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November 8, 2023

Tim Telfer, Volusia Forever Land Acquisition Manager
Resource Stewardship Division
123 West Indiana Avenue, Room 200
DeLand, Florida 32720

Re: Application #2023-2-2033 – Double Eagle

Dear Tim:

Thank you for providing the draft property eligibility evaluation report for the Double Eagle Ranch. My client would like to provide the following additional points of information.

Regarding criterion 6, the protection of native habitat, I have attached a Cooperative Land Cover map of the property depicting significant areas of marshes, wet prairies and native upland habitats – this map has not been field verified. We are not familiar with your quantitative measures for this criterion, however, we believe this property is an excellent mix of native habitats and agricultural uses for an agricultural applicant to the program.

Regarding criterion 14, farm or ranch succession planning, the three entities owning the Double Eagle Ranch (Dann Cattle Company, Dann Ranch LLC and Dann Ranch North Land Trust) have shareholders, members or trust beneficiaries that are only family members and they have an estate plan that distributes those interests to other family members.

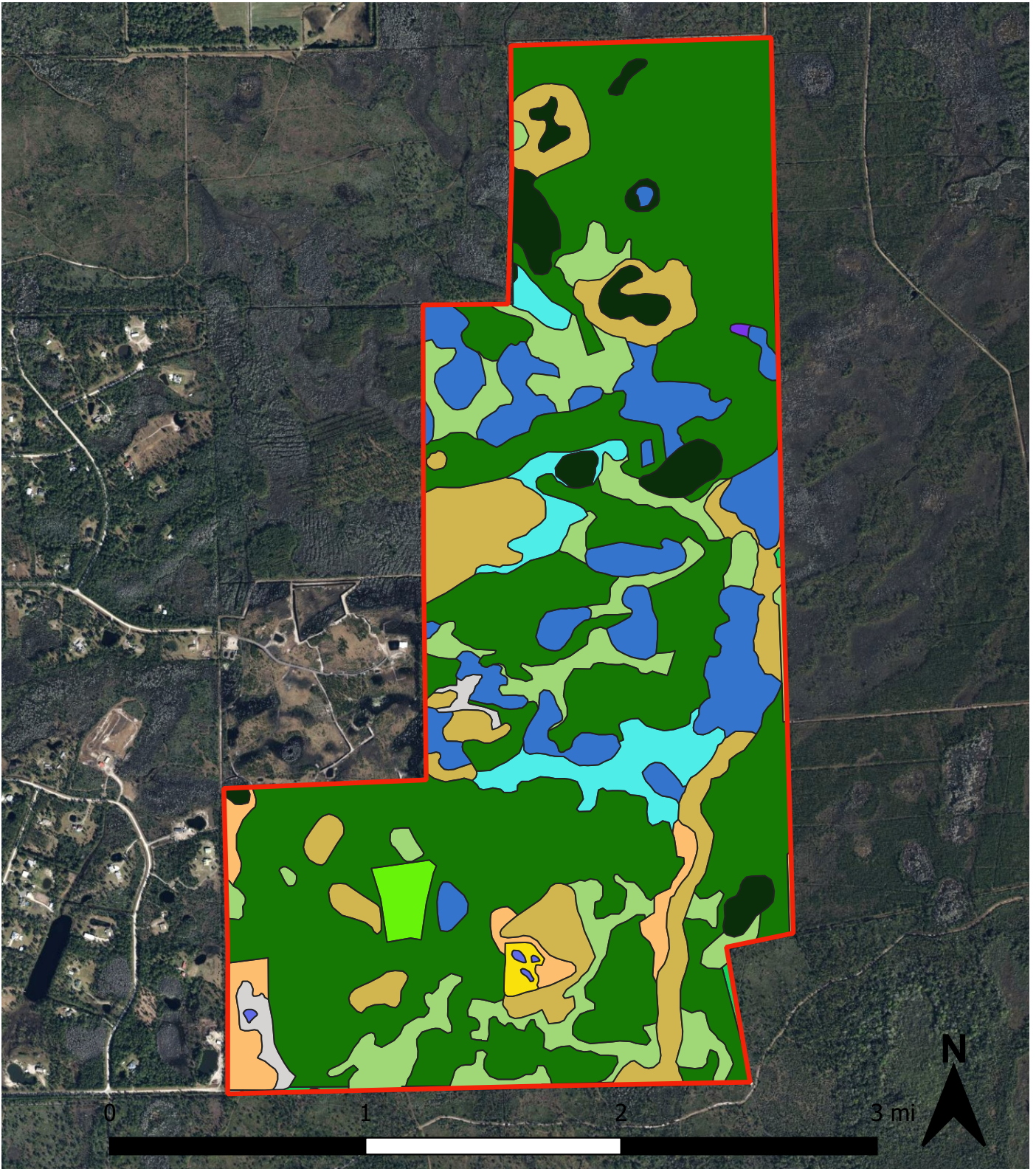
Thank you. I look forward to seeing you on the 17th.

Sincerely,



Keith R. Fountain, Managing Attorney
Keith Fountain Law PLLC

Project Boundary on Land Use Map



Land Use Map Double Eagle Ranch Volusia County, Florida

Legend

- | | | |
|----------------------------------|-----------------------|----------------------------|
| Project Boundary | Field Crops | Mixed Scrub-Shrub Wetland |
| Artificial Impoundment/Reservoir | Hydric Pine Flatwoods | Rural Open |
| Coniferous Plantations | Improved Pasture | Shrub and Brushland |
| Cypress | Marshes | Wet Coniferous Plantations |
| | Mesic Flatwoods | Wet Prairie |



Keith Fountain Law, PLLC
Data: Cooperative Land
Cover FNAI/FWC
Basemap: Bing Aerial

Forest Management Plan

Landscape Management Plan Supplement

Lake Harney West Tract
Volusia County, Florida
123.73 Acres
March 20, 2023
Revised March 30, 2023



CONTACT INFORMATION	4
PROPERTY LOCATION AND DESCRIPTION	4
LANDSCAPE MANAGEMENT PLAN (LMP)	4
5.1. MANAGEMENT OBJECTIVES	5
5.1.1 Aesthetics	5
5.1.2 Wildlife Management and Protection	5
Threatened & Endangered Species (T&E)	6
Wildlife Habitat Openings, Food Plots and Transition Zones	6
5.1.3 Recreation	7
5.1.4 Conservation	7
5.1.5 Legacy Planning	7
5.1.6 Ecological Restoration (GCR)	7
5.1.7 Hydrological Restoration and Protection	8
5.1.8 Forest Health Management	8
Disease and Insects	8
Invasive or Non-Native Species	10
5.1.9 Economic Return (Wood & Fiber Production).....	10
7.1.3 SPECIAL / HISTORICAL / CULTURAL SITES	11
7.1.6 FOREST OF RECOGNIZE IMPORTANCE (FORI)	11
8. SILVICULTURE OPTIONS OR FOREST MANAGEMENT PRACTICES	11
8.1.1 Thinning.....	11
8.2 Reforestation- Planting Pine Seedlings (containerized vs. bare root)	12
8.2.2 Mechanical Site preparation	12
8.2.2.2.1 Bedding	13
8.2.2.2.2 Chopping	13
8.2.2.2.3 Scalping	14
8.2.2.2.4 Spot Raking	14
8.2.2.2.5 Rotational Mowing	14
8.3.1.1 Herbicide Application	14
8.4 Prescribed Fire.....	15
8.4 Firelines	15
Boundary Line Establishment /Maintenance	16
STAND SPECIFIC DESCRIPTIONS & RECOMMENDATIONS	17

Stand 1 – 99 Planted Slash – 88.8 Acres	17
Stand 2 – Wetlands – 17.9 Acres	17
Stand 3 – Old Logging Decks/Wildlife Openings – 12.1 Acres.....	18
Stand 4 – Roads – 3.6 Acres	18
10 YEAR OPERATIONS TABLE	19
STAND MAP	20
SOILS MAP.....	21
OVERVIEW MAP	22
LOCATION MAP.....	23
GENERAL INFORMATION AND RESOURCES.....	24
Florida Forestry Association.....	24
Florida Tree Farm Program	24
Florida Forest Service	24
University of Florida Extension Forest Stewardship	24
Florida Fish and Wildlife Conservation Commission	24
Natural Resource Conservation Service (NRCS)	24
Farm Service Agency (FSA).....	24
Glossary of Forestry Terminology.....	24

CONTACT INFORMATION

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PROPERTY LOCATION AND DESCRIPTION

The tract contains approximately a total of 123.73 acres and 106.7 are forested acres, located in Volusia County. The coordinates for the tract are: 29.758 /- 80.986

The historical and current ecological communities are Flatwoods and Still water swamps

LANDSCAPE MANAGEMENT PLAN (LMP)

A landscape management plan (LMP) is a vital and innovative tool, offering a wide array of benefits and opportunities to landowners, foresters, and other natural resource professionals, state and federal agencies, conservation partners, and others. The Landscape Management Plan contains accepted forestry practices and forest management information such as *Economic Returns, Wildlife Management and Protection, Legacy Planning, Ecological Restoration*, and more. It can be used in conjunction with Forest Stewardship management plans and tree farm certification.

The LMP can be found at the Florida Forest Service Website <https://www.fdacs.gov/Forest-Wildfire/For-Landowners/Management-Planning/Resources> .

After opening webpage scroll to bottom of page to RESOURCES.

5.1. MANAGEMENT OBJECTIVES

The tract will be managed under the multiple use concept that will include timber, wildlife habitat, soil and water conservation, recreation, and aesthetics. *The primary objective is 5.1.9 Economic Return(Timber) while the secondary objective is 5.1.2 Wildlife Management and Protection.*

Other Objectives to Consider (if not primary or secondary)

- 5.1.1. Aesthetics
- 5.1.2. Wildlife Management and Protection
- 5.1.3. Recreation
- 5.1.4. Conservation
- 5.1.5. Legacy Planning
- 5.1.6. Ecological Restoration
- 5.1.7. Hydrological Protection and Restoration
- 5.1.8. Forest Health Management
- 5.1.9. Economic Return

5.1.1 Aesthetics

One of the top objectives identified by forestland owners is aesthetics. Landowners seek a certain “look and feel” from the visual appearance of their forests. Forest aesthetics spark a sense of personal landowner pride, stewardship, privacy, and even adventure. Many landowners maintain and enhance their forest aesthetics for their family, community, neighbors and passers-by to enjoy.

5.1.2 Wildlife Management and Protection

Management recommendations, to improve the wildlife habitat on the property, will concentrate on increasing the diversity of the native ground vegetation. The understory vegetation within the pine stands and permanent openings will determine the amount of use of these areas by resident wildlife species. Ground cover vegetation not only provides a food resource for many species but also enhances cover for ground nesting songbirds, turkey, and bobwhite quail.

Creating and/or maintaining firelines and openings around the tract will enhance the habitat by providing some browse and travel corridors. Creating wide transition areas along some hardwood edges as well as controlling hardwood vegetation through mowing and prescribed burning will enhance wildlife habitat for game and nongame species. By maintaining a diverse mix of habitat types, wildlife habitat is improved, which should increase the intrinsic value of the land to the landowner and create an aesthetically pleasing environment.

If more information is needed on wildlife management, contact the Florida Fish & Wildlife Conservation Commission's Landowner Assistance Program biologist at (386) 586-8249.

Threatened & Endangered Species (T&E)

- no threatened or endangered species known occurrences or documented on the property.
- no threatened or endangered species known occurrences or documented on the property; however, gopher tortoise may be found and are state threatened and Indigo snakes may be found in area.
- a known occurrence or documented of a threatened or endangered species on site.

Specie(s): Click or tap here to enter specie(s).

The presence of Threatened and Endangered species was determined by using the FNAI website along with field observations of a Natural Resource Professional. It is important to protect the burrow and apron of the gopher tortoise burrow by marking its location during routine activities and silviculture operations. The tortoise and its burrow are protected under state law. Protecting the gopher tortoise, a "keystone species", also protects the 350 other species that have been known to share its burrow. Some of these species include the Eastern indigo snake (federally endangered), Eastern diamondback rattlesnake, gopher frog, and Florida mouse.

More information regarding imperiled species can be found online at [FWC's Imperiled Species Program](#). In addition, potential occurrence of species specific to your location can also be found at <https://www.fnai.org/biodiversity-matrix-intro>. The [Florida Forest Service - Wildlife Best Management Practices](#) provides guidance on minimizing impacts to state listed species during land management activities, specifically silvicultural practices.

Contact a Florida Forest Service BMP Forester or County Forester to discuss the Notice of Intent (NOI) for the Wildlife BMPs. It is recommended to get a Notice of Intent (NOI) signed which can protect the landowner if accidental take occurs of a state protected species if guidelines of the WBMP program are followed. If more information is needed on Threatened/Endangered Species (T&E) contact the Florida Fish & Wildlife Conservation Commission biologist at (386) 586-8249.

Wildlife Habitat Openings, Food Plots and Transition Zones

A simple but important concept in managing for wildlife is that wildlife prefers a variety of vegetation to be present to provide food and cover. Ideally, at least 5% of each compartment should be maintained in permanent openings. These openings can be in the form of firebreaks, old logging ramps, roads and food plots and can provide travel corridors and a variety of foraging opportunities for wildlife. Keep in mind that food plots should only be a supplement to well managed forest habitat and should never be considered the primary resource for wildlife. Although food plots can be used to attract wildlife for hunting opportunities, management for wildlife, especially managing for a diversity of native herbaceous plant species in the groundcover as well as structural diversity of vegetation, will create a "natural" food plot and will provide forage *and*

cover for wildlife species *year-round* without needing to rely on food plots for supplemental feeding.

