

# Lake Proctor Wilderness Area

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Land Management Plan

2010

# DRAFT

## LAKE PROCTOR WILDERNESS AREA LAND MANAGEMENT PLAN

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## **LAND MANAGEMENT PLAN SUMMARY**

### Lake Proctor Wilderness Area

**Acres:** 475

**Location:** Geneva, FL: Section 22, Township 20S, Range 32E

**Dates of Acquisition:** 1999

**Key Resource Issues:** This site, located in Eastern Seminole County, contains a diverse collection of native plant communities. The Sand Pine Scrub and Sandhill communities, both found in Lake Proctor Wilderness Area are two of the most endangered habitats in the state of Florida. These two imperiled plant communities are home to an array of wildlife including the state listed Gopher Tortoise and Sherman's Fox Squirrel. Also found throughout the property are numerous ephemeral wetlands which serve as important breeding grounds for several species of native amphibians. These high, dry habitats also provide important recharge zones for and help to protect the Geneva Bubble, the local aquifer.

#### **GENERAL DESCRIPTION:**

- **Security** – There is a caretaker residence on-site near the entrance of the property. A law enforcement officer is usually the occupant.
- **Restoration** –Restoration on this site will focus on the use of prescribed fire to restore the Flatwoods, Sandhill, and Sand Pine Scrub habitats. Other restoration methods that may be used include timber harvest of sand pines and mechanical treatment to reduce fuel structure and enhance the ability to prescribed burn safely.
- **Fire** –Prescribed burning on the property was initiated in 2004 and continues today. 10 zones have been burned at least once.
- **Invasive and Exotic Species** – There are a number of exotic invasive species on this property including Cogongrass (*Imperata cylindrica.*), Old World Climbing Fern (*Lygodium microphyllum*), Coral Ardisia (*Ardisia crenata*), and Sword fern (*Polystichum munitum*). A grant was received through the Bureau of Invasive Plant Management in 2007 for treating these invasive species. The Brown anole, Cuban tree frog, and greenhouse frog are exotic animal species that have been found on the property.
- **Wildlife and Plants** – Several listed species have been recorded on site including Curtis's Milkweed, Sherman's Fox Squirrel, Gopher Tortoise and Sandhill Crane. The ephemeral ponds play a key role in the reproduction of several amphibian species such as the Barking Tree frog, Dwarf salamander and Florida Gopher Frog as well as provide nesting habitat for Sandhill Cranes. Other wildlife observed on site includes the Eastern Diamondback Rattlesnake and Wild Turkey.

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

**Key Land Use/Recreation Issues:** This sites' variety of habitats and beautiful trail system provides opportunities for a variety of recreational uses including environmental education, hiking, biking, horseback riding and wildlife viewing.

### **General Description:**

- **Access** – The primary parking/access for the public is located at 920 State Road 46 in Geneva. There are also maintenance access points located east and west of the main entrance on SR 46 and a walk thru access on the east side of the site for the Jungle Road community.
- **Public recreation** – The property is open to the public for nature study, hiking, fishing, horseback riding, and non-motorized biking.
- **Coordination of agreements** – Seminole County has entered an agreement with the Florida Division of Forestry for the oversight of timbering operations. This partnership has been used for a sand pine harvest and may be used to accomplish further timber thinning if deemed appropriate.

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## **Wilderness Area Seminole County, Florida LAKE PROCTOR LAND MANAGEMENT PLAN**

