan. These assessments will include an examination of the 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 will compare the current condition with previous evaluations, preferably using photo points.

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

The park currently has one archaeological site recorded in the FMSF. BNCR staff are in the process of recording one additional archaeological site and 11 historic structures to the FMSF. A predictive model for high, medium, and low probabilities of locating archaeological sites within the park has been conducted and has been made available to park staff.

Based on findings of the predictive modeling, there appear to be 6 areas within the park covering 97 acres that were identified as having high to moderate likelihoods of containing archaeological sites and should be prioritized for conducting a Level 1 archaeological survey.

The completion of oral history interviews and a compilation of park administrative records would provide additional documentation about the history of the park.

Objective: Bring 1 of 1 recorded cultural resource into good condition.

Site LA2366 is currently stable and in good condition. The park currently has a good practice of regularly inspecting and maintaining all cultural resources located in the park. This practice should continue as should the updates to the FMSF for each resource. If needed, restoration, rehabilitation, stabilization, or preservation projects for buildings, structures, landscape, and archaeological sites should be designed and implemented in order of priority and with consultation from BNCR and DHR.

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. DRP considered recommendations of the land management review team and updated this plan accordingly.

Lake Griffin State Park has not been the subject of a land management review.

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

Lake Griffin State Park is located within Lake County in the City of Fruitland Park, about 4 miles north of Leesburg and 10 miles east of The Villages and Wildwood in the central part of the state. Approximately 895,351 people live within 30 miles of the park (U.S. Census 2010).

The population of Lake County is relatively diverse in terms of demographic characteristics. According to the U.S. Census Data (2013), approximately 28% of residents in the county identify as black, Hispanic or Latino, or another minority group. Half (50.8%) of residents can be described as youth or seniors (U.S. Census 2013). Lake County ranked 30th statewide in per capita personal income at $34,782 (below the statewide average of $41,497) (U.S. Bureau of Economic Analysis 2013).

There are numerous resource-based recreation opportunities within 15 miles of the park. The Marjorie Harris Carr Cross Florida Greenway is a 110-mile corridor supporting hunting, camping, fishing, boating, and horseback riding. Ocala National Forest has amenities for camping, cabins, and paddling. Ocklawaha Prairie Restoration Area and Palatlakaha Environmental and Agricultural Reserve Park offers wildlife viewing, hiking, horseback riding, biking, fishing, and hunting. Sabal Bluff Preserve, Flat Island Preserve, and Bourlay Historic Nature Park allow hiking, fishing, paddling, and birding. Hickory Point is a recreational waterfront park with boat ramps, picnic pavilions, and swimming beach.

The park is located in the Central Vacation Region, which includes Hardee, Highlands, Lake, Marion, Orange, Osceola, Polk, Seminole, and Sumter counties (Visit Florida 2013). According to the 2013 Florida Visitor Survey, approximately 34.7% of domestic visitors to Florida visited this region. Roughly 88% of visitors to the region traveled to the Central Region for leisure purposes. The top activities for domestic visitors were theme/amusement/water parks and shopping. Summer was the most popular travel season, but visitation was generally spread throughout the year. More than half of visitors traveled by non-air (51%), reporting an average of 4.6 nights and spending an average of $170 per person per day (Visit Florida 2013).

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

Existing Use of Adjacent Lands

Portions of the park fall within Lake County and City of Fruitland Park jurisdictions. Adjacent parcels in Lake County are predominantly rural residential, with a mobile home community to the northeast and central east. On the southern park boundary, parcels are medium density single-family dwellings. There is a light industrial district at the northwest corner of Lake Griffin State Park along U.S. Highway 27/Route 441, which serves as the parks western boundary. The park is bounded to the east by Lake Griffin.

Planned Use of Adjacent Lands

Lake County is a partner of the East Central Florida Regional Planning Council, which also includes Volusia, Seminole, Osceola, Orange, and Brevard County. The region had a population exceeding 3.1 million in 2010 (Census 2010). The City of Fruitland Park is anticipating a population over 20,000 by 2030 (City of Fruitland Park 2009). This is a substantial rate of growth compared to the city's 2000 population of 3,186 residents. Growth is attributed to The Village's new project. In 2014, construction started on the "Villages of Fruitland Park," a development that is predicted to double the population of the city. The project

includes over 2,000 new homes and three community centers. Some homes will be priced at over $1 million, introducing wealthier citizens into the area and doubling the current median house value. Villages of Fruitland Park is expected to generate a wave of new development activity, including commercial development, which will generate higher tax revenues.

Lands to the east and north of the park in Lake County are designated for rural transition. To the south, and west, parcels are specified for urban low and medium density development. The previously zoned light industrial district is designated for regional office uses. Surrounding lands to the north and south in the City of Fruitland Park are identified for open space and conservation uses allowing passive recreation. To the northwest, there are single and multi-family dwellings ranging from medium to high densities. Commercial uses are specified along the highway beside the western park boundary. Surrounding land within the City of Fruitland Park is zoned for low to medium density residential development.

Florida Greenways and Trails System (FGTS)

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 Coast to Coast Connector is planned to extend east-to-west approximately 10 miles south of the park and surrounding lakes. There is a segment gap near the park, allowing opportunities for future connections to the west coast of Florida. The Tav Lee Corridor may entail construction of a local trail extending within one half mile of Lake Griffin State Park. DRP coordination with development of the Tav Lee Corridor may facilitate a direct connection to the 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, site compatibility, and relation to the unit's classification.

Recreation 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

Much of the park's land area consist of wetlands, primarily basin marsh and swamp that provide habitat for a diversity of wildlife. Upland areas provide accessible vantage points for wildlife observation. Visitor access is concentrated in the southwestern portion of the park, on the park's high ground. Oak hammocks provide scenic settings for the park's campground and picnic area.

Water Area

Lake Griffin State Park is located near the western end of Lake Griffin, which is part of the Ocklawaha Chain of Lakes. The park contains a 1,000-foot long canal that links the park's boat basin to the Dead River, which runs for nearly another mile through the park before emptying into Lake Griffin. The Dead River offers opportunity for paddling, boating, and fishing.

Shoreline

The Dead River is surrounded by an expansive freshwater marsh that renders the shoreline inaccessible for swimming or shoreline fishing but provides scenic boating and wildlife viewing opportunities.

Natural Scenery

The park contains two areas of sandhill, which provide scenic areas of upland that are well suited for nature walking and wildlife observation. A contrasting wetland landscape dominates the remainder of the park. Although less easily accessible, the park's extensive basin marsh and swamp provide remarkable views typical of Florida's lush Central Lake Region.

Significant Habitat

The park protects significant habitat for several imperiled plant species, including the federally –listed clasping warea and scrub buckwheat. Likewise, the park protects habitat for a broad variety of imperiled animal species, including gopher tortoises, sand skinks, Sherman's fox squirrel, and bald eagle. Collectively, the diversity of wildlife that finds refuge in the park's unspoiled natural areas attracts many visitors.

Natural Features

A state-ranked live oak is located in the park, measuring 10 feet in diameter and 83 feet in height with a limb-span of 131 feet. As the second largest live

oak in Florida, visitors to the park have a rare opportunity to observe the remarkable magnitude of the state's distinctive fauna.

Archaeological and Historic Features

The area around Lake Griffin State Park was occupied by Native Americans during the full sequence of Pre-Columbian cultural periods, beginning with the Paleo Indian, and continuing through the Archaic, Mount Taylor, Orange, Transitional, and St. Johns periods. The park provides opportunities for visitors to interpret the ways in which early inhabitants of the region utilized this lakeside environment.

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

Prior to state acquisition, portions of the property had been subdivided for a planned housing development. During the early 1900s, the uplands had been extensively timbered, removing the majority of longleaf pines. From 1904 until 1910, J.D. Robertson used a tract of longleaf pine in the west end of the present-day park for turpentining. Through the 1920s and 1930s, the park's uplands were used for citrus farming. Initial purchase of 383 acres to create Lake Griffin State Park began in 1946 under the Murphy Lands Act. Adjacent lands that would later become part of the park continued to be covered with orange groves into the 1980s. The City of Fruitland Park donated additional acreage in 1961 and construction of park facilities began.

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.

Portions of Lake Griffin State Park within unincorporated Lake County have been zoned for rural residential development (R-1). In the future land use map, the park's parcels are designated for urban low and rural transitional uses. Parcels within the park boundary in Fruitland Park are zoned for recreation. The southern portion of the park is zoned for open space and conservation activities. There are no expected conflicts between the future land use or zoning designations and typical state park land uses in the city or county.

Current Recreational Use and Visitor Programs

Resource-based outdoor recreation in Florida continually increases in popularity. The growth of Florida's resident and tourist populations brings increasing pressure for access that is more widespread and for denser levels of public use in the natural areas available to the public. Consequently, one of the greatest challenges for public land management today is the balancing of reasonable

levels of public access with the need to preserve and enhance the natural and cultural resources of the protected landscapes.

Lake Griffin State Park recorded 53,307 visitors in FY 2014/2015. By DRP estimates, the FY 2014/2015 visitors contributed $4,817,684 in direct economic impact, the equivalent of adding 77 jobs to the local economy (FDEP 2015).

