

Black Hammock Wilderness Area

Land Management Plan

2020



**BLACK HAMMOCK WILDERNESS AREA
LAND MANAGEMENT PLAN**

TABLE OF CONTENTS

INTRODUCTION 1

WILDERNESS AREA OVERVIEW 1

 REGIONAL SIGNIFICANCE 1

 ACQUISITION HISTORY 1

NATURAL RESOURCES OVERVIEW 3

 NATURAL COMMUNITIES..... 3

Table 1. Approximate acreage for each plant community and percent uplands and wetlands. 5

 WILDLIFE 5

 CULTURAL RESOURCES..... 5

 SOILS 7

 WATER RESOURCES 8

IMPLEMENTATION..... 10

 RULES AND REGULATIONS 10

RESOURCE MANAGEMENT PROGRAM..... 10

 MONITORING 10

 RESTORATION 11

 FIRE MANAGEMENT..... 11

Table 2: Natural Community and Fire Return Interval..... 12

 WILDLIFE 12

 LISTED SPECIES..... 14

 INVASIVE SPECIES 14

LAND USE MANAGEMENT 16

 PUBLIC ACCESS 16

 RECREATION 16

 ENVIRONMENTAL EDUCATION..... 16

 SECURITY 16

FIGURE 5: RECREATION MAP 17

REFERENCES..... 18

TABLE OF FIGURES

FIGURE 1: LOCATION MAP 2

FIGURE 2: NATURAL COMMUNITIES MAP 6

FIGURE 3: SOIL MAP 9

FIGURE 4: FIRE HISTORY MAP..... 13

FIGURE 5: RECREATION MAP 17

LAND MANAGEMENT PLAN SUMMARY

Black Hammock Wilderness Area

Acres: 700

Location: Oviedo, Florida, Section 31, Township 20 South, Range 32 East

Dates of Acquisition: 2000

Key Resource Issues:

Black Hammock Wilderness Area is a 700 acre property located in east Seminole County near the town of Geneva, Florida, on the southeast side of Lake Jesup. The site contains a diverse collection of native plant communities and wildlife, and also helps to protect important recharge areas for the Geneva Bubble, the local aquifer. Additionally, the many wetland areas found throughout this property are important filters for water as it drains into Lake Jesup. The St. Johns River Water Management District owns property adjacent to the wilderness area creating a buffer and wildlife corridor on the east side of Lake Jesup.

GENERAL DESCRIPTION:

- **Security** – Unlike many of the other Natural Lands properties, there is no caretaker residing on this property. Natural Land’s staff coordinate with the Seminole County Sheriff’s Office (SCSO) and Florida Fish and Wildlife Conservation Commission (FWC) to report any disturbances on the property.
- **Fire** – Black Hammock Wilderness Area contains two true fire dependent plant communities, pine flatwoods and sand pine scrub. Due to the intense nature of fire and proximity to residential areas in the sand pine scrub, alternate methods such as mechanical treatment will be used along with fire to maintain the plant communities.
- **Invasive Species** – Invasive plant species found at this site include air potato (*Dioscorea bulbifera*), cogongrass (*Imperata cylindrica*), and tuberous swordfern (*Nephrolepis cordifolia*).
- **Wildlife and Plants** – Observations of wildlife on this site include the barred owl (*Strix varia*), white-tailed deer (*Odocoileus virginianus*), bobcat (*Lynx rufus*), and eastern coral snake (*Micrurus fulvius*).

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.

- **Access** – The primary access point is a small parking lot at the end of Howard Avenue on the southern end of the property. There are also three community access points.
- **Public recreation** – The property is open to the public for passive, resource based recreational opportunities including nature study, hiking, local horseback riding, and biking. Motorized recreation is not allowed on any Natural Lands property.

**Black Hammock 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. This is the second land management plan for this property.