### **INTRODUCTION**

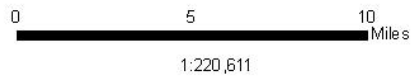
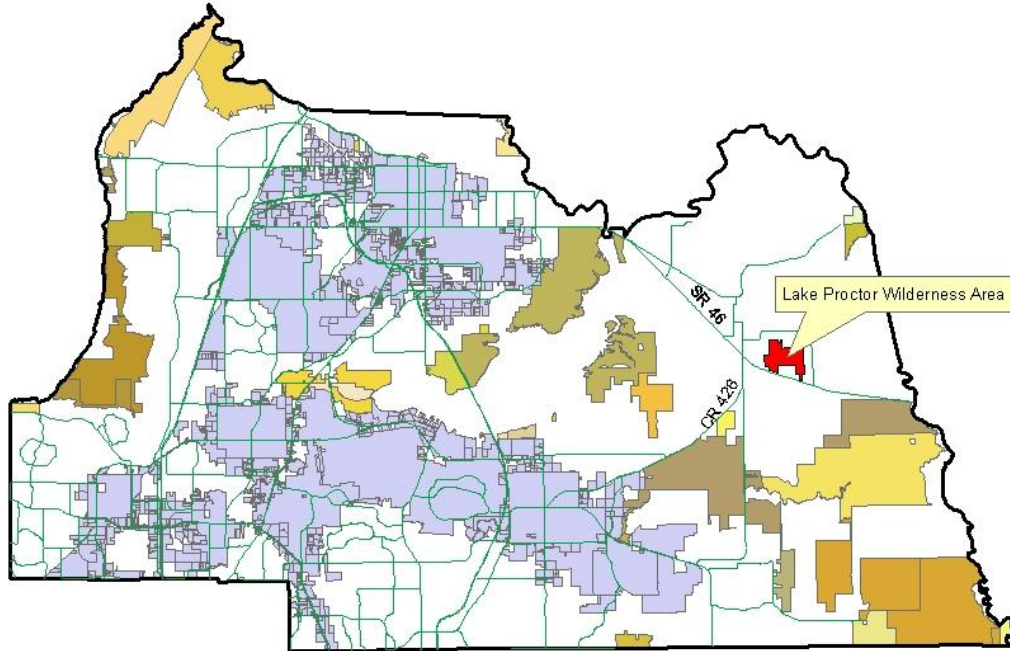
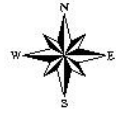
This document provides guidelines for land management activities to be implemented within the Wilderness Area over the next ten years.

### **WILDERNESS AREA OVERVIEW**

#### **Regional Significance**

The Lake Proctor Wilderness Area is a 475 acre site located in Northeast Seminole County, east of the town of Geneva and west of Lake Harney. This site contains a diverse collection of native plant communities and wildlife. Traversing the property is a series of trails which take visitors through Pine Flatwoods, Sandhill, and beautiful Oak Hammocks, and provide scenic views of Lake Proctor.

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



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## **Acquisition History**

This property was purchased in 1999 through the Seminole County Natural Lands Program which was put in place in 1990 by the Citizens and Board of County Commissioners.

## **NATURAL RESOURCES OVERVIEW**

### **Natural Communities**

There are six distinct natural plant communities on this property. These are Sand Pine Scrub, Pine Flatwoods, Mixed Hardwood Swamp, Sandhill or Longleaf Pine/ Turkey Oak, Bayhead Swamp and Oak Hammock. Plant communities and fire regimes are taken from FNAI, 1990.

#### *Sand Pine Scrub*

This habitat is found on sandy, well-drained soils of relic dune lines deposited by ancient tides. It is often characterized as a closed to open canopy forest of Sand pines (*Pinus clausa*) with dense clumps or vast thickets of scrub oaks (and other shrubs dominating the understory). Other common plant species found in Sand Pine Scrub habitat include Sand live oak (*Quercus geminata*), Rusty lyonia (*Lyonia ferruginea*), and Rosemary (*Ceratiola ericoides*). The central portion of Lake Proctor Wilderness Area, between the two transmission lines, is the best place to view this rare plant community.

This is a fire maintained plant community. Historically this habitat would sustain fire every 30 to 60 years under extreme windy, hot and dry conditions. These intense fires would burn the entire canopy and ground cover which would restart the process of succession from the ground up. Many threatened and endangered species of wildlife adapted to these periodic changes cannot survive in a mature system which results from lack of fire.

