# Geneva Wilderness Area Land Management Plan Seminole County Natural Lands Program 2010



# GENEVA WILDERNESS AREA LAND MANAGEMENT PLAN

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# LAND MANAGEMENT PLAN SUMMARY

Geneva Wilderness Area

Acres: 175

Location: Geneva, Florida, Section 33, Township 20S, Range 32E

Dates of Acquisition: November 30, 1994

**Key Resource Issues:** The property was previously owned by the Boy Scouts of America and used as a regional campground. Most of the plant communities remain intact with the exception of an area of improved pasture located at the front (north) of the property. There are a series of connected flatwoods lakes in the middle of the property. The Little-Big Econ State Forest is located on the southern boundary of the property. A spur to the Flagler trail crosses the property, exiting at the southern boundary into the Little-Big Econ State Forest.

#### GENERAL DESCRIPTION:

- <u>Security</u> There is a caretaker residence on-site near the entrance of the property. A law enforcement officer is usually the occupant.
- <u>**Restoration**</u> A restoration plan was developed for the pasture area near the front of the property. Ten 25-meter plots were established and planted with native plants in 2006.
- <u>Fire</u> The property is divided into 16 burn zones. Prescribed burning on the property was initiated in 1999 and continues today. All established burn zones have been burned at least once.
- <u>Forest Management</u> This is a possible revenue generating endeavor. A new restoration plan may be proposed for the pasture area using planted pines and thinning 10-15 years out to generate revenue for NLP.
- <u>Exotic Species</u> There are a number of exotic invasive species on this property including coral ardisia, air potato, and Chinese tallow. A grant was received through the Bureau of Invasive Plant Management in 2007 for treating exotics, but invasives continue to be a problem on this property.
- <u>Wildlife and Plants</u> There have been historical accounts of Florida scrub-jays (*Aphelocoma coerulescens*) living on the wilderness area. To date, none have been located on site. Occasionally, a Sherman's fox squirrel (*Sciurus niger shermani*) is observed, possibly coming from the adjacent Little-Big Econ State Forest. Although the property contains enough suitable habitat for the Florida mouse, none have been observed or trapped. There is a population of gopher tortoises on the property that are being monitored through a mark-recapture program using volunteers. Other species of interest are sandhill cranes, various wading birds, and eastern diamondback rattlesnakes.
- <u>Cultural Resources</u> There are no known historical or cultural sites located on this property.
- <u>Environmental Education</u> The Ed Yarborough Nature Center (EYNC) provides educational programs, classes, hikes and special events for the public.

**Key Land Use/Recreation Issues:** This wilderness area provides opportunities for a variety of recreational uses including hiking, biking, horseback riding, group camping, fishing and wildlife viewing.

- <u>Access</u> There are two access areas, the main entrance on N. County Road 426 and a secondary trail (Flagler Trail) entrance from the southern end of the wilderness area through the Little-Big Econ State Forest (hikers, bikers, horseback riders).
- <u>Public recreation</u> The property is open to the public for nature study, hiking, fishing, camping, horseback riding, and biking.

## Geneva Wilderness Area Geneva, Florida

#### LAND MANAGEMENT PLAN

#### INTRODUCTION

This document provides guidelines for land management activities to be implemented within the Geneva Wilderness Area over the next ten years. This is the first land management plan for this property.