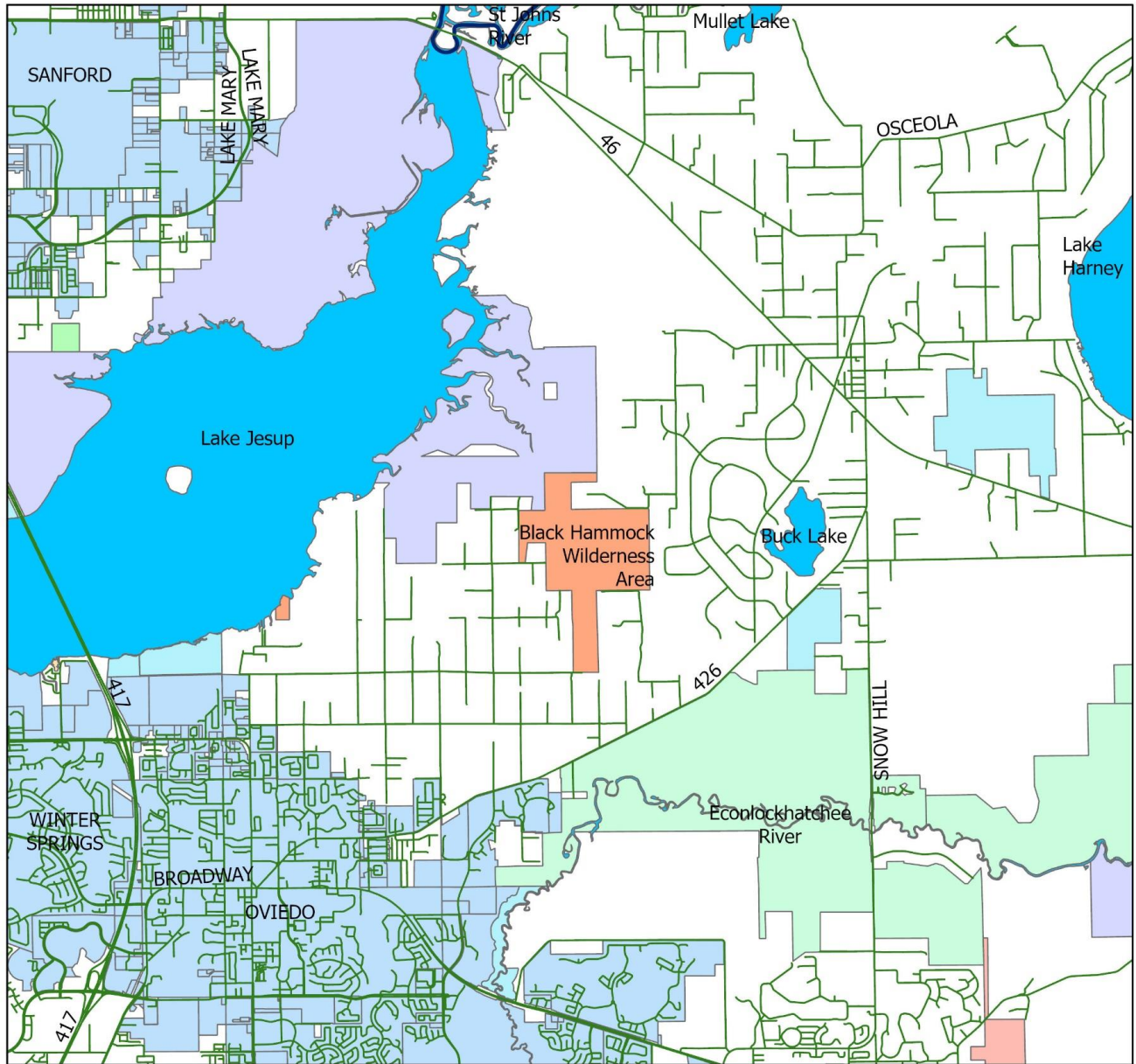
WILDERNESS AREA OVERVIEW

Regional Significance

The 700-acre Black Hammock Wilderness Area (BHWA) is located on the east side of Seminole County, east of Lake Jesup. The property protects wetlands, scrub and flatwoods communities within its boundary. This site's variety of habitats and beautiful trail system and boardwalks make it a popular destination for local equestrians, mountain bikers, hikers and outdoor enthusiasts.

Acquisition History

In 2000 Seminole County acquired approximately 618 acres east of Lake Jesup formerly known as the Tilden Groves, Segrest Crawford and Marcowitz tracts. The purchase of this parcel was partially funded as mitigation for wetland impacts at the Orlando Sanford International Airport. This site contains habitats such as pine flatwoods, sandpine scrub and extensive areas of hydric hammock which give the Black Hammock area its name. An additional 80 acres was acquired in 2000 as mitigation for wetland impacts associated with the construction of a Lowe's department store in Oviedo Florida.






Black Hammock Wilderness Area

Figure 1: Location Map



Legend

- | | |
|--|---|
|  Seminole County BCC Preserved Lands |  Streets |
|  Seminole County Preserved Lands |  Water Bodies |
|  Seminole County/Parks and Recreation |  City Limits |
|  FL Forest Service Preserved Lands |  County Boundary |
|  SJRWMD Preserved Lands |  Black Hammock Wilderness Area |
|  US Forest Service Preserved Lands | |



NATURAL RESOURCES OVERVIEW

Natural Communities

There are six distinct natural plant communities that comprise the majority of this property. These include mesic flatwoods, scrub, mesic hammock, hydric hammock, basin swamp, and baygall. Other natural communities include depression marsh, freshwater lake, and scrubby flatwoods. Plant communities and fire regimes are taken from FNAI, 2010.

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*), and gallberry (*Ilex glabra*). Other species include shiny blueberry (*Vaccinium myrsinites*), bushy bluestem (*Andropogon glomeratus* var. *glaucopsis*), and St. Johns wort (*Hypericum fasciculatum*). The ground cover typically contains wire grass (*Aristida berychiana*), Golden aster (*Chrysopsis villosa*), and Vanilla plant (*Carphephorus odoratissima*). Pine flatwoods can be viewed in the center of Black Hammock Wilderness Area. This is a fire dependent community which, according to the Florida Natural Areas Inventory has a fire regime of every 2 to 4 years.

The mesic flatwoods at LHWA are in good condition. The overstory is mainly slash and pond pine (*Pinus serotina*), and the understory is quite dense, due to lack of fire. The main management strategy needed for this community is more frequent fire.