#### *Pine Flatwoods*

This habitat is characterized as an open canopy forest of tall Slash pines (*Pinus elliottii*) and Longleaf pines (*Pinus palustris*), and a dense ground cover of herbs and shrubs. Other trees include scrub oaks such as the myrtle (*Quercus myrtifolia*), and chapman (*Quercus chapmanii*), and shrubs like shiny lyonia (*Lyonia lucida*), and wild blue berry. Ground cover may include wire grass (*Aristida stricta*), golden aster (*Chrysopsis villosa*), and runner oak (*Quercus margarettiae*)

Fire plays a critical role in the physical development of Pine Flatwoods. Historically, this habitat has sustained fire every 1 to 8 years. Most plants and animals that utilize this habitat are adapted to periodic fire and many species depend on fire for their continued existence.

#### *Mixed Hardwood Swamp*

This habitat can be found along the extreme eastern end of the property. Bald cypress (*Taxodium distichum*), black gum (*Nyssa sylvatica*), and red maple (*Acer rubrum*) trees form a dense canopy which creates a shaded, cool microclimate for a diverse assemblage of wildlife.



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These swamps serve as important filters and flood storage areas for water making its way to Lake Harney.

### *Sandhill*

This habitat is characterized as an open canopy forest of widely spaced longleaf pines (*Pinus palustris*) and scattered turkey oaks (*Quercus laevis*) with a groundcover dominated by wire grass (*Aristida stricta*). Sandhills occur on hilltops and slopes of gently rolling hills and their soils are composed of deep, marine-deposited, well drained yellowish sands. Other typical plants found in this community type include the gopher apple (*Licania michauxii*), deer berry (*Vaccinium stamineum*), and prickly pear cactus.

Frequent fire plays a key role in maintaining the open understory of this habitat. Restorative fire will improve and maintain this plant community as an important habitat for numerous wildlife species including the threatened gopher tortoise (*Gopherus polyphemus*) and sherman's fox squirrel (*Sciurus niger shermani*).

### *Bayhead Swamp*

Bayhead swamps are characterized as densely forested, peat filled seepage depressions often at the base of sandy slopes. A large example of this plant community type lies on the eastern side of Lake Proctor Wilderness Area. It stretches from north to south along the west side of the large transmission line. Dominant tree species include the Sweet bay (*Magnolia virginiana*), and Loblolly bay (*Gordonia lasianthus*) which make a canopy that provides shade for understory plant species such as the Button bush (*Cephalanthus occidentalis*) and Wax myrtle (*Myrica cerifera*).

### *Oak Hammock*

There are several examples of this plant community found throughout the property. Characterized as a scrubby, dense, low lying canopy, this habitat exists where large Live oaks (*Quercus virginiana*), and Sand live oaks (*Quercus geminata*) form a solid canopy over very sparse groundcover. Shade tolerant plants such as Deer berry (*Vaccinium stamineum*), Beauty berry (*Callicarpa americana*), and Cabbage palms (*Sabal palmetto*) are scattered throughout the understory.

## **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. Native Americans would also burn at various times of the year to attract wild game and to keep the landscape open for easy travel. Today, due to increased development pressures on conservation areas, fires must be managed under strict regulations and performed according to set criteria depending on the site. Seminole County hired the Nature Conservancy to develop a Prescribed Burn Plan for all Natural Land sites and make recommendations for the application of this important management tool.

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The objective of prescribed burning at Lake Proctor Wilderness Area is to restore the Sand Pine Scrub and Sandhill plant communities, maintain the flatwoods communities, promote species diversity, and reduce the accumulation of hazardous fuel loads and associated wildfire risks. This would also help to minimize the wildfire threat and smoke impacts to adjoining or nearby urbanized areas, roads and highways.

