

# Lake Jesup Wilderness Area

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## Land Management Plan

2020



# LAKE JESUP WILDERNESS AREA LAND MANAGEMENT PLAN

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## LAND MANAGEMENT PLAN SUMMARY

### Lake Jesup Wilderness Area

**Acres:** 490

**Location:** Sanford, Florida, 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. There is one park and walk access located at the south end of Sanford Avenue.
- **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. Prescribed fire will be conducted on the site when possible.
- **Invasive 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*).
- **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*). 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.

#### **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.

- **Public recreation** – Resource based recreation at Lake Jesup Wilderness Area includes hiking, horseback riding, fishing and mountain biking.

**Lake Jesup 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.

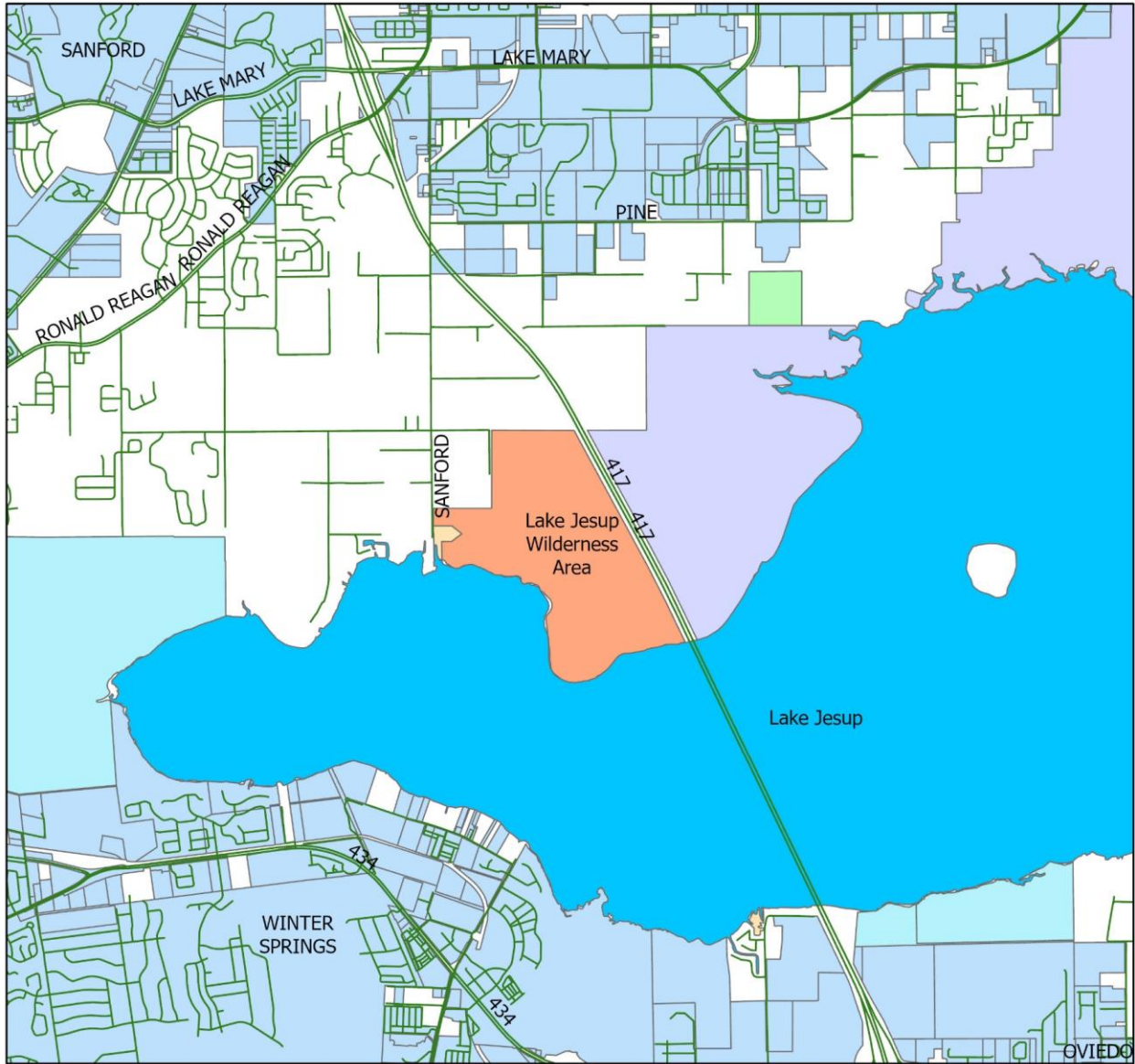
**WILDERNESS AREA OVERVIEW**

Regional Significance

The Lake Jesup Wilderness Area (LJWA) is an approximately 490 acre site located on the north shore of Lake Jesup west of Hwy 417. 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 floodplain 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.