# WILDERNESS AREA OVERVIEW

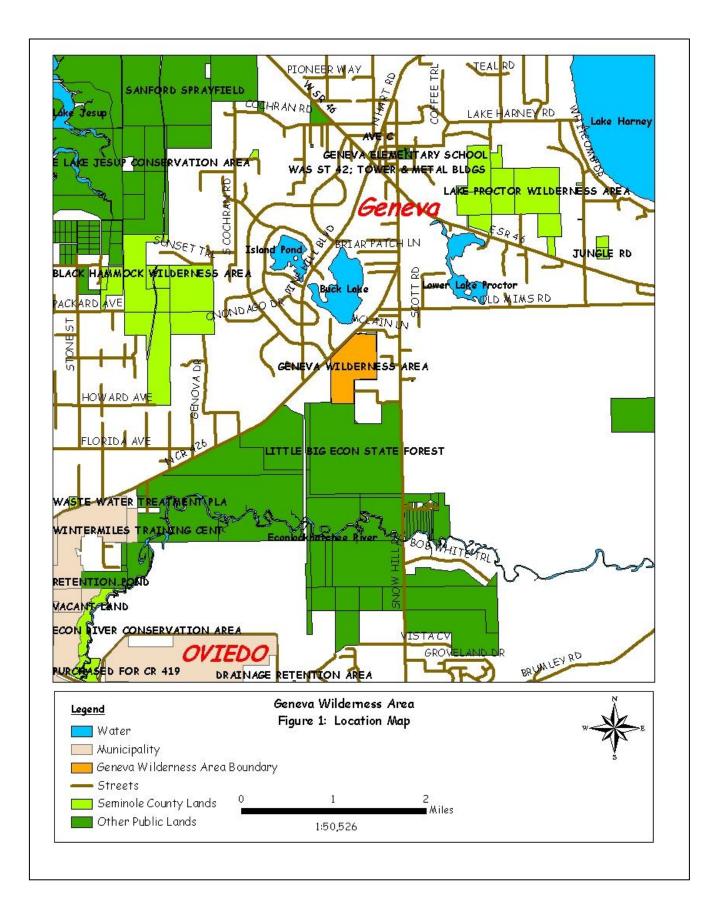
#### **Regional Significance**

Geneva Wilderness Area (GWA) is a 175-acre natural area located in the eastern portion of Seminole County. GWA extends the north end of the wilderness corridor provided by the Little-Big Econ State Forest that reaches south into Orange County. The property protects wetlands and scrub communities within its boundary and offers a wilderness experience in an area where development pressure is increasing.

The Seminole County Board of County Commissioners directed staff to create the Ed Yarborough Nature Center (EYNC) at Geneva Wilderness Area to provide an epicenter for all environmental education programs. This includes classes, field trips, guided hikes, and programs for K through 12. EYNC also has live animal displays, a collection of animal skulls, interpretive posters and a microscope station.

#### Acquisition History

In 1994, Seminole County entered into an acquisition agreement with the Central Florida Council Boy Scouts of America, Inc., for the purchase of approximately 182 acres in Geneva, Florida. In order to meet gopher tortoise mitigation requirements of the Florida Game and Freshwater Fish Commission (now Florida Fish and Wildlife Conservation Commission), Alaqua Lakes Development Company proposed to fund approximately 20 acres of the acquisition cost on this purchase. The final closing occurred on November 30, 1994.



# NATURAL RESOURCES OVERVIEW

#### Natural Communities

There are five distinct natural communities on this property. These are baygall, mesic flatwoods, scrubby flatwoods, sand pine scrub, and flatwoods lake. There is also an area of improved pasture at the north end of the property. Plant communities and fire regimes are taken from FNAI, 2010.

*Baygall*: There is approximately 39 acres of baygall swamp on the property. The swamp covers most of the east side of the property except for a thin strip of scrubby flatwoods along the east boundary. The overstory consists of loblolly bay (*Gordonia lasianthus*), southern red maple (*Acer rubrum*), laurel oak (*Quercus laruifolia*), swamp black gum (*Nyssa sylvatica*), sweetbay (*Magnolia virginiana*) and swamp bay (*Persea palustris*). Groundcover species include royal fern (*Osmunda regalis*), cinnamon fern (*Osmunda cinnamomea*), lizard's tail (*Saururus cernuus*), netted chain-fern (*Woodwardia areolata*), swamp fern (*Blechnum serrulatum*), and green arum (*Peltandra virginica*). This is not a fire dependent community and only burns under extreme drought conditions.

