Econ River Wilderness Area

Land Mangement Plan

2010

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ECON RIVER WILDERNESS AREA
LAND MANAGEMENT PLAN

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LAND MANAGEMENT PLAN SUMMARY

Econ River Wilderness Area

Acres: 240

Location: Oviedo, Florida, Section 36, Township 21 South, Range 31 East

Dates of Acquisition: 240 Acres purchased in 1994

Key Resource Issues: The Econ River Wilderness Area is made up of a variety of native plant communities including sandhill, mesic flatwoods, wet flatwoods, scrubby flatwoods, bay swamp, alluvial forest. The wetlands on the property are high quality wetlands which serve as a natural filter before draining into the Econlockhatchee River; a state protected Outstanding Florida Water.

In 2002, during the construction of the east terminus of McCulloch Road, water was staged on the Econ River Wilderness Area for an extended period of time, negatively impacting a central wetland. Money was received from the developer and the St. Johns River Water Management District to mitigate for the damage. The wetland was restored and monitored for five years, ending in early 2010.

GENERAL DESCRIPTION:

- **Security** – There is caretaker residence on-site near the entrance of the property. A law enforcement officer is usually the occupant.
- **Restoration** – A restoration plan for the property was implemented in 2005 and monitored for five years. Restoration on this site has also included the reintroduction of fire and the use of mechanical treatment.
- **Fire** – Prescribed burning on the property was introduced in 1999 and continues today. The property is divided into 21 burn zones with the goal of burning all zones by the year 2013..
- **Invasive and Exotic Species** – There are a number of exotic species known to occur on site, including air potato (*Dioscorea bulbifera*), cogongrass (*Imperata cylindrical*), and rattlebox (*Crotalaria spectabilis*).
- **Wildlife and Plants** – Econ River Wilderness Area (ERWA) is home to a wide variety of flora and fauna. There is a large population of Gopher tortoises (*Gopherus polyphemus*) on the property that are being monitored through a volunteer mark-recapture program. Other species of interest include sandhill cranes (*Grus canadensis*), Florida pine snake (*Pituophis melanoluecus mugitus*), and Sherman's fox squirrel (*Sciurus niger shermani*). Natural Lands staff, along with the help of volunteers, continue to conduct wildlife surveys and monitoring studies on the site.
- **Cultural Resources** – There are no known historical or cultural sites located on this property.
- **Education** – The Natural Lands Program provides environmental education programs at the Ed Yarborough Nature Center. While no facilities exist on site, the ERWA is 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** – The parking area is located at 3795 Old Lockwood Road. Two additional service access gates are located on the north boundary on Fawn Run and south at McColluch Rd.
- **Public Recreation** – The property is open to the public for nature study, hiking, fishing, horseback riding, and biking.
- **Coordination of Agreements** – Seminole County has entered an agreement with the Florida Division of Forestry for oversight of timbering operations.