Acquisition History









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.



**Lake Jesup Wilderness Area**  
**Figure 1: Location Map**



**Legend**

- |  |  |
|--|--|
|  Seminole County BCC Preserved Lands  |  Streets                    |
|  Seminole County Preserved Lands      |  Water Bodies               |
|  Seminole County/Parks and Recreation |  City Limits                |
|  SJRWMD Preserved Lands               |  Lake Jesup Wilderness Area |



## NATURAL RESOURCES OVERVIEW

### Natural Communities

The Lake Jesup Wilderness Area contains a mixture of predominately wetland communities such as floodplain marsh and hydric hammock. Plant community descriptions and fire regimes are taken from FNAI, 2010.

#### *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 (*Juniperus virginiana*), laurel oak (*Quercus laurifolia*), sweetbay (*Magnolia virginiana*), and hackberry (*Celtis laevigata*). 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.

The hydric hammock at LJWA is in fair to good condition. Much of the hammock in the northwest corner has been disturbed and possibly even succeeded from flatwoods to hammock through hydrologic alterations. The hammock in the southeast portion of the property is in better condition, with a more intact plant community. However, invasive species have become widespread throughout this area, with severe infestations of Caesar's weed, as well as Chinese tallow and Brazilian pepper.

#### *Floodplain Marsh*

Floodplain marshes are wetlands of herbaceous vegetation and low shrubs that occur in river floodplains. Emergent grasses, herbs, and shrubs that dominate this community include sand cordgrass (*Spartina bakeri*), maidencane (*Panicum hemitomon*), and coastalplain willow (*Salix carolinana*). 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.

This community has been hydrologically altered by ditching throughout the floodplain, and the construction of berms that now make up the trail. Fire suppression has also contributed to shrubby invasions of the floodplain. There are a number of invasive species present on the property, although the floodplains have smaller infestations than the forested areas. Brazilian pepper is the main threat to the floodplain, and generally occurs under cabbage palms or other shrubs/trees, most likely spread by avian fauna.

**Table 1. Approximate acreage for each plant community and percent uplands and wetlands.**

<b>Community Type</b>	<b>Acres</b>
Ditches	6.4
Dome Swamp	7.3
Floodplain Marsh	258.5
Freshwater Lake	0.1
Hydric Hammock	190.9
Mesic Flatwoods	1.1
Mesic Hammock	0.2
Spoil Area	8.8
<hr/>	
Percent Wetlands	98
Percent Uplands	2

### Wildlife

There are a number of rare and state listed species found on the property including the sandhill crane (*Grus canadensis*) and tricolored heron (*Egretta tricolor*). 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 elapsoides*), ground skink (*Scincella lateralis*), and southeastern five-lined skink (*Plestiodon inexpectatus*).

