Chuluota Wilderness Area

Land Management Plan

2010

CHULUOTA WILDERNESS AREA
LAND MANAGEMENT PLAN

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LAND MANAGEMENT PLAN SUMMARY
Chuluota Wilderness Area

Acres: 625

Location: Chuluota, Florida Section 31 Township 21 Range 33

Dates of Acquisition: May, 1994

Key Resource Issues: The property was previously owned by the Fore family and used for livestock grazing and hunting. Most of the plant communities remain intact with the exception of an area of improved pasture located near the northwest side of the property. The west side of the site is dominated by xeric communities of sand pine scrub and scrubby flatwoods that grade down towards the east into baygall and mesic flatwoods. Two ephemeral ponds exist in the xeric communities in the west, central area of the property. Recent State purchases have significantly increased the size of the Little-Big Econ State Forest which now borders this site on its north, east and portion of its south boundary. A portion of the trail system on-site was identified on a survey from the 1843 and was believed to have been used to travel from Fort Christmas to Fort Taylor and Lake Jesup.

GENERAL DESCRIPTION:

- **Security** – There is caretaker residence on-site near the entrance of the property. A law enforcement officer is usually the occupant.

- **Restoration** – Restoration on this site has focused on the reintroduction of fire and the use of some mechanical treatments such as roller chopping on the west side of the site. The east side of the property is dominated by mesic flatwoods that is in need of timber thinning.

- **Fire** – The property is divided into 27 burn zones. Prescribed burning on the property was initiated in 2000 and continues today. The twenty-seven established burn zones have been burned with the primary focus on the xeric communities located on the west central area of the property.

- **Invasive and Exotic Species** – There are very few exotic species known to occur on site. Tropical soda apple and Air Potato have been historically recorded on site but seem to have been discovered early enough and treated effectively.

- **Wildlife and Plants** – Several listed species have been recorded on site including the Florida mouse, 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 include the red widow spider, eastern coachwhip snake and wild turkey.

- **Cultural Resources** – According to a Cultural Resources Study of Seminole County, Florida: Archeology, by Gary D. Ellis, Russell A. Dorsey and Robin Denson, two small midden-like campsites exist on this site.

- **Education** – While no facilities exist on site the CWA has been used as an outdoor learning destination for high school and university ecology/biology students.

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.

General Description:

- **Access** – There are two access points established on site. The primary access and vehicle parking are located at the east end of Curryville Road and a walk thru opening is established on the south line at the northern terminus of Brown Road in adjacent Orange County.

- **Public recreation** – This site is open for hiking, non-motorized biking, equestrian use and wildlife viewing.

- **Coordination of agreements** – Seminole County has entered an agreement with the Florida Division of Forestry for oversight of timbering operations. This partnership may be used to accomplish a timber thinning of the east side of this site. A future agreement may be established with FDOF for public access to the Charles Bronson State Forest through this property.