*Mesic Flatwoods*: Mesic flatwoods are located around the flatwoods lake and also near the area of the north campsite where they grade into scrubby flatwoods. This plant community covers approximately 32 acres. The overstory consists of slash pine (*Pinus elliottii*). Understory is predominantly gallberry (*Ilex glabra*) and saw palmetto (*Serenoa repens*). Other species include shiny blueberry (*Vaccinium myrsinites*), bushy bluestem (*Andropogon glomeratus* var. *glaucopsis*), and St. Johns wort (*Hypericum fasciculatum*). This is a fire dependent community which, according to the Florida Natural Areas Inventory has a fire regime of every 3 to 7 years.

*Scrubby Flatwoods*: Approximately 36 acres of the property is scrubby flatwoods. The overstory consists mainly of slash and longleaf (*Pinus palustris*) pines with scattered sand pines (*Pinus clausa*) and sand live oak (*Quercus geminata*). Understory plants include Chapman's oak (*Quercus chapmanii*), myrtle oak (*Quercus myrtifolia*), gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), deerberry (*Vaccinium stamineum*), and saw palmetto (*Serenoa repens*). Groundcover includes sparse wiregrass (*Aristida stricta* var. *beyrichiana*), mock pennyroyal (*Hedeoma graveolens*), and other forbs. This is a fire dependent community and typically has a fire regime of 7 to 15 years.

Sand Pine Scrub: There are approximately 32 acres of sand pine scrub. The plant community is different from scrubby flatwoods in both structure and species. While both communities include sand pine as an overstory species, scrubby flatwoods will usually have longleaf or slash pine as well. Understory species in the scrub at Geneva Wilderness Area include myrtle oak, Chapman's oak, Florida rosemary (*Ceratiola ericoides*), rusty lyonia (*Lyonia ferruginea*) scrub bay (*Persea borbonia* var. *humilis*), scrub olive (*Osmanthus megacarpus*) and a minor component of scattered saw palmetto. Ground cover consists of sparse three-awn species

(including wiregrass), beaksedges (*Rhynchospora* sp.), and jointweeds (*Polygonella* sp.). This is a fire dependent community which may have burned every 10 to 50 years.

*Flatwoods Lake*: This natural community extends over approximately 20 acres. When water levels are low, hydrophytic herbaceous plants surround the open water zone that contains spatterdock (*Nuphar advena*). Further upslope, woody vegetation such as saw palmetto (*Serenoa repens*), and piedmont staggerbush (*Lyonia mariana*), pond pine (*Pinus serotina*) surround the lake. This is a fire dependent community and usually burns according to the surrounding mesic flatwoods fire regime of every 3 to 7 years. This keeps the woody shrubs from invading the herbaceous area around the lake.

Table 1.	Approximate acreage	for each plant community	y and percent uplands and wetlands.
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Community Type	Acres
Scrubby Flatwoods	36
Sand Pine Scrub	32
Baygall	39
Mesic Flatwoods	32
Flatwoods Lake	20
Improved Pasture	10
Percent Wetlands	42
Percent Uplands	58

# <u>Fire</u>

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.