### **Wildlife**

A wide array of wildlife species have been recorded at Lake Proctor Wilderness Area. These include the Cotton rat (*Sigmodon hispidus*), Cotton mouse (*Peromyscus gossypinus*), Barred owl (*Strix varia*), Raccoon (*Procyon lotor*), Red tailed hawk (*Buteo jamaicensis*), and White tailed deer (*Odocoileus virginianus*). Numerous reptile and amphibian species found throughout the property include Pinewoods Treefrog (*Hyla femoralis*), Southeastern five-lined skinks (*Eumeces inexpectatus*), Florida pine snake (*Pituophis melanoleucus*), and Florida box turtle (*Terrapene carolina bauri*).

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, gopher tortoise 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*

Gopher tortoises are marked using standard protocol (Cagle 1939). A volunteer program was established by NLD staff to mark and record information on gopher tortoises and box turtles. Volunteers complete at least four hours of training before they are certified to participate in the mark-recapture monitoring effort. The property is currently being surveyed quarterly for Florida mice, however, none have been found to date.

### **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 (*Dasyus 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

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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 Proctor Wilderness Area has exotics from both categories.

Exotic species found at this site include Cogongrass (*Imperata cylindrica.*), Old World Climbing Fern (*Lygodium microphyllum*), Coral Ardisia (*Ardisia crenata*), and Sword fern (*Polystichum munitum*).

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

### **Soils**

#### *Myakka/Eau Gallie Fine Sands (Type 20)*

These are nearly level, poorly drained sandy soils in broad areas of the flatwoods, in depressions, and in areas between sand ridges and ponds and sloughs. The water table is between 1.0 and 3.0 feet below grade during the wet season.

#### *Pomello (Type 27)*

These are moderately well drained sandy soils on low ridges. The high water table elevation ranges from 2.0 to 3.5 feet below the surface.

#### *Tavares-Millhopper Fine Sands (Type 31)*

These are moderately well drained nearly level to sloping soils that have formed in the thick beds of sandy and loamy marine sediments. The wet season water table is generally 3.5 to 6.0 feet below grade.

#### *Samsula Series (Type 10)*

These are nearly level, very poorly drained organic soils that occur in freshwater swamps and marshes. Like the Basinger series, normal high-water elevation occurs between June and February and ranges from 2 feet above to 1 foot below the surface. Recreational use is limited by severe ponding and excessive muck levels.

#### *Smyrna Soils (Type 11)*

These are very poorly drained sandy soils in depressions. Normal high-water elevation occurs from June through February, and ranges from two feet above to one foot below the surface. Recreational use is limited due to severe ponding and excessive humus.

#### *Immokalee Series (Type 16)*

These are poorly drained sandy soils occurring on the lower Atlantic and Gulf Coastal flatwoods and are formed in sandy marine sediments. Normal high-water elevation occurs from June through November, and ranges from the surface to one foot below.

