

Lake Jesup Wilderness Area

Land Management Plan

2010

**LAKE JESUP WILDERNESS AREA
LAND MANAGEMENT PLAN**

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LAND MANAGEMENT PLAN SUMMARY

Lake Jesup Wilderness Area

Acres: 490

Location: Sanford, FL: Section 19, Township 20 South, Range 31 East

Dates of Acquisition: March 1994

Key Resource Issues:

The property was purchased as part of a joint effort with the St. Johns River Water Management District with the goal of preserving significant habitat to aid in the restoration of Lake Jesup. The preservation of this site will ensure the effective function of floodplain marshes and wet prairies and provide for a healthier lake for wildlife and human users alike.

GENERAL DESCRIPTION:

- **Security** – Unlike other Natural Lands properties, there is no caretaker residing on this property. All possible locations for access whether designated or not, are regularly evaluated and methods for control considered. The additional and more frequent presence of Parks and Recreation, SCNLP staff and Sheriff Department, should act as an effective deterrent to vandalism. Security of the site will continue to be monitored and further corrective actions may be required.
- **Restoration** – Restoration on this site will focus on the function of the extensive floodplain of the lake. Through a partnership with the Seminole County Public Works Department this site has been used as a mitigation site for roadway projects within the Lake Jesup Basin. Manmade ditches have been filled in and dikes breached to enhance the natural function of the habitats on site.
- **Fire** – Seminole County Natural Lands Program has developed a comprehensive Prescribed Burn Plan to address the use of fire as a management tool to maintain the ecological integrity of the preserve. A prescribed fire plan was established for the property dividing it into 13 burn zones...
- **Invasive and Exotic Species** – There are a number of exotic invasive species on this property including skunk vine (*Paederia foetida* L.), Japanese climbing fern (*Lygodium japonicum*), Brazilian pepper (*Schinus terebinthifolius*), and tropical soda apple (*Solanum viarum*). A grant was received through the Bureau of Invasive Plant Management in 2007 that provided for the treatment of these exotics.
- **Wildlife and Plants** – This site serves as an important nesting and or feeding ground for many species of wading birds such as the Wood stork (*Mycteria americana*), Great Blue Heron and Snowy Egret. Many other species such as the American Alligator, River Otter and

Florida Box Turtle (*Terrapene carolina bauri*) can be observed in the shallow marshes and hydric hammocks found on this property.

- **Cultural Resources** – There are no known historical or cultural sites located on this property.

Key Land Use/Recreation Issues:

This wilderness area provides opportunities for a variety of recreational uses including environmental education, hiking, biking, horseback riding, fishing and wildlife viewing. Approximately three miles of trails are located throughout the property giving visitors a firsthand look at the extensive flood plain of Lake Jesup and the countless wildlife species that live there. These trails are located within the floodplain of Lake Jesup and are often flooded during the rainy season.

General Description:

- **Access** – There is one park and walk access located at the south end of Sanford Avenue.
- **Public recreation** – Resource based recreation at Lake Jesup Wilderness Area includes hiking, horseback riding, fishing and mountain biking.
- **Coordination of agreements** – Natural Land’s staff coordinate with the Public Safety Department for mitigation related activities.