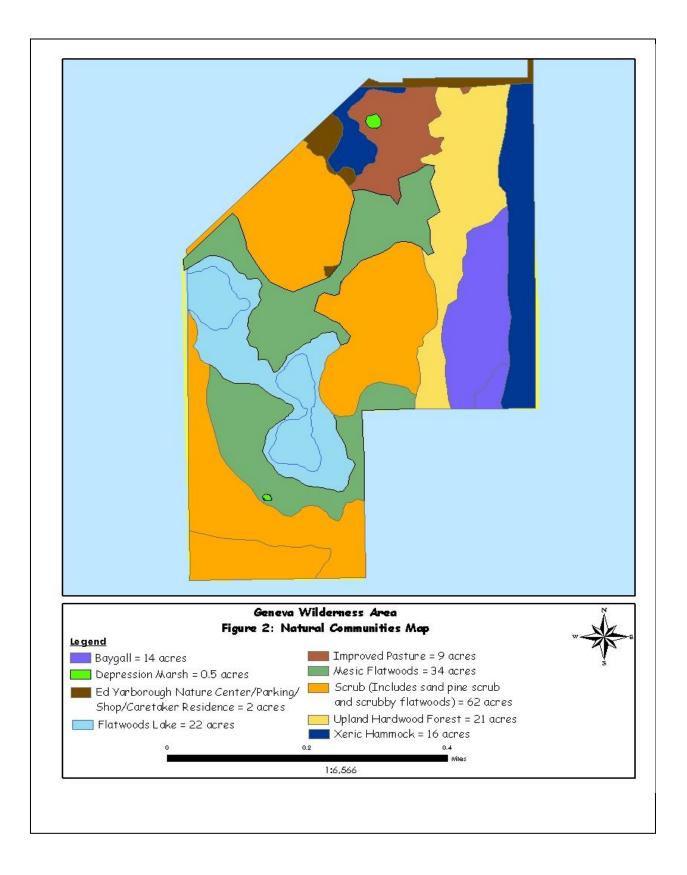
The objective of prescribed burning at Geneva Wilderness Area is to create a mosaic of native plant communities, promote species diversity, and reduce the accumulation of hazardous fuel loads and associated wildfire risks. This would also help to minimize and/or exclude smoke impacts to adjoining or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

# <u>Wildlife</u>

There are a number of rare and state listed species found on the property including gopher tortoise (*Gopherus polyphemus*), sandhill crane (*Grus canadensis*), snowy egret (*Egretta thula*), 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*), fence lizard (*Sceloporus undulatus*), eastern hognose snake

(*Heterodon platyrhinos*), scarlet snake (*Cemophora coccinea*), six-lined racerunner (*Cnemidopherus sexlineatus sexlineatus*), ground skink (*Scincella lateralis*), golden mouse (*Ochrotomys nuttalli*), and southeastern five-lined skink (*Eumeces inexpectatus*).

A baseline study was implemented by Natural Lands Program 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, the monitoring plan was revised to focus on the effect of land management activities on resident species and listed species located at the wilderness area.



In 2006, Natural Lands Program 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). Other listed species found on the property include sandhill crane (nesting), woodstork, snowy egret, and little blue heron.

A volunteer program was established by Natural Land's 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.

# Exotics

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 (Dasypus 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 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. Geneva Wilderness Area has exotics from both categories.

Geneva Wilderness Area has a number of exotic invasive species on the property including air potato, coral ardisia (*Ardisia crenata*), swordfern (*Nephrolepis cordifolia*), lantana (*Lantana camara*), and creeping oxeye/wedelia (*Wedelia brasiliensis*). The Natural Lands Program 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.

# <u>Soils</u>

Astatula sand, dark surface, 5 to 12 percent slopes: 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 rapid throughout the profile and water availability is low. This soil is associated with sandhills.

The *Basinger* series consists of very deep, poorly drained and very poorly drained, rapidly permeable soils in sloughs, depressions, low flats, and poorly defined drainageways. They formed in sandy marine sediments. Slopes range from 0 to 2 percent.

The hydric soils of the *Myakka* group are nearly level, poorly drained, or very poorly drained. At GWA these are areas of mesic flatwoods.

*Paola* soil type is located in the southwest corner of the property. Paola soils are deep, sandy and very well drained and typically support a range of native vegetation that can include pines, saw palmettos and xeric oak species. This is where the scrubby flatwoods grade into sand pine scrub.