Other Uses

No uses, other than resource-based recreation, conservation, and interpretation, are designated at this park

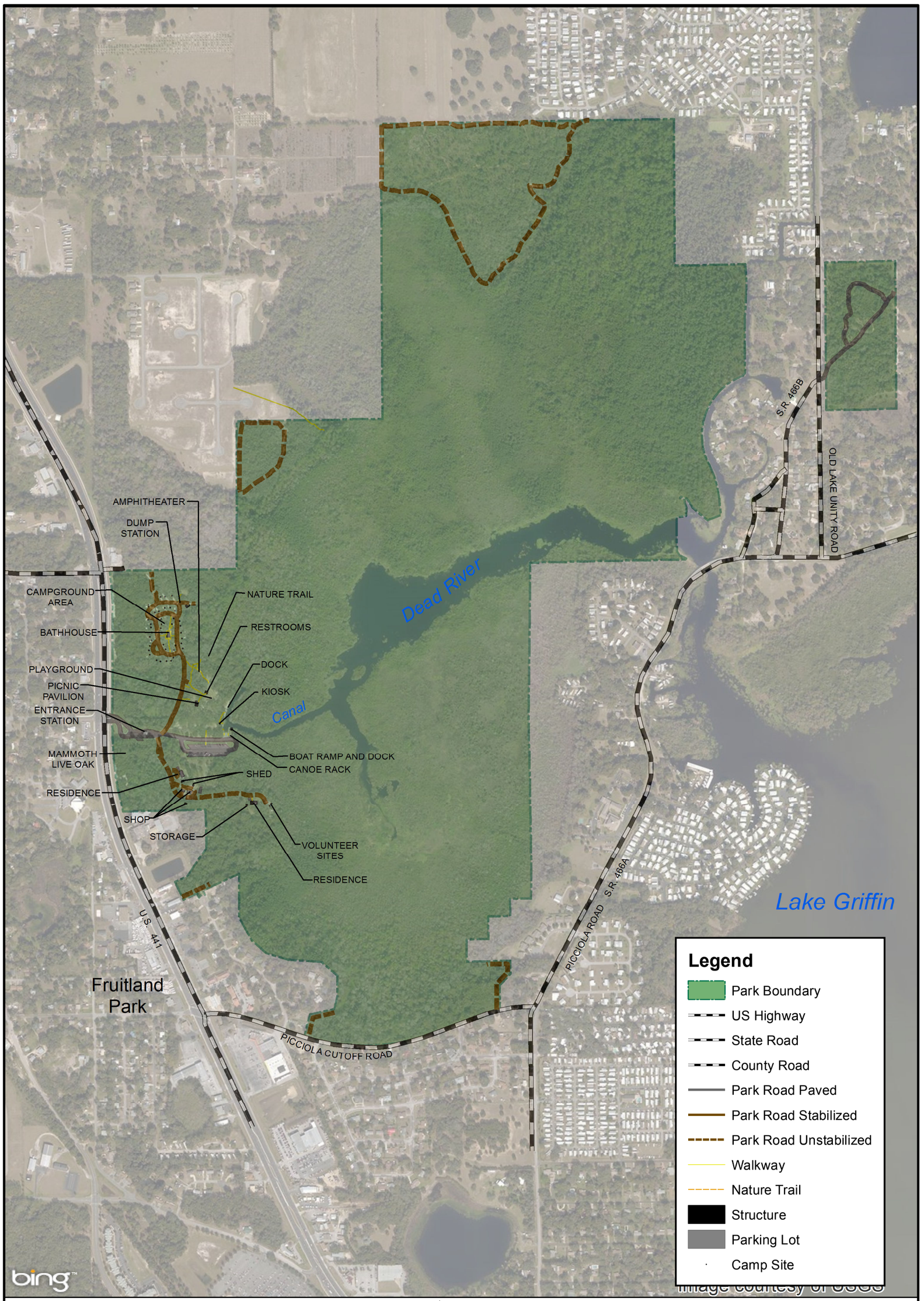
Protected Zones

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

At Lake Griffin State Park, all wetlands and floodplain as well as basin marsh, basin swamp, baygall, depression marsh, river floodplain lake, sandhill communities and the entire satellite parcel have been designated as protected zones. Known imperiled species habitat are likewise designated. Given the park's extensive wetland community types and areas of sandhill, the majority of the park is recognized as protected zone.

Existing Facilities

The picnic area contains a large picnic pavilion, restroom and scattered tables and grills. A double boat ramp provides access to the canal that leads to the Dead River and eventually Lake Griffin. Canoes and kayaks are available for rental adjacent to the boat ramp. A section of the boat basin is retained by a seawall that provides an anchor point for boats. A paved parking lot with 55 spaces serves the picnic area as well as the boat ramp. The camping area contains 40 sites with water, electric, and one central bathhouse. A short nature trail loops around the mammoth live oak and passes through an oak hammock down to the edge of the marsh just east of the campground. Support facilities include a ranger station with three paved visitor spaces, two ranger residences, shop building, flammable storage building, and boat storage (see Base Map).



LAKE GRIFFIN STATE PARK

N

0 500 1,000 2,000 Feet

Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

BASE MAP

Recreation Facilities

Campground
Standard facility campsites (40 sites)
Bathhouse (1)

Picnic Area
Large shelter (9 tables)
Playground equipment
Interpretive kiosk
Scattered tables (35) and grills
Restroom
Paved parking (55 spaces)

Dead River Access Area
Boat ramp
Canoe/Kayak rental and launch
Boat dock

Trails
Nature trail
Outdoor education ring

Support Facilities
Entrance station
Paved park drive
Staff residences (2)
Standard shop and storage buildings

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 726 users per day.

The park will continue to offer the current program of resource-based recreational and interpretive activities. The primary day use area, boat basin, nature trail, standard facility campground, and interpretive areas should be maintained to accommodate the park's current carrying capacity.

Objective: Expand the park's recreational carrying capacity by 80 users per day.

As the park develops and improves recreation facilities, the park's capacity to accommodate visitors and recreational activity will be expanded accordingly. Some proposed improvements will enhance quality of existing recreational opportunities without expansion of capacity.

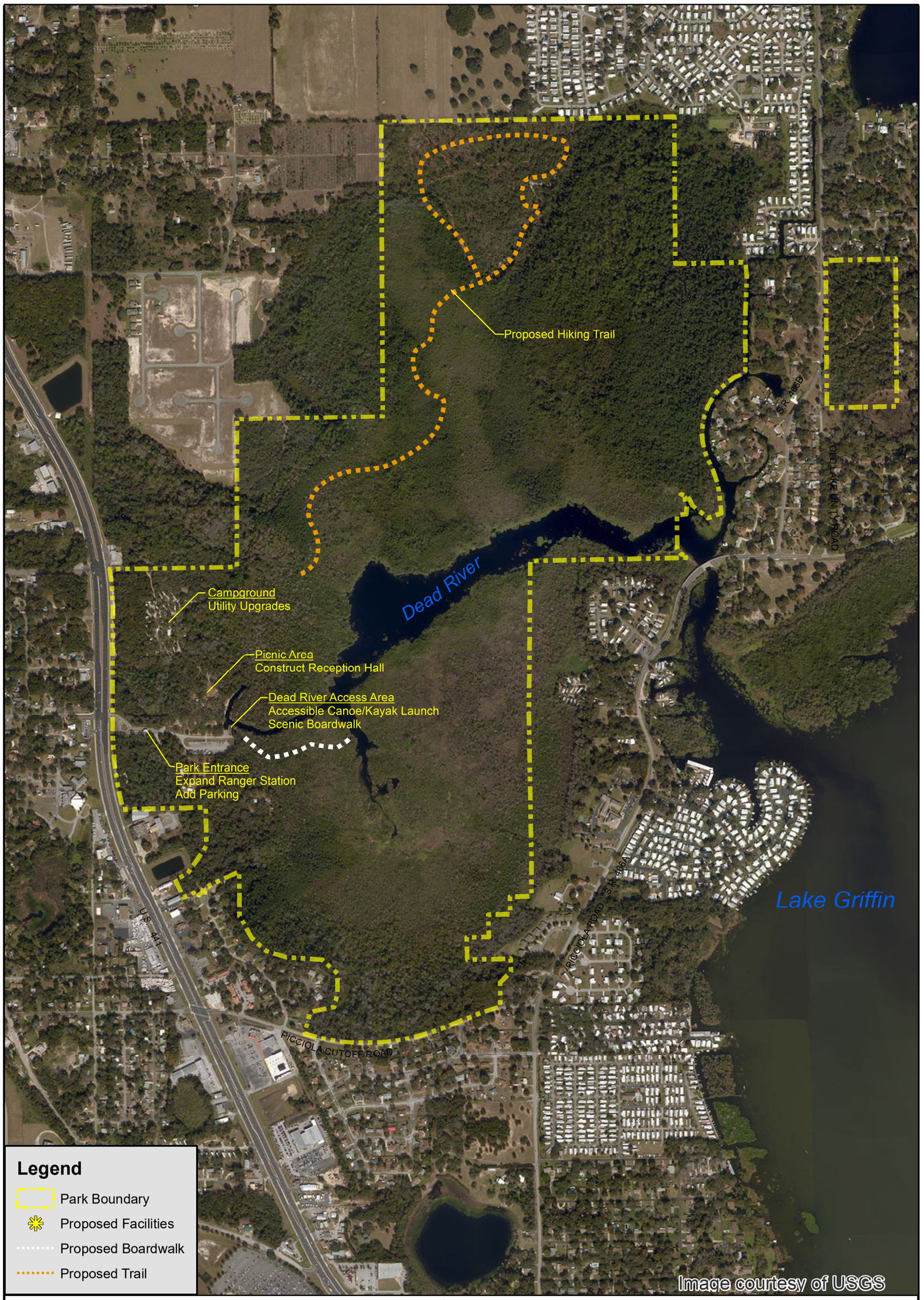
Objective: Continue to provide the current repertoire of 5 interpretive, educational and recreational programs on a regular basis.

The park regularly offers five interpretive, educational, and recreational programs.

Each March, the parks conducts a youth fishing skills clinic. The fishing clinic gives local youth and their families an introduction to fishing techniques, ethics and methods. Participants are given fishing poles and tackle boxes upon completion of the program.

Guided pontoon boat tours are offered at least twice per week. This one-hour long trip takes visitors down the Dead River and in to Lake Griffin. Along the way visitors commonly encounter wildlife such as birds, alligators and fish.

Guided canoe/kayak tours are offered repeatedly throughout the week, depending on weather conditions and participant interest. This CSO-guided tour


Proposed Hiking Trail
S.R. 468
OLD LAKE UNITY ROAD
Dead River
Campground
Utility Upgrades
Picnic Area
Construct Reception Hall
Dead River Access Area
Accessible Canoe/Kayak Launch
Scenic Boardwalk
Park Entrance
Expand Ranger Station
Add Parking
U.S. 441
PICCIOLA CUTOFF ROAD
PICCIOLA ROAD S.R. 4604
Lake Griffin
Image courtesy of USGS
Legend
Park Boundary
Proposed Facilities
Proposed Boardwalk
Proposed Trail
LAKE GRIFFIN STATE PARK
N
0
500
1,000
2,000 Feet
Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011
CONCEPTUAL LAND USE PLAN

first educates beginner paddlers on the safety and basics of canoeing or kayaking. The tour takes place on the Dead River to explore local history, flora and fauna.

An annual First Day Hike Program takes place on January 1st of every year, guided by park staff to explore the park's nature trail and interpret the peripheral wetlands.

Each January, a local astronomy organization hosts an annual stargazing program at the park, titled Starry Starry Night. The hosts provide telescopes and education about objects of the winter night sky. The event culminates in a guided night paddle tour of the Dead River.

In addition to the five core programs, the park offers various guided tours or educational sessions upon request. Other program offering may occur offsite, through educational outreach with local schools. The park averages about 20 programs per year that are provided upon request.