5.1.3 Recreation

This property offers recreational opportunities such as wildlife viewing, and hiking. Creating and maintaining wildlife openings will increase opportunities for recreational activities such as wildlife viewing. Developing a network of trails through the tract will enhance the recreation and educational opportunities. Where possible, use existing trails, firebreaks, woods roads and other open areas instead of disturbing new locations.

5.1.4 Conservation

Conservation is defined as the process of maintaining a natural resource (e.g. forested ecosystem) for perpetual use. This definition inherently associates conservation with the proper use of ecological processes to maintain the forested ecosystem. Some landowners have a conservation objective because they would like to see their forest ownership remain intact and capable of being passed down between generation.

5.1.5 Legacy Planning

Landowners have a legacy planning objective because they would like to see their ownership remain intact through a conservation easement or passed down to the next generation. This objective and Conservation objective ensure the use of natural resources.

5.1.6 Ecological Restoration (GCR)

A fully functioning ecosystem supports wildlife, creates a forest with economic benefits, and maintains a habitat that is aesthetically pleasing. The underlying force that drives these functions is the presence of a healthy understory and groundcover. Traditionally, emphasis in forested areas has been placed on tree species, while understory or groundcover communities received limited consideration. However, in recent years restoration practitioners have become increasingly interested in restoring the structure and function of the understory or groundcover vegetative community. Groundcover restoration (GCR) is the process of re-establishing native grasses, herbs, forbs, and other plants which occur at the ground-level of a community's vegetation. Groundcover restoration requires initially complex methodology or management to get establish. More information on upland ground cover restoration is found at https://www.researchgate.net/profile/Jean_Mccollom/publication/307465025_Groundcover_Restoration_Implementation_Guidebook/links/57c5d26c08ae7642019b1319/Groundcover-Restoration-Implementation-Guidebook.pdf

When establishing food plots or openings, various factors should be considered such as size, shape, soils, location, and desired species for planting. Areas of improved pasture grass are ideal locations for food plots due to the extensive loss of native groundcover that has already occurred. Food plots can also be established using native species, and hunters have reported seeing deer using dense patches of native grass as cover.

During thinning or planting operations consider having all trees within 20 ft of the roads removed or not planted to allow more sunlight to hit the road shoulders. Also, create or leave

larger transition zones along the pine stand boundaries that can be maintained or used for potential supplemental food plots or pollinator plantings.

Contact a Natural Resource Professional for information on establishing food plots and openings. Also, more information is available at [Establishing and Maintaining Wildlife Food Source](#) .

5.1.7 Hydrological Restoration and Protection

Are there any intermittent or perennial waterbodies or sinkholes? Yes No

Name (if applicable): [Click or tap here to enter text.](#)

Soil and water conservation are important goals that are vital to the health of forest ecosystem. Proper management will reduce the risk of degradation of the soil and water quality. No major erosion problems were observed during the land reconnaissance. When conducting silviculture activities, adhere to the Florida Water Quality BMPs described below.

The Florida Forest Service Water Quality Best Management Program (BMP) provides guidance to protecting water bodies, wetlands and water quality when conducting silvicultural activities in and around wetlands and on the uplands. Contacting a Florida Forest Service BMP Forester or County Forester before undertaking any management activities in or near the wetlands is advised. It is recommended to get a Notice of Intent (NOI) signed which can protect the landowner if a water quality issue arises from a silviculture activity. The BMP Manual, NOI information and other information on Forest Hydrology can be found at [FFS- Water Quality BMP](#).

The soil type determines the type of vegetation that will grow in each area and should be utilized when planting trees or establishing food plots. **The soils on the tract are mostly poorly drained.** The County Soil Survey book can be found at [Soil Survey Book.PDF](#) and will provide additional information in the area on the soils. In addition, the [USDA Soil Survey website](#) will have information.

5.1.8 Forest Health Management

Are there any Forest Health Issues? Yes No

Issues (if applicable): [Click or tap here to enter text.](#)

The property should be inspected yearly to check for potential problems such as invasive species, bark beetles and disease. It is recommended to treat invasive plants and monitor frequently.

For more information on forest health and invasive species in your area contact a natural resource professional. For a list of consultant foresters that can assist, contact the Florida Forest Service county forester, or visit the [Florida Forest Service Website](#). Some common issues that are found and easy to detect are discussed in this section.

Disease and Insects

Bark Beetles

Often the first and most obvious indication of bark beetle attacks in pines are yellowing or red needles within the crowns. These symptoms usually are evident long after initial attacks have occurred. On closer examination of a tree, early

evidence of bark beetle damage is usually readily visible and easy to identify. This evidence includes pitch tubes or brown boring dust on the outside of the bark, characteristic galleries beneath the bark, and beetle adults and larvae in the inner bark. Techniques for the control of bark beetles may differ according to the beetle species. Therefore, correct identification is essential before using insecticides for bark beetle control. There are three important groups of bark beetles in the south. They are: (1) the southern pine beetle, (2) the black turpentine beetle, and (3) three species of *Ips* beetles. This is a reference from barkbeetles.org where more information can be found at <https://www.barkbeetles.org/general/idbeetls.html>.

Pitch Canker

The pitch canker fungus is endemic to the southeastern U.S. and is known in many other parts of the world. Pitch canker of southern pines is caused by *Fusarium circinatum* spores entering a wound of trees or seedlings. All southern pines are susceptible to infection. In Florida, pitch canker can become a problem in the artificial regeneration of pine plantations. To date, such problems have been largely confined to situations where susceptible pines are planted on sites recently converted from agricultural uses, however, it can occur on cutover sites. Pitch canker outbreaks are often most damaging where susceptible pines are exposed to conditions of high soil or aerosol fertility and/or severe water stress. More information on Pitch Canker can be found at <https://www.fdacs.gov/content/download/11308/file/pp302.pdf>

Fusiform Rust

Fusiform rust is a disease caused by a fungus. This disease deforms or kills pine trees throughout the South, including north Florida. The fungus requires two living host trees, pine and oak, to complete its life cycle. The fungus cannot spread directly from pine to pine. More information on Fusiform Rust can be found at <http://sfrc.ufl.edu/extension/4h/foresthealth/diseases/fusirust.html>.

Reproduction Weevils

Within the time frame of this management plan pine stands may be clear-cut and reforested. If planning to harvest a pine stand after July it is recommended to wait until the following year to replant the stand due to the Reproduction Weevils (pales and pitch weevils). Reproduction weevils can be in the logging debris and can pose a problem if trees are planted too soon after harvest. If any adjacent stands have been harvested this should also be taken into consideration. More information on the weevil can be found at <https://content.ces.ncsu.edu/pales-weevil>.

Brown Spot Needle Blight

If or when planting longleaf pine, Brown Spot Needle blight may occur on seedlings after planting. Longleaf pine is the only species in the South damaged by brown spot needle blight. Seedlings can be infected while in the grass stage and can die after repeated defoliations. Prescribed fire is an effective means of

control. More information can be found at [https://forestry.alabama.gov/Pages/Informational/Diseases/Brown Spot Needle Blight.aspx](https://forestry.alabama.gov/Pages/Informational/Diseases/Brown_Spot_Needle_Blight.aspx).

Invasive or Non-Native Species

Invasive species can alter and /or destroy an ecosystem by disrupting nutrient cycles, outcompeting native species, and ultimately decreasing the overall biodiversity of a native ecosystem which will adversely affect local wildlife by decreasing or removing the diversity of plants. Invasive species management can be challenging—it requires consistency, diligence, catching problem species early, and following-up treatment regularly, but it will improve the quality of habitat for your wildlife and conserve the biodiversity of your property.

We recommend monitoring and treating invasive species across the property and staying up to date with current information about invasive species. Information on control can be found at <https://www.invasive.org>. More information of identifying and controlling other invasive species can be found at http://edis.ifas.ufl.edu/topic_invasive_weeds. The [Florida Exotic Pest Plant Council](#) maintains a list of invasive exotic plants in Florida’s natural areas as well as some information on the latest research and eradication techniques.

5.1.9 Economic Return (Wood & Fiber Production)

Future harvests will be based on financial and habitat improvement objectives of the landowner. Wood products that can be harvest are pine pulpwood, pine chip-n-saw (CNS) and saw timber. **There are nearby pine pulpwood outlets in Palatka, FL., Perry, FL., Fernandina Beach, FL., and Maxville, FL. Chip-n-saw mills are in Lake Butler, FL., Lake City, FL., Lawtey, FL., Maxville, FL., Cross City, FL., There is a biomass market in Gainesville, FL and mulch mill in Deland, FL.**

It is recommended to get a timber appraisal for determining the basis value of the timber on the tract once trees become merchantable or if you just purchase the land. Knowing your basis value may help in case of a loss due to a catastrophic event and can be utilize for tax purposes at harvest. Contact a consultant forester for information and the benefits of an appraisal. In addition, contact an accountant to determine expenses that can be deducted such as costs associated with reforestation. ***More information on Timber Taxes can be found in LMP section 5.1.9.4.***

[University of Florida Extension](#) has more information on forest management and [Timber Mart South](#) will have current estimated prices for wood products. In addition, it is important to use a Master Logger Certified contractor when conducting a harvest and be sure all contractors that conduct work on the property have the proper insurance. Go to <https://www.fdacs.gov/Forest-Wildfire/For-Landowners/Marketing-Your-Timber-A-Landowner-s-Guide> to learn more about marketing your timber and a access to a Master Logger search.

The Florida Forest Service has a [Vendor Database](#) that has information on timber buyers, contractors and consultants that will be able to assist. It is recommended to use a consultant forester when conducting a timber sale and silviculture activities on your property.

7.1.3 SPECIAL / HISTORICAL / CULTURAL SITES

Many private lands contain various historical and cultural resources, also known through ATFS as “special sites.” Therefore, forest management activities are often developed to consider and maintain any special sites relevant on the property.

The Landscape Management Plan Geodatabase and Florida Division of Historical Resources (<http://www.flheritage.com/>) provides assistance in identifying and protecting historic properties, archaeological sites, burial places, and other cultural sites in the state and the Florida Public Archaeology Network (<http://www.flpublicarchaeology.org/>) provides public outreach and assistance. **Based on local knowledge and research there are no special sites on the tract.**

7.1.6 FOREST OF RECOGNIZE IMPORTANCE (FORI)

Is the tract a FORI based on information in the LMP section 7.1.6.? Yes No

FORI represent globally, regionally, and nationally significant large landscape areas of exceptional ecological, social, cultural or biological values. These forests are evaluated at the landscape level, rather than the stand level and are recognized for a combination of unique values, rather than a single attribute.

A forest will be a FORI if there is a *Forest Surrounding Sinkholes with Connection to Aquifer; adjacent to public lands and conservation easements; or forest lands Bordering Outstanding Florida Waterways*. A list of OFWs can be found at [List of OFW](#).

8. SILVICULTURE OPTIONS OR FOREST MANAGEMENT PRACTICES

8.1.1 Thinning

Thinning is the calculated removal of certain trees from a stand of timber and is usually conducted with a specific management objective in mind. If properly conducted, thinning will maintain stand health and keep residual crop trees actively growing. Thinning should remove suppressed, poorly formed, and diseased trees which compete with the desired crop trees for available space, sunlight, nutrients, and water. To maintain long term stand health, pine stands should be thinned before tree growth stagnates. Stagnated stands become more susceptible to bark beetles or disease. In addition, thinning will reduce canopy cover and allow more sunlight to reach the ground. This will promote native grasses and hardwood. It is important to control the hardwood vegetation through mowing or prescribed burning after a thinning.

During the harvest, any undesirable hardwoods such as water oak and laurel oak may be removed but beneficial hardwoods such as hickories and live oaks can be retained to provide a hard mast crop for wildlife. Landowners may also consider removing all trees within 20 ft of roads to allow more sunlight on the road shoulders and to provide a linear transition zone within the pines stand. These opened areas can provide a potential area for wildlife food plots or pollinator plantings. The wider opening should also make road maintenance easier. The leftover cut material, known as logging slash, should be piled in a location and of a size to make burning feasible. After the logging slash piles have been burned, these areas may also be used as wildlife food plots or for pollinator planting.

8.2 Reforestation- Planting Pine Seedlings (containerized vs. bare root)

With bareroot pine seedlings, the tree planter is given more leeway in the preciseness required in planting. Depth of planting is not nearly as critical as with containerized seedlings. Keeping the green side up and not “J” rooting generally does an adequate job. Containerized seedlings do not afford the tree planter that same flexibility.

There are different requirements for containerized seedlings vs. bareroot seedlings (especially with longleaf). On many cutover sites the presence of logging slash, stumps, or uneven terrain make machine planting difficult. Hand planting is often the best alternative.

Containerized Seedling Planting Recommendations

- Hand planting container-grown seedlings on "trashy" sites often allows for better depth control, as compared to machine-planting.
- Plant with adequate soil moisture. Usually this means in the winter.
- On flat planted sites, instruct tree planters to leave the plug slightly exposed ABOVE the soil surface.
- On scalped sites, instruct tree planters to leave 1 to 1-1/2 inches of the plug exposed.
- On extremely wet sites, leave 2 to 3 inches of the plug exposed (use a 6-inch plug).
- Tell tree planters that you “want to see the plug”
- Try to plant the longleaf pine seedling as vertically as possible.
- In areas that have been ripped, **DO NOT** plant in the rip; instead plant a few inches to the side of the rip.
- **DO NOT** plant in unprepared areas of pasture grass. Pasture grasses are extreme competitors and should be addressed prior to planting. Scalping is often recommended in this situation.