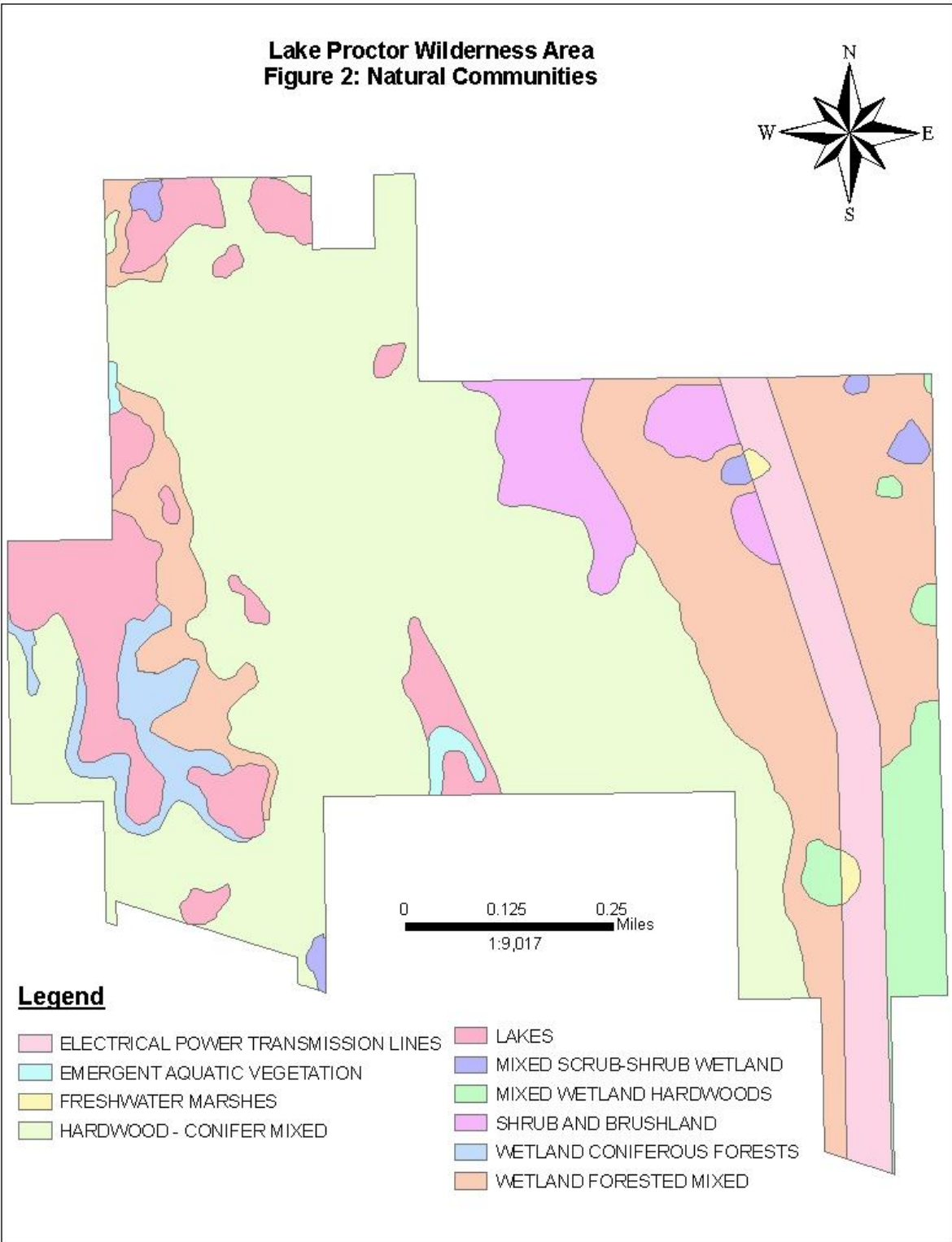
#### *Astatula Fine Sands (Type 4)*

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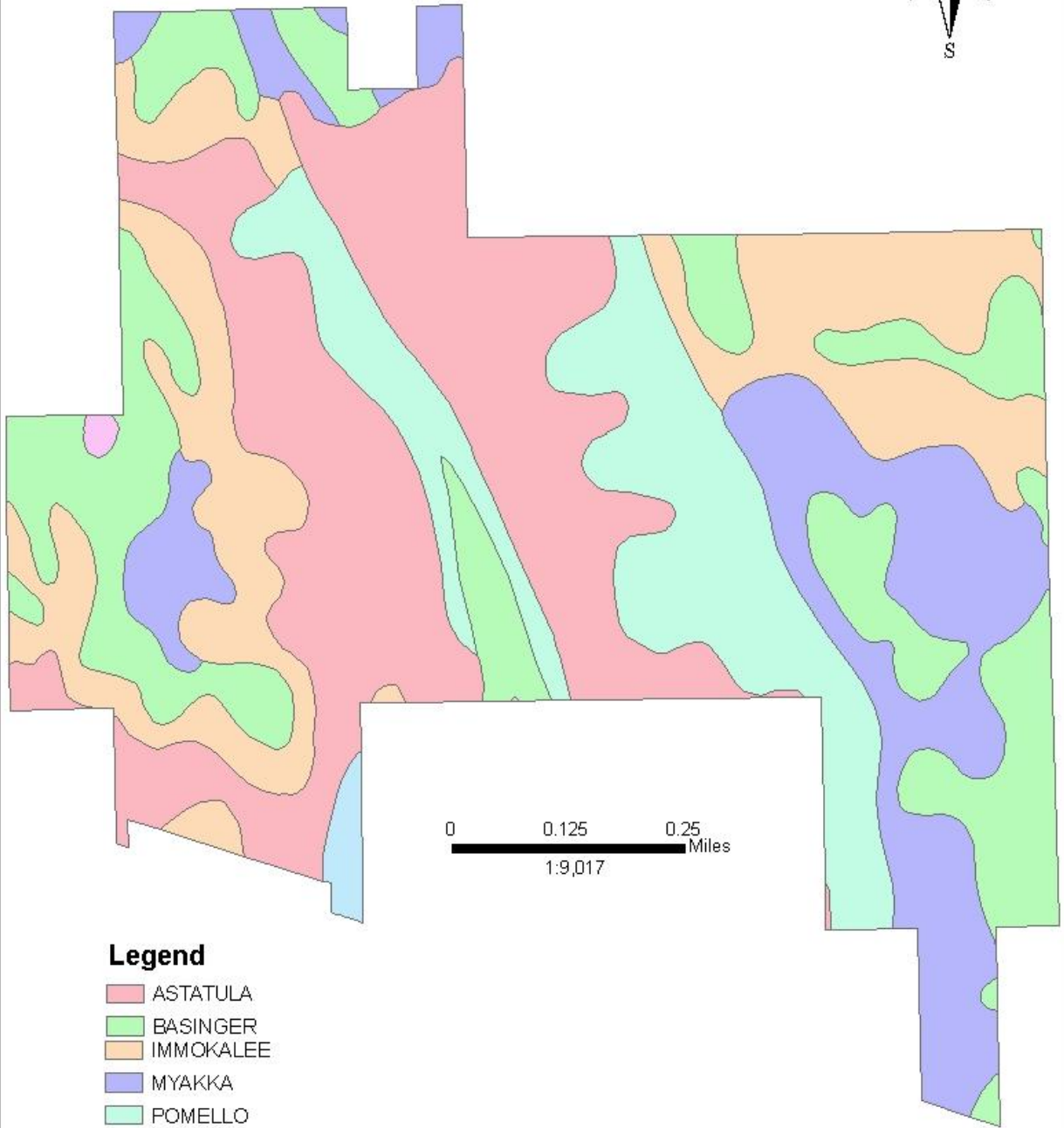
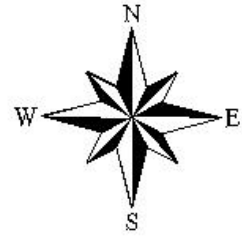
These are moderately well drained nearly level to sloping soils that have formed in the thick beds of sandy and loamy marine sediments. The wet season water table is generally 3.5 to 6.0 feet below grade.

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**Lake Proctor Wilderness Area  
Figure 2: Natural Communities**



**Lake Proctor Wilderness Area  
Figure 3: Soils**



**Legend**

-  ASTATULA
-  BASINGER
-  IMMOKALEE
-  MYAKKA
-  POMELLO
-  TAVARES
-  WATER

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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 LPWA now includes gopher tortoise marking, photo points, plant transects, and small mammal trapping. Also, exotic treatment success will be monitored using photo points.

Gopher tortoise populations are monitored through a volunteer mark and release program. Post-burn burrow surveys are conducted by staff. The data collected from these two types of monitoring effort allow staff to estimate and monitor gopher tortoise populations on each property.

### 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. At this site focus will be on the reintroduction of fire to restore the flatwoods, sandhill, and possibly the sand pine scrub habitats. In some cases timber harvest and mechanical treatments may also be used.