### Soils

#### *Manatee*

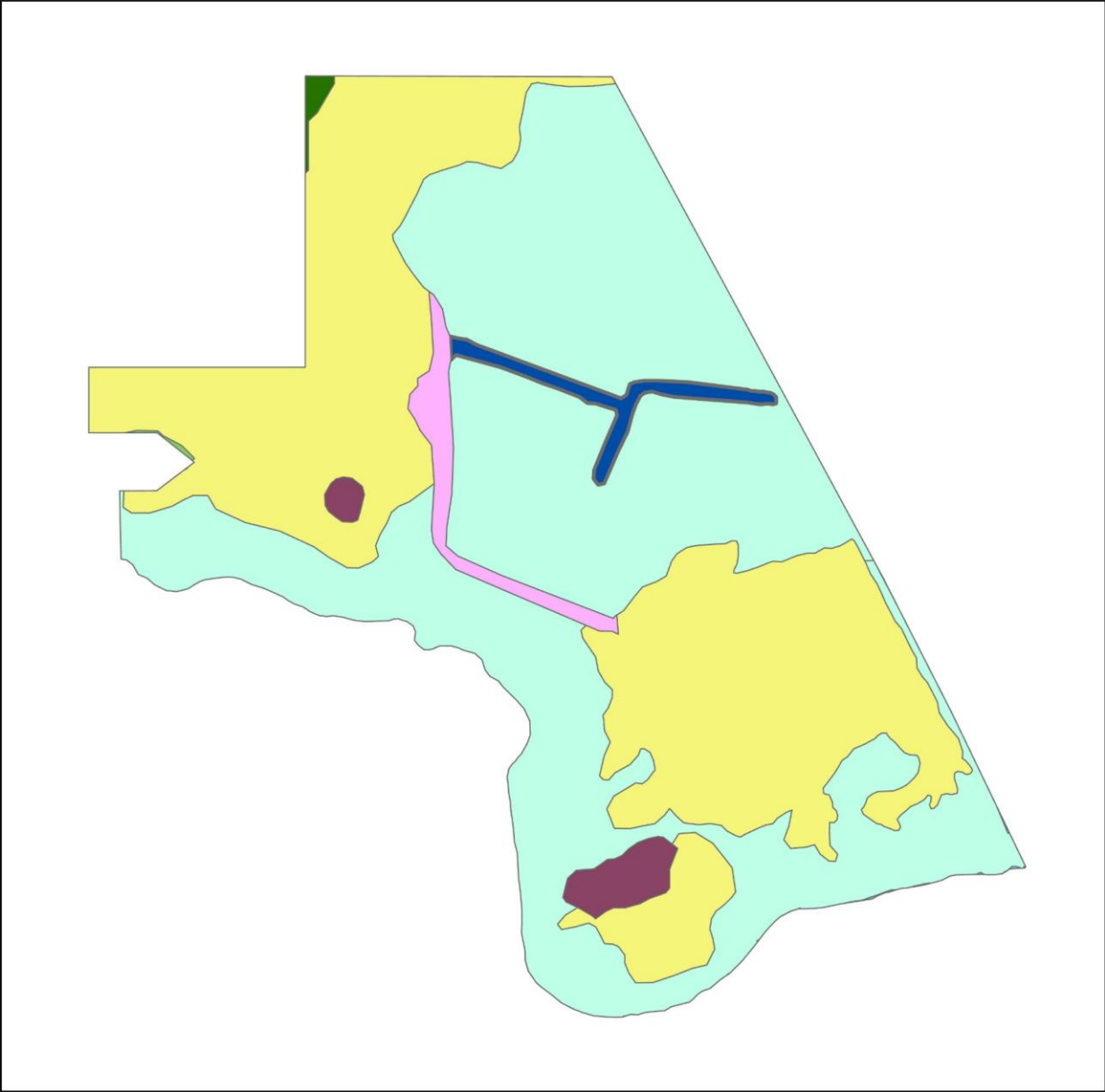
The Manatee series consists of very deep, very poorly drained, moderately permeable soils in depressions, broad drainageways, and on flood plains. They formed in sandy and loamy marine sediments.

#### *Nittaw*

The Nittaw series consists of very poorly drained, slowly permeable soils that formed in thick deposits of clayey sediments of marine origin. These soils are in well-defined drainageways, broad, nearly level swamps, and marshes of central and southern peninsular Florida. They are subject to flooding and water standing above the soil surface for 6 months or more in most years during late spring, summer and fall.

#### *Wabasso*

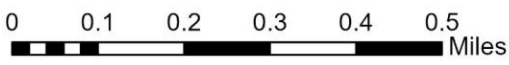
The Wabasso series consists of very deep, very poorly and poorly drained, that formed in sandy and loamy marine sediments. Wabasso soils are on flatwoods, low broad flats, sloughs, depressions, and flood plains.