Bareroot Seedling Planting Recommendations

For the most part, many of the same rules that apply to containerized seedlings also apply to bare root with the glaring exception of planting depth!

- **DO NOT** plant shallow. Plant bareroot seedlings so that the terminal bud is at or slightly below the soil surface.
- Avoid J-rooting seedlings.
- **DO NOT** chop roots with a machete or other tool just prior to planting. Instead, if a few pieces of lateral root stick out of the ground after planting, let them air prune.
- **DO NOT** twist seedling into the hole.
- **DO** try to plant seedlings as soon as they are lifted. Dried out seedlings have a poor survival rate.

8.2.2 Mechanical Site preparation

The purpose of site preparation is to:

- reduce the competition of unwanted vegetation to increase the survival and growth rate of the desired trees,
- remove slash and logging debris if the site has been harvested, and
- prepare or modify the soil.

Prior to site preparation and reforestation contact a Natural Resource Professional on timing of silvicultural practices. More information on site preparation can be found at <https://programs.ifas.ufl.edu/florida-land-steward/forest-management/timber-management/site-preparation/>. In addition, contact the Florida Forest Service or Natural Resource Conservation Service on landowner financial assistance programs for reforestation.

8.2.2.2.1 Bedding

Bedding is the formation of a continuous mound of soil with a narrow 2-axled disk or bedding plow. This treatment is usually done on sheared and piled sites where there is minimal debris to inhibit the bedding equipment. Bedding is usually implemented on low lying soils with poor surface drainage but is also common on sites with good surface drainage. Soils near the top of the bed are drier and warm sooner in the spring than unbedded areas, which promotes early root growth. Early root growth increases the chance of successful stand establishment and accelerates seedling growth.

Bedding plows are often pulled by crawler tractors or rubber-tired skidders. On the lower coastal plain, phosphorus fertilizer is often applied during the bedding operation from the tractor or skidder pulling the bedding plow. Bedding with the contour of the land (against the slope) is essential to minimize soil erosion on upland sites.

On well-drained upland sites, first-season seedling growth and survival may be limited more by late-season soil moisture deficits on bedded sites as opposed to comparable non-bedded sites.

8.2.2.2.2 Chopping

A commonly used site preparation method to crush and chop unwanted vegetation is the rolling drum chopper. Drum choppers come in varying sizes and should be matched to the size and type of vegetation to be chopped.

Small to medium-sized choppers are adequate tools for handling many stems up to 5-inches in diameter. Rolling chopper drums of this size are usually pulled by a rubber-tired skidder or a crawler tractor. Chopping normally progresses in a circular manner from the tract edge to the center, except where steep terrain only allows downhill passes or where equipment operation is prohibited by wet areas or drainages.

The procedure for a standard chopping operation would be:

1. **a single pass with a chopper**
2. **a hot fire**
3. **a second pass with a chopper**

A significant advantage of rolling choppers is that they do not displace the topsoil and they have a minimal effect on soil runoff.

8.2.2.2.3 Scalping

Scalping is a mechanical process whereby the soil is peeled back in a wide (30-36") shallow (2-4") furrow. A site can be scalped with a machine specifically designed for this purpose. More frequently, fire plows are utilized because they are readily available. Since scalping is not breaking up a plow-pan or hardpan, it does not require a large tractor to pull the scalper or fire-plow. Scalping is extremely beneficial to newly planted pines. Potential benefits of scalping are reduced weed competition, improved moisture availability, reduced pressure from certain root pathogens, reduced insect damage, and possibly improved planting efficacy. More information on scalping can be found at longleafalliance.org/scalping.

8.2.2.2.4 Spot Raking

Spot raking is used when there is an abundance of logging slash throughout the area to be planted. Equipment is used to rake and pile the debris which can be burned or left to decay during the life of the new stand. Raking is common on sites that have many hardwoods mixed with pine at the time of harvest. A potential problem with raking is that topsoil can be lost if the operator is not careful when raking and piling the logging slash.

8.2.2.2.5 Rotational Mowing

Rotational mowing is the term used to describe the practice of mowing alternating rows of planted pines to create vegetative and structural diversity. One example is to mow one third of the rows in Year 1, mow one third of the remaining rows in Year 2 and mow the final third of the rows in Year 3. While not as ecologically beneficial as prescribed burning, rotational mowing reduces mid-story vegetation and stimulates new vegetation growth. The new vegetation growth often has a higher nutritional value for herbivores such as deer and gopher tortoises and provides improved foraging habitat for turkey and quail that can quickly access the adjacent un-mowed rows for cover and nesting habitat. Contact your local LAP biologist, FFS or NRCS representative to learn more.

8.3.1.1 Herbicide Application

Herbicide is used widely in forest management to control un-desirable species of vegetation. It is used in site preparation to reduce woody competition to young pine seedlings; it is used as a post planting control of herbaceous competition to the pine; it is used to release un-desirable species of vegetation in older stands of pine; and finally, it is used to control invasive species. In addition, the herbicide is used as a tool to improve wildlife habitat. It is recommended to contact a Natural Resource Professional to discuss when to use herbicide and it is important to have an experienced herbicide professional to determine the rate, product and timing of the herbicide application. More information can be found at <https://www.ncforestservice.gov/publications/Forestry%20Leaflets/FM19.pdf>.

Individual tree herbicide treatment includes the following techniques:

- Cut stump herbicide application:
 - <https://www.youtube.com/watch?v=s5znMkjJUbc>
- Basal bark herbicide application:

- <https://www.youtube.com/watch?v=eXucasgGToc>
- “Hack and squirt” herbicide application:
 - <https://www.youtube.com/watch?v=SY14rre3llo>

8.4 Prescribed Fire

Prescribed fire can be implemented (2–3-year rotation) to reduce fuel load, improve wildlife habitat and improve forest health. Prescribed fire is one of the most effective tools for improving wildlife habitat since it recycles nutrients back into the soil and promotes new vegetation growth (see “[Sunlight, Fire, and Quail](#),” a short video). The new vegetation is utilized by game species such as wild turkey and white-tailed deer as well as non-game species such as songbirds and the gopher tortoise which forage on low growing vegetation. Insect production increases after a burn which provides forage for many wildlife species.

A growing season burn will promote native herbaceous vegetation, which benefits wildlife and habitat, and have an adverse effect on the woody vegetation. A dormant season burn is normally utilized to reduce fuel and limited control of vegetative competition. These seasonal and temporal burn variations will promote diversity of vegetative structure and composition throughout the property. Creating a diverse vegetative structure on the landscape will ensure all wildlife habitat components are met (e.g., food, water, roosting, cover and nesting).

A comprehensive burn plan complete with smoke management screening should be completed by a state certified burner. **Smoke sensitive areas should be addressed in the burn plan.** A Certified Burn Manger can write a burn plan for the proposed area and should utilize fire techniques that will be best suited for the proposed burn. For more information on prescribed burning visit [Fire Management](#).

8.4 Firelines

Firelines should be established and maintained around the perimeter of the stands and along property lines. Firelines will help contain prescribed burns, assist protecting your assets from wildfire and provide access around and within the property. They also create transitional zones and travel corridors for wildlife and enhance nesting and foraging habitat for wildlife. Firebreaks should be at least 10 to 15 feet wide and follow the natural contour of the land. Forest Water Quality BMPs state that firelines cannot be plowed along the swamp edges, however, disking is allowed. Fireline plowing can adversely impact the hydrology of the swamp.

After stand and boundary firelines are established, it is important to keep them maintained by disking. Keeping firelines open will improve access to the property by making the lines more easily patrolled on foot or light vehicles. Disking will also enhance wildlife habitat by promoting the new growth of tender herbaceous vegetation. Turning the soil by disking stimulates seed production from the existing seed sources. The timing of disking can influence the type of plants that are generated.

- Disking in winter (Nov-Dec) favors a legume and forbs dominated herbaceous community that provides seeds and browse for a variety of species.
- Disking in spring (Feb-Mar) favors a grass dominated community that provides different wildlife needs such as cover, insects, and seeds.

Boundary Line Establishment /Maintenance

The boundary lines on the property should be established, clearly marked, and posted. **Florida trespassing laws** are some of the most detailed in the nation when it comes to trespassing and signage.

They are found in Florida Statutes Chapter 810, sections [810.011](#) (definitions) and [810.08 – 810.12](#).

To be **protected** by law, most states require a landowner to post notice that entry onto the land is not allowed. To deter someone from coming onto **your property**, signs should be placed **not more than 500 feet apart along, and at each corner of, the boundaries of the land**. Upon the signs there should appear prominently, in **letters of not less than 2 inches in height, the words “No Trespassing”** along with the **name of the owner, lessee, or occupant of said land**. Signs should be placed along the boundary line of posted land in a manner and in such position as to be clearly noticeable from outside the boundary line.

STAND SPECIFIC DESCRIPTIONS & RECOMMENDATIONS

It is recommended to use a consultant forester for advice with all forest management practices. When conducting silviculture practices, use a GPS to determine true acreage.

Stand 1 – 99 Planted Slash – 88.8 Acres

Ecological Community: Flatwoods

Comment: Stand 1 is comprised of slash pine that was planted around 1999. This stand was first thinned in 2018 and should be reevaluated for a second thinning or harvest in the next 5 years based on landowner objectives. Prescribed fire could be reintroduced to manage the understory in this stand but care should be taken to prevent damage to the timber.

Planting: No Yes NA- Year **Specie** Choose **Method** Choose **Spacing/Density** Choose

Overstory: Planted Slash Pine **Age:** 21-25

Un-thin 3rd Row Thin 4th Row Thin 5th Row Thin NA

Products: NA Biomass Hw Mulch Pn Pulpwood CNS Sawtimber Poles Hw Logs

Stocking based on objectives: Well Stocked **Avg DBH:** 8-11.9 **Health:** Good

Mid-Story: NA **Density:** NA

Understory: Sapling Shrubs **Density:** low to moderate

Hardwood Gallberry Fetterbush Green Briar
Pine Palmetto Wax myrtle Other Woody
NA Viburnums Various Vines

Groundcover: Bahia Grass Bermuda Grass Mix Native Grass Litter Pine Straw Debris NA

Pine Straw Harvest Yes No NA

Density: moderate to high

Prescribed Burn Yes No **Year** Type Year

Stand 2 – Wetlands – 17.9 Acres

Ecological Community: Still water swamps

Comment: This stand consists of wetlands and an ephemeral pond. Much of the timber was removed from these wetlands in the late 1990s, with decent natural regeneration of the cypress and other hardwoods. No management is currently needed, this stand will need much more time before any wetland timber can be harvested again.

Planting: No Yes NA- Year **Specie** Choose **Method** Choose **Spacing/Density** Choose

Overstory: Cypress Swamp (ponds) **Age:** 30-40

Un-thin 3rd Row Thin 4th Row Thin 5th Row Thin NA

Products: NA Biomass Hw Mulch Pn Pulpwood CNS Sawtimber Poles Hw Logs

Stocking based on objectives: Moderately Stocked **Avg DBH:** 12-14 **Health:** Good

Mid-Story: Cypress Swamp (ponds) **Density:** moderate

Understory: Sapling Shrubs **Density:** moderate

Hardwood Gallberry Fetterbush Green Briar
Pine Palmetto Wax myrtle Other Woody
NA Viburnums Various Vines

Groundcover: Bahia Grass Bermuda Grass Mix Native Grass Litter Pine Straw Debris NA

Pine Straw Harvest Yes No NA

Density: moderate

Prescribed Burn Yes No *Year* Type Year

Stand 3 – Old Logging Decks/Wildlife Openings – 12.1 Acres

Ecological Community: Flatwoods

Comment: This stand consists of old staging areas (logging decks) and non-forested areas within the tract. These areas should be reforested in conjunction with Stand 1, unless they are converted to permanent wildlife food plots. If a prescribed burn is to occur, these areas will also be burned in conjunction in Stand 1.

Stand 4 – Roads – 3.6 Acres

Ecological Community: Flatwoods

Comment: This stand consists of interior roads that provide access throughout the property. The roads will likely be improved as the property is continued to be managed.