Objective: Develop 2 new interpretive, educational and recreational programs.
Given consistent visitor interest, the park should expand its guided pontoon boat tours on the Dead River. The current park boat seats only six passengers and is currently operated by volunteers, as no park staff currently hold a captain's license. Having a staff member trained in this capacity would increase the park's ability to provide tours.

As the park expands its hiking trails and access points for viewing the wetland areas, additional programming should be offered in the form of interpretive kiosks and guided tours.

Proposed Facilities

Capital Facilities and Infrastructure

Goal: Develop and maintain the capital facilities and infrastructure necessary to implement the recommendations of the management plan.
Proposed capital improvements and land use development at Lake Griffin State Park are intended to enhance visitor attendance and resource-based recreational opportunities. Where the park currently offers visitor access and recreational opportunities, facilities will be maintained and improved to meet growing and changing visitor interests. Other portions of the park, which protect remarkable natural areas, will be made more accessible to members of the public through trails and boardwalks to enhance the park's interpretive offerings.

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 or renovated and new facilities needed to implement the conceptual land use plan for Lake Griffin 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 2 existing facilities.
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 park entrance is a small single-terminal building that serves both day-use and overnight visitors. The ranger station also functions as the park's only administrative office. Staff lacks adequate space for administrative purposes. Administrative and meeting space at the park should be provided in an expanded ranger station. Likewise, an expanded ranger station should consider the need for two terminals to reduce vehicle stacking onto U.S. Highway 441 during high visitation. Additionally, there is a need for visitor parking spaces at the entrance area to further accommodate camping registration and provide improved access to the adjacent Live Oak Nature Trail. Parking for eight vehicles at the entrance area would offset roadside parking.

Utilities
The park's existing electrical infrastructure is aging and will require replacement within this planning period. Electrical lines should be buried to reduce interference with surrounding trees and improve the park's natural scenery. Particular sites in the park where electrical lines and poles are in need of upgrade include the campground and shop/maintenance area.

Objective: Construct 3 new facilities and 1 mile of trail.

Reception Hall
A reception hall is proposed in the day use area of the park, located between the playground, restrooms, and picnic pavilion. The building is recommended to be approximately 2,000 square feet and designed as a fully enclosed, air conditioned space to accommodate group events. Visitors would be able to reserve the space and the park would also be able to use it for public meetings or educational programs. The park currently has no comparable structures. Visitors infrequently use the existing picnic pavilion due to heat during the summer months and biting insects. The City of Fruitland Park has expressed interest in supporting the addition of a reception hall at the park as the facility would be an asset to the local community.

Boardwalk
A scenic boardwalk is proposed to extend from the existing boat dock through the basin marsh on the south side of the canal to an overlook point on the Dead River. Whereas visitors are now able to view the Dead River and Lake Griffin by boating or paddling, a boardwalk would provide accessible opportunity for interpretation of the park's wetlands and water bodies.

Canoe/Kayak Launch
The group discussed the need for an ADA-compliant accessible canoe/kayak launch near the boat ramp. Staff assistance is frequently requested by visitors with ADA-related needs to launch kayaks or canoes. This improvement would improve access to the park's most popular recreational resource. The current launch facility and vessel storage rack is located at a low point along the shoreline and becomes inundated during rainy periods. A new canoe/kayak launch should be located above frequent flood levels.

Hiking Trail
A hiking trail is proposed from the existing nature trail, located north of the picnic area, into the undeveloped northern area of the park, where no recreational facilities or access currently exist. Upland areas, including mesic flatwoods and sandhill may provide the most suitable terrain for a trail. Segments of boardwalk may be needed to traverse areas of wetland. Existing firebreaks located in the sandhill area may be utilized as trail corridor. The proposed trail length is approximately 1.5 miles.

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. 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:

Park Entrance
Ranger Station Expansion

Picnic Area
Reception Hall

Trails
Hiking trail extension

Dead River Access Area
Boardwalk
Canoe/Kayak Launch

Parkwide
Utility Upgrades

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

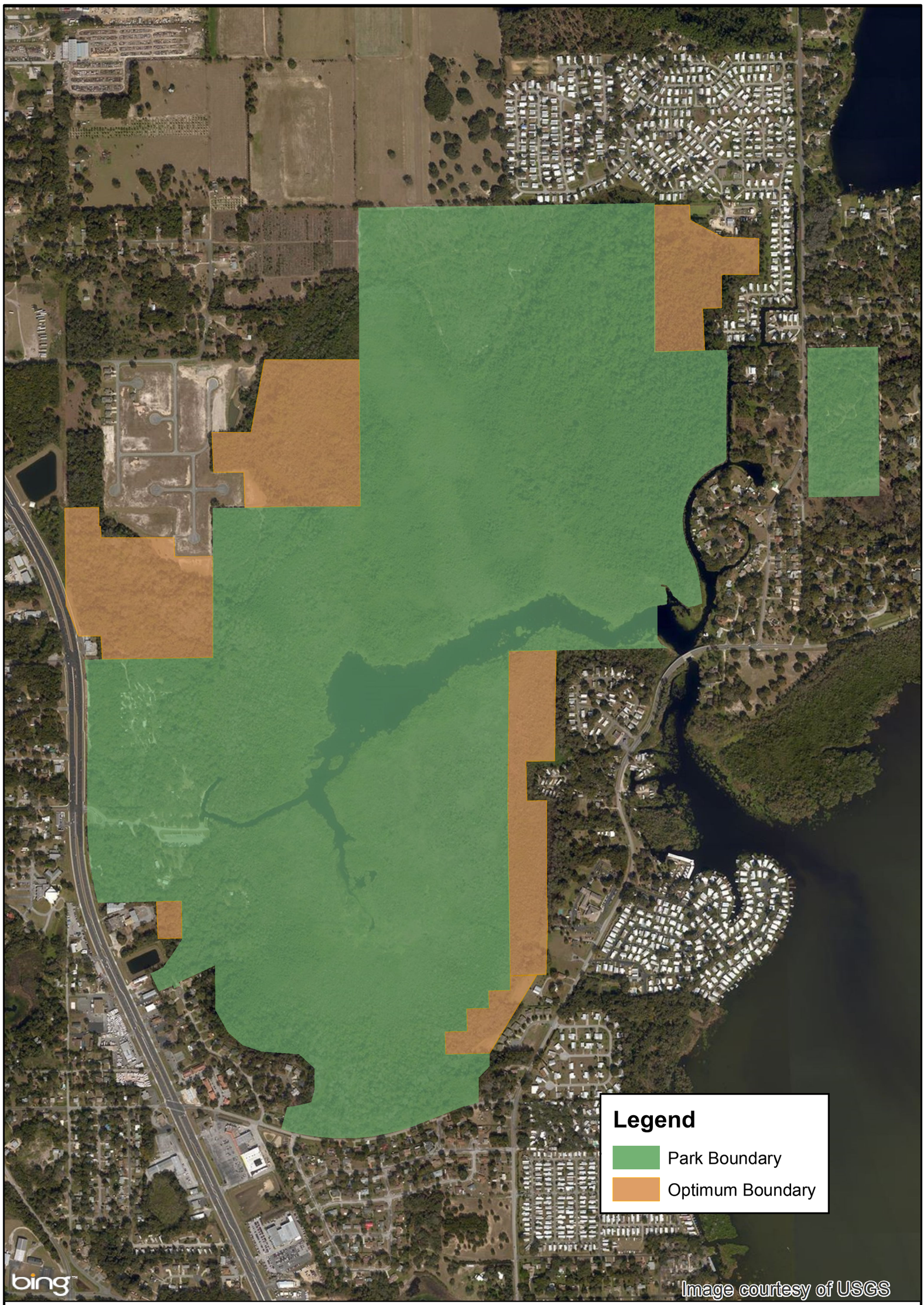
determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses 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.

Table 6. Recreational Carrying Capacity

	Existing Capacity*		Proposed Additional Capacity		Estimated Recreational Capacity	
Activity/Facility	**One Time**	**Daily**	**One Time**	**Daily**	**One Time**	**Daily**
Picnicking						
Covered Pavilions and Scatted Tables	180	360			180	360
Fishing						
Shoreline	15	30			15	30
Boating						
Boat Ramp	4	192			4	192
Canoe/Kayak Launch	2	144			2	144
Trails						
Hiking	10	40	15	60	25	100
Boardwalk			5	20	5	20
Campground	320	320			320	320
TOTAL	**351**	**726**	**20**	**80**	**371**	**806**

*Existing capacity revised from approved plan according to DRP guidelines.



LAKE GRIFFIN STATE PARK

N

0 500 1,000 2,000 Feet

Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

OPTIMUM BOUNDARY MAP

Optimum Boundary

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

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

Parcels identified on the optimum boundary map to the west and south of the park would facilitate access to fire-dependent communities and provide space needed for campground reconfiguration and expansion. Less than fee simple options, such as a legal easement, may be considered to address the issue of access to isolated burn zones. All parcels would provide park buffers, space to expand the existing trail system and enhance water quality protection of the lake. At this time, no lands are considered surplus to the needs of the park.

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 Lake Griffin 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.

Acquisition

- Acquired two additional parcels, totaling approximately 40 acres on the east side of the park to further resource management and protection goals.

Park Administration and Operations

- Expanded the park's maintenance program with the addition of new equipment and trained volunteers.
- Installed and/or repaired approximately 1 mile of boundary fence
- Expanded the park's volunteer program with the addition of a volunteer coordinator.
- Trained staff and volunteers on interpretive theories and practice to improve visitor experience

Resource Management

<u>Natural Resources</u>

- Continued to protect the endangered clasping warea plant by removal of encroaching exotic plant species and through the use of prescribed fire.
- Expanded the park's burn program with the addition of more burn zones.
- Added new fire lines to management zones 3a and 3b.
- Conducted hardwood removal to reduce tree encroachment in wetland areas.

Recreation and Visitor Services

- Conducted approximately five outreach programs per year to bring in new volunteers from adjacent towns.
- Increased access by adding recreational opportunities, including guided pontoon boat and kayak tours, as well as volleyball and horseshoes in the picnic area.

Park Facilities

- Added accessible walkways, grills and seating areas in the picnic area.
- Added accessible sidewalks throughout the picnic area.
- Expanded the static interpretive displays including a large new kiosk adjacent to the dead river.
- Coordinated with the city to redesign the park entrance road as part of a mitigation project with US Highway 441 was modified.