**Wilderness Area
Seminole County, Florida**

LAND MANAGEMENT PLAN

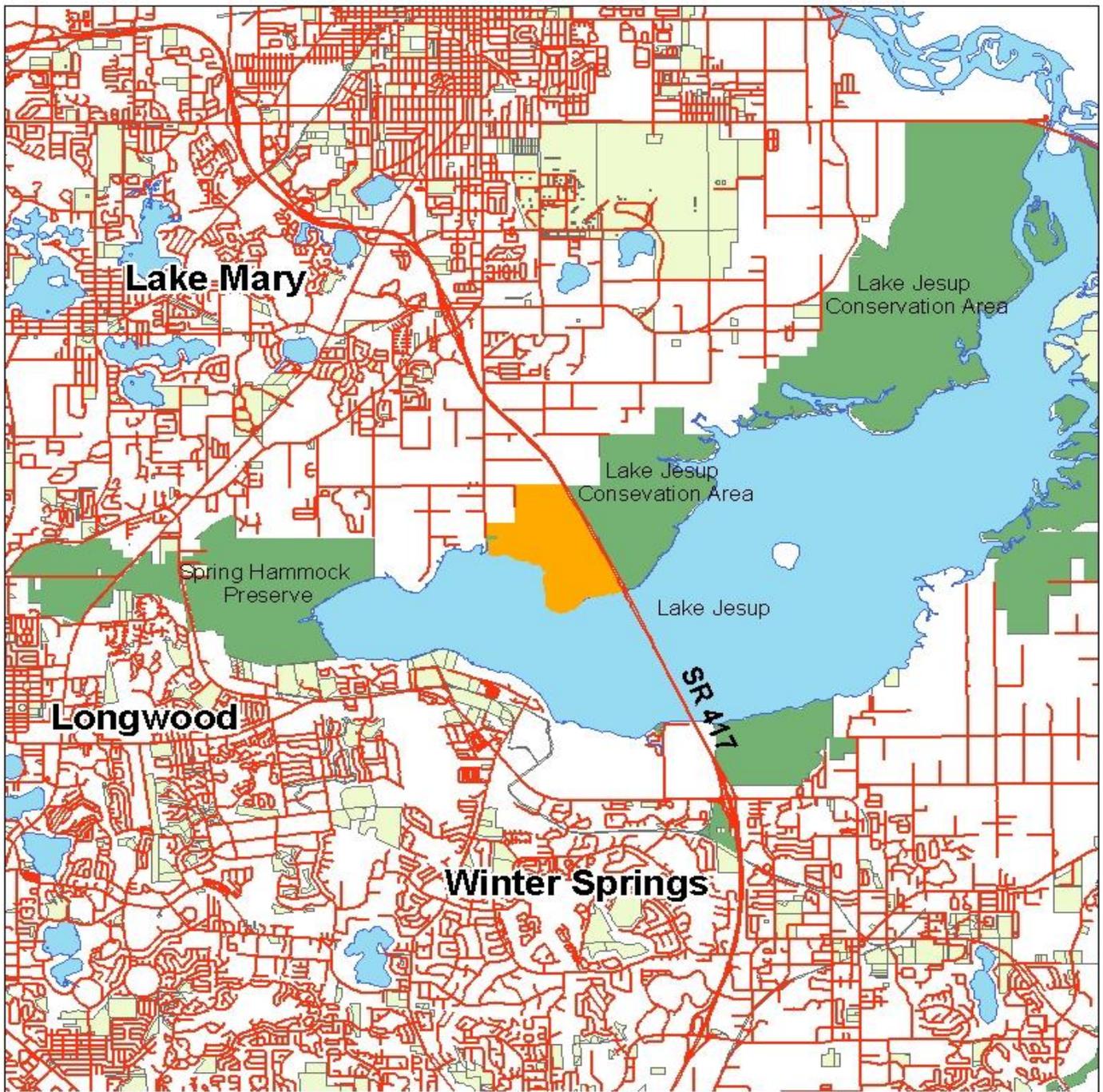
INTRODUCTION

This document provides guidelines for land management activities to be implemented within the Wilderness Area over the next ten years.

WILDERNESS AREA OVERVIEW

Regional Significance

The Lake Jesup Wilderness Area is an approximately 490 acre site located on the north shore of lake Jesup west of Hwy 417. The property was purchased through a joint effort with the St. Johns River Water Management District, towards the goal of preserving significant habitat to aid in the restoration of lake Jesup. Visitors can walk, ride their horse or mountain bike on the approximately 3 miles of trails to get a firsthand look at the extensive flood plain of this lake and the countless species of wildlife that live there. The majority of the trails cross wet prairie, shallow marsh and hydric hammock, where users might observe species such as the Anhinga, Bald Eagle, and the American Alligator. Benches and interpretive graphics are provided along the way to enhance the visitor experience and provide insight to the restoration of this important Central Florida resource.