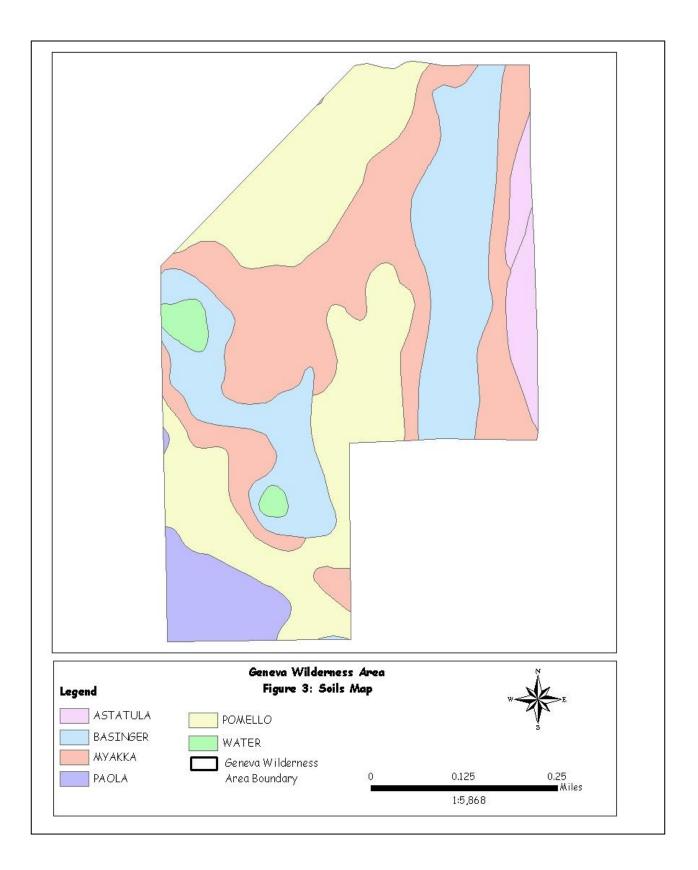
The *Pomello* series consists of very deep, moderately well to somewhat poorly drained soils that are sandy to depths of more than 80 inches. Pomello soils formed in sandy marine sediments in the flatwoods areas of Peninsular Florida. Slopes range from 0 to 5 percent. This soil type is associated with scrubby flatwoods at GWA

# IMPLEMENTATION

Integral to the goals and objectives for managing acquired lands in an acceptable manner are protection and restoration of those lands. 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 Natural Lands Program 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 GWA now includes gopher tortoise marking, photo points, sandhill crane nesting success, plant transects, and small mammal trapping. Also, exotic treatment success will be monitored using photo points.

Gopher tortoise populations are monitored through a volunteer program. Post-burn burrow surveys are conducted by staff. The data collected from these two types of monitoring effort allow staff to estimate 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. A restoration plan was developed for the pasture area and was implemented in 2006. Survival rates were very low due to drought conditions, so staff are now working on developing a different plan that would involve planting the pasture with pine trees, thinning the trees at 10-15 years and planting grasses and herbaceous species at that time.

#### **Restoration Strategies**

- > Complete new restoration plan for pasture.
- > Develop mechanical treatment schedule for scrub.

## Forest Management

This is a small wilderness area with mostly older, even aged stands of natural pine trees. These are well spaced trees, so restoration via timber harvest is not necessary.

#### Forest Management Strategies

Complete new restoration plan for pasture.

# Fire Management

The NLP reintroduced fire to the wilderness area in 1999. Nearly all of the burn units have been burned at least once. Due to the proximity of County Road 426, prescribed fires are carefully planned using north and northwest winds to avoid smoke impacts on the roadway.

#### Fire Management Strategies

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

## Table 2: Natural Community and Fire Return Interval

Plant Community	Fire Frequency for Restoration Fire Frequ	
		Maintenance
Scrubby Flatwoods	4 to 7 years	8 to 12 years
Scrub	3-7 years	3-20 years
Mesic Flatwoods	1 to 3 years	2 to 6 years
Improved Pasture	1 to 2 years	1 to 3 years