Econ River Wilderness Area
Seminole County, Florida

LAND MANAGEMENT PLAN

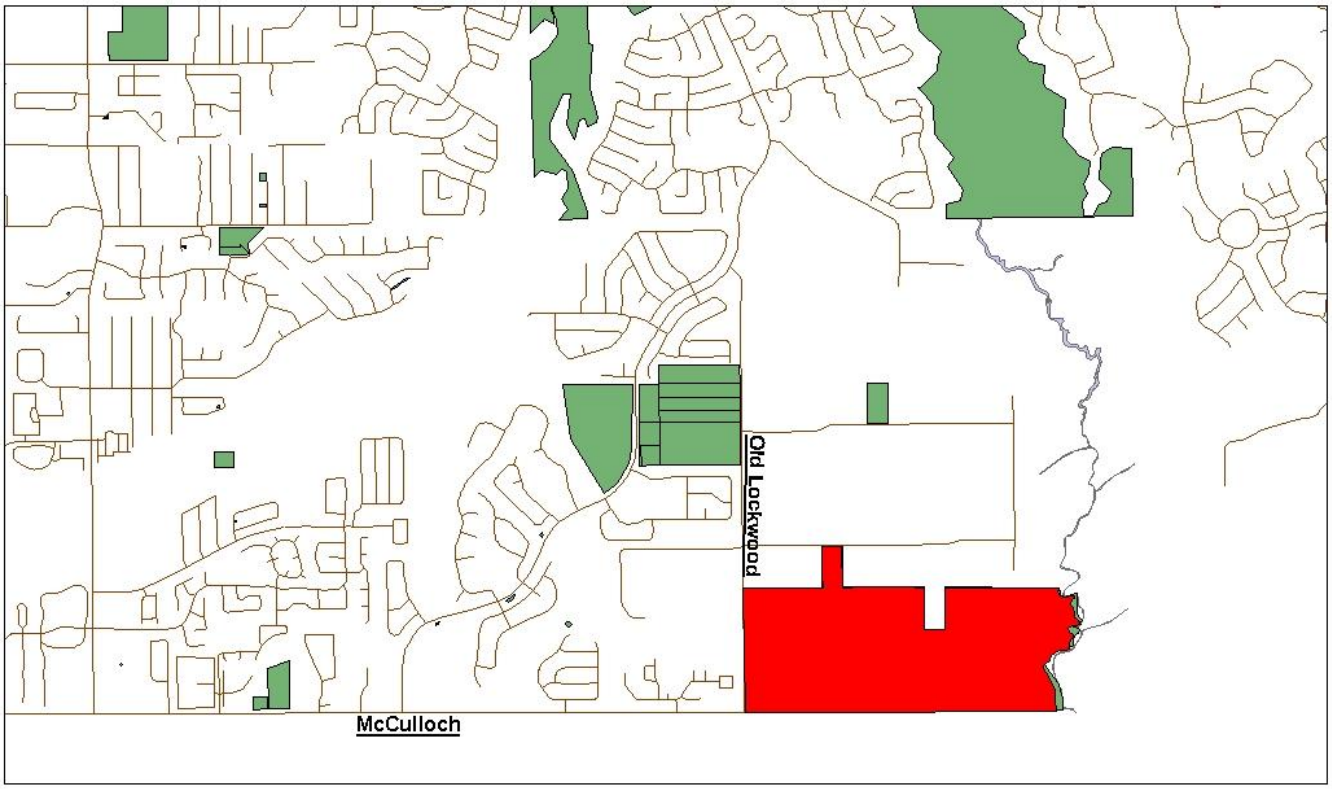
INTRODUCTION

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 Econ River Wilderness Area (ERWA) is a 240-acre natural preserve located in southeastern Seminole County. The property contains many unique natural communities including the longleaf pine/ turkey oak or sandhill habitat. This important plant community is home to the federally protected Gopher Tortoise, a keystone species. Also of importance are high quality wetlands located on the property which serve as a natural filter before draining into the Econlockhatchee River, a state protected Outstanding Florida Water. This important natural resource provides a unique wilderness opportunity for the people of Seminole County and surrounding areas to experience and enjoy.



Legend

Econ River Wilderness Area

Other Public Lands

Econ River Wilderness Area

Figure 1: Location Map

0 0.5 1 Miles

1:24,372

Acquisition History

The 240-acre Econ River Wilderness Area was purchased from the Clayton family in 1994 for 3.5 million dollars for the purpose of conservation, public enjoyment, and education.

NATURAL RESOURCES OVERVIEW

Natural Communities

The Econ River Wilderness Area contains several natural plant communities, most of which are fire dependent. Plant communities include sandhill, mesic flatwoods, wet flatwoods, baygall swamp, and alluvial forest, which is located along the banks of the Econlockhatchee River.

Sandhill

Also known as longleaf pine-turkey oak, this habitat is characterized as a forest of widely spaced pine trees with a sparse understory of deciduous oaks and a fairly dense cover of grasses and herbs on rolling hills of sand. Typical plant species found in sandhill habitat include longleaf pine (*Pinus palustris*), turkey oak (*Quercus laevis*), and wiregrass (*Aristida berychiana*).

Fire is a dominant factor in the ecology of this community type. The natural fire frequency occurs every 1-4 years to reduce hardwood competition and to perpetuate pines and grasses. Without fire Sandhills become dominated by oak species and move towards a xeric hammock community.