Chuluota Wilderness Area
Seminole County, Florida

LAND MANAGEMENT PLAN

INTRODUCTION

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

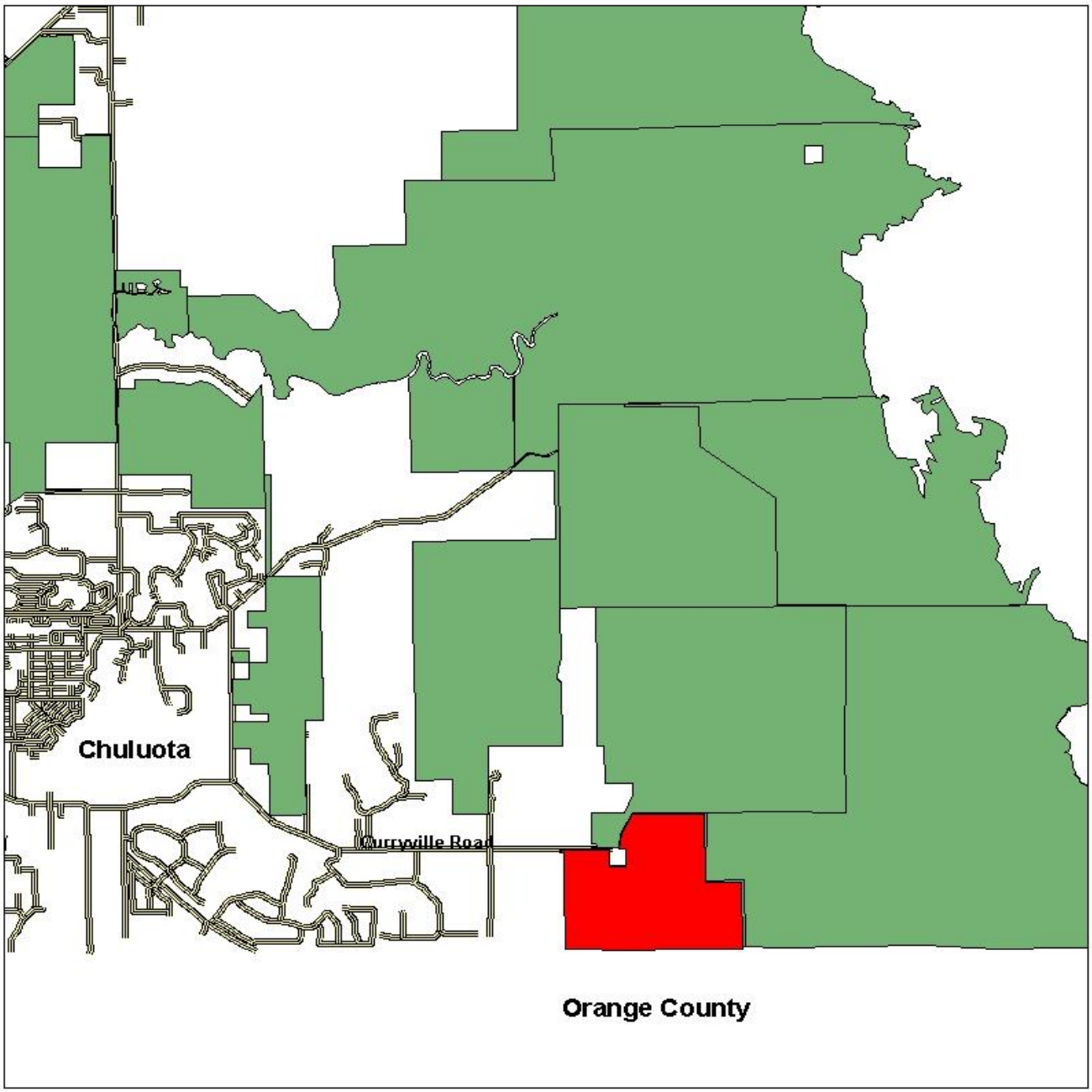
WILDERNESS AREA OVERVIEW

Regional Significance

The Chuluota Wilderness Area (CWA) is a 625-acre natural area located in southeastern Seminole County. CWA is a portion of a wilderness corridor that continues through the Little-Big Econ State Forest and the Charles Bronson Memorial State Forest that stretches along the Econ-St. Johns river corridors south into Orange County. The property protects wetlands and scrub communities within its boundary and offers a wilderness experience in a remote area of the County.

Acquisition History

This property was purchased from the Fore family in May of 1994.



Chuluota Wilderness Area
Figure 1: Location Map

Legend

- Chuluota Wilderness Area
- Other Public Lands

0 1.25 2.5 Miles

1:57,477

Natural Communities

There are six distinct natural plant communities on this property. These are baygall, mesic flatwoods, scrubby flatwoods, sand pine scrub, mesic hammock and freshwater (ephemeral) marsh. There is also an area of improved pasture at the northern part of the property. Plant communities and fire regimes are taken from FNAI, 1990.