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
Lake Griffin State Park Ten-Year Implementation Schedule and Cost Estimates

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**	**$740,000**
Objective B	**Expand administrative support as new lands are acquired, new facilities are developed, or as other needs arise.**	Administrative support expanded	**C**	**$196,000**
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	**Conduct or obtain an assessment of the park's hydrological restoration needs.**	Assessment conducted	**LT**	**$63,000**
Action 1	Conduct comprehensive study of hydrological connectivity within the park boundary.		UFN	$42,000
Action 2	Conduct feasibility and hydrological impact study for the removal of drainage ditches.		UFN	$21,000
Objective B	**Restore natural hydrological conditions and function to approximately 1 acre of basin swamp natural community.**	# Acres restored or with restoration underway	**UFN**	**$11,000**
Action 1	Fill or block the ditch that is currently draining management zone LG06.	# Miles of ditches filled	UFN	$11,000
Objective C	**Analyze impacts of park roads on surface drainage and determine corrective measures.**	Impacts analyzed	**LT**	**$1,500**
Action 1	Document natural resource impacts due to runoff from impermeable surfaces of park infrastructure, including the realigned park entrance road, e.g., using photopoint data.	Data points documented	LT	$1,500

* 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
Lake Griffin State Park Ten-Year Implementation Schedule and Cost Estimates

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 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 44 acres of the park maintained within optimal fire return interval.**	# Acres within fire return interval target	**LT**	**$4,500**
Action 1	Develop and update the annual burn plan.	Plan updated	C	$1,000
Action 2	Manage fire-dependent communities by burning between 11 and 44 acres annually, as identified by the annual burn plan.	Average # acres burned annually	C	$3,500
Objective B	**Conduct habitat/natural community restoration activities on 4 acres of sandhill community in LG01a.**	# Acres restored or with restoration underway	**LT**	**$17,500**
Action 1	Develop and update site-specific restoration plan, i.e., continue oak removal and maintain 1 to 3 year burn intervals.	Plan developed/updated	ST	$8,500
Action 2	Implement the sandhill restoration plan.	# Acres with restoration underway	LT	$9,000
Objective C	**Conduct habitat and natural community improvement activities on 18 acres of sandhill community in LG02.**	# Acres improved or with improvements underway	**LT**	**$25,000**
Action 1	Complete mechanical fuel treatments and wiregrass plantings to facilitate successful burning in order to restore the entirety of the current oak hammock to sandhill. Use photo-point monitoring to measure the growth of sandhill vegetation.	Treatments completed	ST	$25,000
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**	**$270**
Objective B	**Monitor and document 2 selected imperiled animal species in the park.**	# Species monitored	**C**	**$5,730**
Action 1	Initiate monitoring and continue monitoring efforts for 2 imperiled animal species	# Species monitored	C	$5,730
Objective C	**Monitor and document 2 selected imperiled plant species in the park.**	# Species monitored	**C**	**$5,900**
Action 1	Develop monitoring protocols for 1 selected imperiled plant species including scrub buckwheat	# Protocols developed	ST	$200
Action 2	Implement monitoring protocols for 2 imperiled plant species	# Species monitored	C	$5,700

* 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
Lake Griffin State Park Ten-Year Implementation Schedule and Cost Estimates

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 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 10 acres of exotic plant species in the park.**	# Acres treated	**C**	**$36,000**
Action 1	Annually develop/update exotic plant management work plan.	Plan developed/updated	C	$3,000
Action 2	Implement annual work plan by treating 10 acres in park, annually, and continuing maintenance and follow-up treatments, as needed.	Plan implemented		$33,000
Objective B	**Implement control measures on 2 exotic and nuisance animal species in the park.**	# Species for which control measures implemented	**C**	**$3,000**
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 1 of 1 recorded cultural resource in the park.**	Documentation complete	**LT**	**$4,400**
Action 1	Complete 1 assessment/evaluation of the archaeological site. Prioritize preservation and stabilization.	Assessments complete	ST	$2,800
Objective B	**Compile reliable documentation for all recorded historic and archaeological sites.**	Documentation complete	**LT**	**$29,700**
Action 1	Ensure all known sites are recorded or updated in the Florida Master Site File.	# Sites recorded or updated	ST	$5,000
Action 2	Conduct Level 1 archaeological survey for 6 priority areas identified by the cultural predictive model.	Survey completed	LT	$20,000
Action 3	Develop and adopt a Scope of Collections Statement.	Document completed	ST	$1,400
Action 4	Conduct oral history interviews.	Interviews complete	LT	$1,700
Action 5	Compile a park administrative history.	Report completed	ST	$1,600
Objective C	**Bring 1 of 1 recorded cultural resources into good condition.**	# Sites in good condition	**LT**	**$10,500**
Action 1	Design and implement regular monitoring programs for 1 cultural site.	# Sites monitored	C	$3,500
Action 2	Create and implement a cyclical maintenance program for each cultural resource.	Programs implemented	C	$3,500
Action 3	Restore site LA2366 to good condition.	Projects completed	LT	$3,500

* 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
Lake Griffin State Park Ten-Year Implementation Schedule and Cost Estimates

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 726 users per day.**	# Recreation/visitor	**C**	**$510,000**
Objective B	**Expand the park's recreational carrying capacity by 80 users per day.**	# Recreation/visitor opportunities per day	**LT**	**$255,000**
Action 1	Develop guided canoe/kayak tour.	# Recreation/visitor opportunities per day	LT	$226,000
Action 2	Develop concessionaire operated guided pontoon boat tour of the Dead River Marsh and Lake Griffin.	# Recreation/visitor opportunities per day	LT	$29,000
Objective C	**Continue to provide the current repertoire of 5 interpretive, educational and recreational programs on a regular basis.**	# Interpretive/education programs	**C**	**$17,000**
Objective D	**Develop 2 new interpretive, educational and recreational programs.**	# Interpretive/education programs	**LT**	**$4,400**
Action 1	Develop/update and implement Statement for Interpretation.	Document completed/implemented	ST	$1,100
Action 2	Develop and implement Interpretive Master Plan.	Plan implemented	LT	$1,100
Action 3	Develop and implement targeted interpretive program to educate public about protection of the park's resources.	Programs implemented	LT	$1,100
Action 4	Develop 2 new interpretive programs.	Programs developed	LT	$1,100

* 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
Lake Griffin State Park Ten-Year Implementation Schedule and Cost Estimates

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 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**	**$1,615,000**
Objective B	**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**	**$74,000**
Objective C	**Improve and/or repair 2 existing facilities as identified in the Land Use Component.**	# Facilities/Miles of Trail/Miles of Road	**UFN**	**$262,000**
Action 1	Expand ranger station for administative and visitor check-in capacity.	Facility expanded	UFN	$236,250
Action 2	Upgrade electrical utilities parkwide.	Utilites upgraded	LT	$250,000
Objective D	**Construct 3 new facilites and 1 mile of trail as identified in the Land Use Component.**	# Facilities/Miles of Trail/Miles of Road	**UFN**	**$1,186,380**
Action 1	Construct a reception hall/enclosed event pavilion in the picnic area.	Facility constructed	UFN	$425,250
Action 2	Construct a new canoe/kayak launch.	Facility constructed	LT	$94,500
Action 3	Construct a boardwalk to a scenic overlook from the Dead River Access Area.	Facility constructed	UFN	$506,250
Action 4	Extend hiking trail north (approximately 1 to 1.5 miles in length).	Trail constructed	UFN	$160,380
Objective E	**Expand maintenance activities as existing facilities are improved and new facilities are developed.**	Facilities maintained	**C**	**$216,000**

Summary of Estimated Costs

Management Categories		**Total Estimated Manpower and Expense Cost* (10-years)**
Resource Management		**$650,000**
Administration and Support		**$1,586,000**
Capital Improvements		**$4,939,380**
Recreation Visitor Services		**$5,725,780**
Law Enforcement Activities[1]		n.a.
	1Law enforcement activities in Florida State Parks are conducted by the Florida Fish & Wildlife Conservation Commission and 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

LAND ACQUISITION HISTORY REPORT

Park Name	Lake Griffin State Park
Date Updated	3/1/2016
County	Lake County, Florida
Trustees Lease Number	Lease No. 3631
Current Park Size	620.69 acres
Purpose of Acquisition	The state of Florida acquired Lake Griffin State Park for the benefit and enjoyment of the public.

Acquisition History

Parcel Name or Parcel DM-ID	Date Acquired	Initial Seller	Initial Purchaser	Size in acres	Instrument Type
MDID 336004	6/9/2004	R. Dewey Burnsed and Walter S. McLin III	The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Trustees).	78.437	Warranty Deed
MDID 367553	1/17/1961	H. E. Friedrich and his wife Lillien K. Friedrich	State of Florida for the use and benefit of the Florida Board of Parks and Historic Memorials	40.952	Indenture
MDID 365870	11/4/2010	RAM Land Holdings, LLC	Trustees	40.459	Warranty Deed
MDID 365560	11/22/2010	Lake County Florida	Trustees	23.832	County Deed
MDID 10960	7/11/1996	Bernice W. Jeffcoat as Trustees of Bernice W. Jeffcoat Revocable Trust dated July 9, 1996, of the County of Lake in Florida	Trustees	10.311	Warranty Deed

Management Lease

Parcel Name or Lease Number	Date Leased	Initial Lessor	Initial Lessee	Current Term	Expiration Date
Lease No. 3631 (Original Lease No. 2324)	1/23/1968	The Trustees of the Internal Improvement Trust Fund of the State of Florida	The Florida Board of Parks and Historic Memorials	99 years	1/22/2067

Outstanding Issue	Type of Instrument	Brief Description of the Outstanding Issue	Term of the Outstanding Issue
Automatic Reverter	Deed	If (1) the property ceases to be used for park, recreation, and conservation purposes for a period of five consecutive years or (2) Lake Griffin State Park is referred to in any official document or literature as being located other than at Fruitland Park, Florida, title to the property will automatically revert to the City of Fruitland Park.	