Mesic Flatwoods

Mesic flatwoods habitat is characterized as an open canopy forest of pine trees with little to no understory but a dense ground cover of herbs and shrubs. Typical plant species found in mesic flatwoods are the slash pine (*Pinus elliottii*), longleaf pine (*Pinus palustris*), saw palmetto (*Serenoa repens*), wiregrass, and gallberry (*Ilex glabra*).

Fire is an important physical factor in mesic flatwoods. Several plant and animal species depend on fire for their continued existence, and without it, mesic flatwoods will succeed into hardwood dominated forests whose closed canopy can essentially eliminate the ground cover of herbs and shrubs.

Baygall Wetlands

This habitat is characterized as densely forested, peat-filled seepage depressions often at the base of sandy slopes. They may also be located at the edges of floodplains or in other flat areas where high lowland water tables may help maintain soil moisture. The canopy is dominated by evergreen hardwoods sweetbay (*Magnolia virginiana*), swamp bay (*Persea palustris*), and loblolly bay (*Gordonia lasianthus*). The open understory is comprised of shrubs and ferns.

The normal fire interval in these communities is 50-100 years. After the fire, bay trees will re-sprout from the roots and replace themselves, but if the fire is severe enough it may potentially change the Baygall into a different community.

Wet Flatwoods

Wet flatwoods is characterized as a relatively open-canopy forest of scattered pine trees or cabbage palms and a thick understory and sparse groundcover or sparse understory and thick groundcover. Typical plants include pond pine (*Pinus serotina*), slash pine (*Pinus elliottii*), sweetbay (*Magnolia virginiana*), and gallberry (*Ilex glabra*).

Fire is an important factor in the development of Wet Flatwoods. Natural fire interval is every 3-10 years and nearly all plants and animals inhabiting this community are adapted to periodic fires, and several species depend on fires for their continued existence. In the absence of frequent fires, this community would become dominated by hardwood species with a closed canopy eliminating groundcover.

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

Wildlife

There are a number of rare and state listed species found on the property including gopher tortoise (*Gopherus polyphemus*), sandhill crane (*Grus canadensis*), snowy egret (*Egretta thula*), and the little blue heron (*Egretta caerulea*). Other species observed on the property are white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), river otter (*Lutra canadensis*), marsh rabbit (*Sylvilagus palustris*), fence lizard (*Sceloporus undulatus*), eastern hognose snake (*Heterodon platyrhinos*), scarlet snake (*Cemophora coccinea*), six-lined racerunner (*Cnemidopherus sexlineatus sexlineatus*), ground skink (*Scincella lateralis*), and southeastern five-lined skink (*Eumeces inexpectatus*).

Listed Species

Gopher tortoises are marked using standard protocol (Cagle 1939). A volunteer program was established by SCNLP 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 was being surveyed quarterly for Florida mice, however, none have been found to date. Other listed species found on the property include sandhill crane (nesting), woodstork, snowy egret, and little blue heron.

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

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

Econ River Wilderness Area has a number of exotic invasive species on the property including air potato, rattlebox, skunk vine (*Paederia foetida L.*), cogongrass, and Brazilian pepper (*Schinus terebinthifolius*). The SCNLP has an ongoing treatment program to control exotic species

The NLP has an exotic management plan in place. 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.

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.