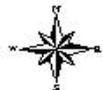
Lake Jesup Wilderness Area
Figure 1: Location Map

Legend

 Lake Jesup Wilderness Area



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NATURAL RESOURCES OVERVIEW

Natural Communities

The Lake Jesup Wilderness Area contains a mixture of predominately wetland communities such as wet prairie, shallow marsh and hydric hammock. Plant community descriptions and fire regimes are taken from FNAI, 1990.

Hydric Hammock

Hydric Hammock plant community is characterized as a hardwood and cabbage palm forest with an inconsistent understory dominated by palms and ferns. This is the most common forested community on site, dominated by a canopy of Cabbage Palm (*Sabal palmetto*) and Live Oak trees (*Quercus virginiana*). Other tree species include Red Cedar, Laurel Oak (*Quercus laurifolia*), sweetbay (*Magnolia virginiana*), and Hackberry.

Hydric Hammocks occur on low, flat, wet sites where limestone may be near the top and frequently extends beyond the surface. The normal hydrologic regime must be maintained in this plant community. If the water table is lowered, the Hydric Hammock will gradually change to mesic conditions.

Floodplain Marsh

Floodplain Marshes are wetlands of herbaceous vegetation and low shrubs that occur in river floodplains. Emergent grasses, herbs, and shrubs that dominate Floodplain Marshes include Sawgrass (*Cladium jamaicense*), Maidencane (*Panicum hemitomon*), and Willow. Buttonbush (*Cephalanthus occidentalis* L.).

This plant community is maintained by both regimes of fire and water. Fires burn on a one to five year basis under natural conditions and maintain the open herbaceous community by restricting shrub invasion. These marshes are flooded about 250 days per year. Any shortened hydroperiod will allow for the invasion of shrubs and loss of marsh area.

Cypress Dome Swamp

This plant community exists at one location on the southern tip of the Lake Jesup Wilderness Area. Dome Swamps are characterized as shallow, forested depressions that generally present a dome shaped profile. Smaller trees grow in the shallow waters around the outer edge, while the bigger trees grow in the deeper water throughout the interior. Common plant species include the Bald cypress (*Taxodium distichum*), Swamp tupelo (*Nyssa sylvatica* var. *biflora*), Red maple (*Acer rubrum*), and Swamp bay (*Persea palustris*).

Fire is essential for the maintenance of the Dome Swamp community. Without periodic fire, hardwood invasion and peat accumulation would convert the dome to Bottomland Forest or Bog. The normal fire cycle is 3 to 5 years along the outer edge and as long as 100 to 150 years within the interior. Normal hydroperiods must also be maintained. Extended hydroperiods will limit tree growth and shortened periods will allow for the recruitment of plant species that will alter the composition of the Dome Swamp.

Fire

Fire is an integral part of the Florida landscape. Before the influx of settlers, lightning fires would burn unimpeded through fire adaptive communities and landscapes until extinguished via changes in weather and/or fuel characteristics. Also, Native Americans would burn at various times of the year to attract wild game and to keep the landscape open for easy travel. Today, due to increased urban pressures on conservation areas, fires must be managed under strict regulations and performed according to set criteria depending on the site.

The objective of prescribed burning at Lake Jesup Wilderness Area is to create a mosaic of native plant communities, promote species diversity, and reduce the accumulation of hazardous fuel loads and associated wildfire risks. This would also help to minimize and/or exclude smoke impacts to adjoining or nearby urbanized areas, roads and highways.

Wildlife

There are a number of rare and state listed species found on the property including sandhill crane (*Grus canadensis*), snowy egret (*Egretta thula*), and the little blue heron (*Egretta caerulea*). Other species observed on the property are white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), river otter (*Lutra canadensis*), marsh rabbit (*Sylvilagus palustris*), scarlet kingsnake (*Lampropeltis triangulum elapsoides*), ground skink (*Scincella lateralis*), and southeastern five-lined skink (*Eumeces inexpectatus*).