10 YEAR OPERATIONS TABLE

LMP Reference Section	Practice	Season/ Month(s)	Stand										
			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
8.1.1 Thinning ¹	Select							1					
8.1.2 Clearcut ¹		Fall/ Winter						1					
8.1.3 Chipping ¹	Choose an item.												
8.2.2 Site Preparation²													
8.2.2.2.2 Roller drum chopping		Spring							1,3				
8.2.2.2.6 Harrowing/disking													
8.2.2.2.4 Root raking and piling													
8.2.2.2.1 Bedding													
8.2.2.1.1 Broadcast Herbicide		Spring/ Summer							1,3				
8.2.2.3 Site Prep. Burn		Summer							1,3				
8.2.2.2.3 Scalping													
8.2 Reforestation²													
8.2.3 Artificial Regeneration	Hand 12X5-726 TPA Slash Pine	Winter								1,3			
8.2.3 Artificial Regeneration	Machine 12X5-726 TPA Slash Pine	Winter								1,3			
8.3.1.1 Herbaceous Weed Control ²	Banded	Spring									1,3		
8.3 Mid Story Release²													
8.4 Prescribed Fire ³	Growing Season												
8.4 Prescribed Fire ³	Dormant Season												
5.1.2 Wildlife Openings/Plots	Plant/Maintain	Spring/ Fall											
8.2.2.2.5 Mowing and/or mulching	Rotational/Habitat	Fall/ Spring	1	1	1	1	1	1	1	1	1	1	1
Firelines	Install/Maintain	Fall	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
5.1.8 Forest Health Management & Monitor	Monitor	Any	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL
5.1.8 Forest Health Management & Monitor	Choose an item.												
Consult w/ Forester				✓				✓		✓			✓

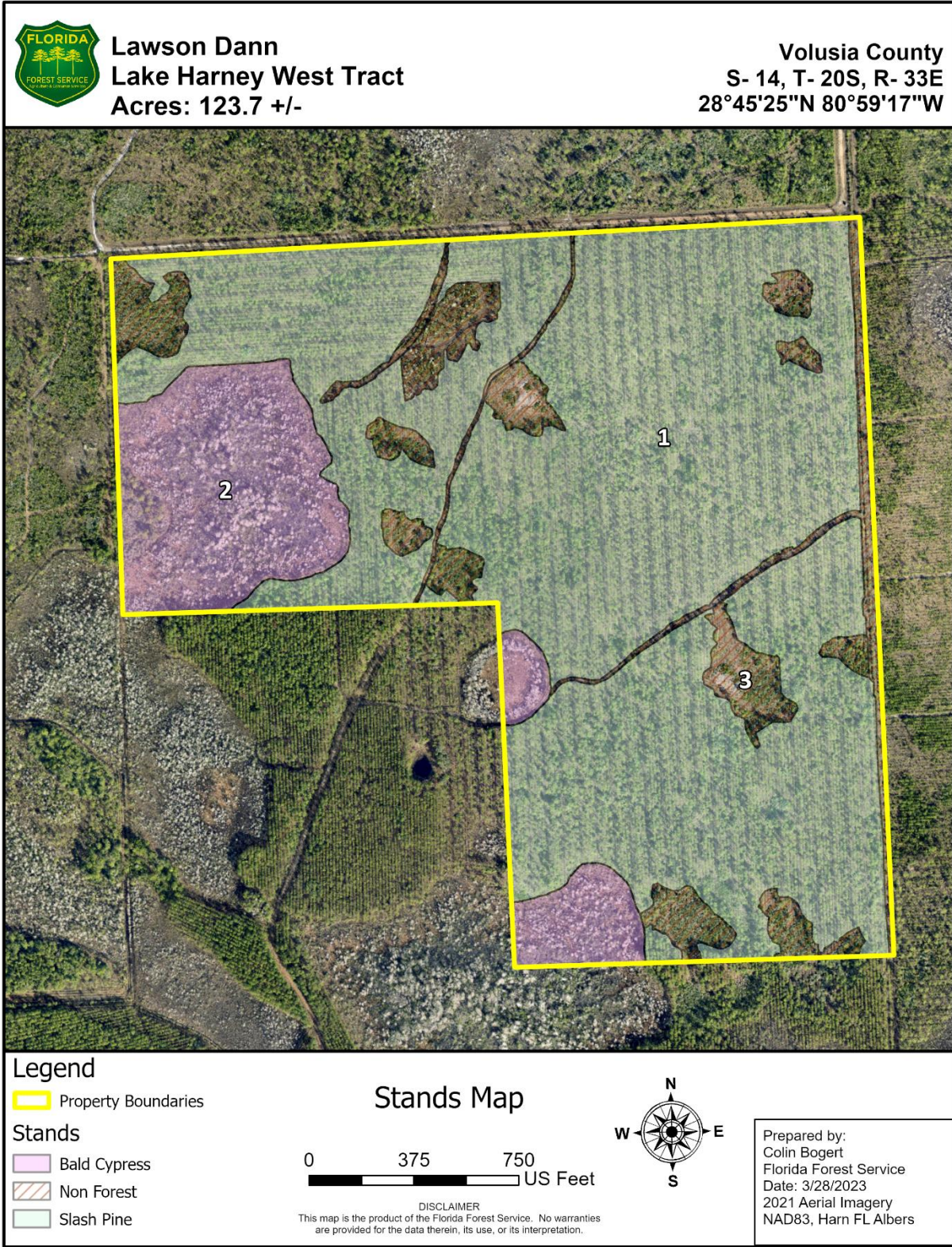
*The operation schedule is subject to change and all harvest will be based on financial objective of landowner and/or forest health.

¹Get with a consultant to discuss harvest plan, cost share programs and to conduct timber sale.

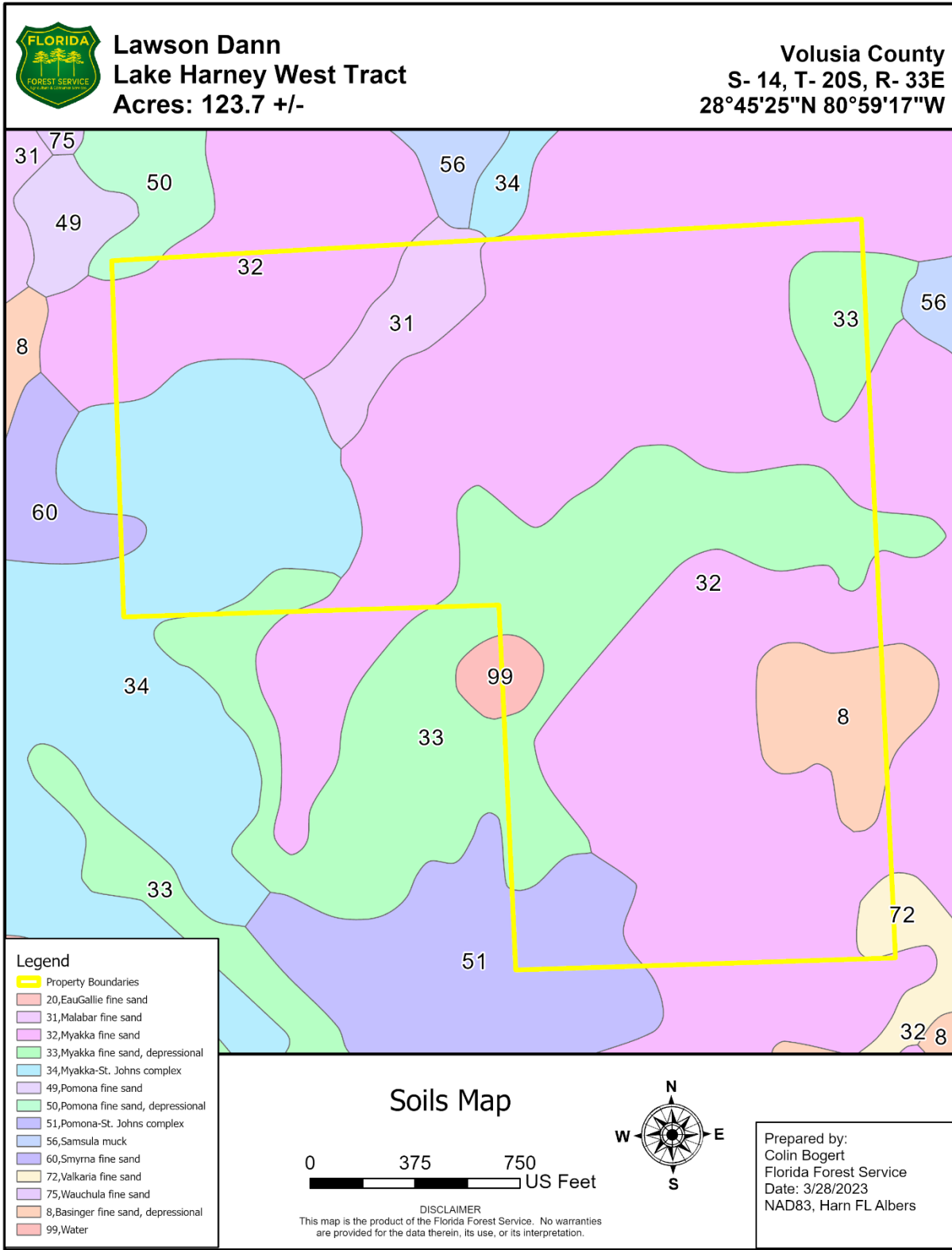
²Get with a forester to discuss practices, reforestation, herbicide rates and products, release, and potential cost share programs. Plant in areas that have low stocking. Can be random spacing.

³It is recommended to use a Certified Prescribed Burn Manager.

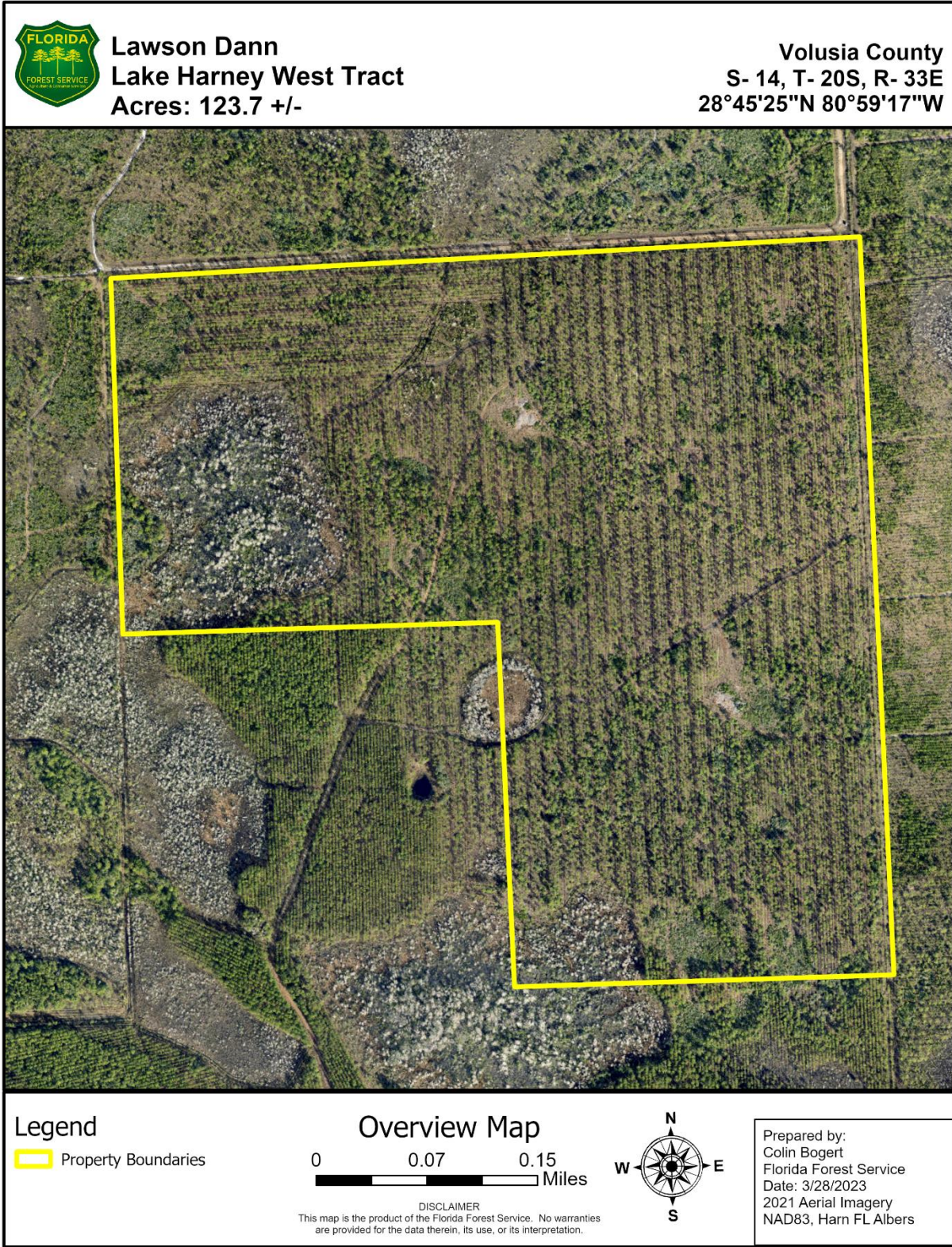
STAND MAP



SOILS MAP



OVERVIEW MAP



LOCATION MAP



GENERAL INFORMATION AND RESOURCES

[Longleaf Alliance](#) will provide information on all aspects and benefits of longleaf pine management.

[American Forest Foundation](#) will have information on youth education, forest landowner outreach, special programs and provide advocacy on a national level.

[Florida Forestry Association](#) will have information on landowner outreach programs, advocacy, State Tree Farm Program and master loggers.

[Florida Tree Farm Program](#) is a forest certification program that is recognized nationally and internationally by the Sustainable Forestry Initiative (SFI) and PEFC. They work in partnership with the Florida Forest Stewardship Program, IFAS and Florida Forest Service. The Tree Farm program provides landowners with educational opportunities.

[Florida Forest Service](#) has information on wildfire, prescribed burning, forest management, vendors, firewise, BMPs, stewardship, cost share programs and other programs. Contact the county forester for more information.

[University of Florida Extension Forest Stewardship](#) has information on outreach, programs and forest management.