Lake Jesup Wilderness Area  
 Figure 2: Natural Communities Map

Legend

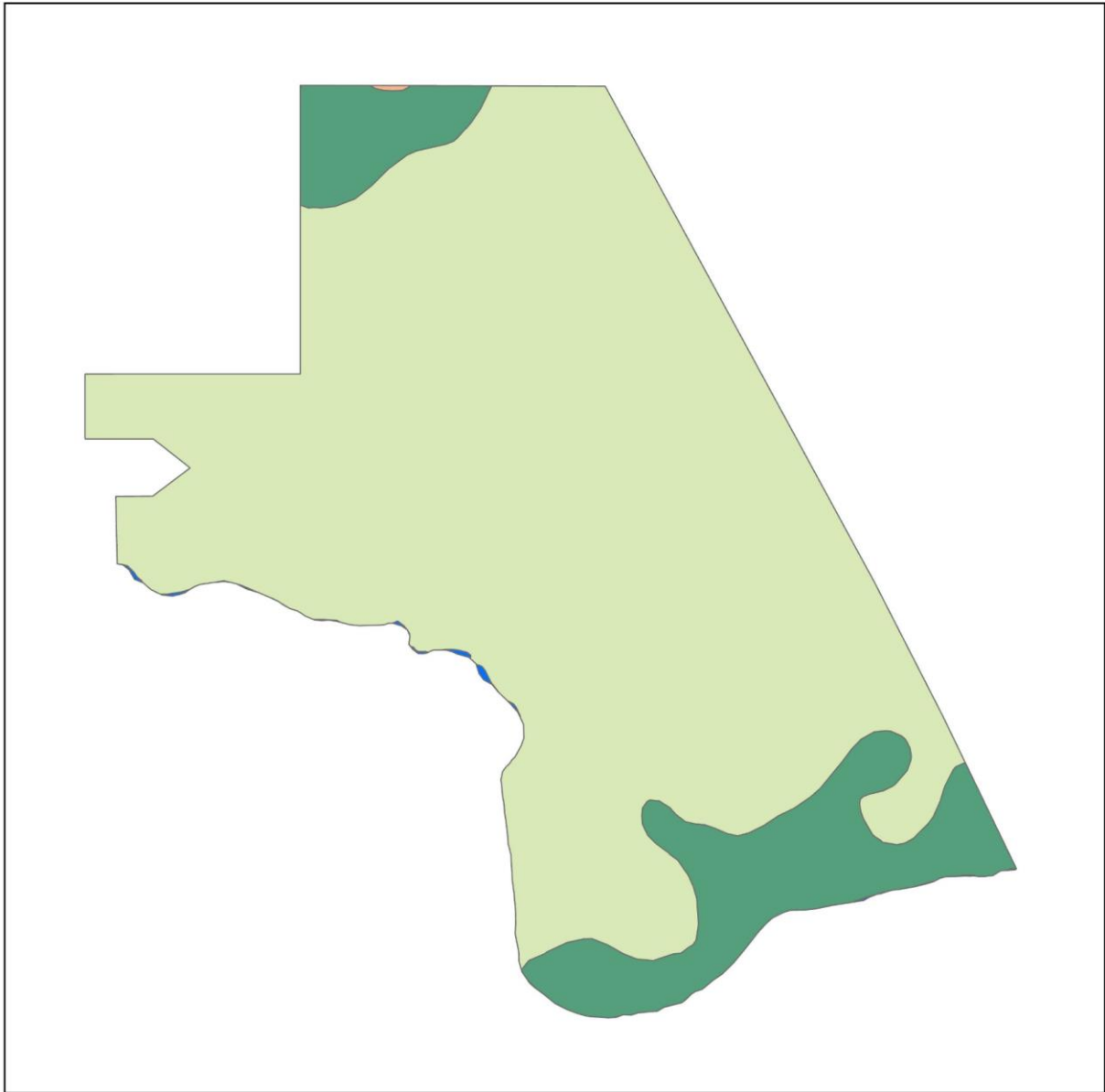
- |                          |                |                 |
|--------------------------|----------------|-----------------|
| FNAI Natural Communities |                | Freshwater Lake |
| Developed                | Hydric Hammock | Mesic Flatwoods |
| Ditches                  | Dome Swamp     | Mesic Hammock   |
| Floodplain Marsh         | Spoil Area     |                 |





## Water Resources

On the banks of Lake Jesup, water is critical to maintaining the floodplain marsh of the Lake Jesup Wilderness Area. Hydrological alterations have impacted the hydroperiod of these floodplains, but mitigation work has helped to partially alleviate those negative impacts. There are still ditches throughout the eastern portion of the floodplain, and the trail runs along a berm north-south in the middle of the property. The property is located within the Lake Jesup drainage basin.