### Restoration Strategies

- Continue to evaluate the need for restoration activity

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## **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**

One timber harvest of Sand Pine was conducted to restore scrub habitat. At this time there are no further no plans to conduct any forestry related activity within Lake Proctor Wilderness Area.

## **Fire Management**

Fire was reintroduced to the property in 2004. Ten burn zones have been burned since this time. The use of fire will serve to restore and maintain the integrity of these natural plant communities, benefitting both vegetation and wildlife.

## **Fire Management Strategies**

Burn all sites with no burn history  
Switch to 50% lightning season burns



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

<b>Plant Community</b>	<b>Fire Frequency for Restoration</b>	<b>Fire Frequency for Maintenance</b>
Floodplain Marsh	1 to 2 years	1 to 4 years
Wet Prairie	2 to 5 years	3 to 5 years
Mesic Flatwoods	2 to 4 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 small mammal trapping.  
Continue land management activities.

**Listed Species**

Surveys are conducted annually to verify the existence of listed plant and animal species. A volunteer program was established by Natural Land's staff to mark and record information on gopher tortoises. Volunteers complete at least four hours of training before they are certified to participate in the mark-recapture monitoring effort.

**Plants**

Listed plant species recorded on site include Curtis's Milkweed (*Asclepias curtissii*) and *Garberia heterophylla*.

**Animals**

Listed animal species include the Gopher Tortoise (*Gopherus polyphemus*), Florida Pine snake (*Pituophis melanoleucus mugitus*), Sandhill crane (*Grus canadensis*), and Sherman's Fox squirrel (*Sciurus niger shermani*).

**Listed Plant and Animal Strategies**

Continue monitoring for gopher tortoises.  
Continue annual listed plant surveys.

**Exotic Species**

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

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## **Plants**

Known exotic species on this property include Cogongrass (*Imperata cylindrica.*), Old World Climbing Fern (*Lygodium microphyllum*), Coral Ardisia (*Ardisia crenata*), and Sword fern (*Polystichum munitum*).

## **Animals**

Exotic animal species found at LPWA include the domestic cat (*Felis catus*), 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

### Cultural Resources Protection

District Policy #90-11 establishes management policies for archaeological and cultural sites on District property. A review of the Master Site File quad sheets maintained by Department of State Division of Historical Resources indicates that there are no registered cultural sites on Lake Proctor Area.