Addendum 2—Advisory Group Members and Report

Local Government Representatives
Mayor Chris Bell
City of Fruitland Park

Agency Representatives
Rachel Nunlist, Manager
Lake Griffin State Park
Division of Recreation and Parks

Mike Abbot, Regional Biologist
Northeast Florida Region
Florida Fish and Wildlife
Conservation Commission

Michael Edwards, Regional Forester
Florida Region 4
Florida Forest Service

Mary Farner, Chair
Lake County Soil and Water
Conservation District

Environmental and Conservation Representatives
Russ Melling, President
Ocklawaha Valley Audubon Society

Stephen Turnipseed, President
Villages Chapter
Florida Native Plant Society

Tourism and Economic Development Representatives
Debi Dyer, Tourism Coordinator
Lake County Tourist Development
Council

Recreational and Educational User Representatives
Gene Bouley, Trail Coordinator
Highlanders Chapter
Florida Trail Association

Steve Henderson, President
Villages Freshwater Fishing Club

Adjacent Landowners
Dean Humphrey, residential
property owner

Citizen Support Organization
Ted Wendel, Chair
Friends of Lake Griffin State Park

Lake Griffin State Park

Advisory Group Meeting Report

The advisory group meeting to review the proposed unit management plan (UMP) for Lake Griffin State Park was held in the City of Lady Lake, in the City of Lady Lake Commission Chambers on Friday, July 20, 2016 at 9:00 AM.

Dale Bogle represented Mayor Chris Bell for the City of Fruitland Park. Melanie Rose represented Mary Farner for the Lake County Soil and Water Conservation District and was accompanied by Rose Fitzpatrick. Travis Blunden represented Michael Abbott for the Florida Fish and Wildlife Conservation Commission. MJ Walsh represented Stephen Turnipseed for the Florida Native Plant Society. Francis Keenan represented Gene Bouley for the Florida Trail Association. Gallus Quigley represented Debi Dyer for the Lake County Tourist Development Council. Dean Humphrey and Steve Henderson were not in attendance. All other appointed advisory group members were present.

Attending Division of Recreation and Parks (DRP) staff members were Larry Fooks, Robert Yero, Rachel Nunlist, and Daniel Alsentzer.

Mr. Alsentzer began the meeting by explaining the purpose of the advisory group and reviewing the meeting agenda. He provided a brief overview of the DRP's planning process. Mr. Alsentzer then asked each member of the advisory group to express his or her comments on the draft plan. After all comments were shared, Mr. Alsentzer described next steps for drafting the plan and the meeting was adjourned.

Summary of Advisory Group Comments

Michael Edwards (Florida Forest Service, Other Public Lands Region 4) noted that as a park under 1,000 acres, the UMP states that Lake Griffin does not require an official timber assessment, but inquired whether sand or slash pine thinning is needed. He commented that there may be a need for hardwood reductions in the sandhill and basin swamps. Mr. Edwards identified costs and benefits to removal of pines or hardwoods, especially from wetland community types and offered potential assistance from the Florida Forest Service. He inquired whether the park has planted wiregrass or longleaf in its sandhill restoration, especially where sunlight exposure in the understory has increased after thinning. He identified mills in the vicinity of the park that this type of timber material for biomass. Mr. Edwards recommended volunteer work days in the park to assist with exotic species removal. Lastly, Mr. Edwards noted the need for excess duff removal around tree bases, but cautioned against methods that may damage delicate surficial root structures. He recommended removing duff gradually, rather than by single burn.

Gallus Quigley (Lake County) inquired about the extent of the park's exotic-invasive infestations and the success of treatment efforts. He noted the potential presence of warbler in the park and inquired whether the DRP installs nesting boxes over standing water areas within the wetlands. Mr. Quigley inquired whether the park monitors for rookeries both within and outside of the park, such as on Lake Griffin itself. He stated that given the park's inaccessible wetland community types,

there may be additional bird species nesting with the park, that staff has not yet encountered. He additionally noted that the park is a significant example of urban-wildland interface and inquired about the DRP's management approach to prescribed fire where private residences are located adjacent to the park boundary. Mr. Quigley inquired whether the DRP tends to conduct more spring or winter burns and explained that differences in biodiversity resulting from burns in different seasons. Mr. Quigley recommended adding Lake Griffin State Park as a designated launch point for the Lake Griffin Blueway, which would entail adding appropriate signage and trail markers. He stated that funding for park projects may be available through Lake County's Economic Development and Tourism Program.

MJ Walsh (Florida Native Plant Society, Villages Chapter) stated that she concurred with the proposed plans and did not have any additional recommendations for the park's management.

Dale Bogle (City of Fruitland Park) identified the park as a major asset to the City of Fruitland Park. As the City's Public Work's Director, Mr. Bogle worked closely with the previous park manager, Doug Watson. Mr. Bogle stated that the City of Fruitland Park is especially willing to support municipal water and sewer connections to the park's campground and day use facilities. He noted the rapid growth of Fruitland Park, having doubled in size within the past decade and emphasized the increased value of this greenspace as the region develops. Mr. Bogle encouraged coordination with the municipal fire department on the park's prescribed fire program if assistance is needed.

Rachel Nunlist (Division of Recreation and Parks, Lake Griffin State Park) commented that the park does not receive frequent repeat visitors, primarily because of the park's limited range of recreation opportunities. She noted that the park's location and natural communities are favorable for more interpretive and recreational activities and that the land use plan calls for new facilities accordingly. Ms. Nunlist stated that the most visitor repetition is currently by area residents renting the park canoes and kayaks.

Ted Wendel (Friends of Lake Griffin State Park) provided an overview of the park's guided paddling tours offered through the CSO. He stated that this interpretive program resulted successfully in nearly doubling the park's visitation rate. Mr. Wendel explained that the CSO schedules both day and night tours on the Dead River and Lake Griffin and that the tours draw a diverse range of ages; many of the paddlers being first-time visitors to Florida's lake waters. Mr. Wendel recommends a designated Blueway paddling trail in the park, especially farther into the interior.

Travis Blunden (Florida Fish and Wildlife Conservation Commission) inquired whether the park conducts all prescribed burning in house (i.e., with DRP staff) and commented that FWC has recently secured funds to work with prescribed fire contractors. He noted that the plan emphasizes growing season burns and

recommended language that is seasonally flexible and encourages fire frequency. Mr. Blunden commented that page 41 of the Resource Management Component misleadingly describes a hydrological management objective to restore only one acre of basin swamp. He advised that the restoration of such a small site may not be cost effective and may result in impacts to habitat as the identified ditches may have largely filled by accretion and formed ecosystems of their own, having recovered from the original disturbance of dredging. Mr. Blunden also expressed that programmatic monitoring of the small gopher tortoise population in the park may not be worth the effort. He recommended incidental monitoring instead of intentional checking of every known burrow at set times. Mr. Blunden identified updates to the plan's threatened/endangered species listings. He inquired whether the park has observed sand skinks or Florida mice within its boundaries.

Russ Melling (Oklawaha Valley Audubon Society) stated that he had visited the park the prior weekend and considered the park to be a gem. He remarked on its natural character in the setting of an otherwise developed urban/suburban region. Mr. Melling was pleased to see recreation expansion and maintenance proposed in the plan. Mr. Melling additionally inquired about current and potential birding interpretive tours in the park. He additionally emphasized the importance of tracking the park's statewide and local economic impacts.

Francis Keenan (Florida Trail Association) recommended development of an extended trail system in the park, forecasting that this would draw more visitors from a broad geographic range and encourage repeat visitation. Given the park's abundant wetland community types, Mr. Keenan recognized the challenges and expense of constructing boardwalks over wetland. He stated that the potential long hiking trail and existing paddling opportunities are the primary recreation attractions to the park. He acknowledged the value in a short boardwalk leading to a scenic overlook that would be easily accessible for less strenuous walking. Mr. Keenan suggested that the park could develop the hiking trail in increments.

Staff Recommendations

- The DRP will continue to coordinate with Lake County in development of designated paddling trails and other local tourism development programs.

  The DRP will continue to coordinate with City of Fruitland Park to integrate with municipal water, sewer, and electric as needed and as best technologies become available.

- Language will be revised to clarify the park's hydrological management objectives pertaining to restoration of the basin swamp community.

Additional revisions were made throughout the document to address editorial corrections, consistency of spelling and notations, and other minor corrections.

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 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

Black, D., IV. 1999. Restoration of clasping warea (*Warea amplexifolia*): plant response to habitat enhancement and to reintroduction. University of Central Florida. MS Thesis. 80 pp.

Brooks, H. K. 1981a. Physiographic Regions. Fla. Coop. Ext. Serv., Inst. Food Agric. Sci., Univ. of Florida, Gainesville.

Brooks, H. K. 1981b. Geologic Map of Florida. Fla. Coop. Ext. Serv., Inst. Food Agric. Sci., Univ. of Florida, Gainesville.

Bureau of Economic and Business Research (BEBR), University of Florida. 2002. Florida Statistical Abstract 2002. Gainesville, Florida.

City of Fruitland Park. 2009. Fruitland Park Comprehensive Plan. Fruitland Park, Florida.

Collins, L.D., T.F. Doering, and S. Fernandez. 2010. Archaeological Resource Sensitivity Modeling in Florida State Parks District 3: the East and Central Florida Region. DEP Contract No. RP700. 295 pp.

Florida Department of Environmental Protection. 2014. *Florida State Park System Economic Impact Assessment for Fiscal Year 2013/2014*. Tallahassee, FL.

Florida Department of Environmental Protection. 2013. Outdoor Recreation in Florida 2013. Tallahassee, Florida.

Hand, J., J. Col, and L. Lord. 1996. Central Florida District Water Quality 1996 305(b) Technical Appendix in 1996 Water-Quality Assessment for the State of Florida Section 305(b) Main Report (M. Paulic, J. Hand, and L. Lord). Florida Dept. of Env. Protect., Florida.

Lake County. 2010. Lake County Comprehensive Plan 2030. Lake County, Florida.

Milanich, J. T. 1994. Archaeology of Precolumbian Florida. Gainesville, Florida. University Press of Florida. 476pp.

Milanich, J. T. and C. H. Fairbanks. 1980. Florida Archaeology**.** New York, New York. Academic Press, Inc. 290pp.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed 9/27/2012.

Stanton, W. 2001. Memo on file. Florida Department of Environmental Protection. Tallahassee, Florida.

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 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.

U.S.F.W.S. 1987. Endangered and threatened wildlife and plants: endangered status for *Warea amplexifolia* (wide-leaved Warea). Federal Register 52:15501-15505.

U.S.F.W.S. 1993. *Warea amplexifolia* recovery plan. Atlanta, GA. 15pp.

Addendum 4—Soil Descriptions

Arents-Urban land complex (3). – This is fill land consisting of loamy soil material that has been mixed, reworked, and leveled or shaped by earth moving equipment. It is mostly 12 to 60 inches thick with no orderly sequence of layers.