Scrub

This plant community is often referred to as Florida's desert because this dry habitat only occurs on sandy, well-drained soils of relic dune lines deposited by ancient tides. Today this community is characterized by species such as sand pine (*Pinus clausa*), sand live oak (*Quercus geminata*), and rusty lyonia (*Lyonia ferruginea*). The plants and wildlife that inhabit this area are accustomed to a hot and dry environment where water is scarce. This habitat can be found along the eastern portion of BHWA.

Fire plays a critical role in this plant community type. Historically, this habitat would sustain fire every 10 to 50 years under extreme hot, dry and windy conditions. Fires are very intense and burn the entire canopy and ground cover to restart the process of succession from the ground up. Fires that hot may not be possible at BHWA, but efforts to burn and mechanically treat scrub on a regular basis will be undertaken to keep fuels at a manageable level, and to preserve the community structure.

Mesic Hammock

Mesic Hammock is characterized by a hardwood and/or cabbage palm overstory, and sometimes includes southern magnolia and pignut hickory in the subcanopy. Live oak (*Quercus virginiana*) is generally dominant, but water oak (*Q. nigra*) and laurel oak (*Q. laurifolia*) may occur as well, along with occasional slash or loblolly pine. Shrubs can include saw palmetto, beautyberry, *Ilex* sp., and possibly wild coffee. Panic grasses, witchgrasses and woodoats can all occur in the groundlayer,

and epiphytes are common in the live oaks and cabbage palms, especially in central and south Florida. Generally mesic hammocks occur in slightly higher areas and are rarely inundated by water. They are not considered fire-adapted, but in some cases can form through fire suppression from more fire-dependent natural communities.

The mesic hammock at BHWA is interspersed with the hydric hammock and basin swamp, and occurs in higher areas with better draining soils. It is in relatively good condition and in many instances, the species components are intact. The biggest problem facing this community is invasive species, and tuberous sword fern, coral ardisia, and skunk vine all have infestations within the mesic hammock.

Basin swamp

Basin swamps are heavily forested areas that occur in large landscape depressions. 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. Other species include slash pine (*Pinus elliottii*), dahoon (*Ilex cassine*), sweet bay (*Magnolia virginiana*), and lollolly bay (*Gordonia lasianthus*). These swamps serve as important filters and flood storage areas for water making its way to Lake Jesup.

At BHWA, basin swamps occur as smaller inclusions in the hydric and mesic hammocks in the northwest section of the property. They are in relatively good condition, and the main concern in this community is invasive species. Tuberous sword fern and coral ardisia can both invade this community, and the basin swamps should be regularly monitored for any new infestations.

Hydric Hammock

This habitat often exists in association with hardwood swamps, forming a transition to higher upland habitats or on areas of slightly higher elevation in broad flood plains. Tree species found in this habitat include the cabbage palm (*Sabal palmetto*), hackberry (*Celtis occidentalis*), laurel oak, water oak, and sweet gum (*Liquidambar styraciflua*). Groundcover could include several ferns and vines such as cinnamon fern (*Osmunda cinnamomea*), virginia creeper (*Parthenocissus quinquefolia*), and trumpet vine (*Campsis radicans*). Hydric hammocks occur on low, flat, wet sites where limestone may be near the surface. Soil is mostly level and poorly drained but very rich in organic composition. A normal hydrologic regime is critical in the development and maintenance of this habitat.

The hydric hammock at BHWA is interspersed with the mesic hammock and basin swamp, and occurs in the lower areas with a hardwood canopy. It is in relatively good condition and in many instances, the species components are intact. The biggest problem facing this community is invasive species, and tuberous sword fern and coral ardisia both have infestations within the hydric hammock.

Baygall

Baygalls are characterized as densely forested, peat filled seepage depressions often at the base of sandy slopes. There are a few isolated examples of this plant community type throughout

Black Hammock Wilderness Area. Dominant tree species include the sweet bay, and loblolly bay which make a canopy that provides shade for understory plant species such as the button bush (*Cephalanthus occidentalis*) and wax myrtle (*Myrica cerifera*).

The baygalls at BHWA are in good condition. They should be monitored for invasive species infestations on a regular basis, and when surrounding natural communities are burned, fire should be allowed to penetrate the edges and burn interior infrequently.