#### Fire frequencies based on FNAI.

## <u>Wildlife</u>

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

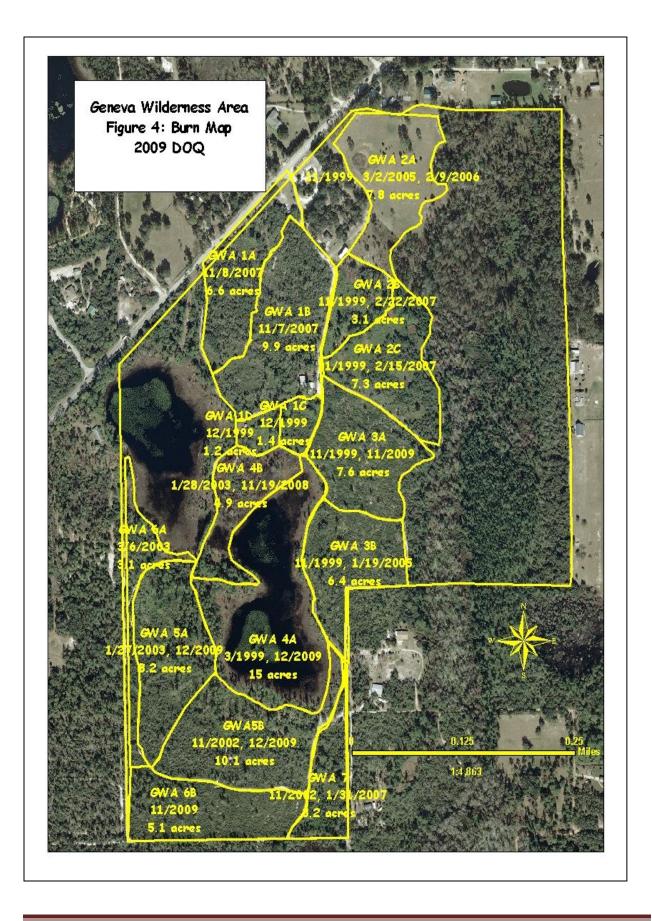
There are a number of listed plant and animal species found on this property. Surveys are conducted annually for listed plants.

#### Plants

There is one known listed plant species found on the property; garberia (*Garberia heterophylla*), It is listed as threatened by the Florida Department of Agriculture and Consumer Services.

#### Animals

A variety of listed wading birds use the flatwoods lake to forage. These include little blue heron, snowy egret, great egret, wood stork, and white ibis. Sandhill cranes have been observed nesting in the flatwoods pond. Other listed species include American alligator, bald eagle and gopher tortoise.



Natural Lands Program staff and volunteers continue to monitor for gopher tortoises.

#### Listed Plant and Animal Strategies

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

#### Exotic Species

## Plants

There are a variety of exotic plant species found at Geneva Wilderness Area mainly in the disturbed hammock near the front of the property, the pasture and the eastern wetland. These species include air potato, coral ardisia, Chinese tallow all of which are listed as Category I plants according to the Florida Exotic Pest Plant Council (FLEPPC).

#### Animals

The Natural Lands Program 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.
- Continue feral hog agent program.

## **Cultural Resources Protection**

According to Seminole County Code, Chapter 190, "All cultural and archeological resources on Natural Lands are protected." A review of the publication "Cultural Resources Study of Seminole County, Florida: Archaeology Volumes I & II" indicates that there are no known archaeological or cultural sites on Geneva Wilderness Area.