A baseline study was implemented by NLD staff from 1996 until 2004. In 1998, a monitoring plan was developed to survey species using standard sampling methodologies for bird surveys, herp arrays, drift fence, coverboards, box turtle marking, and small mammal trapping. Nest boxes were erected and surveyed as well.

In 2006, NLD staff revised the monitoring plan to focus more closely on the effects of land management practices on flora and fauna.

Listed Species

Listed species found on the property include American alligator (*Alligator mississippiensis*), Sandhill crane (*Grus canadensis*), Woodstork (*Mycteria americana*), Snowy egret (*Egretta thula*), and little blue heron (*Egretta caerulea*).

A volunteer program was established by NLD staff to mark and record information on box turtles. Volunteers complete at least four hours of training before they are certified to participate in the mark-recapture monitoring effort.

Exotics

Florida's climate is not only attractive to humans, but also to invasive exotic species. An exotic species is defined as a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida. Some examples of exotic species in Florida include Brazilian pepper (*Schinus terbinthifolius*), air potato (*Dioscorea bulbifera*), old world climbing fern (*Lygodium microphyllum*), Cogongrass (*Imperata cylindrica*), feral hog (*Sus scrofa*), Cuban brown anole

(*Anolis segrei*), nine-banded armadillo (*Dasyopus novemcinctus*), Eurasian collared-dove (*Streptopelia decaocto*), Cuban treefrog (*Osteopilus septentrionalis*), and walking catfish (*Clarias batrachus*). The State of Florida spends millions of dollars per year either directly or indirectly through grants, trying to control exotic species.

Since the impacts of invasive exotic species have both an environmental and economic impact, a non-governmental organization called the Florida Exotic Pest Plant Council was formed. This organization provides a list of Florida's most invasive exotic species. The list is split into two categories: Category I species are those that are altering native plant communities by displacing native species and Category II species are those that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species.

Lake Jesup Wilderness Area has a number of exotic invasive species on the property including Skunk vine (*Paederia foetida* L.), Brazilian pepper (*Schinus terebinthifolius*), swordfern (*Polystichum munitum*), tropical soda apple (*Solanum viarum* Dunal), and Japanese climbing fern (*Lygodium japonicum*). The NLD has an ongoing treatment program to control exotic species and was awarded a state grant in 2007 that provided a contractor to treat exotics.

An exotic management plan for plants has been developed for all natural lands properties. A status of exotic animals will be developed over the next ten years.