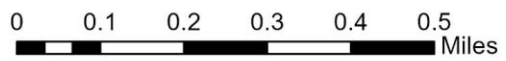


Lake Jesup Wilderness Area  
 Figure 3: Soil Map



Legend

- |   |   |
|---|---|
|  MANATEE |  WABASSO |
|  NITTAW  |  WATER   |



## **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 MANAGEMENT PROGRAM**

### 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.

Currently, the Natural Lands program hosts a bioblitz twice a year on a different property. The first Lake Jesup Wilderness Area bioblitz is scheduled for spring 2022.

### *Monitoring Strategies*

- Organize two bioblitzes on the property in the next 10 years
- Continue monitoring invasive plant species
- Establish 1-3 photo points to monitor effects of mechanical treatment and prescribed fire

### Restoration

Restoration on this site has focused 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.

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

### *Restoration and Habitat Enhancement Accomplishments*

- 101 acres of floodplain marsh were mechanically treated in 2018

### *Restoration Strategies*

- Continue to evaluate the need for restoration activity

### Fire Management

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.

Fire was reintroduced to the property during a wildfire and subsequent burnout 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 or mechanically treat all units that have no fire history.

**Table 2: Natural Community and Fire Return Interval**

<b>Plant Community</b>	<b>Recommended Fire Return Interval</b>
Floodplain Marsh	1-5 years