Anclote, Myakka and Felda depressional (5). - This mapping unit is about 35 percent Anclote sand, 30 percent Myakka sand, 20 percent Felda sand, and 15 percent minor soils. The unit consists of nearly level, very poorly drained sandy soils. These soils are in low, large depressions and poorly defined drainageways. The water table is at the surface, and the soils are covered with water most of the year. These soils are covered with dense wetland forests. The vegetation usually consists of a variety of wetland hardwoods, cypress, black pines, cabbage palms, shrubs, vines, and grasses.

Anclote, Delray and Hontoon (6). - This consists of level, very poorly drained mineral and organic soils that have not been classified because excess water and dense vegetation have made detailed investigations impractical. Swamp occurs as broad drainageways, or broad, poorly defined streams, as large depressions having no outlets and as large bayheads. The soils are flooded with water all year except during prolonged periods when rainfall is light. Swamp is usually covered with a dense wetland forest. The vegetation usually is wetland hardwoods, cypress, black pines, cabbage palms, shrubs, vines, and grasses.

Candler sand 0 to 5 percent slopes (13) and Candler-Urban land complex 0 to 5 percent slopes (14). - This is a nearly level to gently sloping, excessively drained sandy soil. It is on the undulating upland ridge. The water table is at a depth of more than 120 inches. Permeability is very rapid throughout the profile, and available water capacity is very low. Organic matter content and natural fertility are low. The typical vegetation is turkey oak, a few scattered longleaf pine, and an understory of grasses and shrubs.

Candler sand 5 to 12 percent slopes (15). - This is a sloping to strongly sloping, excessively drained sandy soil. The water table is at a depth of more than 120 inches. Permeability is very rapid throughout the profile, and available water capacity is very low. The organic matter content and natural fertility are low. Without protective vegetation, the soil is readily erodible by wind and water. The typical vegetation type is sandhill.

Immokolee sand (25). - This soil is nearly level, poorly drained and has a layer at about 30 inches that is stained by organic matter. The water table is normally at 10 to 40 inches. The water table is within 10 inches of the surface for one to two months during rainy seasons and falls below 40 inches during prolonged drought. Immokolee sand is moderately permeable in the weakly cemented layer at depths between 38 and 56 inches and is rapidly permeable in the other layers. The weakly cemented layers have medium available water capacity, moderately high organic matter content and low natural fertility. The sandy surface and subsurface layers and the layer between depths of 56 to 68 inches have very low available water capacity and very low natural fertility.

The thin surface layer is moderate in organic matter content. The other layers are very low. The typical vegetation type is flatwoods.

Placid sand (46). - This is a nearly level, very poorly drained soil. The water table is at the surface most of the year except during extended dry periods where it is within a depth of 15 inches. Shallow water covers many areas for 4 to 6 months in wet seasons. Placid sand is rapidly permeable throughout. It has medium available water capacity, moderately high organic content, and moderate natural fertility to a depth of about 18 inches. The native vegetation is mainly grass and low-growing aquatic plants. Some areas have swamp vegetation of wetland hardwoods and cypress.

Pomello sand (48). - This is a nearly level to gently sloping, moderately well drained sandy soil. The water table is at a depth of 40 to 60 inches for about 8 months and at a depth of 30 to 40 inches for about 4 months. This soil has very rapid permeability and very low available water capacity and organic matter content in the surface and subsurface horizons. It has an organic stained layer that has moderately rapid permeability and moderate organic content. This soil is very low in natural fertility. The native vegetation usually consists of scrub oaks, scattered pine trees, and a sparse growth of grasses and shrubs.

Pompano, Felda and Oklawaha depressional (51). - This soil type is an association of Pompano, Felda, and Ocklawaha soils, depressional. Pompano sand, acid soil is nearly level and poorly drained. The water table is within a depth of 10 inches for 2 to 6 months and at a depth of 10 to 40 inches for the rest of the year. Shallow water covers the lowest areas after heavy rain. The soil has very low available water capacity, low organic content and low natural fertility. Felda soils are nearly level and poorly drained. The permeability is rapid in the surface and subsurface layers and in the substratum, and is moderate in the subsoil. The available water capacity is very low in the surface and subsurface layers and substratum and medium in the subsoil. Natural fertility and organic matter are low. Ocklawaha soils have rapid permeability. Natural fertility and organic matter are high.

Addendum 5—Plant and Animal List

Lake Griffin State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
	PLANTS	
Rosary pea; Blackeyed susan*	*Abrus precatorius*	
Slender threeseed mercury	*Acalypha gracilens*	
Red maple	*Acer rubrum*	
Silktree, mimosa *	*Albizia julibrissin*	
Alligatorweed*	*Alternanthera philoxeroides*	
Common ragweed	*Ambrosia artemisiifolia*	
Lusterspike indigobush	*Amorpha herbacea*	
Indigobush	*Amorpha sp.*	
Peppervine	*Ampelopsis arborea*	
Bluestem	*Andropogon sp.*	
Chalky bluestem	*Andropogon virginicus var. glaucus*	
Devil's walkingstick	*Aralia spinosa*	
Coral ardisia*	*Ardisia crenata*	
Wiregrass	*Aristida stricta var. beyrichiana*	
Florida indian plantain	*Arnoglossum floridanum*	
Ovateleaf indian plantain	*Arnoglossum ovatum*	
Florida milkweed	*Asclepias feayi*	
Pinewoods milkweed	*Asclepias humistrata*	
Longleaf milkweed	*Asclepias longifolia*	
Velvetleaf milkweed	*Asclepias tomentosa*	
Butterfly milkweed	*Asclepias tuberosa*	
Smallflower pawpaw	*Asimina parviflora*	
Sprenger's asparagus-fern*	*Asparagus densiflorus*	
Ebony spleenwort	*Asplenium platyneuron*	
Groundsel tree; Sea myrtle	*Baccharis halimifolia*	
Tarflower	*Bejaria racemosa*	
Florida greeneyes	*Berlandiera subacaulis*	
Beggarticks; Romerillo	*Bidens alba*	
False nettle, Bog hemp	*Boehmeria cylindrica*	
Paper mulberry*	*Broussonetia papyrifera*	
Watergrass*	*Bulbostylis barbata*	
Densetuft hairsedge	*Bulbostylis ciliatifolia*	
Ware's hairsedge	*Bulbostylis warei*	
Carolina fanwort	*Cabomba caroliniana*	
American beautyberry	*Callicarpa americana*	
Grassleaf roseling	*Callisia graminea*	
Florida scrub roseling	*Callisia ornata*	
Trumpet creeper	*Campsis radicans*	
Vanillaleaf	*Carphephorus odoratissimus*	
Scrub hickory	*Carya floridana*	
Pignut hickory	*Carya glabra*	
Madagascar periwinkle *	*Catharanthus roseus*	
Sugarberry; Hackberry	*Celtis laevigata*	
Coast sandbur	*Cenchrus spinifex*	
Spurred butterfly pea	*Centrosema virginianum*	
Common buttonbush	*Cephalanthus occidentalis*	
Coontail	*Ceratophyllum demersum*	
Sensitive pea	*Chamaecrista nictitans var. aspera*	
Hyssopleaf sandmat	*Chamaesyce hyssopifolia*	
Alicia	*Chapmannia floridana*	

*** Non-native Species**

Lake Griffin State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Mexican tea*	*Chenopodium ambrosioides*	
White fringetree; Old-man's beard	*Chionanthus virginica*	
Spotted water hemlock	*Cicuta maculata*	
Camphortree *	*Cinnamomum camphora*	
Sour orange *	*Citrus aurantium*	
Jamaica swamp sawgrass	*Cladium jamaicense*	
Netleaf leather-flower	*Clematis reticulata*	
Sweetscented pigeonwings	*Clitoria fragrans*	13
Atlantic pigeonwings	*Clitoria mariana*	
Tread-softly; Finger-rot	*Cnidoscolus stimulosus*	
Wild taro; Dasheen; Coco yam *	*Colocasia esculenta*	
Dayflower	*Commelina diffusa*	
Whitemouth dayflower	*Commelina erecta*	
Canadian horseweed	*Conyza canadensis var. pusilla*	
Flowering dogwood	*Cornus florida*	
Yellowleaf hawthorn	*Crataegus flava*	
Seven-sisters; String-lily	*Crinum americanum*	
Silver croton; Healing croton	*Croton argyranthemus*	
Vente conmigo	*Croton glandulosus var. floridanus*	
Pineland croton; Grannybush	*Croton linearis*	
Grassleaf roseling	*Cuthbertia graminea*	
Florida scrub roseling	*Cuthbertia ornata*	
Fragrant flatsedge	*Cyperus odoratus*	
Pinebarren flatsedge	*Cyperus retrorsus*	
Fourangle flatsedge	*Cyperus tetragonus*	
Feay's prairieclover	*Dalea feayi*	
Florida ticktrefoil	*Desmodium floridanum*	
Dixie ticktrefoil*	*Desmodium tortuosum*	
Velvetleaf ticktrefoil	*Desmodium viridiflorum*	
Witchgrass	*Dichanthelium sp.*	
Carolina ponysfoot	*Dichondra caroliniensis*	
Crabgrass	*Digitaria sp.*	
Poor joe; Rough buttonweed	*Diodia teres*	
Air-potato *	*Dioscorea bulbifera*	
Common persimmon	*Diospyros virginiana*	
Baldwin's spikerush; Roadgrass	*Eleocharis baldwinii*	
Tall elephantsfoot	*Elephantopus elatus*	
Green-fly orchid	*Epidendrum conopseum*	
American burnweed; Fireweed	*Erechtites hieracifolia*	
Centipedegrass *	*Eremochloa ophiuroides*	
Prairie fleabane	*Erigeron strigosus*	
Longleaf wild buckwheat	*Eriogonum longifolium*	
Dogtongue wild buckwheat	*Eriogonum tomentosum* var. *gnaphalifolium*	
Coralbean; Cherokee bean	*Erythrina herbacea*	
Dogfennel	*Eupatorium capillifolium*	
Yankeeweed	*Eupatorium compositifolium*	
Pinewoods fingergrass	*Eustachys petraea*	
Cottonweed; Plains snakecotton	*Froelichia floridana*	
Elliott's milkpea	*Galactia elliottii*	
Soft milkpea	*Galactia mollis*	
Eastern milkpea	*Galactia regularis*	