Soils

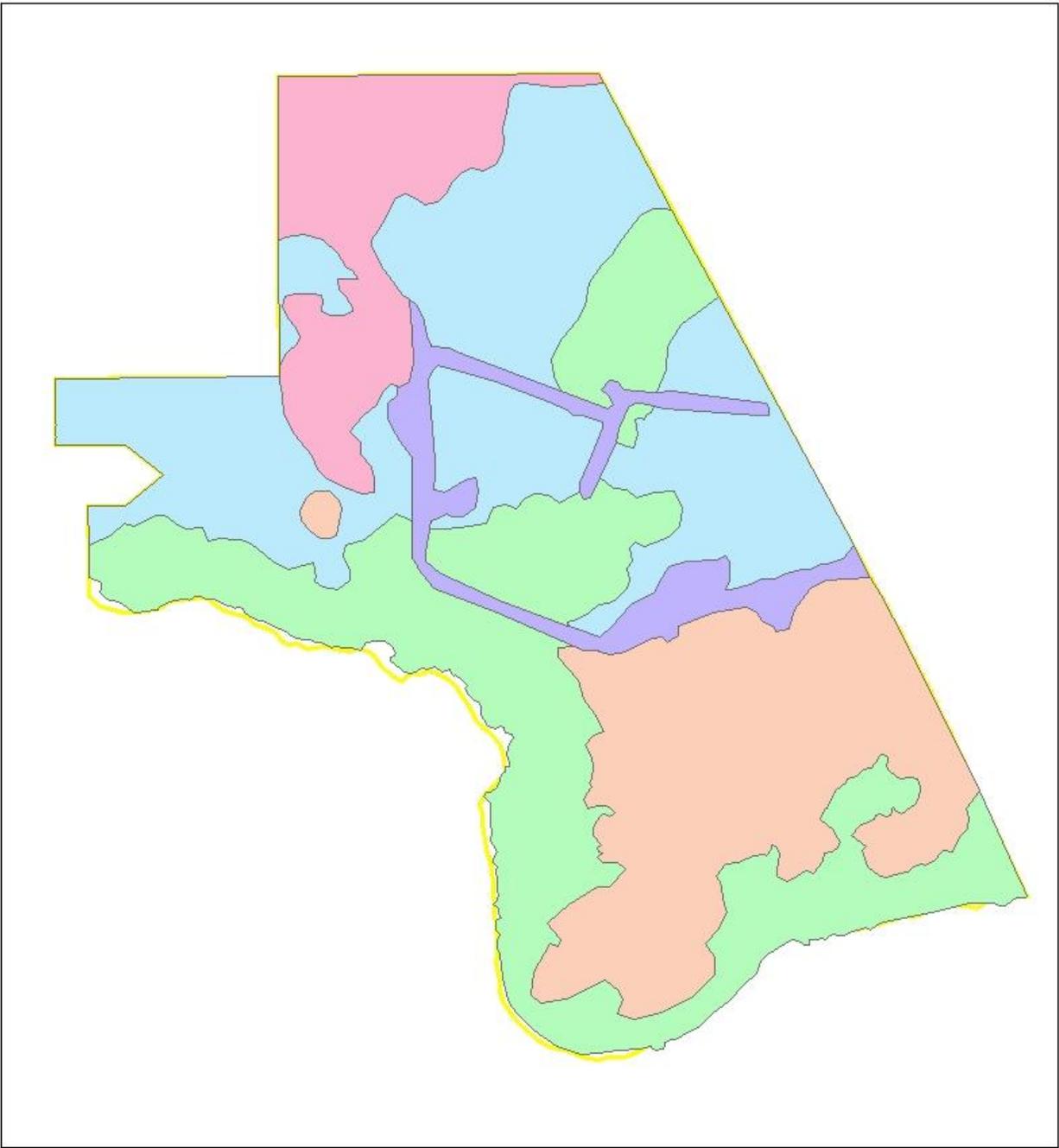
There are only two main soil types found within the boundary of Lake Jesup Wilderness Area. Nittaw Muck, which underlies approximately 90% of the property and the remaining 10%, is Holopaw. Both of these soil types have slow infiltration rates and mainly consist of clays and are typically accompanied by a high water table.

Nittaw Muck (Type 22)

These are very poorly drained soils that occur in drainage ways and broad flood plains. Normal high-water elevation occurs between June and November, and ranges from the surface to one foot below. Recreational uses are limited due to flooding, wetness and excessive muck levels.

Holopaw (Type 19)

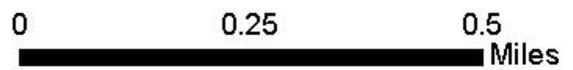
These are deep, very poorly drained soils that occur on low, broad flats in central and south Florida. The normal high-water elevation occurs from June through March, and ranges from the surface to 1 foot below. Recreational use is limited due to severe wetness and sandy nature of the soil.