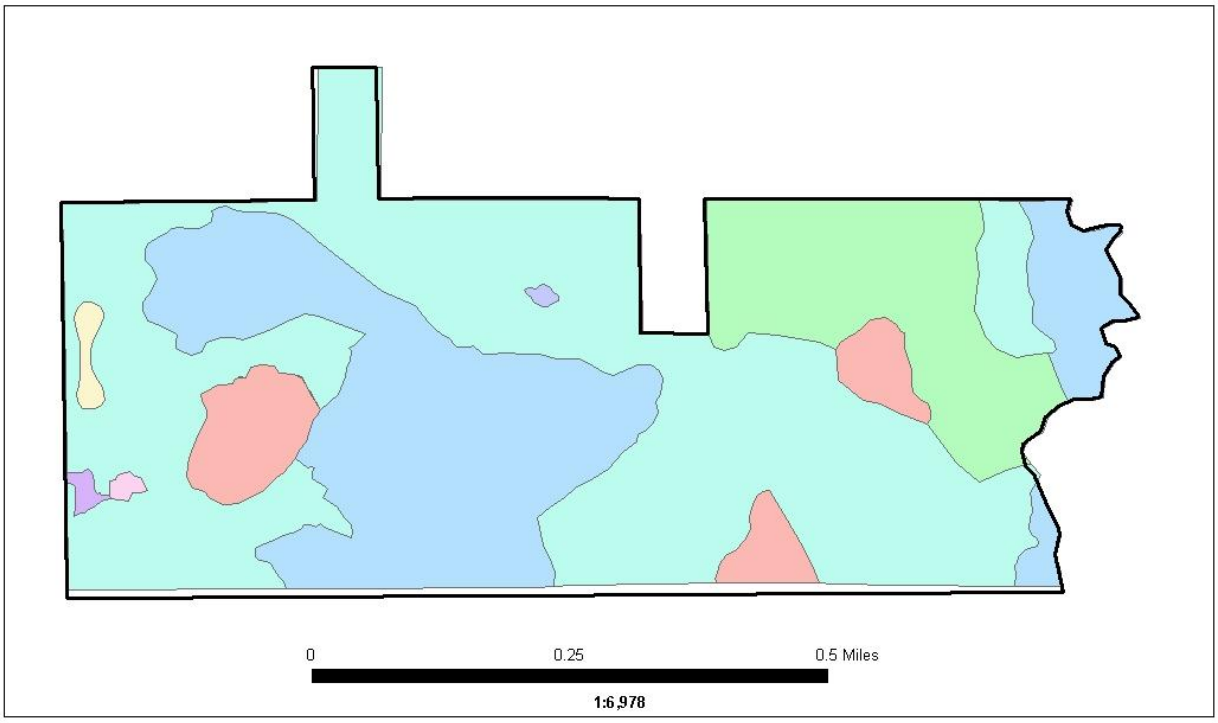
Immokalee Series (Type 16)

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.

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.

Manatee Mucky Fine Sands, Depressional (Type 19)
These are very poorly drained soils occurring in depressions. Normal high-water elevation occurs from June through December