*** Non-native Species**

Lake Griffin State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Downy milkpea	*Galactia volubilis*	
Coastal bedstraw	*Galium hispidulum*	
Dwarf huckleberry	*Gaylussacia dumosa*	
Yellow jessamine	*Gelsemium sempervirens*	
Sweet everlasting; Rabbit tobacco	*Gnaphalium obtusifolium*	
Angularfruit milkvine	*Gonolobus suberosus*	
Loblolly bay	*Gordonia lasianthus*	
Rough hedgehyssop	*Gratiola hispida*	
White gingerlily*	*Hedychium coronarium*	
Florida scrub frostweed	*Helianthemum nashii*	
Camphorweed	*Heterotheca subaxillaris*	
Waterthyme*	*Hydrilla verticillata*	
Manyflower marshpennywort	*Hydrocotyle umbellata*	
Pineweeds; Orangegrass	*Hypericum gentianoides*	
St. Andrew's-cross	*Hypericum hypericoides*	
Dahoon holly	*Ilex cassine*	
Inkberry; Gallberry	*Ilex glabra*	
Carolina indigo	*Indigofera caroliniana*	
Hairy indigo *	*Indigofera hirsuta*	
Trailing indigo*	*Indigofera spicata*	
Tievine	*Ipomoea cordatotriloba*	
Juba's bush	*Iresine diffusa*	
Shore rush; Grassleaf rush	*Juncus marginatus*	
Needlepod rush	*Juncus scirpoides*	
Red cedar	*Juniperus virginiana*	
Waterwillow	*Justicia sp.*	
Virginia saltmarsh mallow	*Kosteletzkya virginica*	
Virginia dwarfdandelion	*Krigia virginica*	
Carolina redroot	*Lachnanthes caroliniana*	
Whitehead bogbutton	*Lachnocaulon anceps*	
Grassleaf lettuce	*Lactuca graminifolia*	
Crapemyrtle *	*Lagerstroemia indica*	
Lantana; Shrubverbena*	*Lantana camara*	
Dickert's pinweed	*Lechea deckertii*	
Duckweed	*Lemna sp.*	
Hairy lespedeza	*Lespedeza hirta*	
Grassleaf gayfeather	*Liatris graminifolia*	
Shortleaf gayfeather	*Liatris tenuifolia*	
Gopher apple	*Licania michauxii*	
Glossy privet *	*Ligustrum lucidum*	
American spongeplant; Frog's-bit	*Limnobium spongia*	
Canada toadflax	*Linaria canadensis*	
Sweetgum	*Liquidambar styraciflua*	
Coral honeysuckle	*Lonicera sempervirens*	
Seaside primrosewillow	*Ludwigia maritima*	
Mexican primrosewillow	*Ludwigia octovalvis*	
Peruvian primrosewillow*	*Ludwigia peruviana*	
Skyblue lupine	*Lupinus diffusus*	
Coastalplain staggerbush	*Lyonia fruticosa*	
Fetterbush	*Lyonia lucida*	
Southern magnolia	*Magnolia grandiflora*	

*** Non-native Species**

Lake Griffin State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Sweetbay	*Magnolia virginiana*	
Chinaberry tree*	*Melia azedarach*	
Noyau vine*	*Merremia dissecta*	
Climbing hempvine	*Mikania scandens*	
Florida sensitive brier	*Mimosa quadrivalvis var. floridana*	
Partridgeberry; Twinberry	*Mitchella repens*	
Spotted beebalm	*Monarda punctata*	
Red mulberry	*Morus rubra*	
Southern bayberry; Wax myrtle	*Myrica cerifera*	
Spatterdock; Yellow pondlily	*Nuphar lutea ssp. advena*	
American white waterlily	*Nymphaea odorata*	
Woodsgrass; Basketgrass	*Oplismenus hirtellus*	
Pricklypear	*Opuntia humifusa*	
Wild olive	*Osmanthus americanus*	
Cinnamon fern	*Osmunda cinnamomea*	
Royal fern	*Osmunda regalis*	
Feay's palafox	*Palafoxia feayi*	
Maidencane	*Panicum hemitomon*	
Torpedograss*	*Panicum repens*	
Switchgrass	*Panicum virgatum*	
Virginia creeper; Woodbine	*Parthenocissus quinquefolia*	
Bahiagrass*	*Paspalum notatum*	
Thin paspalum	*Paspalum setaceum*	
Purple passionflower	*Passiflora incarnata*	
Green arrow arum	*Peltandra virginica*	
Red bay	*Persea borbonia var. borbonia*	
Swamp bay	*Persea palustris*	
Thicket bean	*Phaseolus polystachios*	
Annual phlox*	*Phlox drummondii*	
Common reed	*Phragmites australis*	
Turkey tangle fogfruit; Capeweed	*Phyla nodiflora*	
Mascarene island leafflower*	*Phyllanthus tenellus*	
Chamber bitter*	*Phyllanthus urinaria*	
American pokeweed	*Phytolacca americana*	
Sand pine	*Pinus clausa*	
Slash pine	*Pinus elliottii*	
Longleaf pine	*Pinus palustris*	
Pond pine	*Pinus serotina*	
Loblolly pine	*Pinus taeda*	
Water-lettuce*	*Pistia stratiotes*	
Narrowleaf silkgrass	*Pityopsis graminifolia*	
Resurrection fern	*Pleopeltis polypodioides var. michauxiana*	
Paintedleaf; Fire-on-the-mountain	*Poinsettia cyathophora*	
Fiddler's spurge; Mexican fireplant	*Poinsettia heterophylla*	
Slenderleaf clammyweed	*Polanisia tenuifolia*	
Yellow milkwort	*Polygala rugelii*	
Tall jointweed	*Polygonella gracilis*	
Mild waterpepper	*Polygonum hydropiperoides*	
Rustweed; Juniperleaf	*Polypremum procumbens*	
Pickerelweed	*Pontederia cordata*	
Little hogweed	*Portulaca oleracea*	

*** Non-native Species**

Lake Griffin State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Chickasaw plum	*Prunus angustifolia*	
Carolina laurelcherry	*Prunus caroliniana*	
Black cherry	*Prunus serotina var. serotina*	
Sweeteverlasting;rabbits tobacco	*Pseudognaphalium obtusifolium*	
Bracken fern	*Pteridium aquilinum*	
Blackroot	*Pterocaulon pycnostachyum*	
Chapman's oak	*Quercus chapmanii*	
Sand live oak	*Quercus geminata*	
Bluejack oak	*Quercus incana*	
Turkey oak	*Quercus laevis*	
Laurel oak	*Quercus laurifolia*	
Dwarf live oak	*Quercus minima*	
Myrtle oak	*Quercus myrtifolia*	
Water oak	*Quercus nigra*	
Running oak	*Quercus pumila*	
Live oak	*Quercus virginiana*	
Pale meadowbeauty	*Rhexia mariana*	
Maid marian	*Rhexia nashii*	
Winged sumac	*Rhus copallinum*	
Rose natalgrass*	*Rhynchelytrum repens*	
Dollarleaf	*Rhynchosia reniformis*	
Baldwin's beaksedge	*Rhynchospora baldwinii*	
Sandyfield beaksedge	*Rhynchospora megalocarpa*	
Mexican clover*	*Richardia sp.*	
Rougeplant	*Rivina humilis*	
Sawtooth blackberry	*Rubus argutus*	
Carolina wild petunia	*Ruellia caroliniensis*	
Cabbage palm	*Sabal palmetto*	
Grassy arrowhead	*Sagittaria graminea*	
Bulltongue arrowhead	*Sagittaria lancifolia*	
Broadleaf arrowhead; Duck potato	*Sagittaria latifolia*	
Carolina willow	*Salix caroliniana*	
Lyreleaf sage	*Salvia lyrata*	
Water spangles	*Salvinia minima*	
American elder; Elderberry	*Sambucus canadensis*	
Popcorntree; Chinese tallowtree *	*Sapium sebiferum*	
Lizard's tail	*Saururus cernuus*	
Softstem bulrush	*Scirpus tabernaemontani*	
Tall nutgrass; Whip nutrush	*Scleria triglomerata*	
Skullcap	*Scutellaria sp.*	
Saw palmetto	*Serenoa repens*	
Cuban jute; Indian hemp	*Sida rhombifolia*	
Tough bully	*Sideroxylon tenax*	
Earleaf greenbrier	*Smilax auriculata*	
Saw greenbrier	*Smilax bona-nox*	
Cat greenbrier; Wild sarsaparilla	*Smilax glauca*	
Laurel greenbrier	*Smilax laurifolia*	
Sarsaparilla vine	*Smilax pumila*	
Bristly greenbrier	*Smilax tamnoides*	
Pinebarren goldenrod	*Solidago fistulosa*	
Duckweed	*Spirodela sp.*	

*** Non-native Species**

Lake Griffin State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Pineywoods dropseed	*Sporobolus junceus*	
Common dandelion*	*Taraxacum officinale*	
Pond-cypress	*Taxodium ascendens*	
Bald-cypress	*Taxodium distichum*	
Ballmoss	*Tillandsia recurvata*	
Spanish moss	*Tillandsia usneoides*	
Eastern poison ivy	*Toxicodendron radicans*	
Broadleaf cattail	*Typha latifolia*	
Caesarweed*	*Urena lobata*	
Leafy bladderwort	*Utricularia foliosa*	
Sparkleberry; Farkleberry	*Vaccinium arboreum*	
Darrow's blueberry	*Vaccinium darrowii*	
Shiny blueberry	*Vaccinium myrsinites*	
Deerberry	*Vaccinium stamineum*	
Tall ironweed	*Vernonia angustifolia*	
Giant ironweed	*Vernonia gigantea*	
Ironweed	*Vernonia sp.*	
Summer grape	*Vitis aestivalis*	
Muscadine	*Vitis rotundifolia*	
Southern rockbell*	*Wahlenbergia marginata*	
Clasping warea	*Warea amplexifolia*	13
Carolina yelloweyed grass	*Xyris caroliniana*	
Tall yelloweyed grass	*Xyris platylepis*	
Oriental false hawksbeard*	*Youngia japonica*	
Spanish bayonet; Aloe yucca*	*Yucca aloifolia*	
Adam's needle	*Yucca filamentosa*	
Florida arrowroot; Coontie	*Zamia pumila*	
Hercules'-club	*Zanthoxylum clava-herculis*	