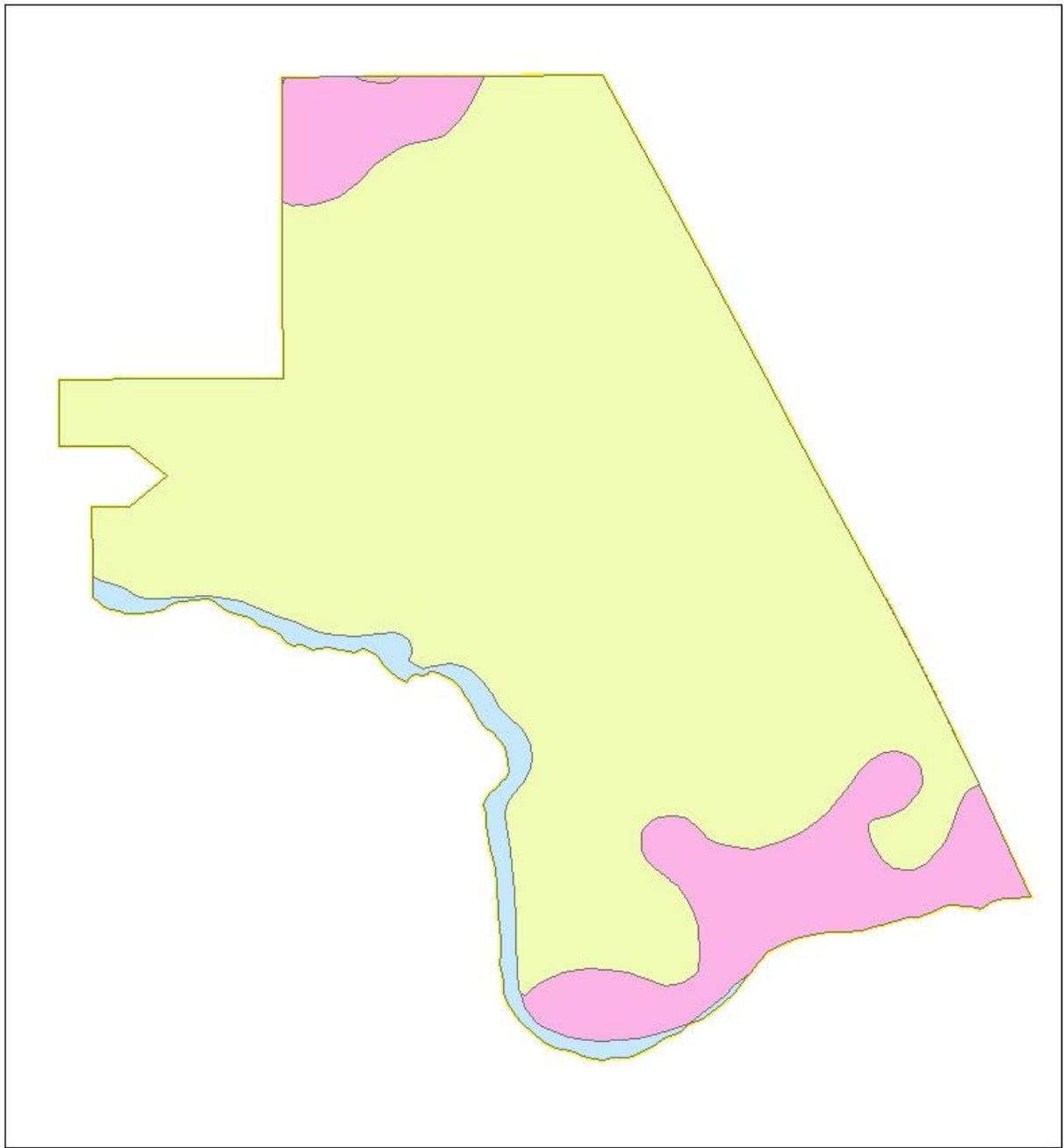
Lake Jesup Wilderness Area
 Figure 2: Natural Communities Map

Legend

- FRESHWATER MARSHES
- HARDWOOD - CONIFER MIXED
- MESIC FLATWOODS
- MIXED SCRUB-SHRUB WETLAND
- WETLAND FORESTED MIXED



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Lake Jesup Wilderness Area
Figure 3: Soils



Legend

- MANATEE
- NITTAW
- WABASSO
- WATER

0 0.25 0.5
 Miles

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IMPLEMENTATION

Integral to the goals and objectives for managing acquired lands in an acceptable manner are protection and restoration of those lands where feasible. An important element in protecting the resources is to prevent dumping, poaching, and other illegal activities. Appropriate land management activities, such as prescribed burning, forest management, and removal of exotics, should be continued to protect the viability of the site.