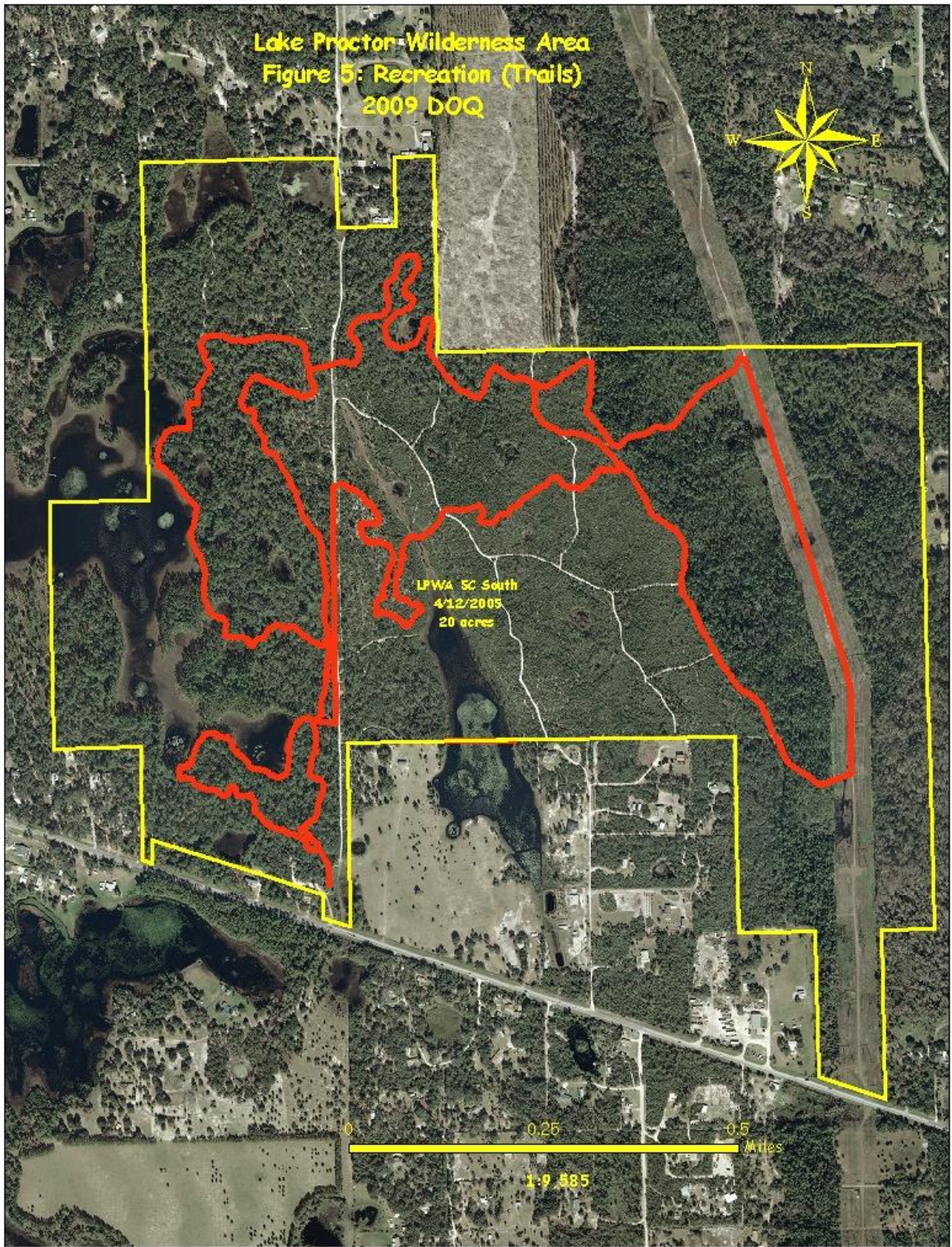
## **LAND USE MANAGEMENT**

### Access

The primary parking/access for the public is located at 920 State Road 46 in Geneva. There are also maintenance access points located east and west of the main entrance on SR 46 and a walk thru access on the east side of the site for the Jungle Road community.

### Access Strategies

Continue regular maintenance of public access area  
Maintain signs and kiosk



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## **Recreation**

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

## **Security**

Lake Proctor Wilderness Area has a resident law enforcement officer who routinely patrols the property. The Sheriff's office is notified of any illegal activity.

### **Security Strategies**

Continue maintaining resident law enforcement on-site.

## **ADMINISTRATION AND IMPLEMENTATION**

### **Implementation Chart**

An implementation chart of activities and responsibilities follows.

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## Lake Proctor Wilderness Area Management Activity Implementation Chart

TASK	RESPONSIBLE LEAD	DUE DATE	COOPERATORS
<b>RESOURCE PROTECTION AND MANAGEMENT</b>			
<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/treat 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 small mammal trapping.	NLP	Ongoing	
Continue land management activities.	NLP	Ongoing	
<i>Listed Species</i>			
<b>Plants &amp; Animals</b>			
Continue monitoring for gopher tortoises	NLP	Ongoing	
Continue annual listed plant surveys	NLP	2012	
<i>Exotic Species</i>			
<b>Plants &amp; Animals</b>			
Get all Category I exotic species under maintenance control	NLP	2012	
Continue feral hog agent program	NLP	Ongoing	
<b>LAND USE MANAGEMENT</b>			
<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

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