# LAND USE MANAGEMENT

## Public Access

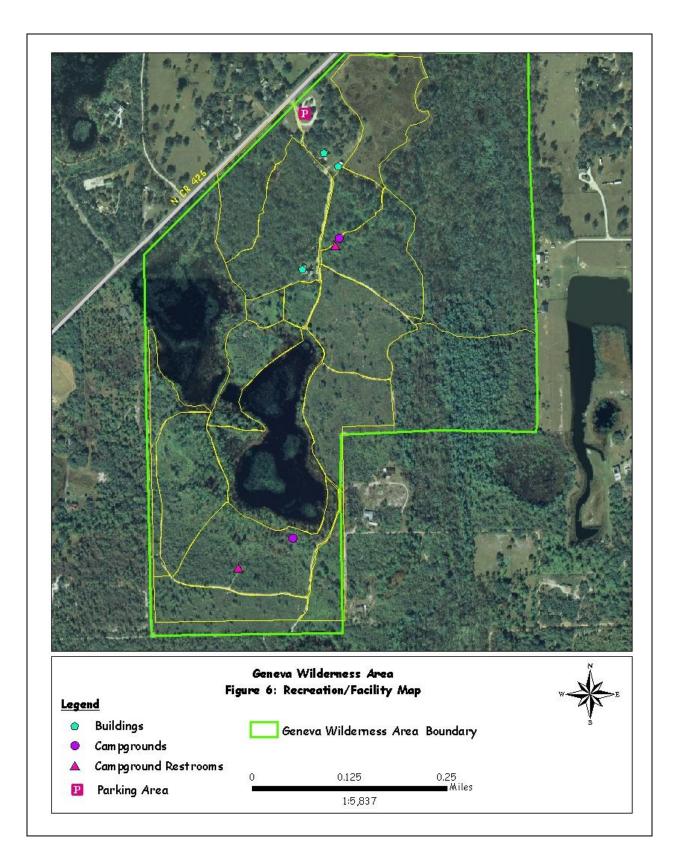
There is one park-and-walk access area located at the north end of the property, directly off County Road 426. During regular business hours, visitors may drive down to the Ed Yarborough Nature Center and park and walk from this point also.

#### Public 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, wildlife viewing, and semi-primitive camping (restrooms are available).



## **Recreation Strategies**

> Continue regular maintenance on trails and campsites.

# Environmental Education

The Ed Yarborough Nature Center provides opportunities for visitors of all ages to learn about the natural world around them. Programs are offered to schools grades K through 12 and the public in general. Guided hikes and environmental education classes are also offered. The EYNC was expanded in 2005 to include staff offices and a second wing which staff would like to develop additional educational exhibits for.

## **Environmental Education Strategies**

- Continue education programs.
- Develop plan for second wing.
- Secure funding for second wing.

## <u>Security</u>

Geneva Wilderness Area has a resident law enforcement officer who routinely patrols the property. The Sheriff's office and FWC are notified of any illegal activity.

## Security Strategies

> Continue maintaining resident law enforcement on-site.

# **Implementation Chart**

An implementation chart of activities and responsibilities follows.

Wilderness Area
<b>Management Activity Implementation Chart</b>

TASK	RESPONSIBLE LEAD	DUE DATE	COOPERATORS
RESOURCE PROTECTION AND			
MANAGEMENT			
<u>Restoration</u>			
Complete new restoration plan for pasture.	NLP	12/2013	DOF
Develop mechanical treatment schedule for	NLP	12/2009	PW
scrub.			
Forest Management			
None at this time			
Fire Management			
Burn all units that have no fire history.	NLP	12/2013	PS, DOF
Switch to 50% lightning season burns.	NLP	12/2013	PS, DOF
Wildlife			
Continue to record wildlife observations.	NLP	Ongoing	Volunteers
Continue small mammal trapping.	NLP	Ongoing	Volunteers
Continue land management activities.	NLP	Ongoing	PW
Listed Species			
Plants & Animals			
Continue monitoring for gopher tortoises.	NLP	Ongoing	Volunteers
Continue annual listed plant surveys.	NLP	2012	
Exotic Species			
Plants & Animals			
Get all Category I exotic species under maintenance control.	NLP	2012	
Continue feral hog agent program.	NLP	Ongoing	
LAND USE MANAGEMENT			
Access			l
Continue regular maintenance on public access area.	NLP	Ongoing	Volunteers
Maintain signs and kiosk.	NLP	Ongoing	

ТАЅК	RESPONSIBLE	DUE	COOPERATORS
	LEAD	DATE	
Recreation			
Continue regular maintenance on trails and	NLP	Ongoing	Volunteers
campsites.			
Environmental Education			
Develop plan for additional exhibits for	NLP	2013	
EYNC			
Develop and adopt fee schedule to offset	NLP	10/08	
programming costs			
Continue educational programming at EYNC	NLP	Ongoing	
and in the community			

# KEY

DOF	Division of Forestry
PS	Public Safety
PW	Public Works

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