Baygall: There is approximately 46.4 acres of baygall swamp found on the south east side of the property. 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 dominate the eastern side of the CWA and covers approximately 226 acres. The overstory consists of pond pine (*Pinus serotina*) and slash pine (*Pinus elliottii*) with scattered cabbage palms (Sabal palmetto). Understory is predominantly gallberry (*Ilex glabra*) and saw palmetto (*Serenoa repens*). Other species include wire grass (*Aristida*), 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 60.4 acres of the property is occupied by scrubby flatwoods. The overstory consists of mature slash (*Pinus elliottii*) and longleaf pines (*Pinus palutris*) with scattered sand live oaks (*Quercus geminata*). Understory plants include Chapman's oak (*Quercus chapmanii*), tarflower (*Befaria racemosa*), scrub oak (*Quercus inopinna*), myrtle oak (*Quercus myrtifolia*), rusty lyonia (*Lyonia ferruginea*), 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: Approximately 159.9 acres of this rare upland habitat exist on the western portion of this site. The overstory consist of mature sand pines (Pinus clausa) with an understory of sand live oak, rusty lyonia and chapman's oak. Understory plants include rosemary (*Ceratiola erecoides*), saw palmetto and smaller, younger specimens of the canopy species. Ground cover is sparse but includes lichens such as Spike Moss (*Cladonia sp*.). This is a fire dependent community with a fire regime of from 30-60 years.

Mesic Hammock: This habitat occupies approximately 32.5 acres in transition areas at the center of the property between the xeric habitats of the west and mesic and hydric habitats on the east side. This habitat has a dense canopy of live oak (*Quercus virginiana*), laurel oak (*Quercus laurifolia*), southern magnolia (*Magnolia gandiflora*) and pignut hickory (*Carya glabra*).

Freshwater Marsh: Two isolated marshes occur in the central portion of this site totaling about 3 acres. These depressional marshes are seasonally inundated by rains and high ground water. They serve as important breeding grounds for several species of amphibians such as the gopher frog (*Rana aereolata*) and the barking treefrog (*Hyla gratiosa*), as well as being a

favorite feeding ground for deer and wading birds.

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 Chuluota 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

The Chuluota Wilderness Area's diverse habitats support an equally diverse assemblage of wildlife. Common species recorded on site include whitetail deer (*Odocoileus virginiana*), wild turkey (*Meleagris gallopavo*), grey fox (*Urocyon cinereoargenteus*) and southern black racer.

Listed Species

Several rare and listed species have also been observed including red widow spider (*Latrodectus bishopi*) gopher tortoise (*Gopherus polyphemus*), sandhill crane (*Grus Canadensis*), sherman's fox squirrel (*Sciurus niger shermani*), Eastern Indigo snake (*Drymarchon corais cooperi*) and Florida mouse (*Podomys floridanus*).

CWA also contains several listed plant species which include the Garberia (*Garberia heterophylla*), dahoon holly (*Ilex cassine*), cinnamon fern (*Osmunda cinnamonea*), Curtis's Milkweed (Asclepias curtissii?) Royal fern (*Osmunda regalis*), and the small butter wort (*Pinguicula pumila*).

Exotic Species

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 region outside of Florida. Several species of exotic flora and fauna have been recorded on site.

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. Chuluota Wilderness Area has exotics from both categories.

Chuluota Wilderness Area has very few exotic invasive species on the property. In the past, air potato and tropical soda apple have been found onsite. The NLP has an ongoing treatment program to control exotic species

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

Soils

Basinger Depressional Soils (Type 10)

These are very poorly drained, deep sandy soils that occur in broad sloughs and depressions in central and south Florida. The normal high-water elevation occurs between June and February, and ranges from 2 feet above to 1 foot below the surface. Recreational use within this soil type is limited due to the characteristic ponding of water and sandy nature of the soil.

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. The baseball fields, soccer/football fields, and Big Tree Park are all located on this soil type.

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.

Eau Gallie Series (Type 13)