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

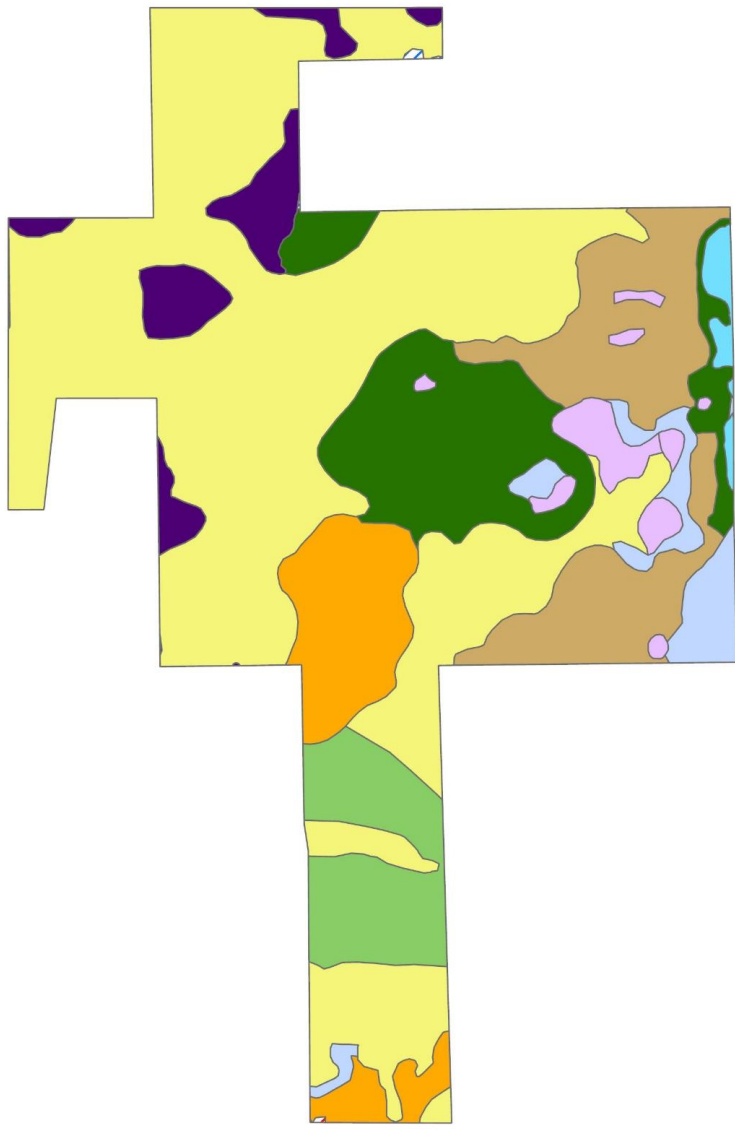
Community Type	Acres
Abandoned Pasture	0.4
Basin Swamp	31.0
Baygall	23.4
Depression Marsh	16.8
Developed	0.1
Freshwater Lake	6.1
Hydric Hammock	357.4
Mesic Flatwoods	81.9
Mesic Hammock	44.6
Scrub	82.4
Scrubby Flatwoods	49.0
<hr/>	
Percent Wetlands	63
Percent Uplands	27

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*). A wide array of wildlife species have been recorded at Black Hammock Wilderness Area. These include the cotton rat (*Sigmodon hispidus*), cotton mouse (*Peromyscus gossypinus*), barred owl (*Strix varia*), racoon (*Procyon lotor*), red tailed hawk (*Buteo jamaicensis*), and white tailed deer (*Odocoileus virginianus*). Numerous amphibian and reptilian species are found throughout the property including slimy salamanders (*Plethodon grobmani*), Southeastern five-lined skinks (*Eumeces inexpectatus*), Eastern diamondback rattlesnake (*Crotalus adamanteus*), and Florida box turtle (*Terrapene carolina bauri*).

Cultural Resources

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 Black Hammock Wilderness Area.



Black Hammock Wilderness Area
Figure 2: Natural Communities Map

0 0.1 0.2 0.3 0.4 0.5
 Miles



FNAI Natural Communities

- | | |
|-------------------|-------------------|
| Abandoned Pasture | Freshwater Lake |
| Basin Swamp | Hydric Hammock |
| Baygall | Mesic Flatwoods |
| Depression Marsh | Mesic Hammock |
| Developed | Scrub |
| | Scrubby Flatwoods |

Soils

Basinger

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.

Eaugallie

The EauGallie series consists of very deep, very poorly or poorly drained, slowly permeable soils in flats, sloughs and depressional areas in the Southern Florida Flatwoods and to a lesser extent in the Atlantic Coast Flatwoods, the South Central Florida Ridge, and the Southern Florida Lowlands. They formed in sandy and loamy marine sediments in Peninsula Florida.

Felda

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

Immokalee

The Immokalee series consists of very deep, very poorly and poorly drained soils that formed in sandy marine sediments. Immokalee soils are on flatwoods and low broad flats on marine terraces.

Myakka

The Myakka series consists of very deep, very poorly or poorly drained, moderately rapid or moderately permeable soils that occur primarily in mesic flatwoods of peninsular Florida. They formed in sandy marine deposits.

Nittaw

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

Paola

The Paola series consists of very deep, excessively drained soils that formed in sandy marine sediments. Paola soils are on hills, ridges, and flats on marine terraces.