*** Non-native Species**

Lake Griffin State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
	INVERTEBRATES	
Gulf Fritillary	*Agraulis vanilla nigrior*	
Longhorned beetle	*Anelaphus pumilis*	
Sweat bee	*Augochlora* sp.	
Bumble bee	*Bombus* sp.	
Blood-necked longhorn beetle	*Callimoxys sanguinicollis*	
Carpenter Ant	*Camponotus socius*	
Soldier Beetle	*Chauliognathus pennsylvanicus*	
Monarch/milkweed butterfly	*Danaus plexippus*	
Pyramid Ant	*Dorymyrex bossutus*	
Rosy Maple moth	*Dryocampa rubicunda*	
Fly	*Exoprosopa fascipennis*	
Ant	*Formica archboldi*	
Ant	*Formica pallidefulva*	
Zebra longwing	*Heliconius charitonius tuckeri*	
Common buckeye	*Junonia coenia*	
Leaf-cutting bee	*Megachile* sp.	
Wasp	*Myzinum* sp.	
Trap-jaw ant	*Odontomachus brunneus*	
Giant Swallowtail	*Papilio cresphontes*	
Eastern Tiger swallowtail	*Papilio glaucus australis*	
Spice-bush swallowtail	*Papilio troilus ilioneus*	
Spider Wasp	*Paracyphononyx* sp.	
Ant sp.	*Pheidole metallescens*	
Wasp-like ant	*Pseudomyrmex ejectus*	
Fungus-growing ant	*Trachymyrmex septentrionalis*	
Long-tailed skipper	*Urbanus proteus*	
	FISH	
Gizzard shad	*Dorosoma cepedianum*	
Okefenokee pygmy sunfish	*Elassoma okefenokee*	
Bluespotted sunfish	*Enneacanthus gloriosus*	
Swamp darter	*Etheostoma fusiforme*	
Golden topminnow	*Fundulus chrysotus*	
Least killifish	*Heterandria formosa*	
Bluegill	*Lepomis macrochirus*	
Redear sunfish	*Lepomis microlophus*	
Largemouth bass	*Micropterus salmoides*	
Golden shiner	*Notemigonus crysoleucas*	
Blue tilapia	*Oreochromis aureus*	
Sailfin molly	*Poecilia latipinna*	
	AMPHIBIANS	
Florida cricket frog	*Acris gryllus dorsalis*	
Greenhouse Frog*	*Eleutherodactylus planirostris*	
Green treefrog	*Hyla cinerea*	
Squirrel treefrog	*Hyla squirella*	
Southern spring peeper	*Pseudacris crucifer*	
Bullfrog	*Rana catesbeiana*	

*** Non-native Species**

Lake Griffin State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
	REPTILES	
Florida cottonmouth	*Agkistrodon piscivorus conanti*	
American alligator	*Alligator mississippiensis*	24, 25, 48
Green anole	*Anolis carolinensis carolinensis*	
Florida softshell	*Apalone ferox*	
Six-lined Racer	*Aspidoscelis sexlineatus sexlineatus*	
Florida scarlet snake	*Cemophora coccinea coccinea*	
Florida snapping turtle	*Chelydra serpentina*	
Six-lined racerunner	*Cnemidophorus sexlineatus sexlineatus*	
Southern black racer	*Coluber constrictor priapus*	
Eastern diamondback rattlesnake	*Crotalus adamanteus*	
Southern ringneck snake	*Diadophis punctatus punctatus*	
Corn snake	*Elaphe guttata guttata*	
Yellow rat snake	*Elaphe obsoleta quadrivittata*	
Southeastern five-lined skink	*Eumeces inexpectatus*	
Broad-headed skink	*Eumeces laticeps*	
Eastern mud snake	*Farancia abacura abacura*	
Gopher tortoise	*Gopherus polyphemus*	8, 13
Mediterranean gecko*	*Hemidactylus turcicus turcicus*	
Florida mud turtle	*Kinosternon steindachneri*	
Eastern coachwhip	*Masticophis flagellum flagellum*	
Eastern coral snake	*Micrurus fulvius fulvius*	
Brown water snake	*Nerodia taxispilota*	
Rough green snake	*Opheodrys aestivus*	
Eastern glass lizard	*Ophisaurus ventralis*	
Florida sand skink	*Plestiodon reynoldsi*	13
Florida cooter	*Pseudemys floridana floridana*	
Florida worm lizard	*Rhineura floridana*	
Ground skink	*Scincella lateralis*	
Florida box turtle	*Terrapene carolina bauri*	
Eastern ribbon snake	*Thamnophis sauritus*	
Eastern garter snake	*Thamnophis sirtalis sirtalis*	
	BIRDS	
Cooper's Hawk	*Accipiter cooperii*	
Red-winged Blackbird	*Agelaius phoeniceus*	
Wood Duck	*Aix sponsa*	
Mallard	*Anas platyrhynchos*	
Anhinga	*Anhinga anhinga*	
American Pipit	*Anthus rubescens*	
Limpkin	*Aramus guarauna*	
Great Egret	*Ardea alba*	
Great Blue Heron	*Ardea herodias*	
Burrowing Owl	*Athene cunicularia floridana*	
Cattle Egret*	*Bubulcus ibis*	
Red-tailed Hawk	*Buteo jamaicensis*	
Red-shouldered Hawk	*Buteo lineatus*	
Green Heron	*Butorides virescens*	
Chuck-will's-widow	*Caprimulgus carolinensis*	

*** Non-native Species**

Lake Griffin State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Whip-poor-will	*Caprimulgus vociferus*	
Northern Cardinal	*Cardinalis cardinalis*	
Turkey Vulture	*Cathartes aura*	
Killdeer	*Charadrius vociferus*	
Common Nighthawk	*Chordeiles minor*	
Northern Harrier	*Circus cyaneus*	
Yellow-billed Cuckoo	*Coccyzus americanus*	
Northern Flicker	*Colaptes auratus*	
Northern Bobwhite	*Colinus virginianus*	
Common Ground-Dove	*Columbina passerina*	
Black Vulture	*Coragyps atratus*	
American Crow	*Corvus brachyrhynchos*	
Fish Crow	*Corvus ossifragus*	
Blue Jay	*Cyanocitta cristata*	
Yellow-rumped Warbler	*Dendroica coronata*	
Pine Warbler	*Dendroica pinus*	
Pileated Woodpecker	*Dryocopus pileatus*	
Gray Catbird	*Dumetella carolinensis*	
Little Blue Heron	*Egretta caerulea*	48
Snowy Egret	*Egretta thula*	48
Tricolored Heron	*Egretta tricolor*	48
Swallow-tailed Kite	*Elanoides forficatus*	
White Ibis	*Eudocimus albus*	
American Kestrel	*Falco sparverius*	
American Coot	*Fulica americana*	
Common Moorhen	*Gallinula chloropus*	
Sandhill Crane	*Grus canadensis*	
Bald Eagle	*Haliaeetus leucocephalus*	
Least Bittern	*Ixobrychus exilis*	
Loggerhead Shrike	*Lanius ludovicianus*	
Belted Kingfisher	*Megaceryle alcyon*	
Eastern Screech Owl	*Megascops asio*	
Red-bellied Woodpecker	*Melanerpes carolinus*	
Red-headed Woodpecker	*Melanerpes erythrocephalus*	
Northern Mockingbird	*Mimus polyglottos*	
Black-and-white Warbler	*Mniotilta varia*	
Great Crested Flycatcher	*Myiarchus crinitus*	
Black-crowned Night-Heron	*Nycticorax nycticorax*	
Eastern Screech-Owl	*Otus asio*	
Osprey	*Pandion haliaetus*	
Northern Parula	*Parula americana*	
Tufted Titmouse	*Parus bicolor*	
Carolina Chickadee	*Parus carolinensis*	
House Sparrow *	*Passer domesticus*	
American White Pelican	*Pelecanus erythrorhynchos*	
Double-crested Cormorant	*Phalacrocorax auritus*	
Downy Woodpecker	*Picoides pubescens*	
Hairy Woodpecker	*Picoides villosus*	
Eastern Towhee	*Pipilo erythrophthalmus*	
Scarlet Tanager	*Piranga olivacea*	

*** Non-native Species**

Lake Griffin State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Summer Tanager	*Piranga rubra*	
Glossy Ibis	*Plegadis falcinellus*	
Blue-gray Gnatcatcher	*Polioptila caerulea*	
Purple Gallinule	*Porphyrula martinica*	
Purple Martin	*Progne subis*	
Boat-tailed Grackle	*Quiscalus major*	
Common Grackle	*Quiscalus quiscula*	
Ruby-crowned Kinglet	*Regulus calendula*	
Black Skimmer	*Rynchops niger*	48
Eastern Phoebe	*Sayornis phoebe*	
Least Tern	*Sterna antillarum*	48
Barred Owl	*Strix varia*	
Eastern Meadowlark	*Sturnella magna*	
European Starling *	*Sturnus vulgaris*	
Tree Swallow	*Tachycineta bicolor*	
Carolina Wren	*Thryothorus ludovicianus*	
Brown Thrasher	*Toxostoma rufum*	
American Robin	*Turdus migratorius*	
Yellow-throated Vireo	*Vireo flavifrons*	
White-eyed Vireo	*Vireo griseus*	
Red-eyed Vireo	*Vireo olivaceus*	
Mourning Dove	*Zenaida macroura*	
	MAMMALS	
Coyote *	*Canis latrans*	
Nine-banded armadillo *	*Dasypus novemcinctus*	
Virginia opossum	*Didelphis virginiana*	
Feral cat *	*Felis catus*	
Bobcat	*Felis rufus*	
Southeastern pocket gopher	*Geomys pinetis*	
River otter	*Lutra canadensis*	
White-tailed deer	*Odocoileus virginianus*	
Cotton mouse	*Peromyscus gossypinus*	
Raccoon	*Procyon lotor*	
Eastern mole	*Scalopus aquaticus*	
Gray squirrel	*Sciurus carolinensis*	
Sherman's fox squirrel	*Sciurus niger shermani*	
Eastern cottontail	*Sylvilagus floridanus*	
Marsh rabbit	*Sylvilagus palustris*	
Gray fox	*Urocyon cinereoargenteus*	
Florida black bear	*Ursus americanus*	8, 13, 23, 25
Red fox *	*Vulpes vulpes*	

*** Non-native Species**

Terrestrial

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

Palustrine

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

Lacustrine

43. Clastic Upland Lake
44. Coastal Dune Lake
45. Coastal Rockland Lake

Lacustrine

46. Flatwood/Prairie Lake
47. Marsh Lake
48. River Floodplain Lake
49. Sandhill Upland Lake
50. Sinkhole Lake
51. Swamp Lake

Riverine

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

Estuarine

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

Marine

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

Subterranean

79. Aquatic Cave
80. Terrestral Cave

Miscellaneous

81. Ruderal
82. Developed

MTC Many Types Of Communities

OF Overflying

Addendum 6—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)
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.

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

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

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.

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

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

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.

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.