[Florida Fish and Wildlife Conservation Commission](#) has biologists within their [Landowner Assistance Program](#) that can assist with wildlife management guidance on your property. In addition, they have adult and youth outreach programs.

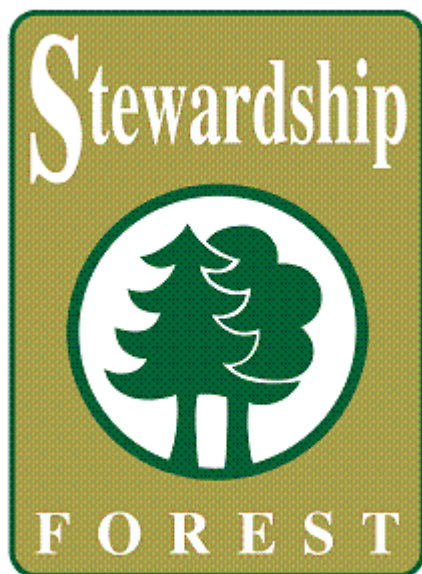
[Natural Resource Conservation Service \(NRCS\)](#) will have information on Federal Cost Share forestry programs.

[EQIP Program](#)
[County Contact](#)

[Farm Service Agency \(FSA\)](#) will have information on Federal Cost Share forestry programs.

[Glossary of Forestry Terminology](#) <https://ufdcimages.uflib.ufl.edu/IR/00/00/18/11/00001/FR06300.pdf>

FOREST STEWARDSHIP



MANAGEMENT PLAN

Dann Cattle Co. Inc.

713 N. Lake Adair Blvd.
Sections 14, 15, 22 & 23, Township 20 South,
Range 33 East, Volusia County, FL
Latitude: 28.730933, Longitude: -81.001068 Decimal Degrees

Prepared By

Joseph M. Gocsik, ACF, CF, CA
Managing Member – Forest Environmental Solutions, LLC
P.O. Box 145, Dade City, FL 33526-0145

Date

July 31, 2020

Florida Forest Service
Florida Fish and Wildlife Conservation Commission
USDA Natural Resources Conservation Service
University of Florida – Institute of Food and Agriculture Sciences
Private Natural Resource Consultants and Land Managers



FOREST STEWARDSHIP PROGRAM

New Plan

For

Dann Cattle Co. Inc.
(Landowner Name)

was prepared, reviewed, and approved by the following:

Dann Cattle Co. Inc. Date



Conrad Wysocki – Volusia County Forester
Florida Forest Service

Date



Florida Fish and Wildlife
Conservation Commission

Date



Joseph M. Gocsik – Managing Member
Forest Environmental Solutions, LLC

Date

DANN CATTLE CO. INC. FOREST STEWARDSHIP MANAGEMENT PLAN

Table of Contents

<i>Location and General Description of Property</i>	1
<i>Stand Summary</i>	1
<i>Management Objectives</i>	2
<i>Summary of Management Recommendations</i>	3
Timber	3
Wildlife Management.....	4-6
Recreation	6-7
Aesthetics	7
Invasive Exotic Species	7
Soil & Water.....	8-10
Soil Classifications.....	8-9
Effects of Natural Disasters.....	10
Cultural & Historical Sites	10
Forests of Recognized Importance	10
<i>Summary of Management Practices Utilized to Control Understory Vegetation</i>	11
Prescribed Burning	11-13
Clearing.....	13-14
Disking.....	14
Roller Chopping.....	14
Bush-hog Mowing	14
Under Brushing	14
Mulching Mower	15
Herbicide Applications.....	15
<i>Stand Descriptions and Recommendations</i>	16
1300: Pine Flatwoods	16-19

1841: Roads	19
2111: Wet Prairies.....	20
2233: Mixed Wetland Hardwoods.....	20-22
3210: Farm Pond	23
183314: Woodland Pasture.....	23
18333210: Coniferous Plantation - 2010.....	23-26
18333299: Coniferous Plantation – 1999 - Thinned.....	26-27
1833321999: Coniferous Plantation – 1999 – Un-thinned.....	26-27
<i>Financial Benefits of Forest/Wildlife Management.....</i>	<i>28-29</i>
Reduced Ad Valorem Assessment	28
Cost Share Assistance	28
Expensing Reforestation Costs	29
Capital Gains Treatment	29
Portfolio Diversification.....	29
Flexibility in Timing of Harvests/Cash Flow.....	29
<i>Timetable of Management Recommendations.....</i>	<i>30-31</i>
<i>Appendix A – Location, Parcel, Stand, Soils, Topography Maps, and Forest Industry Maps</i>	
<i>Appendix B – Exotic Species Informational Fact Sheets from The University of Florida’s Institute of Food and Agricultural Sciences (IFAS)</i>	
<i>Appendix C – Florida Silviculture Best Management Practices Rule & Notice of Intent</i>	

INTRODUCTION

Location and General Description

The Dann property totals approximately 1001.7 acres and is located on the eastern boundary of Lake Harney Woods. There are two physical addresses for the property: 9800 & 10000 Dragonfly Run, Mims, FL 32754.

The Volusia County Property Appraiser’s Office identifies the Dann Cattle Co. Inc. property utilizing the following Alternate Key Numbers:

3764188: 382 acres	3764340: 549.8 acres
3764226: 22.9 acres	5711803: 19.4 acres
3764331: 27.6 acres	

Stand Summary

The Dann property consists of the nine (9) vegetative types found in Table 1:

Table 1: Stand Types and Associated Acreages

Stand Land Use Code ¹	Description	Approximate Acreage	% Total
1300	Pine Flatwoods	148.1 acres	14.8%
1841	Roads	31.1 acres	3.1%
2111	Wet Prairie	3.8 acres	0.4%
2233	Mixed Wetland Hardwoods	380.9 acres	38.0%
3210	Farm Pond	1.8 acres	0.2%
183314	Woodland Pasture	11.7 acres	1.2%
18333210	Coniferous Plantation – 2010	138.1 acres	13.8%
18333299	Coniferous Plantation – 1999 - Thinned	155.3 acres	15.5%
1833321999	Coniferous Plantation – 1999 – Un-thinned	131.1 acres	13.1%
TOTAL		1001.7 acres	100 %

*Note: Refer to the enclosed maps of the tract found in **Appendix A**, which depict the boundaries, roads, and other features. Each stand has a corresponding number for easier delineation purposes.*

Note: The maps and plan were developed to supplement and support one another. The accidental omission of parcel information from either of the documents does not preclude the parcel from being included within the other or from consideration as an agricultural parcel.

¹ Summarized from the Florida Land Cover Classification System, June 2014, State Wildlife Grant, SWG T-13 (FWRI Grant #6325), Dr. Robert Kawula, Center for Spatial Analysis, Fish and Wildlife Research Institute, Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida

MANAGEMENT OBJECTIVES

The primary objective of the landowner is maintaining and maximizing timber production, while improving the quality and quantity of wildlife habitats available to resident species, in particular white-tailed deer (*Odocoileus virginianus*), wild turkey (*Meleagris gallopavo*), and bobwhite quail (*Colinus virginianus*). Other objectives include maintaining the aesthetic value of the property and managing for recreational opportunities such as hunting, hiking, and wildlife viewing. Sound silvicultural practices will be used to accomplish these objectives, which will promote soil and water conservation. The primary purpose of this management plan is to outline a land management strategy, which will result in achieving the management objectives of the landowner.

1. Forest management: Improved management of the timber resource on the tract will improve the stand of timber to possibly obtain higher revenue generation, reduce the risk of wildfire, lower fuel loads for prescribed burning, promote stand health and growth, improve wildlife habitat, enhance the aesthetic features of the land, and increase the forage quality of the understory vegetation for wildlife.
2. Wildlife habitat: While white-tailed deer, northern bobwhite quail, and wild turkey are species of particular concern, the landowner wishes to enhance habitat for other species as well.
3. Recreation: The management activities outlined in this management plan will enhance the recreational opportunities on the tract, which may include hunting, hiking, wildlife viewing and/or photography, and many others.
4. Soil and water conservation: Objectives to maintain soil/water quality will be accomplished by utilizing sound forestry and wildlife management practices, in accordance with the applicable Florida Silvicultural Best Management Practices.

This management plan will outline the practices that will assist the landowner in achieving their management objectives. This plan is the first step in applying for cost share programs wherein cost share funds are periodically available to assist the landowner in carrying out some or all of the practices outlined herein. Please consult the Florida Forest Service (FFS), the Florida Fish and Wildlife Conservation Commission (FFWCC), or the Natural Resource Conservation Service (NRCS) regarding potential funding availability.

This management plan is *not* a contract between the landowner and Forest Environmental Solutions, LLC. Costs quoted here are estimates only at 2020 median price levels. This management plan is also *not* a contract between the landowner and the Volusia County Property Appraiser or other governmental agencies. The recommendations listed are tentative and modifications can occur due to extenuating circumstances. As examples, poor market conditions may delay harvest of forest products; unsuitable weather may postpone herbicide applications, or delay prescribed burning and reforestation activities. In short, unforeseen events may change the proposed schedule or estimated costs at any time. For these reasons, we recommend updating this plan at least once in the next five to ten years approximately occurring in 2025-26.

SUMMARY OF MANAGEMENT RECOMMENDATIONS

Timber

Timber is one of the largest agricultural crops produced within the State of Florida. Florida is home to nearly 17.16 million acres of timberland, with approximately 50 percent of the total land area within the State being forested. Of this acreage, approximately 65% of the forests within the state are under private ownership. According to the latest data, circa 2018, forestry generated \$25.1 billion in total economic output impacts. Nearly 124,104 individuals are employed with either full or part-time jobs within the forestry sector, and seventy-one (71) wood producing facilities currently exist within the State, and approximately 3,782 secondary forest product wood manufacturing facilities located within the state. Proper management of private timberlands is essential to keep a healthy economy not only within the agricultural sector, but across the entire State.² A map of the Primary Wood-using Mills can be found in Appendix A.

Intensive timber management activities on the Dann property will primarily focus on the coniferous plantations and pine flatwoods, and silviculture will be an important tool for the management and enhancement of the forest health, timber production, and of the wildlife habitat on the property. Management practices to enhance this property include but are not limited to: the maintenance of fire lines along the property and stand boundaries, the continuance of the selective harvest within the 1999 coniferous plantation, a combination of mechanical/chemical fuel reduction methods should be used within the 2010 coniferous plantation to control the understory vegetation to prepare for a possible future pine straw harvest. Future selective pine straw harvests and timber harvests of the pine timber should be utilized to keep the trees healthy and vigorous to encourage growth of higher-value products such as veneer, saw logs, and poles at maturity. Thinning, prescribed burning, and chemical/mechanical fuel reduction will serve to keep the understory open, with a component of herbaceous plants and grasses, which should improve the wildlife habitat while increasing forest health, aesthetics, and recreational opportunities on the property.

² Summarized from Hodges, A.W., M. Rahmani and C.D. Court. Economic Contributions of the Forest Industry and Forest-based Recreation in Florida in 2016, Sponsored Project Report to the Florida Forestry Association, University of Florida-IFAS, 2017, available at:<https://fred.ifas.ufl.edu/media/fredifasufledu/economic-impact-analysis/reports/FINAL-REPORT-2016-Florida-Forestry-Contributions-12-19-17.pdf>

Wildlife Management

To maximize wildlife management, the landowner's property should have a mixture of planted and natural forest stands, wetland cypress/hardwood areas, and approximately 5% of the total area in permanent openings. The Dann tract has nine separate stand types with diverse habitats, which also includes permanent openings. Having a diverse mix of ecosystem types provides good wildlife habitat, which should increase the value of the land for the landowners and future hunting opportunities. Wildlife management on the Dann Tract should include those practices that reduce the woody understory vegetation, reduce the canopy density, improve access and create diversity within the vegetation communities. These practices will enhance wildlife habitat through improved access and forage for wildlife as well as creating a "mosaic" of vegetative diversity and density.

The management activities utilized to enhance wildlife habitat can include but are not limited to mechanical/chemical fuel reduction, fire line maintenance, seasonal food plot planting and maintenance, creating and maintaining openings of little or no woody vegetation (herbaceous vegetation is encouraged), the retention of snags (standing dead trees), and creation of small brush piles. Snags provide den sites for a variety of wildlife species, as well as promoting insects which are a good source of protein. Small brush piles provide additional cover and can even be created next to openings and throughout the property.

Other popular activities include the reduction in the number of stems through logging, which opens the canopy and increases the amount of sunlight reaching the forest floor, stimulating herbaceous vegetative growth. New herbaceous growth benefits wildlife species by increasing the palatability of the plants (new, succulent tips) and increasing insect populations, which provide food for wild turkey, bobwhite quail, and other songbird species. The implementation of these practices should occur wherever and wherever possible. Nesting boxes, platforms, and planting butterfly friendly plants could also enhance the wildlife experience of the Dann Tract.

Various wildlife species observed by the landowner/land manager and/or typically found within these habitats include but are not limited to the following found within Table 2.

Table 2: Animal species that can be found within habitats of landowner's property

Common Name	Scientific Name
American alligator [FT(S/A)] ³	<i>Alligator mississippiensis</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Bobcat	<i>Lynx rufus</i>
Bobwhite quail	<i>Colinus virginianus</i>
Cottonmouth	<i>Agkistrodon piscivorus</i>
Coyote	<i>Canis latrans</i>

³ Several of these species are Threatened and Endangered (T & E) or Species of Special Concern. Listed by the State of Florida as: Federally Endangered (FE), Federally Threatened (FT), Federally Threatened with Similar Appearance [FT(S/A)], Federal Non-essential experimental population (FXN), State Threatened (ST), State Species of Special Concern (SSC).