Pomello

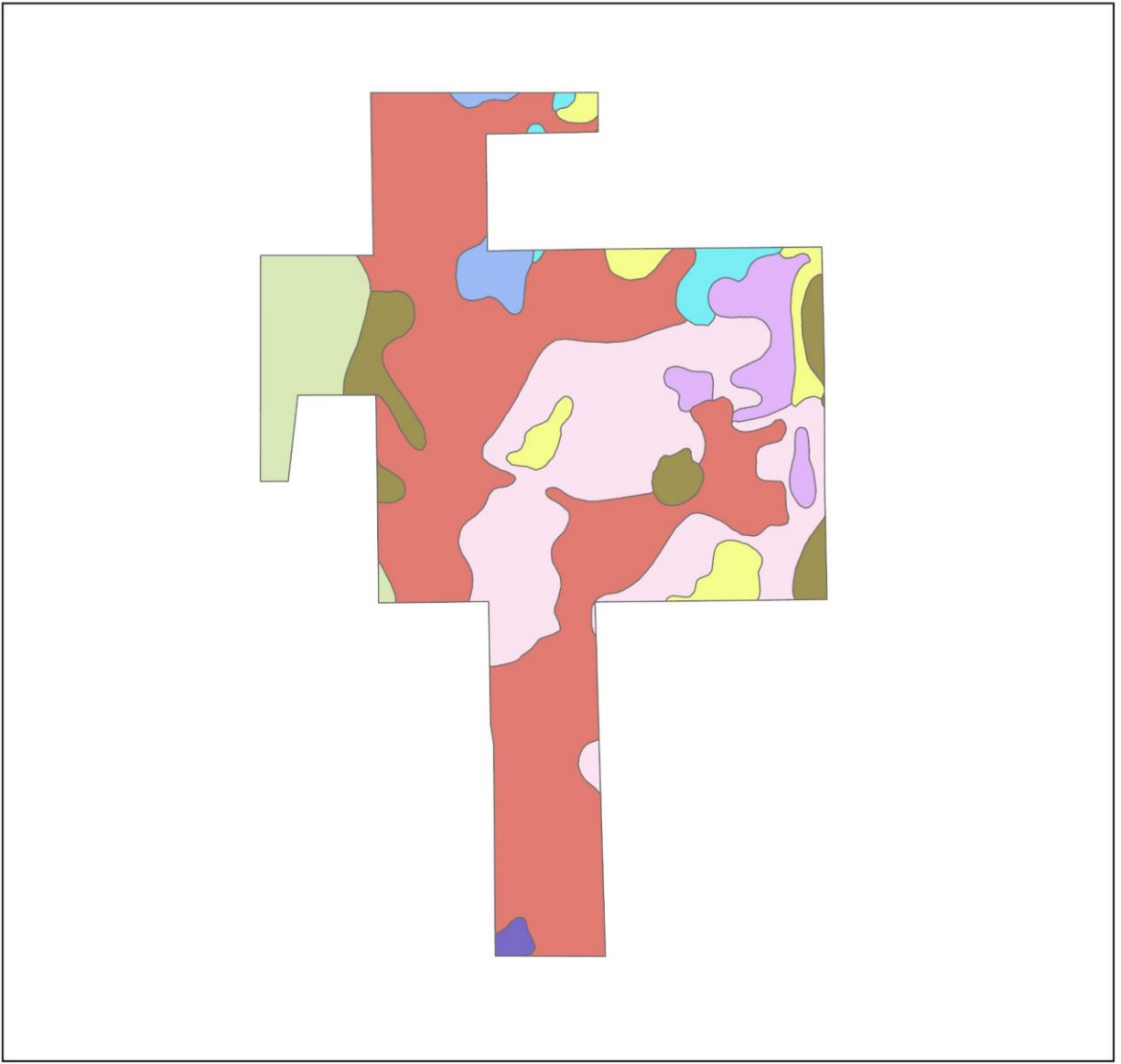
The Pomello series consists of very deep, moderately well to somewhat poorly drained soils that formed in sandy marine sediments. Pomello soils are on ridges, hills, and knolls in the flatwoods on marine terraces.

St. Johns

The St. Johns series consists of very deep, very poorly or poorly drained, moderately permeable soils on broad flats and depressional areas of the lower Coastal Plain. They formed in sandy marine sediments.

Water Resources

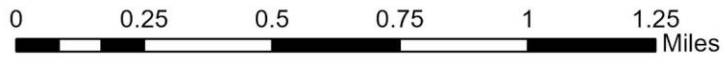
There are multiple depression marshes on the property. The ephemeral ponds play a key role in the reproduction of several amphibian species such as the barking tree frog, dwarf salamander and Florida gopher frog as well as provide nesting habitat for sandhill cranes. Water also ponds throughout the wet season in both the basin swamp and lower areas such as the baygall and hydric hammocks. A number of small streams and ditches traverse the property, and have not been mapped currently. The property is located entirely within the Lake Jesup drainage basin.



Black Hammock Wilderness Area
Figure 3: Soil Map

Legend

- | | |
|---|---|
|  BASINGER |  NITTAW |
|  EAUGALLIE |  PAOLA |
|  FELDA |  POMELLO |
|  IMMOKALEE |  ST. JOHNS |
|  MYAKKA | |



IMPLEMENTATION

Integral to the goals and objectives for managing acquired lands in an acceptable manner are protection and restoration of those lands where feasible. An important element in protecting the resources is to prevent dumping, poaching, and other illegal activities. Appropriate land management activities, such as prescribed burning, forest management, and removal of exotics, should be continued to protect the viability of the site.

Rules and Regulations

Seminole County Code Chapter 190 Section 4 establishes the provisions relating to management and use of the properties acquired or managed by Seminole County Natural Lands Program.