and ranges from two feet above to one foot below the surface.

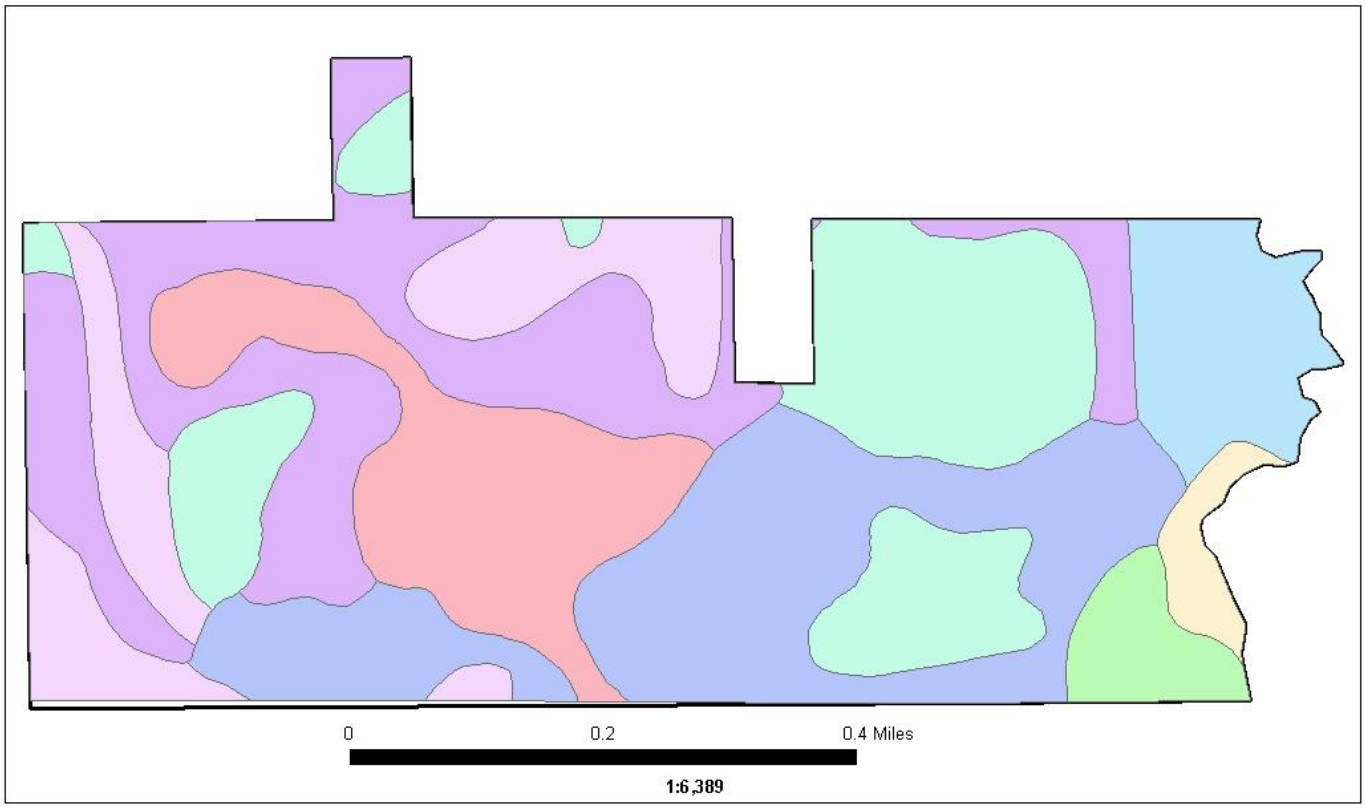
St. Johns and Eau Gallie Fine Sands (Type 29)
These are nearly level, poorly drained soils occurring in broad, low flatwood areas of the coastal plain. Normal high-water elevation ranges from the surface to one foot below during the wet season.