Common Name	Scientific Name
Dusky pygmy rattlesnake	<i>Sistrurus miliarius barbouri</i>
Eastern diamondback rattlesnake	<i>Crotalus adamenteus</i>
Eastern indigo snake (FT)	<i>Drymarchon couperi</i>
Feral hog	<i>Sus scrofa</i>
Florida black bear	<i>Ursus americanus floridanus</i>
Florida mouse (SSC)	<i>Peromyscus floridanus</i>
Florida pine snake (SSC)	<i>Pituophis melanoleucus mugitus</i>
Florida Sandhill crane (ST)	<i>Grus canadensis pratensis</i>
Great Horned Owl	<i>Bubo virginianus</i>
Gopher tortoise (ST)	<i>Gopherus polyphemus</i>
Opossum	<i>Didelphis virginiana</i>
Osceola wild turkey	<i>Meleagris gallopavo osceola</i>
Raccoon	<i>Procyon lotor</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Swallow-tailed kite	<i>Elanoides forficatus</i>
White-Tailed Deer	<i>Odocoileus virginianus</i>

Feral hogs and coyotes can destroy the flora and fauna within your property. The hogs and coyotes are nuisance animals that spread disease and should be hunted and killed and/or removed from the property anytime they are found.

For more information on threatened and endangered species please visit the following websites:

United States Fish & Wildlife Service (USFWS) Environmental Conservation Online System:

<https://ecos.fws.gov/ecp/species-reports>

Florida Fish & Wildlife Conservation Commission (FFWCC) Imperiled Species:

<https://myfwc.com/wildlifehabitats/wildlife/>

Florida Department of Agriculture and Consumer Services Wildlife Best Management Practices

A new voluntary program for landowners was adopted in 2015 regarding State Imperiled Wildlife species. Following is information from the aforementioned Wildlife Best Management Practice Manual. In 2013, the Florida Legislature created Section 570.94, F.S., which authorizes the Florida Department of Agriculture and Consumer Services (FDACS) to work collaboratively with the Florida Fish and Wildlife Conservation Commission (FWC) to enter into a Memorandum of Agreement to develop and adopt by rule voluntary Best Management Practices for State Imperiled Species of wildlife as a voluntary alternative to incidental take permitting. In response to this, the Florida Forest Service, working with FWC, convened their long-standing Technical Advisory Committee to help craft a Forestry Wildlife BMP manual. This manual was approved by

the committee and subsequently adopted in rule in 2014.

Agricultural lands provide a valuable benefit to the conservation of fish and wildlife, including many of the State's Imperiled Species which are integral to the overall ecosystem. This Wildlife Best Management Practices (WBMP) Manual has been developed to enhance agriculture's contribution to the conservation and management of freshwater aquatic life and wildlife in the state, and to provide guidance to landowners and others who choose to implement these important practices. As such, these WBMPs reflect a balance between natural resource conservation and resource utilization, and serve to benefit a multitude of species above and beyond the 16 mentioned in this document.

However, this manual addresses only State Imperiled Species in Florida and not those federally listed by the U.S. Fish and Wildlife Service. Fish and wildlife species currently on the State Imperiled Species list were evaluated for the potential for incidental take to occur during agricultural activities. Based on current knowledge, 16 of the State Imperiled Species were determined to occur in areas where agricultural activities have the potential to influence habitat that supports essential behaviors or directly impact individuals. Therefore, the presumption of compliance for enrollees only applies to the aforementioned 16 species. Nonetheless, this list will be re-visited from time to time to evaluate whether there are any other species that have a specific nexus to agriculture.

These practices have particular application for agricultural lands that are in active production. However, they are not intended for use during tree removal or land clearing operations associated with development activities or changes in land use (e.g., conversion from silviculture to row crop). The practices minimize incidental take of specified State Imperiled Species from agricultural activities – and are not intended as a means of species recovery, expansion or habitat restoration. As such, they represent a practical approach for avoiding and minimizing incidental take of the 16 State Imperiled Species.⁴

A copy of the manual and Notice of Intent to Implement Form can be found at the following site:

https://www.freshfromflorida.com/content/download/61100/1270718/WildlifeBMP_final.pdf

Recreation

The physiographic features and topography of the Dann Tract enable it to house a diverse amount of recreational opportunities. With approximately 386-acres of wetlands and 615-acres of uplands the diverse mix of vegetative species on the Dann Tract allow for many different recreational experiences on the property. The many recreational opportunities include but are not limited to, camping, hunting, hiking, biking, horseback riding, ATV use, observing seasonal changes in vegetation, wildlife watching and/or photography, and working the property for personal gratification. The silvicultural activities outlined in this plan will enhance the recreational usage on this property by increasing visibility, access, and the aesthetics of the tract.

⁴ (Florida Department of Agriculture and Consumer Services, 2015)

Aesthetics

The Dann Tract is aesthetically pleasing upon initial reconnaissance, and the practices suggested within this plan will further enhance the aesthetics of the property. The continuance of the selective timber harvest within the 1999 coniferous plantation and the chemical or mechanical treatment of the understory vegetation within the 2010 coniferous plantation will immediately enhance the aesthetics of these areas, and the aesthetics of the property will only increase as successive treatments occur.

Selective harvests, chemical and mechanical treatments, and prescribed burning will eventually result in an open understory composed of grasses and herbaceous plants. Pine straw harvests, selective timber harvests, mechanical vegetation control, herbicide applications, and prescribed burning will also create more diversity enhancing the aesthetics through the addition of a variety of flora and fauna to the property.

Invasive/Exotic Species

Non-native invasive plant species are a potential threat on open land. One of these species was found on the Dann Tract.

Brazilian Pepper (*Schinus terebinthifolius*), is an invasive/exotic trees species that is found on the Dann property. It was found within the southern boundary line of the property near the main entrance. Where practical, these trees should either be cut down and the stumps sprayed with herbicide immediately afterward to prevent their re-growth, or receive a selective herbicide application such as a basal bark or hack and squirt. Basal bark applications soak the bark of the tree, whereas hack and squirt applications utilize a machete to cut a groove in the bark around the tree and herbicide sprayed within the cut area.

Becoming familiar with common exotic plant pests and periodically monitoring for them will help to identify infestations, while they are still small and more easily controlled. The Florida Exotic Pest Plant Council's website is: www.fleppc.org. This website provides a lot of information regarding exotic pest plants within the State of Florida. Identification & Biology of Non-Native Plants in Florida's Natural Areas by K.A. Langeland and K. Craddock Burks is one publication on exotic vegetation that will help you identify these invasive species. This book can be purchased as nice spiral bound from IFAS (\$30): <http://ifasbooks.ifas.ufl.edu/p-197-identification-and-biology-of-non-native-plants-in-floridas-natural-areas.aspx> or older versions found on www.amazon.com can be purchased for (\$17). The book can also be downloaded free from FL EPPC http://www.fleppc.org/id_book.htm

Informational fact sheets from the University of Florida's Institute of Food and Agricultural Sciences (IFAS) extension agency are located in Appendix B.

Soil & Water

Soil and water conservation is also a concern of the landowner. Currently the property has little to no problem with soil erosion as the property has a nearly flat topography. The elevation within the property remains at 20' above sea level throughout the entire property. To avoid adverse effects on water quality, water bars or other water diversion materials (such as native plantings) should be placed where and if any erosion does occur.

Table 3 outlines the soils, the typical native vegetation that occurs on them, their productivity and site index. The soils within the Dann Tract range from very poorly to poorly drained and have a moderate natural fertility in regards to pine production. Provided in **Appendix A** is a map to help locate the different soil types. The forest management practices proposed in this plan will not adversely affect soil and water conservation.

Table 3: Soil Classifications

Soil Type	Acreage	Naturally Occurring Overstory Vegetation	Naturally Occurring Understory Vegetation	Drainage	Pine Productivity	Site Index ⁵
8 - Basinger Fine Sand Depressional	66.7 acres	Cypress	Bluestem, Maidencane, Panicum, Lopsided Inidangrass	Very Poorly	N/A	N/A
20 - Eaugallie Fine Sand	73.5 acres	Longleaf/Slash Pines	Wiregrass, Saw Palmetto, Wax Myrtle	Poorly	Moderate	Slash – 80 Longleaf - 70
31 - Malabar Fine Sand	42.7 acres	Cabbage Palm, Longleaf/Slash Pine	Saw Palmetto, Wax Myrtle, Maidencane, Bluestem	Poorly	Moderate	Slash – 80 Longleaf - 70
32 - Myakka Fine Sand	168.2 acres	Longleaf/Slash Pines	Gallberry, Running Oak, Saw Palmetto, Wiregrass, Wax Myrtle	Poorly	Moderate	Slash – 70 Longleaf - 60
33 – Myakka Fine Sand, Depressional	45.6 acres	Pond Pine	Maidencane, Panicum, Cordgrass,	Very Poorly	Low	Pond - 60

⁵ Note: Site index is the average height of the dominant and co-dominant trees within an even-aged planted stand of the selected species at age 50 years. Site index is a good “tool” to use when considering what species of pine to plant. All factors, including: timber and wildlife value, aesthetic qualities of the trees, historic vegetation types (what was there before disturbance), and management objectives should be taken into consideration.

Soil Type	Acreage	Naturally Occurring Overstory Vegetation	Naturally Occurring Understory Vegetation	Drainage	Pine Productivity	Site Index⁵
34 – Myakka/St. Johns Complex	15.5 acres	Pond Pine	Cordgrass, Maidencane, Bluestem	Very Poorly	Low	Pond – 60
45 – Pineda Fine Sand	20.7 acres	Longleaf/Slash Pine	Maidencane, Wiregrass, Cordgrass	Poorly	Moderate	Slash – 80 Longleaf - 70
49 – Pomona Fine Sand	88.1 acres	Slash/Longleaf/Loblolly Pine	Wiregrass, Maidencane, Saw Palmetto	Poorly	Moderate	Slash – 80 Loblolly – 80 Longleaf - 70
50 – Pomona Fine Sand, Depressional	24.6 acres	Slash/Pond Pine	Maidencane, Bluestem, Cordgrass	Very Poorly	Moderate	Slash – 70 Pond - 60
51-Pomona/St. Johns Complex	222 acres	Slash/Pond Pine	Cordgrass, Maidencane, Bluestem	Very Poorly	Moderate	Slash – 70 Pond – 60
56 – Samsula Muck	4.6 acres	Cypress, Blackgum, Red Maple, Loblolly Bay, Swamp Bay	Maidencane, Cordgrass, Ferns	Very Poorly	N/A	N/A
60 - Smyrna Fine Sand	5.8 acres	Longleaf/Slash Pine	Saw Palmetto, Running Oak, Gallberry, Waxmyrtle, Huckleberry, Wiregrass	Poorly	Moderate	Slash – 80 Longleaf - 70
61 - St. John's Fine Sand	69.2 acres	Longleaf/Slash/ Pine	Saw Palmetto, Running Oak, Wiregrass, Waxmyrtle, Wiregrass	Poorly	Moderate	Slash – 80 Longleaf - 70
72 – Valkaria Fine Sand	21.8 acres	Longleaf/Slash Pine	Maidencane, Sedges, Wiregrass	Poorly	Moderate	Slash – 70 Longleaf - 60
73 - Wabasso Fine Sand	118.7 acres	Longleaf/Slash Pine	Saw Palmetto, Running Oak, Wiregrass, Wax Myrtle, Wiregrass	Poorly	Moderate	Slash – 80 Longleaf - 65
74 – Wabasso Fine Sand, Depressional	13.1 acres	Pond Pine	Maidencane, Bluestem, Cordgrass	Very Poorly	Low	Pond - 60
99 – Water	0.9 acres	N/A	N/A	N/A	N/A	N/A

All silvicultural activities conducted on this property should be conducted in accordance with Florida's Silvicultural Best Management Practices (BMP's). BMP's are the minimum standards necessary for protecting and maintaining the State of Florida's water quality, as well as certain wildlife habitat values during forestry activities. The Florida Forest Service's Silviculture Best Management Practices (BMP's) program provides guidance to protect wetlands and water quality when conducting silvicultural activities in and around wetlands. BMP manuals are available free of charge from the Volusia County Forester, and courtesy BMP inspections are available upon request from the Florida Forest Service's Forest Hydrology Section. Contact BMP Forester Robin Holland (352) 732-1781 for more information. The BMP Manual is also available online at:

http://www.floridaforestservice.com/publications/silvicultural_bmp_manual2011.pdf

Filing a notice of intent to implement BMP's and documenting those activities entitles the landowner to a presumption of compliance with State water-quality regulations. A copy of the BMP rule and notice of intent are included in the **Appendix C**. Additional soil and water questions should be addressed to the Natural Resources Conservation Service's District Conservationist (386) 985-4037 ext. 3, the St. John's River Water Management District (386-329-4500), or to the Volusia County IFAS Extension office (386-822-5778).