RESOURCE MANAGEMENT PROGRAM

Monitoring

Monitoring natural resources is an important tool in gauging the overall health of an ecosystem. The SCNLP 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.

Gopher tortoise populations are monitored by staff via burrow surveys after prescribed burns and mechanical treatment. The data collected from this monitoring effort allow staff to estimate gopher tortoise populations on each property.

Currently, the Natural Lands program hosts a bioblitz twice a year on a different property. In fall 2018, BHWA hosted its first bioblitz, and the next one is scheduled for spring 2023.

Monitoring Accomplishments

- Gopher tortoise burrow monitoring occurred in 2017 and 2020
- Organized a bioblitz in fall 2018 - 388 new species were recorded

Monitoring Strategies

- Continue organizing bioblitzes
- Continue monitoring burrows after mechanical treatment and prescribed fire
- Continue monitoring invasive plant species.
- Establish 5-10 photo points to monitor effects of mechanical treatment and prescribed fire

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 pine flatwoods and possibly the sand pine scrub habitats. In some cases mechanical treatment may also be used. The hydric hammock and mixed hardwood swamps have been altered in the past through human related activity. The effects will be assessed and possible restoration will be evaluated.

Restoration and Habitat Enhancement Accomplishments

- 31 acres of scrub, scrubby flatwoods, and mesic flatwoods were mowed in 2020

Restoration and Habitat Enhancement Strategies

- Continue to use fire and mechanical treatment to restore fire dependent plant communities
- Continue to evaluate the need for restoration in other habitats

Fire Management

Fire is an integral part of the Florida landscape. Before the influx of settlers, lightning fires would burn unimpeded through fire adaptive communities and landscapes until extinguished via changes in weather and/or fuel characteristics. 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.

The objective of prescribed burning at Black Hammock Wilderness Area is to restore the Sand Pine Scrub, 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 and/or exclude smoke impacts to adjoining or nearby urbanized areas, roads and highways.

Fire was reintroduced to the property in 2002. The use of fire will serve to restore and maintain the integrity of these natural plant communities, benefitting both vegetation and wildlife. The three main natural communities that need fire at BHWA are scrub, scrubby flatwoods, and mesic flatwoods. There are also scattered depression marshes through those communities that occasionally should be burned when water levels are low and some of the top layers of debris can be burned off. All of the established burned zones have been burned at least once, but the mesic flatwoods need more frequent fire in order to maintain the fire return interval of 2-4 years. There are also about 86 acres of those natural communities that are not currently able to be burned, due to difficult reaching those areas and/or lack of firelines. In some cases they are located along the property boundary or surrounded by hammock and swamps. In the future, additional firelines could be installed to help access those areas. Management zones BH15 and

BH16 in particular have potential for conducting prescribed fire, accounting for almost 45 of those 86 acres.

Many of the burn zones (around 67%) at BHWA are in maintenance condition due to the long fire return intervals of scrub. None of the mesic flatwoods are currently maintained within the correct fire return interval. For the management zones that are currently burn zones, about 20 acres would need to be burned annually to keep the property within the proper fire return interval (FRI).

Fire Management Accomplishments

- Since 2010, 5 prescribed burns have been completed on the property on 6 burn zones, totaling 83.4 acres

Fire Management Strategies

- Conduct 50% lightning season burns.
- Maintain 80% of the fire-type acres within the recommended FRI
- Build up to .3 mile of new fireline to conduct prescribed fire on an additional 32.8 acres

Table 2: Natural Community and Fire Return Interval

Plant Community	Recommended Fire Return Interval
Mesic Flatwoods	2-4 years
Depression Marsh	1-3 years
Scrubby Flatwoods	5-15 years
Scrub	10-30 years