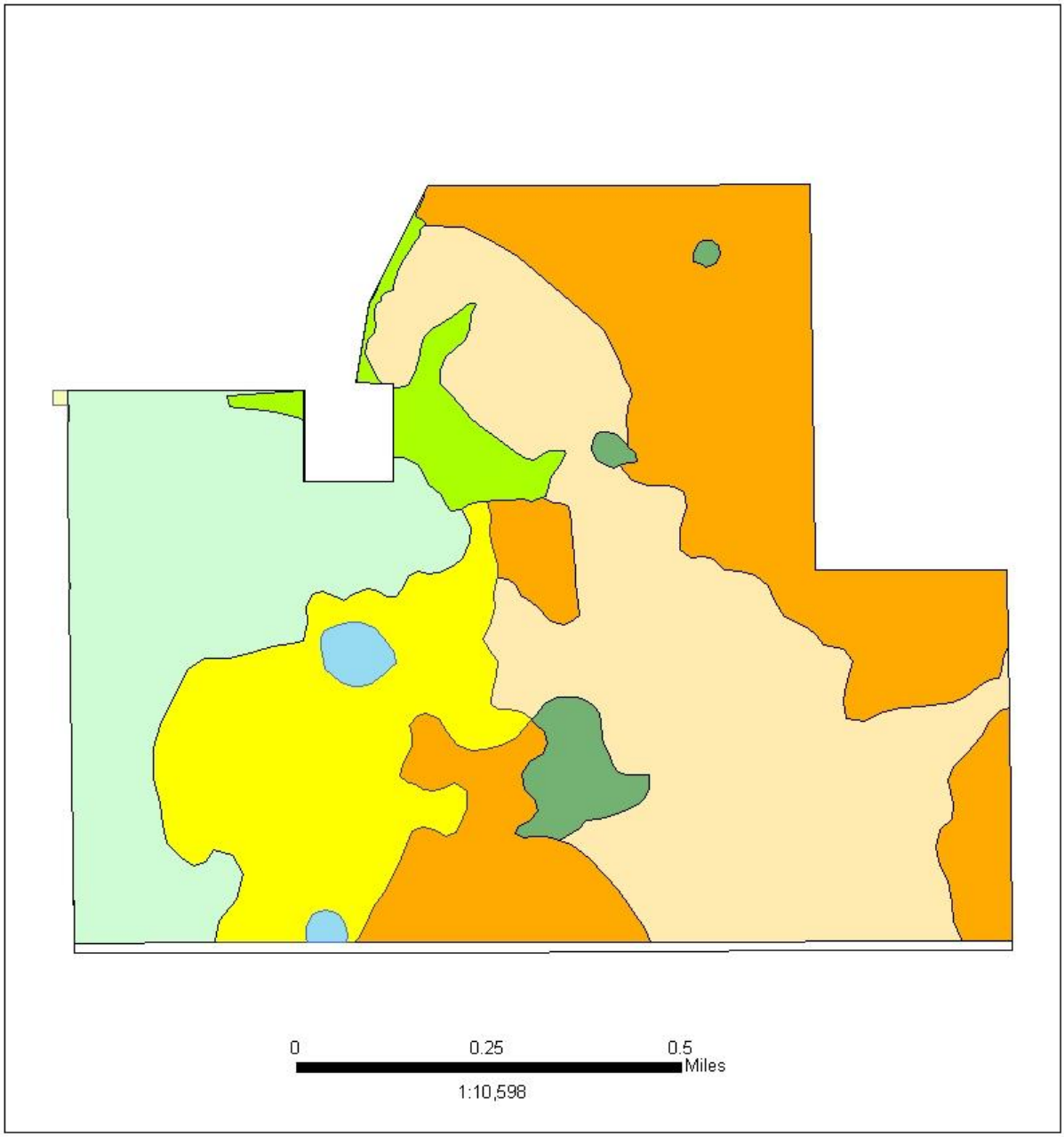
These are nearly level, poorly drained soils on low ridges in flatwoods areas. Normal high-water elevation occurs from June through October, and ranges from the surface to one foot below. Recreational use is limited due to severe wetness and the sandy nature of the soil.

Immokalee Series (Type 13)

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. Recreational use is limited due to severe wetness and the sandy nature of the soil.

St. Johns and Eau Gallie Fine Sands (Type 29)