Effects of Natural Disasters

Natural disasters could damage forest resources on site. Tropical storms, hurricanes, and tornadoes could cause wind damage and possibly flooding. Since a moderate amount of woody and shrubby vegetation currently exists within the understory, the hazardous fuel level is moderate, and therefore wildfire damage could be high. Proper forest management will ensure the trees are at their healthiest if a natural disaster does occur. If damage occurs as a result of any natural disaster, contact the Florida Forest Service, a private forestry consultant, or other professional natural resource manager to assess the damage and assist with possible salvage operations.

Cultural & Historical Sites

Several web sites can be utilized to find information regarding special sites:

Florida Division of Historical Resources: <http://dos.myflorida.com/historical/>

National Register of Historic Places: <https://www.nps.gov/subjects/nationalregister/index.htm>

National Register of Historic Places Database Research:

<https://www.nps.gov/subjects/nationalregister/data-downloads.htm>

Or contact the Natural Resource Conservation Service at:

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/nra/cultural> if more information is desired.

Forests of Recognized Importance

The closest Forests of Recognized Importance would be the Little Big Econlockhatchee Wildlife Management Area which is located approximately six-miles away to the southwest of the Dann tract, the Little Big Econ State Forest located approximately thirteen-miles to the west of the property, and the Buck Lake Conservation Area which is located approximately thirteen-miles to the east of the Dann tract.

SUMMARY OF MANAGEMENT PRACTICES UTILIZED TO CONTROL UNDERSTORY VEGETATION

Prescribed Burning

Fire has naturally been a part of Florida ecosystems since before its settlement by man. Thunderstorms would sweep across the state between the months of May and September and the fires ignited by lightning strikes would burn vast areas of land. Not all vegetation burned each year, but rather the fires created a mosaic of burned areas and diverse vegetation types across the state and maintained these areas through the natural cycling of storms. The first settlers, Native Americans, utilized fire for various reasons including, but not limited to: creating and improving wildlife habitat, as an aid in hunting, for crop production, to protect areas from wildfire, to collect food, for pest control, for communication, and for assistance in warfare. Early European settlers utilized fire to improve grazing for cattle, to create and improve cropland, to enhance hunting, and to assist in the collection of turpentine. These settlers also burned during different times of the year, not just during the summer as naturally occurring fire did, and created different understory vegetative compositions through this process. During the mid-1900's and up until the early to mid-1980's, the use of fire as a tool dwindled in most of Florida. This was because of public perception and their misunderstanding of messages from "Smokey Bear", and other negative advertising campaigns. Presently, most land managers consider prescribed burning the most cost efficient and effective way to maintain and enhance natural habitats in order to achieve a multitude of goals and objectives.

Burning will improve wildlife habitat by recycling nutrients and promoting new vegetation growth at ground level. Many animals including deer, turkey, rabbit, and small mammals utilize the new vegetation. Many seed-eating songbird species and especially quail will benefit from the seeds produced by the native plants. In addition, after a fire, there is an increase in insect production, which provides forage for insectivorous songbirds such as the eastern bluebird, flycatchers and woodpeckers. One of the keys to providing the best possible habitat for a variety of wildlife species is diversification of the ground cover.

The pine needles, and understory vegetation such as gallberry (*Ilex glabra*), saw palmetto (*Serenoa repens*), and many of the grasses such as wiregrass (*Aristida stricta*) are pyrogenic in nature. The structure and arrangement of these surface fuels enables ground fires to carry effectively under proper conditions. The season of burn influences the effect the fire has on habitat conditions. Prescribed burning in the winter will favor growth of legumes such as partridge pea (*Chamaechrista*

fasciculate), which is a preferred quail food. Spring/summer burns will stimulate native grasses such as wiregrass to bloom and seed. Spring/summer burns are also more effective in controlling hardwood encroachment.

Burning different blocks at different times during the year and burning on a rotation across a vegetation type allows a diversity of plant species to flourish. Ideally, conduct burning on at least a two to three-year rotation. A two to three-year rotation would keep the hazardous fuel load low and reduce the risk of wildfire. Promotion of new growth in various herbaceous species would occur because of the reduction of competing woody vegetation.

To prepare areas for successful prescribed burning, initial mechanical and chemical treatments may be required. Mechanical treatments such as clearing, disking, and mulching can be utilized to establish fire lines around the burn blocks and reduce the height of the fuels within the burn unit, facilitating a safer prescribed burn. Prescribed burning costs vary depending upon the vegetation being burned, location of the burn compared to smoke sensitive areas, and size of the burn crew needed to accomplish the burn. Most burning within forested stands costs \$20 to \$60 per acre for the planning, implementation, and monitoring of the burn. Open land, shrub and brush-land, and pasture burns are less risky, and typically take fewer crewmembers to accomplish. Costs for these types of prescribed burns range from \$20 to \$45 per acre.

Establishment and maintenance of fire lines is an essential part of any land management plan that incorporates prescribed fire, and can serve many purposes if properly maintained. Fire lines will 1) provide protection to the landowner's property and surrounding properties 2) provide better access to the property from the perimeter, 3) will help control prescribed fires, and 4) will also provide transitional zones that are very important to wildlife species. The edges of firebreaks can provide excellent nesting and foraging habitat and will provide travel corridors for wildlife. Fire lines should be at least 15 to 20 feet wide and follow the natural contour of the land to the fullest extent possible. If at all possible, avoid plowing adjacent to any stream or wetlands and use the stream or wetland and its vegetation as a natural firebreak. After the fire lines are plowed, the landowners should use a disk to smooth the areas for better access lanes and to help facilitate growth of herbaceous vegetation. Maintenance of the lines will consist of disking during the winter months to promote wildlife-friendly herbaceous vegetation and to maintain access throughout the property. Disking during the winter months, usually November through February, will promote the presence of native weeds and legumes such as partridge pea, beggarweed (*Desmodium tortuosum*), and common ragweed (*Ambrosia artemisiifolia*). Construction and maintenance of fire breaks also demonstrates ongoing management for agricultural tax classification.

Note: The Florida Forest Service can provide assistance in fire line construction, usually with only a nominal equipment fee. Contact the Volusia County Forester (386-985-7817) for more information.

Another critical aspect to consider when introducing a prescribed fire regime, especially for landowners who have homes/structures/facilities located in a burn unit, is to incorporate additional design and landscaping techniques to protect one's property against unexpected wildfire. A major part

of this effort involves the private landowner's own awareness of their surrounding wildfire risk. Efforts to apply prescribed fire or otherwise control fuel loads throughout their property will aid in reducing this risk. When feasible, the landowner should work to use non-combustible building materials for roofs, soffits, siding, and skirting (for mobile homes). Other activities that can reduce the wildfire risk to facilities include close access to reliable water supply, installation of underground utilities (that will not fall down or reduce access for firefighting equipment), and landscaping that minimizes fuel loads close to the home.

Within and around structures, the decision to use proper landscaping techniques will have the most significant impact on property protection. The landowners should maintain at least 30 feet of defensible space, or continuously managed vegetation, around their home and structures. In this 30 foot zone, all vegetation and organic mulches should be 5 feet from the house/structures. Grasses, flowers, and small shrubs that stay green during the fire season should be planted, and stressed or dead plants should be removed. Make sure to remove fuels (i.e., pine needles) from gutters and under eaves. Any pines should be thinned to 15 feet spacing between tree crowns and branches pruned to 6-10 feet above the ground. As the distance from the structures increases, less intensive management will be necessary to reduce the wildfire risk. The Volusia County Forest Area Supervisor (386) 985-7865 will have more detailed information on reducing wildfire risk or visit <http://www.firewise.org>.

The pine flatwoods and 1999 coniferous plantation can be managed with prescribed fire. Burn the pine flatwoods in the dormant season one complete calendar year after an initial mechanical/chemical fuel reduction occurs. In areas with dense natural pine regeneration, wait until that natural regeneration is at least fifteen to twenty-feet tall before burning. Once the initial prescribed burn is completed, conduct burning every three to five-years.

Wait one full calendar year after completion of the thinning of the 1999 coniferous plantation before burning. Burn the 1999 coniferous plantation during the dormant season for the initial burn after the harvest, and then continue burning on a three to five-year rotation.

If the 2010 coniferous plantation stands are not to be managed for pine straw production, a three to five-year prescribed fire regime should be initiated as soon as the pine trees are old enough to withstand a carefully applied prescribed burn (approximately 25' to 30' in total height).

If prescribed burning cannot be accomplished because of potential timber damage, wildlife concerns, landowner goals, smoke management issues, etc., mechanical equipment can be used as another technique to reduce competing woody vegetation and encourage herbaceous plants.

Clearing

Clearing utilizes a root rake or backhoe mounted on a rubber tire front-end loader or low ground pressure track machine and removes material from both above and below the surface of the ground. Utilize clearing to completely remove unwanted vegetation such as dense palmettos and small, low-value hardwood trees in planting areas and when establishing fire lines in overgrown areas.

Clearing costs are extremely variable based upon the vegetation to be cleared and location of the site, but averages \$1,100.00 per acre. A 15'-wide fire line one mile long would equal approximately 1.8 acres.

Disking

Disking utilizes a heavy cut disk and can establish fire lines in areas of light vegetation. Disking should also follow any clearing performed in the creation of fire lines. Disking will enable the newly established fire lines to be traveled via 4 X 4 vehicles. It will take two passes with a disk to clean the fire lines properly. Therefore, disking one mile would equal 3.6 acres of area treated (2 passes x 1.8 acres each pass). Disking also plays an integral part in the establishment and maintenance of food plots. Disking typically costs \$250.00 per acre, or the equivalent of \$600.00 per day.

Roller Chopping

Roller chopping consists of a large roller drum chopper breaking up the woody vegetation and reducing the growth of the saw palmetto. Chopping utilizes a bulldozer and drum chopper fully loaded with water and having alternating 8" and 11" blades. This treatment is the most cost effective and efficient means of reducing heavier understory vegetation including but not limited to, grape vine (*Vitis rotundifolia*), saw palmetto, and most standing trees with a DBH of 8" or less. Utilize chopping in areas with a low-density of overstory trees and with a "heavy rough" in the understory consisting of a large amount of competing woody vegetation, or where other vegetation reduction methods are not feasible. Chopping costs range from approximately \$90.00 to \$150.00 per acre depending on the site conditions and location.

Bush-hog Mowing

Bush-hog mowing is another option available in areas considered more "open", where there are lower amounts of competing woody vegetation to control and the understory consists of grasses and woody stems less than an inch in diameter. Bush-hog or Brown tree-cutter type mowers pulled behind farm tractors are effective for keeping vegetation from growing up between rows of pines in a plantation, and should be used until the pines are old enough to safely prescribe burn. This type of mowing reduces the competing vegetation and lowers the wildfire risk. Bush-hog mowing costs approximately \$50.00 to \$75.00 per acre.

Under Brushing

Under brushing utilizes a low ground pressure track machine and a rotary or drum-type cutting head that mulches material <6" DBH (Diameter at Breast Height). This option is available in areas where prescribed burning cannot be accomplished and aesthetics would be a high priority (i.e. around highly traveled/populated areas). Smaller machines with front-mounted cutting heads are also very effective in reducing the understory in natural pine stands and/or overgrown plantations where pull-behind mowers cannot be utilized. Under brushing costs average \$250.00 per hour, but may vary depending upon site conditions and location.

Mulching Mower

Mulching machines come in a variety of sizes and are excellent at reducing overgrown vegetation in areas where fire is excluded. These machines mulch the standing material in place leaving the roots and stump intact. Typically, depending upon the size of the machine, the mulching machines can safely chip standing trees 12 inches in diameter or less. Some larger mulching machines can accommodate trees up to 20 inches in diameter. Mulching machines are excellent for treating sensitive areas, but do cost much more than other fuel reduction methods. Mulching mower machines can cost anywhere from \$150.00 to \$375.00 per hour.

Herbicide Applications

Herbicide applications are another way to reduce competing vegetation. The particular chemical used would be site-specific and dependent on the species targeted for removal. Prescribed burning or mechanical fuel reduction treatments should follow chemical applications within two years of the original treatment whenever and wherever feasible. This will further reduce the hazardous fuels by eliminating standing dead material, and the follow up treatment will enhance the biological diversity of the stand. Most chemical applications cost between \$125.00 and \$190.00 per acre.

Note: Snags are standing dead trees that serve as homes for woodpeckers and other species of birds and insects. When harvesting timber, burning, mowing, disking, mulching, or chopping it is best to avoid the removal of snags. Only remove snags when they threaten lives and/or property, or if a snag poses a hazard to prescribed burning by having the potential of falling across a fire line.

Caution should be taken when utilizing heavy machinery around existing trees. Heavy machinery can cause soil compaction, trunk injury, and unnecessary damage to the understory vegetation. Ensure the contractor performing your work is careful when working near existing vegetation that will remain.

To deter trespass, protect the property, and reduce the landowner's liability risk, make an effort to ensure all property boundaries are identified, marked, and posted whenever/wherever feasible.

STAND DESCRIPTIONS & RECOMMENDATIONS

1300: Pine Flatwoods – 148.1 acres

The pine flatwoods stand can be found as mature pockets of pine with healthy native herbaceous and woody stemmed species within the understory, and as old pastures that were allowed to go fallow once the cows were removed, and now have copious amounts of slash pine regeneration and herbaceous and woody stemmed species within them. The pine flatwoods comprise approximately 14.8% of the overall acreage. The understory vegetation is moderate in most areas as you walk through light amounts of herbaceous upland plants and clusters of woody stemmed shrubs and brush. Some areas within the mature pines have higher fuel loads containing chest to head high palmetto/gallberry. Because of the poor drainage of the soils, portions of this stand may be inaccessible to vehicular traffic during wet times of the year and ATV use and/or walking would be the best way to access the entire tract at that time.