Rules and Regulations

Seminole County Code Chapter 190 Section 4 establishes the provisions relating to management and use of the properties acquired or managed by Seminole County Natural Lands Program.

RESOURCE PROTECTION AND MANAGEMENT

Monitoring

Monitoring natural resources is an important tool in gauging the overall health of an ecosystem. The NLD has developed a monitoring plan that encompasses all sites. From 1996 until June 2004, baseline monitoring was conducted on the property. This included herp arrays, drift fences, cover boards, bird surveys, marking gopher tortoises, photo points, small mammal trapping, fish and turtle traps and bird/bat boxes.

In 2006, a new Natural Lands Program Monitoring Plan was developed. According to that plan, monitoring at LJWA now includes box turtle marking, photo points and plant transects. Exotic treatment success will be monitored using photo points.

Monitoring Strategies

- Continue quarterly monitoring.
- Continue volunteer monitoring program.
- Continue monitoring exotic species.

Restoration

Restoration of the fire dependent communities is an ongoing process using both prescribed fire and mechanical treatments. Also on site, restoration efforts will focus on the extensive floodplain of the lake. This is in conjunction with the Seminole County Public Works Department. Lake Jesup Wilderness Area will be used as a mitigation site for roadway projects within the Lake Jesup Basin.

Natural Lands staff will also evaluate the need for restoration where large infestations of exotic plant species have occurred and been treated.

Restoration Strategies

- Continue to evaluate the need for restoration activity

Forest Management

Florida Statutes require public agencies to evaluate lands they manage for timber production. Planting of upland forest species may be a component of future upland restoration projects.

Forest Management Strategies

- At this time there are no plans to conduct any forestry related activity within Lake Jesup Wilderness Area.

Fire Management

Fire was reintroduced to the property in 1999. Thirteen burn zones have been identified. The use of fire on this property is extremely difficult due to the close proximity of State Road 417 and the City of Winter Springs on the south side of Lake Jesup. This site is a lower priority for prescribed fire than other Natural Lands properties.

Fire Management Strategies

- Burn all units that have no fire history.
- Switch to 50% lightning season burns.



Lake Jesup Wilderness Area
Figure 4: Burn Zones

0 0.25 0.5 Miles

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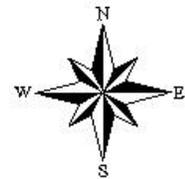


Table 2: Natural Community and Fire Return Interval

Plant Community	Fire Frequency for Restoration	Fire Frequency for Maintenance
Floodplain Marsh	1 to 2 years	1 to 4 years
Cypress Dome Swamp	1 to 3 years	3 to 5 years

Fire frequencies based on FNAI.

Wildlife

Continued habitat management through roller chopping, mowing and burning should provide optimum habitat for wildlife species. Wildlife observations will continue to be added to the NLP database.

Wildlife Strategies

- Continue to record wildlife observations
- Continue monitoring Florida Box Turtle
- Continue land management activities

Listed Species

Surveys are conducted annually to verify the existence of listed plant and animal species.

Plants

Listed plant species found at Lake Jesup Wilderness Area include the Butterfly orchid (*Encyclia tampensis*), and Greenfly orchid (*Epidendrum conopseum*).

Animals

A variety of listed wading birds use the floodplains to forage. These include Little blue heron (*Egretta caerulea*), Snowy egret (*Egretta thula*), Great egret (*Ardea alba*), Wood stork (*Mycteria americana*), and White ibis (*Eudocimus albus*). Other listed species include American alligator (*Alligator mississippiensis*) and Bald eagle (*Haliaeetus leucocephalus*).

Listed Plant and Animal Strategies

- Continue annual listed plant surveys
- Continue annual monitoring for listed animal species

Exotic Species

There are several exotic plant and animal species within LJWA. These invasive species often out compete and displace native flora and fauna.