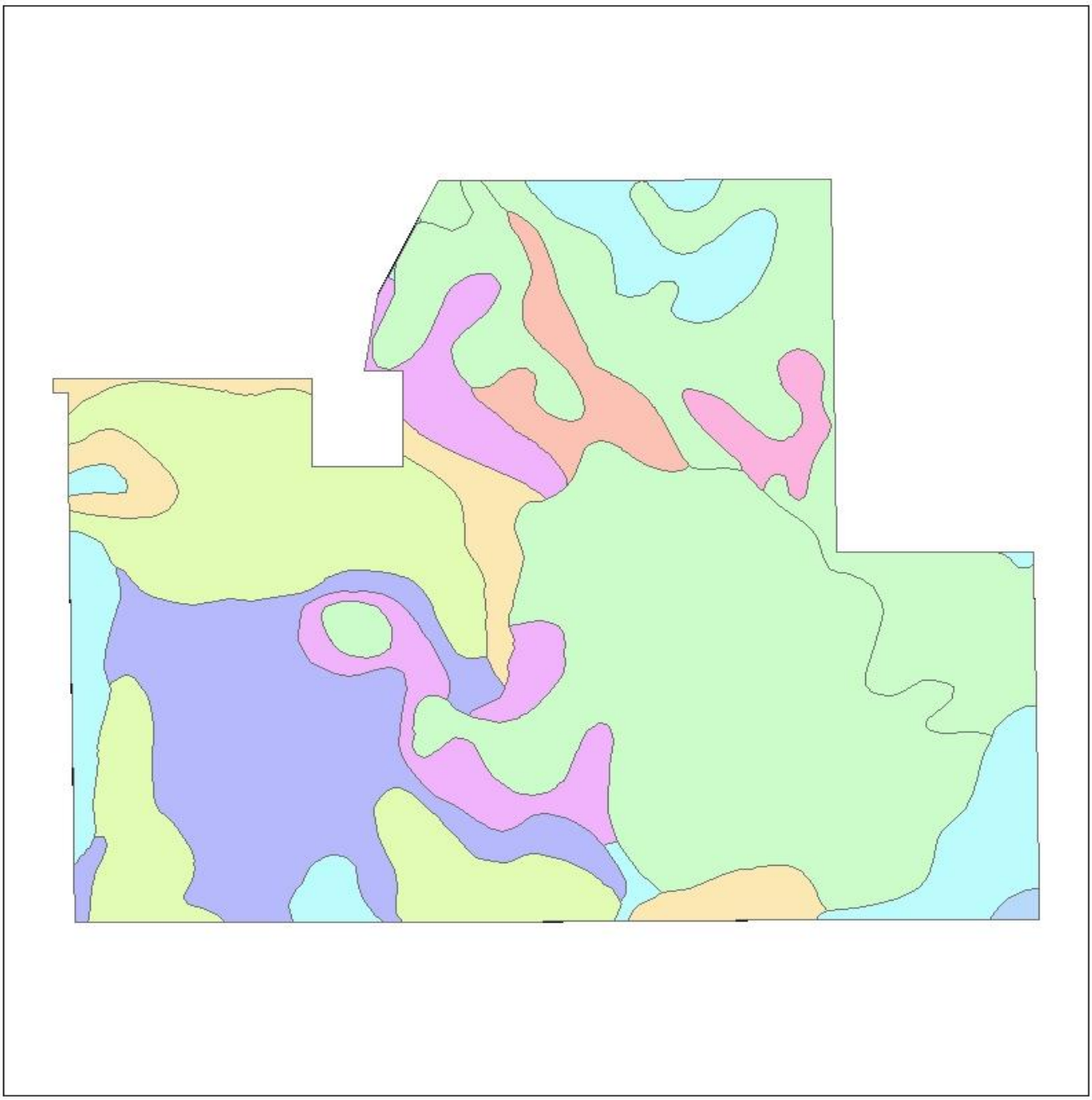
These are nearly level, poorly drained soils occurring in broad, low flatwood areas of the coastal plain. Normal high-water elevation ranges from the surface to one foot below during the wet season. Recreational use is limited, due to severe wetness and sandy nature of the soil.



Chuluota Wilderness Area
Figure 2: Natural Communities Map

Legend

- Bay Swamp
- Depression Marsh
- Scrub
- Improved Pasture
- Sandhill
- Mesic Flatwoods
- Wet Flatwoods



Chuluota Wilderness Area
Figure 3: Soils Map

Legend

- ADAMSVILLE
- BASINGER
- BRIGHTON
- EAUGALLIE
- MYAKKA
- PAOLA
- PINEDA
- POMELLO
- ST. JOHNS
- TAVARES

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

RESOURCE PROTECTION AND MANAGEMENT

Restoration

A restoration plan for the pasture located in the north central portion of the property has been developed.