Legend

- Forested Wetlands
- Live Oak Hammock
- Marsh
- Parking Lot
- Pine Flatwoods
- Resevoir
- Residential
- Sandhill

Econ River Wilderness Area
Figure 2: Natural Communities



Legend

- BRIGHTON
- IMMOKALEE
- MANATEE
- MYAKKA
- POMELLO
- POMPANO
- ST. JOHNS
- TAVARES

Econ River Wilderness Area
Figure 3: Soils Map

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 ERWA 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 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

A restoration plan for the property has been in place since the flooding event in 2002. The objective is a return to the natural hydrologic regime of the Econ Wilderness Area property. This will be accomplished through a monitoring program which will evaluate surface and groundwater, the natural re-growth of vegetation, and wildlife utilization of the wetland and adjacent properties. Restoration on this site has also included the reintroduction of fire and the use of some mechanical treatments such as roller chopping.

Restoration Strategies
Continue post flood restoration plan
Continue to use fire and mechanical treatment to restore fire dependent plant communities

Forest Management

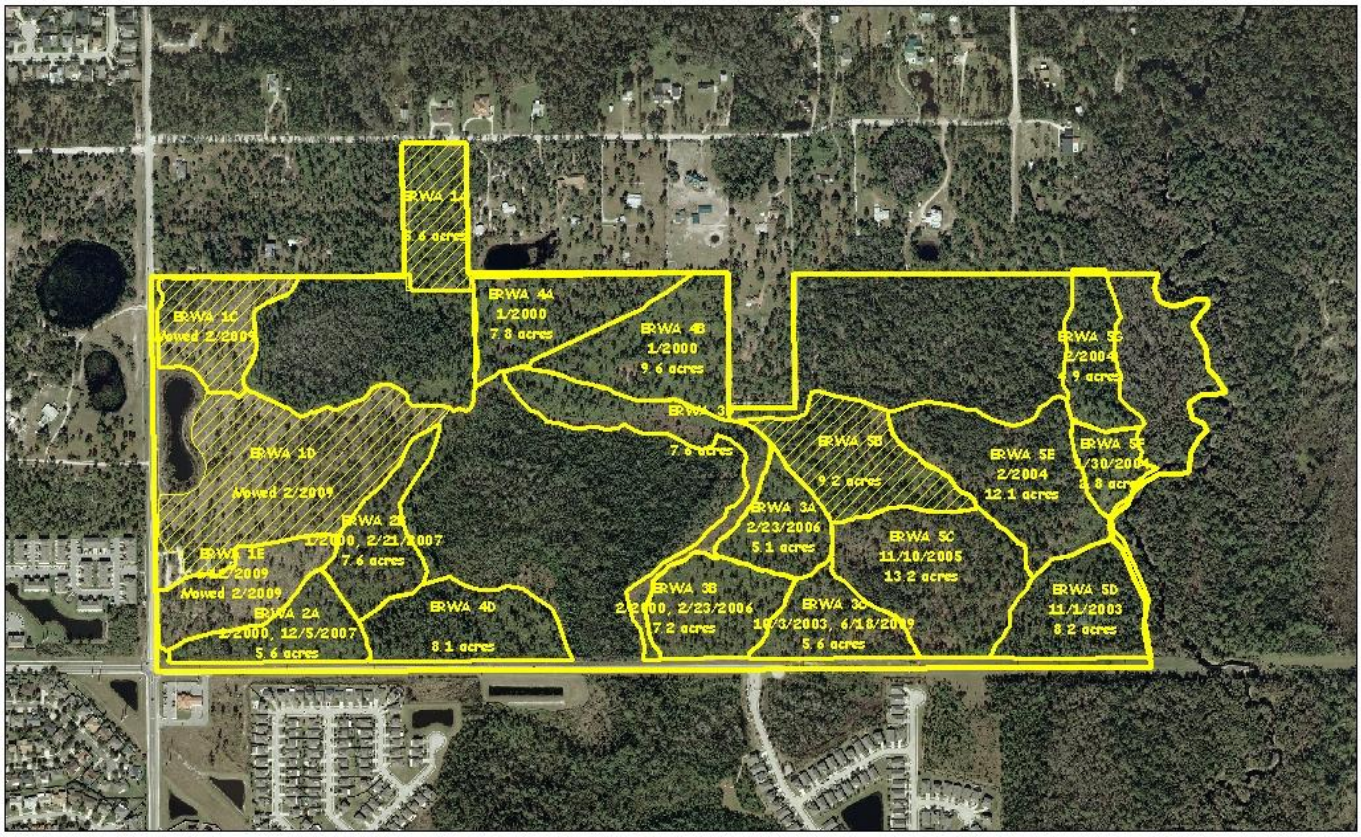
Florida Statutes require public agencies to evaluate lands they manage for timber production. Planting of upland forest species may be a component of future upland restoration projects.

Forest Management Strategies
At this time there are no plans to conduct any forestry related activity within Econ River Wilderness Area.

Fire Management

The NL reintroduced fire to the wilderness area in 2000. Nearly all of the burn units have been burned at least once. Due to the relatively urban setting, prescribed fires are carefully planned using south and west winds to avoid smoke impacts to adjacent residences and roadways.

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



Econ River Wilderness Area
Figure 4: Burn Zone Map
2009 DOQ

0 0.125 0.25 Miles

1:7,804

Table 2: Natural Community and Fire Return Interval

Plant Community	Fire Frequency for Restoration	Fire Frequency for Maintenance
Baygall	None	None
Sandhill	2-4 years	1-3
Wet Flatwoods	2 to 5 years	3 to 7years
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 SCNLP 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

There has not been any listed plant species identified on-site.

Animals

Listed animal species include the gopher tortoise (*Gopherus polyphemus*), Florida pine snake (Pituophis melanoluecus 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 ERWA. These invasive species often out compete and displace native flora and fauna.

Plants

Exotic plants include air potato, cogongrass, rattlebox, skunkvine and Brazilian pepper. These species will continue to be treated when located.