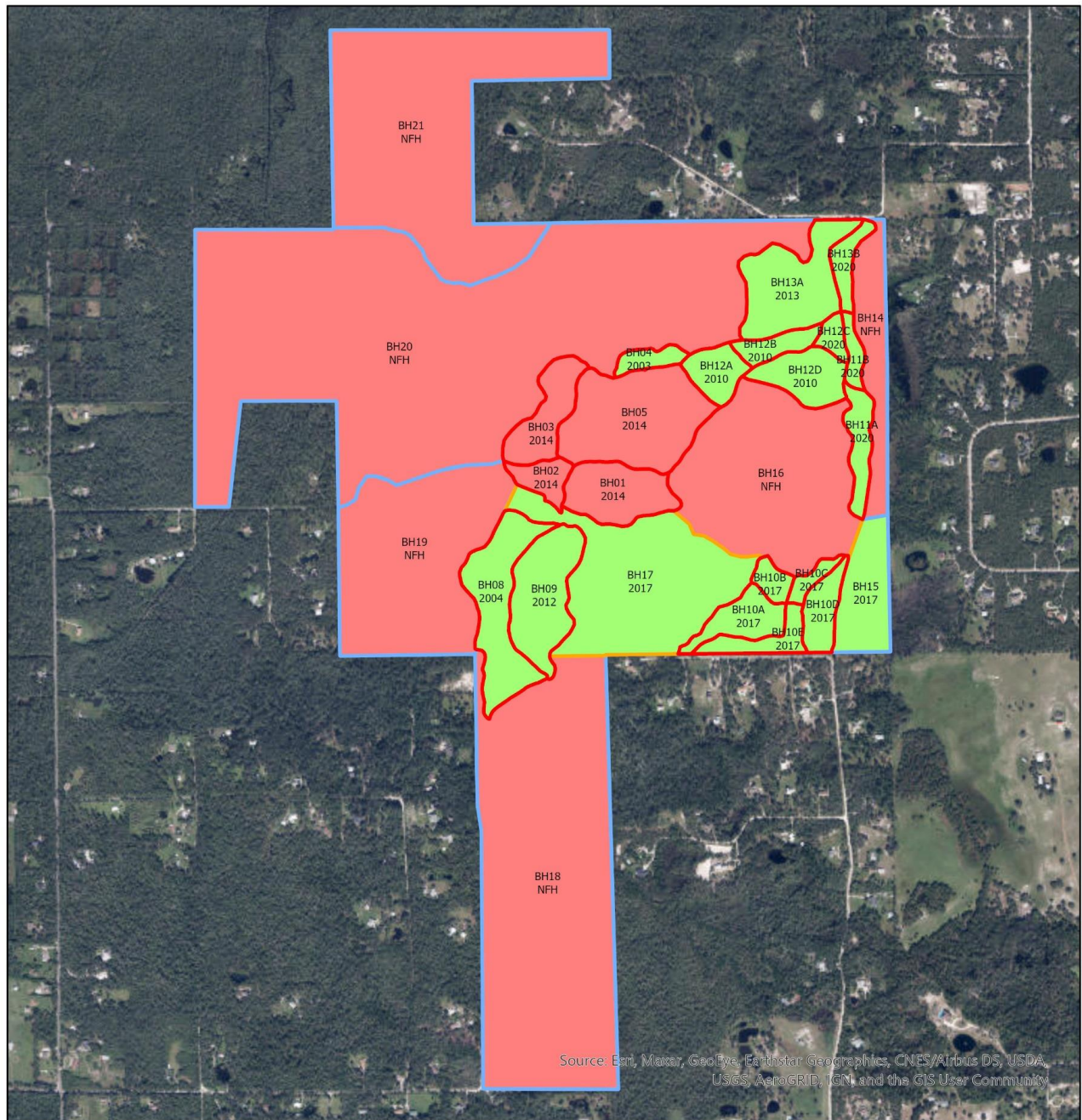
Fire frequencies based on FNAI.

Wildlife

Continued habitat management through roller chopping, mowing and burning should provide optimum habitat for wildlife species. Wildlife observations will continue to be added to the NLP database.

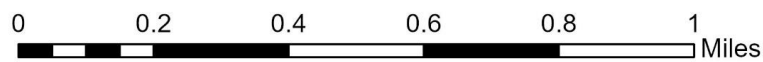
Wildlife Strategies

- Continue to record wildlife observations.
- Continue land management activities.



Black Hammock Wilderness Area Figure 4: Fire History Map

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



Legend

Within FRI, Priority

- Y, High
- N, High
- Y, Medium
- N, Medium
- Y, Low
- N, Low

Listed Species

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

Plants

Curtiss's milkweed (*Asclepias curtissii*) has been found on the property, as well as the Pine lily (*Lilium catesbaei*) and Garberia (*Garberia heterophylla*).

Animals

Listed animal species include the Gopher Tortoise (*Gopherus polyphemus*), and Sandhill crane (*Grus canadensis*).

Listed Plant and Animal Strategies

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

Invasive Species

Florida's climate is not only attractive to humans, but also to invasive exotic species. An invasive exotic species is defined as a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida. 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 segei*), nine-banded armadillo (*Dasyopus 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 invasive exotic species.

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

Plants

The vast majority of the invasive plant infestations are found in the mesic and hydric hammocks of the property. Tuberous sword fern and coral ardisia (*Ardisia crenata*) are two of the most problematic species at BHWA. Sword fern occurs in dense monocultures throughout the hammock, and ardisia is scattered throughout most of the hammock as well. Other species include the air potato (*Dioscorea bulbifera*), old world climbing fern (*Lygodium microphyllum*), camphor tree (*Cinnamomum camphora*) and wild balsam apple (*Momordica charantia*). There

are also two grass species of concern, cogon grass and natal grass. They both occur mainly in disturbed areas, along parking areas, firelines or old plow lines. The cogon grass should be treated 1-2 times per year, and the natal grass should be mechanically treated as frequently as possible throughout the growing season.

The size of the infestations and lack of vehicle access makes treatment at BHWA challenging. Contractor treatments will be necessary for at least 3-4 years to get the infestation under control, after which NLP staff may be able to keep up with maintenance control. Staff should continue to monitor for new infestations as they patrol the property.

Animals

The Natural Lands Program has contracted up to 6 nuisance feral hog removal agents at a time. Feral cats and dogs are trapped and turned over to Seminole County Animal Services when observed on the property.