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

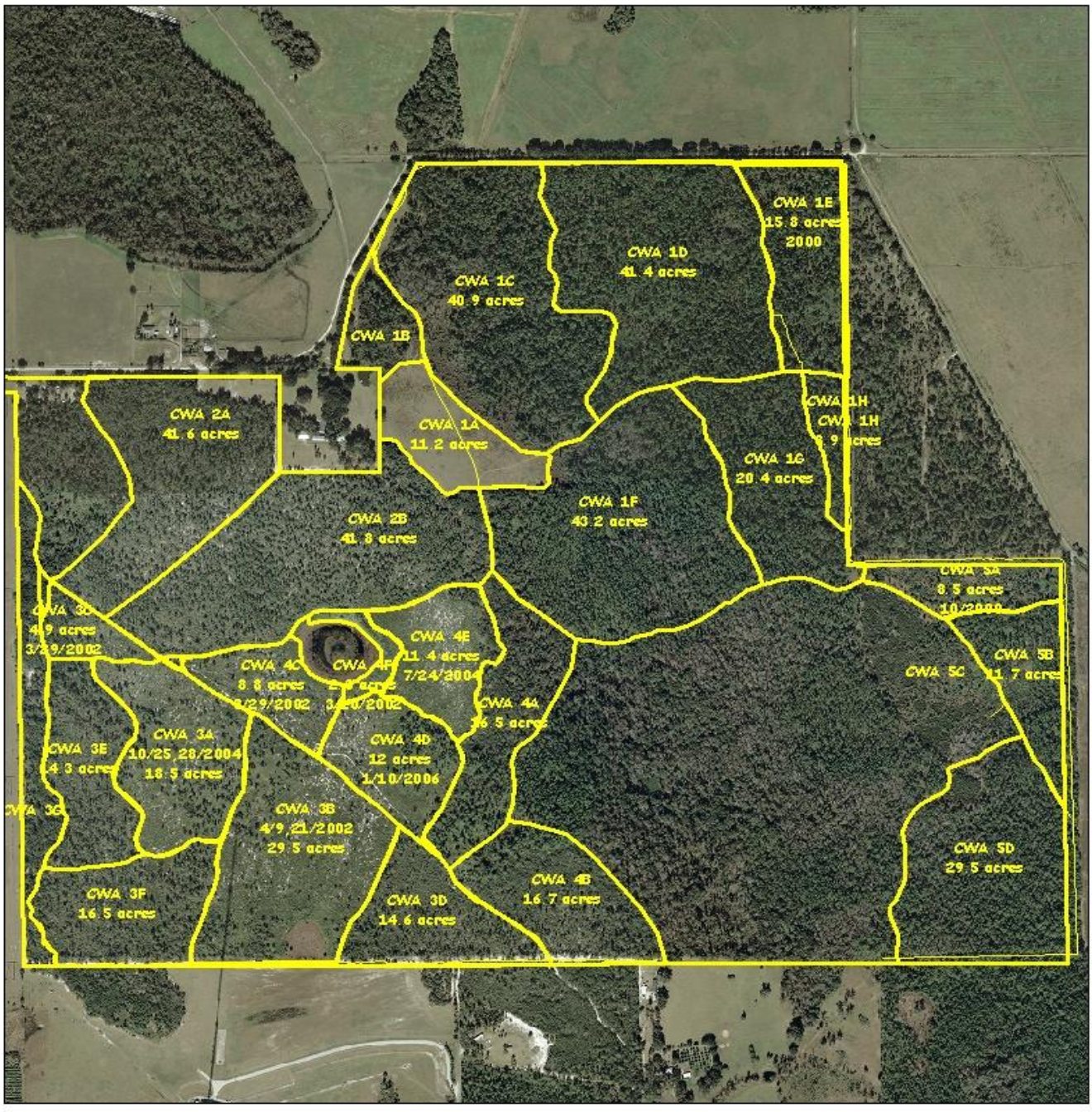
- SCNLP staff, in coordination with the Florida Division of Forestry, are evaluating the possibility of timber thinning on the east side of the Chuluota Wilderness Area and the clear cutting of Sand Pine on the northwest portion of the site.

Fire Management

Fire is used routinely on this property as a management tool.

Fire Management Strategies

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



Chuluota Wilderness Area
Figure 4: Burn Zone Map
2009 DOQ

0 0.25 0.5 Miles

1:9,902

Table 2: Natural Community and Fire Return Interval

Plant Community	Fire Frequency for Restoration	Fire Frequency for Maintenance
Mesic	3 to 5 years	4 to 8 years
Wet Flatwoods	4 to 7 years	7 to 12 years
Sandhill	2 to 5years	1 to 3
Scrub/Scrubby Flatwoods	8 to 15 years	15-25 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 NL 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 and quarterly for Florida Mouse.