Animals

Exotic animal species found at ERWA include the brown anole (Anolis sagrei) and Cuban tree frog (Osteopilus septentrionalis). The SCNLP has also 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 as needed

Cultural Resources Protection

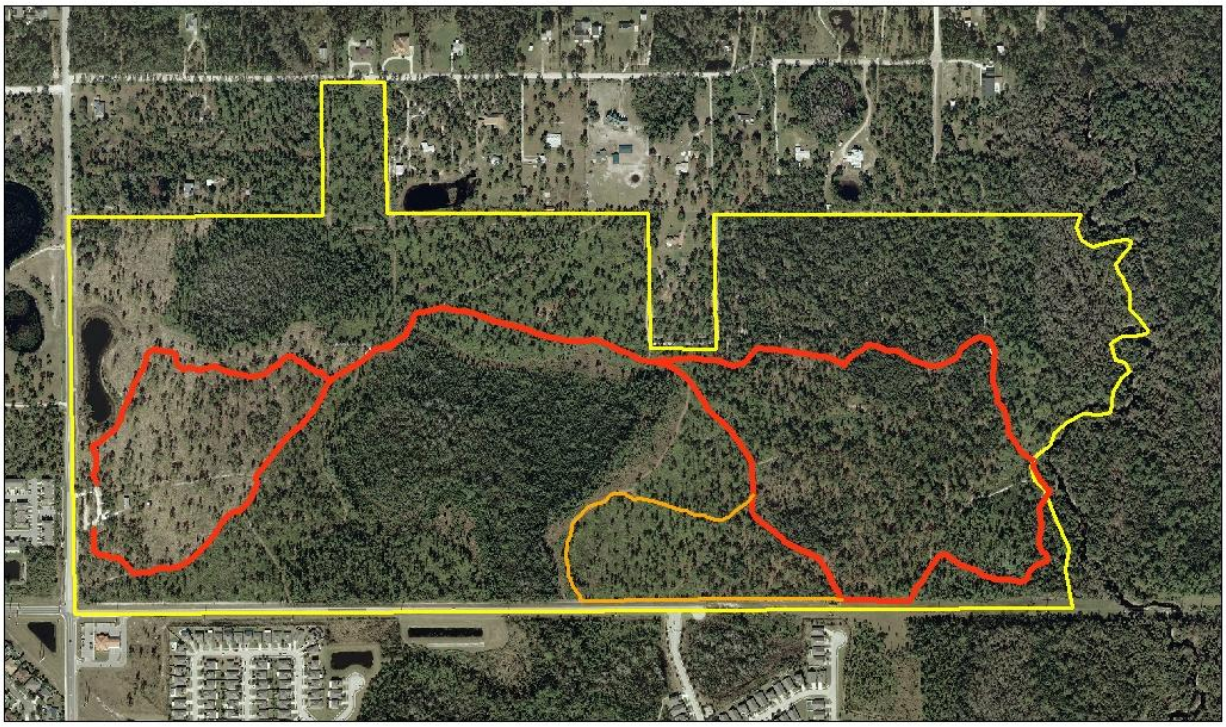
LAND USE MANAGEMENT

Access

There is one park and walk access located off of Old Lockwood Road and gates located on the north and south lines for service vehicle access.

Access Strategies

Continue regular maintenance of public access area.
Maintain signs and kiosk.



Econ River Wilderness Area
Figure 5: Recreation Map

Legend
- Flatwoods Loop Trail
- Main Loop Trail

0 0.125 0.25 Miles

1:7,014

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 ERWA as an outdoor learning tool in an effort to promote environmental education. Continue partnerships with local universities for use as outdoor classrooms and collection of scientific data.

Security

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

Security Strategies

Continue maintaining resident law enforcement on-site.

IMPLEMENTATION

Implementation Chart

An implementation chart of activities and responsibilities follows.

Management Activity Implementation Chart

TASK	RESPONSIBLE LEAD	DUE DATE	COOPERATORS
RESOURCE PROTECTION AND MANAGEMENT			
Restoration			
Flooding restoration complete		2010	
Mechanical treatment for fire preparation		2009	
Only fire related restoration is planned		Ongoing	
Forest Management			
No current plan for forestry related activities			
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			
Continue regular maintenance on public access area	NLP	Ongoing	Volunteers
Maintain signs and kiosk	NLP	Ongoing	
Recreation			
Continue regular maintenance on trails	NLP	Ongoing	Volunteers
Security			
Continue with current security	NL	On-going	

KEY

DOF	Division of Forestry
PS	Public Safety

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