Invasive Plant and Animal Accomplishments since 2010

- 2 contracts for invasive plant removal for a total of 236 acres
- 17.1 acres treated by NLP staff

Invasive Plant and Animal Strategies

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

LAND USE MANAGEMENT

Public Access

The primary access point is a small park and walk access point located at the eastern end of Howard Avenue along the southern part of the property. There are three local walk-through and horseback access points for the surrounding neighborhoods located at the east end of Packard Ave., one on Sunset Trail, and one on Genova Rd.

Public Access Strategies

- Continue regular maintenance on public access area
- Expand parking area on Howard Ave due to increased use
- Maintain signs and kiosk

Recreation

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

Recreation Strategies

- Continue regular maintenance of trails

Environmental Education

While no educational facilities exist on this property, it is used as an outdoor classroom for enthusiasts and students of all ages.

Security

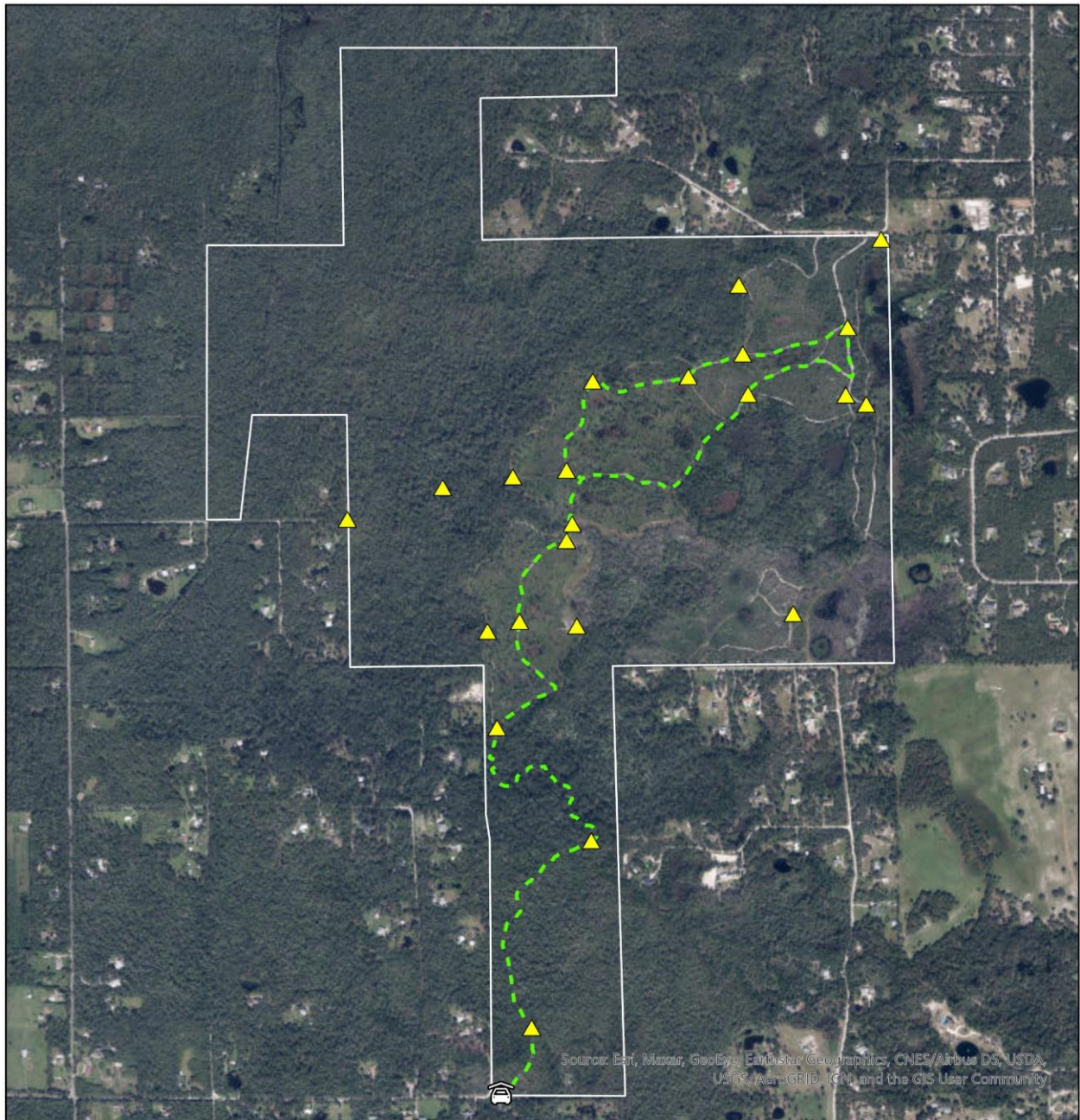
Unlike other Natural Lands properties, there is no caretaker residing on this property. The security of Black Hammock Wilderness Area will continue to be addressed through the existing partnerships with SCSO and FWC. All possible locations for access whether designated or not, are gated, regularly evaluated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

Security Accomplishments

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

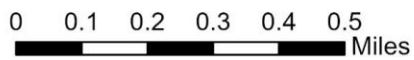
Security Strategies

- Continue with current security



Black Hammock Wilderness Area

Figure 5: Recreation Map



Legend

Trails

-  Loop Trail
-  Trailhead/Parking
-  Safety Markers

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