Plants

Listed plant species found on the property to date are Curtiss's milkweed (*Asclepias curtissii*), Garberia (*Garberia heterophylla*), cinnamon fern (*Osmunda cinnamonea*), and royal fern (*Osmunda regalis*).

Animals

Listed animals found on the CWA property include the Florida mouse (Podomys floridanus), gopher tortoise (*Gopherus polyphemus*), and numerous wading birds such as the little blue heron (), wood stork (*Mycteria americana*), snowy egret (*Egretta thula*), and sandhill crane (*Grus canadensis*).

Listed Plant and Animal Strategies

- Continue monitoring for gopher tortoises
- Continue small mammal trapping
- Continue annual listed plant surveys.

Exotic Species

There are very few exotic plant and animal species within CWA. These invasive species often out compete and displace native flora and fauna.

Plants

Exotic plant species found in the past included air potato and tropical soda apple.

Animals

Exotic animal species found at CWA are the brown anole (*Anolis segrei*), Cuban tree frog (), and the Mexican bromeliad weevil (*Metamasius callizona*). The NLP 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.

Monitoring

Monitoring natural resources is an important tool in gauging the overall health of an ecosystem. Over the years there have been numerous monitoring studies at Spring Hammock Preserve to determine the overall scope of plant, amphibian, reptile, and mammal species, including exotics located within the property.

In 2006, SCNL developed a new monitoring plan. In accordance with that plan, monitoring at SHP now includes a volunteer based mark and release program coordinated by Natural Lands staff. Post-burn burrow surveys and photo-points are also conducted by staff and the data collected from these two types of monitoring efforts allow staff to estimate gopher tortoise populations on each property.

Plant transects are conducted to gather population estimates for the wide variety of plant species occurring within the Preserve, including exotic species.

Monitoring Strategies

- Continue quarterly monitoring of Florida Mouse
- Continue volunteer Turtle Team monitoring program
- Continue monitoring exotic species

Cultural Resources Protection

LAND USE MANAGEMENT

Access

There are two access points established on site. The primary access and vehicle parking are located at the east end of Curryville Rd. and a walk thru opening is established on the south line at the northern terminus of Brown Rd. in adjacent Orange County.

Access Strategies

- Continue regular maintenance of public access areas
- Maintain signs and kiosk

Recreation

This site is open for hiking, non-motorized biking, equestrian use, and wildlife viewing opportunities.

Recreation Strategies

- Continue regular maintenance for all recreational resources

Environmental Education

This site serves as an outdoor classroom for nature enthusiasts of all ages.