Plants

Known exotic plant species found at Lake Jesup Wilderness Area include the Skunk vine (*Paederia foetida L.*), Brazilian pepper (*Schinus terebinthifolius*), swordfern (*Polystichum munitum*), tropical soda apple (*Solanum viarum Dunal*), and Japanese climbing fern (*Lygodium japonicum*).

Animals

Exotic animal species found at LJWA include the Brown anole (*Norops sagrei*) and Cuban tree frog (*Osteopilus septentrionalis*) and feral hog (*Sus scrofa*). The NLD has contracted two nuisance feral hog removal agents. Feral cats and dogs are trapped and turned over to Seminole County Animal Services when observed on the property.

Exotic Plant and Animal Strategies

- Get all Category I exotic species under maintenance control
- Trap and remove wild hogs annually or as needed

LAND USE MANAGEMENT

Access

There is one park and walk access located at the south end of Sanford Avenue.

Access Strategies

- Continue regular maintenance on public access area
- Maintain signs and kiosk



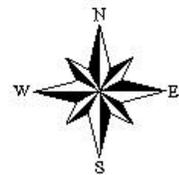
Lake Jesup Wilderness Area
Figure 5: Recreation

Legend

— Trails

0 0.25 0.5
Miles

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Recreation

Resource-based recreational opportunities provided on this property include hiking, biking, horseback riding, and wildlife viewing.

Recreation Strategies

- Continue regular maintenance of trails

Environmental Education

While no educational facilities exist on this property, it is used as an outdoor classroom for students of all ages.

Education Strategies

- Continue to support the utilization of LJWA as an outdoor learning tool in an effort to promote environmental education

Security

The security of Lake Jesup Wilderness Area will continue to be addressed through the existing partnerships with SCSO and FWC.

Security Strategies

- Continue with current security

ADMINISTRATION AND IMPLEMENTATION

Implementation Chart

An implementation chart of activities and responsibilities follows.

**Conservation Area
Management Activity Implementation Chart**

TASK	RESPONSIBLE LEAD	DUE DATE	COOPERATORS
RESOURCE PROTECTION AND MANAGEMENT			
<i>Restoration</i>			
Evaluate need for restoration activity	NL	On-going	
<i>Forest Management</i>			
No current plan for forestry related activities			
<i>Fire Management</i>			
Burn all units that have no fire history.	NLP	12/2013	
Switch to 50% lightning season burns.	NLP	12/2013	
<i>Wildlife</i>			
Continue to record wildlife observations.	NLP	Ongoing	
Continue land management activities.	NLP	Ongoing	
<i>Listed Species</i>			
Plants & Animals			
Continue annual listed animal surveys	NLP	Ongoing	
Continue annual listed plant surveys	NLP	2012	
<i>Exotic Species</i>			
Plants & Animals			
Get all Category I exotic species under maintenance control	NLP	2012	
Continue feral hog agent program	NLP	Ongoing	
LAND USE MANAGEMENT			
<i>Access</i>			
Continue regular maintenance on public access area	NLP	Ongoing	
Maintain signs and kiosk	NLP	Ongoing	
<i>Recreation</i>			
Continue regular maintenance on trails	NLP	Ongoing	
<i>Security</i>			
Continue with current security	NL	On-going	

KEY

DOF Division of Forestry
PS Public Safety

References

Brooks, H.K. 1981. *Guide to the Physiographic Regions of Florida*. Institute of Food and Agricultural Services, University of Florida. Gainesville, FL.

Florida Natural Areas Inventory. 1990. *Guide to Natural Communities of Florida*. Tallahassee, FL.

Myers, R.L. and John J. Ewel. 1990. *Ecosystems of Florida*. University of Central Florida Press. Gainesville, FL.

United States Department of Agriculture, Soil Conservation District. *Soil Survey of Brevard County, FL*.

United States Department of Agriculture, Soil Conservation District. *Soil Survey of Osceola County, FL*.

Wunderlin, R.P. 1998. *Guide to the Vascular Plants of Florida*. The Board of Regents of the State of Florida. Tallahassee, FL.