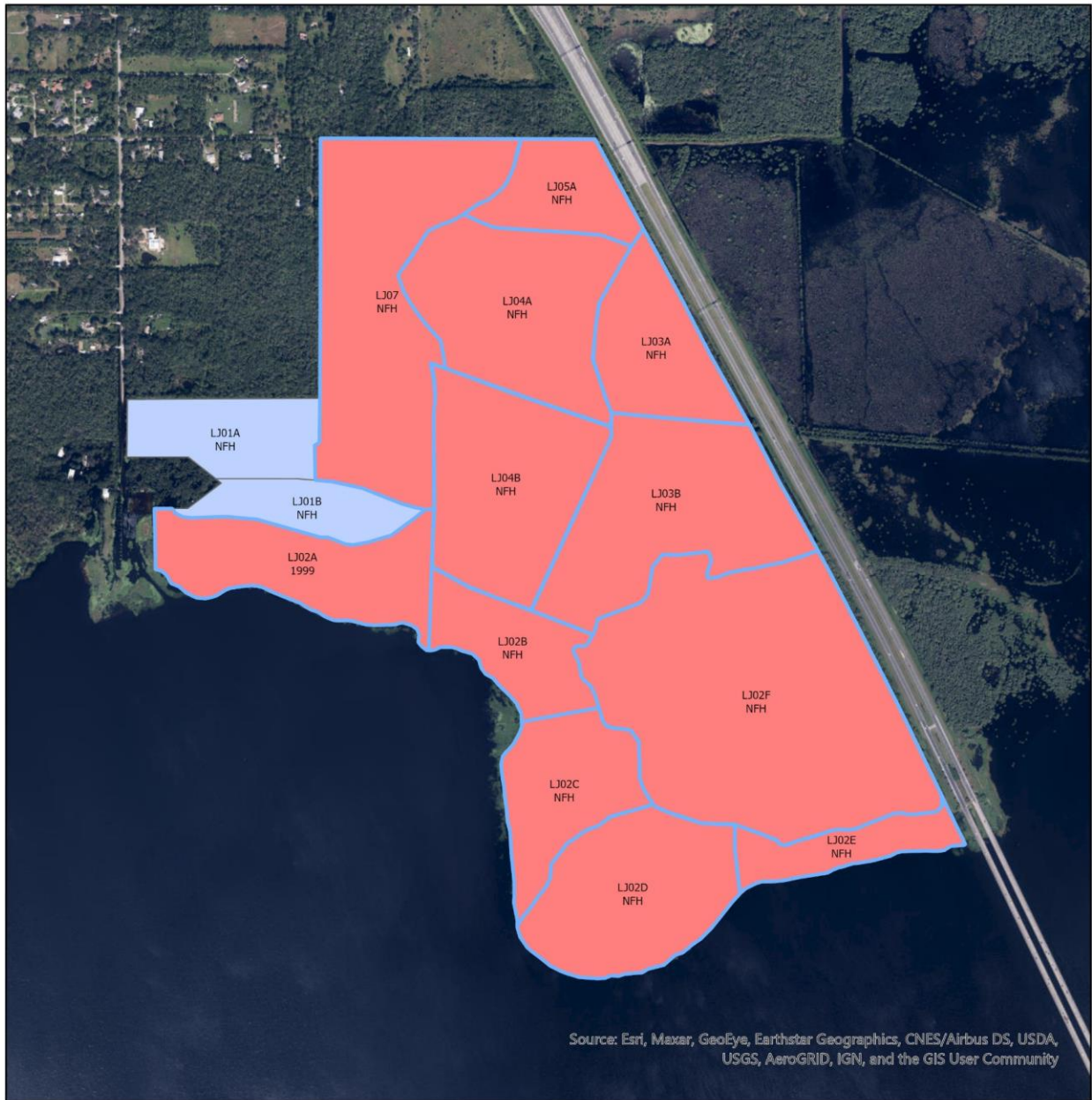
**Fire frequencies based on FNAI.**

### 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.

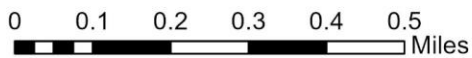
### *Wildlife Strategies*

- Continue to record wildlife observations
- Continue land management activities



## Lake Jesup Wilderness Area Figure 4: Fire History Map

This map shows each management zone, the most recent burn year, and whether or not it is currently maintained within the proper fire return interval (FRI), as well as the priority for maintaining the FRI. NFH = No Fire History



**Legend**  
Within FRI, Priority

- N, Low
- N/A, N/A

## 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 the greenfly orchid (*Epidendrum conopseum*).

### *Animals*

A variety of listed wading birds use the floodplains to forage. These include the little blue heron (*Egretta caerulea*) and the wood stork (*Mycteria americana*). Other listed species include American alligator (*Alligator mississippiensis*) and Bald eagle (*Haliaeetus leucocephalus*).

### *Listed Plant and Animal Strategies*

- Continue annual listed plant surveys

## Invasive Species

Florida's climate is not only attractive to humans, but also to invasive exotic species. An invasive exotic species is defined as a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida with the ability to become established outside of cultivation and out-compete native species. Some examples of invasive 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 (*Dasybus novemcinctus*), Eurasian collared-dove (*Streptopelia decaocto*), Cuban treefrog (*Osteopilus septentrionalis*), and walking catfish (*Clarias batrachus*). The State of Florida spends millions of dollars each year either directly or indirectly through grants, trying to control invasive 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 (now the Florida Invasive Species 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. There are several invasive plant and animal species within LJWA.

### *Plants*

Known invasive 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*). Brazilian pepper is spread throughout the property, but mostly as seedlings or saplings. Repeated contractor treatments have controlled many of the larger trees. Chinese tallow also occurs in limited infestations in the southern portion of the property, in what may

have been pasture at one point. Some trees are quite large and should be considered a priority to treat.

Contractor treatments will most likely be necessary at LJWA periodically to control the trees, but staff can follow-up with smaller treatments annually. Staff should continue to monitor for new infestation as they patrol the property.

### *Animals*

Invasive animal species found at LJWA include the brown anole (*Norops sagrei*) and Cuban tree frog (*Osteopilus septentrionalis*) and feral hog (*Sus scrofa*). The Natural Lands Program has contracted up to 6 nuisance feral hog removal agents at a time. Feral cats and dogs are trapped and turned over to Seminole County Animal Services when observed on the property.

### *Invasive Plant and Animal Accomplishments since 2010*

- 2 contracts for invasive plant removal for a total of 962 acres
- 4.2 acres treated by NLP staff

### *Invasive Plant and Animal Strategies*

- Keep all Category I invasive species under maintenance control
- Continue feral hog agent program.

## 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

### 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

Unlike other Natural Lands properties, there is no caretaker residing on this property. The security of Lake Jesup Wilderness Area will continue to be addressed through the existing partnerships with SCSO and FWC. All possible locations for access whether designated or not, are regularly evaluated and methods for control considered. Security of the site will continue to be monitored and further corrective actions may be required.

#### *Security Accomplishments*

- The parking lot gate is now opened and closed by a security company each morning and evening

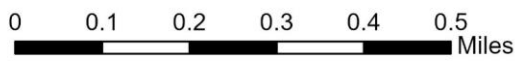
#### *Security Strategies*

- Continue to address security through the existing partnerships with SCSO and FWC.





Lake Jesup Wilderness Area  
Figure 5: Recreation Map



Trails

- North Loop
- South Loop
- ▲ Safety Markers
- Trailhead/Parking

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