Environmental Education Strategies

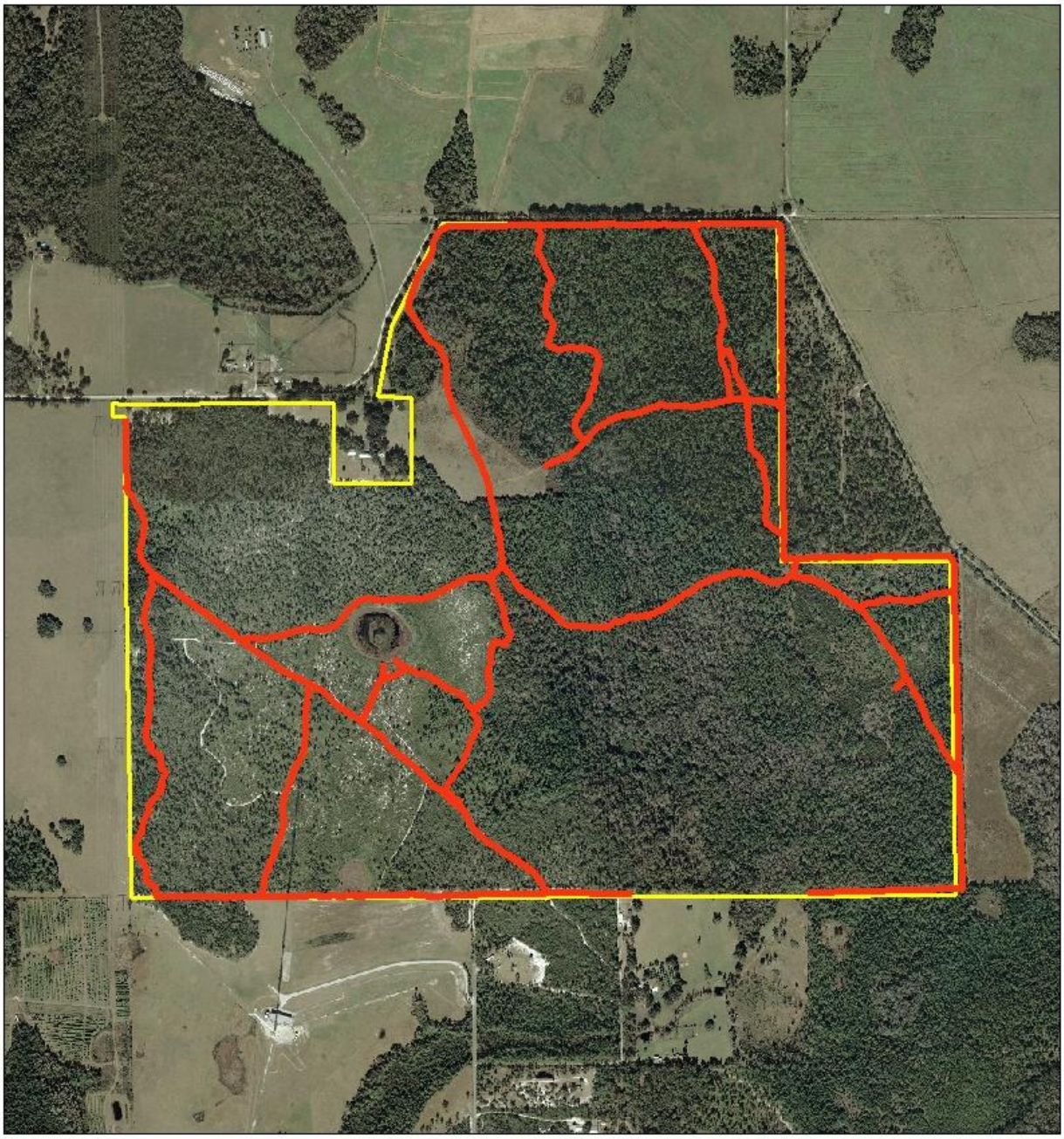
- Continue to support the utilization of CWA as an outdoor learning tool in an effort to promote environmental education

Security

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

Security Strategies

- Continue maintaining resident law enforcement on-site.


Chuluota Wilderness Area
Figure 5: Recreation
Legend
CWA Trails
0
0.25
0.5
Miles
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ADMINISTRATION AND IMPLEMENTATION

Acquisition

Additional lands will be purchased under the State's Forever Florida program and the Seminole County Natural Lands Program.

Acquisition Strategies

- Continue to pursue adjacent parcels as available

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			
Restoration			
Evaluate need for restoration activity	NL	On-going	
Forest Management			
Evaluate east property for possible Timber Thinning and west for sand pine harvest			
Fire Management			
Burn all sites with no burn history	NL	2013	PS, DOF
Switch to 50% lightning season burns	NL	2013	PS, DOF
Wildlife			
Continue to record wildlife observations	NL	On-going	Volunteers
Continue with land management activities	NL	On-going	PW
Listed Species			
Plants & Animals			
Continue monitoring for gopher tortoises	NL	On-going	Volunteers
Continue with small mammal trapping	NL	On-going	Volunteers
Continue with listed plant species survey	NL	On-going	Volunteers
Exotic Species			
Plants & Animals			
Get all Category I exotics under maintenance control	NL	2012	PW
Continue with exotic species monitoring	NL	On-going	Volunteers
LAND USE MANAGEMENT			
Access			
Continue regular maintenance of public access areas	NL	On-going	PW
Maintain signs and kiosks	NL	On-going	PW
Recreation			
Maintain regular maintenance of all recreational resources	NL	On-going	PW, Volunteers
Security			
Continue with current security	NL	On-going	
Acquisition			
Continue to purchase adjacent lands as they become available	NL	On-going	

KEY

DOF	Division of Forestry
PS	Public Safety

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