The overstory and understory species found within the pine flatwoods include, but are not limited to, those detailed in the following tables:

Table 4: Understory Vegetation within the Pine Flatwoods

Common Name	Scientific Name
American Beautyberry	<i>Callicarpa americana</i>
Bahia Grass	<i>Paspalum notatum</i>
Beaked Panicgrass	<i>Panicum anceps</i>
Blackberry	<i>Rubus betulifolius</i>
Blueberry	<i>Vaccinium spp.</i>
Bracken Fern	<i>Pteridium aquilinum</i>
Briers	<i>Smilax spp.</i>
Broomsedge Bluestem	<i>Andropogon virginicus</i>
Cinnamon Fern	<i>Osmunda cinnamomea</i>
Common Ragweed	<i>Ambrosia artemisiifolia</i>
Fetterbush	<i>Lyonia lucida</i> (Lam.) Koch
Gallberry	<i>Ilex glabra</i>
Grapevine	<i>Vitis rotundifolia</i>
Graygreen Reindeer Lichen	<i>Cladina rangiferina</i>
Maidencane	<i>Panicum hemitomon</i>
Meadowbeauty	<i>Rhexia spp.</i>
Partridge Pea	<i>Chamaechrista fasciculata</i>
Paw Paw	<i>Asimina spp.</i>
Primrose Willow	<i>Ludwigia octovalvis</i>
Saw Palmetto	<i>Serenoa repens</i>
Sedges	<i>Carex spp. and Cyperus spp.</i>
Virginia Creeper	<i>Parthenocissus quinquefolia</i>

Common Name	Scientific Name
White Milkweed	<i>Asclepias variegata</i> L.
Wiregrass	<i>Aristida stricta</i>
Yellow Foxtail	<i>Setaria glauca</i> (L.) Beauv.
Yellow Milkwort	<i>Polygala rugelii</i>

The overstory trees found within the pine flatwoods include but are not limited to the following:

Table 5: Overstory Trees within the Pine Flatwoods

Common Name	Scientific Name
Brazilian Pepper	<i>Schinus terebinthifolia</i>
Cabbage Palm	<i>Sabal palmetto</i>
Dahoon Holly	<i>Ilex cassine</i>
Laurel Oak	<i>Quercus laurifolia</i>
Live Oak	<i>Quercus virginiana</i>
Loblolly Bay	<i>Gordonia lasianthus</i>
Persimmon	<i>Diospyros virginiana</i>
Red Bay	<i>Persea borbonia</i>
Red Maple	<i>Acer rubrum</i>
Slash Pine	<i>Pinus elliottii</i>
Water Oak	<i>Quercus nigra</i>
Wax Myrtle	<i>Myrica cerifera</i>

Within the mature stands of pine flatwoods timber which equal approximately 59 acres, continue to monitor the stands health and growth. Basal Area is a measurement used by foresters to determine proper stocking, and to promote good growth and vigor of a stand of timber. This measurement represents the amount of square feet of space per acre the tree stems are utilizing within the stand. Scientific studies have found that 55 to 60 square feet/acre of Basal Area is excellent for the growth and vigor of a stand of timber.

Live Crown Ratio (LCR), the percentage of a tree's stem containing living branches, is another measurement used in conjunction with the basal area measurement to determine the vigor of a stand of timber. Once your pine stand reaches the age threshold for maximum productivity (between ages 15 to 18) a combination of the measurement of the stand's average basal area and the average amount of live crown ratio should be conducted to determine if the trees need to be thinned or not at that time.

If the basal area within the stand is at or above 100 square feet/acre, and the live crown ratio falls near or below 30%, the trees within the stand may start becoming stagnant. A landowner should consider utilizing a selective harvest of the over mature timber at that time.

FES reconnoitered the mature portions of the pine flatwoods stand and made an ocular estimate of the timber present. The volume numbers provided are ocular estimates and should not be used as exact figures. They are being provided as a guide in your decision-making process. Your volume numbers and the prices offered for your timber may vary depending upon the results of a more formal timber inventory and the status of the timber market at the time the timber would be harvested.

Currently, the basal area of the pines within this stand averages 87 square feet/acre and they have between 35% and 40% LCR. The average height of the timber is 70 feet tall. The timber is almost evenly distributed between the pine pulpwood, pine barn pole, and pine saw timber product classes.

Pine pulpwood is described as any merchantable pine trees with a minimum length of 16 feet to a 3-inch top diameter inside bark (DIB) which are not suitable for any other products. Pine chip-n-saw/small poles are described as any merchantable pine trees of suitable quality with minimum measurements of between a 10” and 13” diameter at breast height (DBH), which is 4.5’ above ground level, 32.0 feet in log-length to a 6-inch diameter inside bark (DIB) top. Pine saw logs are described as any merchantable pine trees of suitable quality with minimum measurements of an 11.0-inch DBH, and 30 feet in length to an 8.0-inch DIB top. Class poles are trees that meet ANSI specifications for poles and are at least 13” DBH and 45’ long with no defects or curvature.

Approximately 4,994 tons of timber currently exists within the pine flatwoods. This is equal to approximately 2.5-truckloads of timber per acre. Table 6 provides the products, and approximate total volume of wood within the pine flatwoods of the Dann property.

Table 6: Current Estimated Total Volume of Timber within the Pine Flatwoods

Product	Current Volume	% of Stand
Pine Pulpwood	2,247 tons	45%
Pine Barn Poles	750 tons	15%
Pine Sawlogs	1997 tons	40%
Totals	4,994 tons	100%

Since the average basal area does not yet exceed 100 square feet/acre across the entire pine flatwoods, all areas do not need to be treated at this time. In those areas of the pine flatwoods where the average basal area exceeds 100 square feet/acre utilize a selective harvest of the timber within this acreage to enhance forest health and reduce hazardous fuel loads upon favorable market conditions. Conducting a selective harvest is the most common type of initial harvest. Typical thins within natural pine stands selectively harvest the trees, removing the worst trees first (those that are stagnant, diseased, or genetically inferior trees), leaving you with the healthiest, and highest product class trees for future considerations. With the amount of over mature timber that is present, once a market exists for barn

poles and saw logs, you may want to selectively harvest the larger older trees and “release” the young, healthy, growing trees. Selectively thinning the pine flatwoods will continue to open up the understory making it easier to perform future mechanical fuel reduction operations, and prescribed burns. If any selectively harvested area has no pines present in the overstory and no pine regeneration present in the understory, those individual areas could be site prepared and replanted in the winter months with the appropriate species of pine within two years of the harvest. The landowner wishes to keep the northernmost portion of the pine flatwoods as an aesthetic buffer to keep from seeing neighboring properties.

Natural and/or artificial regeneration systems can establish new pine seedlings at the end of the rotation. The current stocking of the trees warrants a harvest in the near future upon favorable markets, and a selective harvest would enhance forest health, reduce hazardous fuels, and maintain proper habitat conditions. Natural regeneration systems utilize seed-trees or shelterwood trees to provide seed for the new crop of pines. The seeds of pine trees germinate best when the soils have been scarified (mineral soil exposed), as is typical following a harvest. Late fall or winter harvests can also have the advantage of adding the seed from the trees being harvested to complement the seed from the residual seed-tree or shelterwood stand. Artificial regeneration involves direct seeding or planting of pine. Site preparation could include herbicide applications, mechanical chopping/mowing, or burning to minimize hardwood competition.

Eighty-nine-acres of the pine flatwoods was pasture land that was continually grazed by cattle. These areas have been allowed to go fallow and have approximately 635 trees per acre of slash pine regeneration, that is approximately eight to ten-feet in height, and have a two-inch average DBH. Monitor these areas and utilize chemical and mechanical treatments to reduce competing vegetation and hazardous fuel. Once the pines reach age fourteen, monitor them according to the previously mentioned basal area and LCR specifications and schedule a selective harvest once the basal area is higher than 100 square feet per acre and the LCR is nearing 30%.

Maintain this stand utilizing a combination of prescribed burning, mechanical and chemical treatments. Begin your fuel reduction regime one complete calendar year after a selective harvest or mechanical/chemical fuel reduction has occurred and maintain on a three to five-year rotation. Waiting one complete calendar year following the thinning will prevent over stressing the pine trees. Prescribed burning, and to a lesser extent, mechanical and chemical treatments will recycle nutrients for the pines, as well as promote new herbaceous vegetation growth for wildlife.

1841: Roads/Fire Lines – 31.1 acres

Woods roads and fire lines are found along the property boundary and within the middle of the tract separating the various stands and allowing access throughout the property. These fire lines and roads should be continually maintained and allow easy access for all types of vehicular traffic. The fire lines and roads encompass 3.1% of the acreage found on-site.

2111: Wet Prairie – 3.8 acres

This stand is a series of wet weather ponds found throughout the different stand types that have standing water, and various wetland herbaceous species in the understory. This stand represents 0.4% of the total property acreage. These areas serve as water retention areas during the times of seasonal high water. Wet prairies have a shorter hydroperiod and stay drier for a longer period of time than do freshwater marshes, which have longer hydroperiods and stay wetter for longer periods of time. When dry, the wet prairies can be roller chopped or bush-hog mowed, and receive prescribed burns. These treatments reduce/eliminate competing woody vegetation and enhance the native aquatic grasses. The understory vegetation is typically very light with the areas being inundated with water during the majority of the year. The understory species typically found within freshwater marshes include but are not limited to:

Table 7: Understory Vegetation within the Wet Prairie Stands

Common Name	Scientific Name
Cinnamon Fern	<i>Osmunda cinnamomea</i>
Duck Potato	<i>Sagittaria lancifolia</i>
Maidencane	<i>Panicum hemitomon</i>
Meadowbeauty	<i>Rhexia spp.</i>
Pickerelweed	<i>Pontederia cordata L.</i>
Red Root	<i>Lachnanthes caroliana</i>
Sedges	<i>Carex spp. and Cyperus spp.</i>
Soft Rush	<i>Juncus effuses</i>
St. John's Wort	<i>Hypericum perforatum</i>

If feasible, manage these areas with a combination of mechanical treatments and prescribed burning. Place nesting boxes for wood ducks, as well as duck nesting platforms along the edges and within these areas to encourage the nesting and breeding of these species. Preferably, place boxes over an area, which holds water during the nesting season to help reduce the chances of predation. Place the box 6-10 ft off the ground with a predator guard approximately 3 ft from the high-water mark. Maintain Wood duck boxes yearly by cleaning and replacing nesting material.

2233: Mixed Wetland Hardwoods – 380.9 acres

This ecological community comprises 38% of the total tract acreage and contains a mix of wetland hardwood and cypress trees. These wetland hardwoods are found throughout the property. The understory within the mixed wetland hardwood stand consists of grasses and woody shrub species. This stand was burned over in the wildfires of 1998 and then clear-cut salvage harvested shortly thereafter. The stands are now recovering and have copious amounts of natural regeneration that is ten-years old. The understory species within this ecological community consists of but are not limited to:

Table 8: Understory Vegetation Present within the Mixed Wetland Hardwood Stand

Common Name	Scientific Name
Blackberry	<i>Rubus betulifolius</i>
Briers	<i>Smilax spp.</i>
Broomsedge Bluestem	<i>Andropogon virginicus</i>
Cinnamon Fern	<i>Osmunda cinnamomea</i>
Duck Potato	<i>Sagittaria lancifolia</i>
Maidencane	<i>Panicum hemitomon</i>
Meadowbeauty	<i>Rhexia spp.</i>
Pickerelweed	<i>Pontederia cordata L.</i>
Primrose Willow	<i>Ludwigia octovalvis</i>
Red Root	<i>Lachnanthes caroliana</i>
Sedges	<i>Carex spp. and Cyperus spp.</i>
Soft Rush	<i>Juncus effuses</i>
St. John's Wort	<i>Hypericum perforatum</i>

The species within the overstory of this ecological community include but are not limited to the following:

Table 10: Overstory Trees Present within the Mixed Wetland Hardwood Stand

Common Name	Scientific Name
Blackgum	<i>Nyssa biflora Walt.</i>
Cabbage Palm	<i>Sabal palmetto</i>
Coastal Plain Willow	<i>Salix caroliniana</i>
Dahoon Holly	<i>Ilex cassine</i>
Loblolly Bay	<i>Gordonia lasianthus</i>
Pond Cypress	<i>Taxodium ascendens Brongn.</i>
Red Maple	<i>Acer rubrum</i>
Slash Pine	<i>Pinus elliottii</i>
Swamp Bay	<i>Persea palustris</i>
Water Oak	<i>Quercus nigra</i>
Wax Myrtle	<i>Myrica cerifera</i>

Access to these stands is seasonally limited during wet climatic periods due to a lack of graded roads. This evaluation assumes that if harvesting is a goal of the landowner, the timber will be harvested when drier ground conditions prevail and the would-be timber buyer will make investments in road infrastructure on a limited basis at best. In addition to problems of product transport, harvesting when wet stand conditions exist can lead to undesirable rutting and soil compaction during harvest.

Outstanding Florida Waterways (OFW) and intermittent and perennial streams need to be

protected with appropriate Special Management Zones (SMZ) as prescribed by *Silviculture Best Management Practices for Florida* (Florida Department of Agriculture and Consumer Services, 2011). Currently no OFW or SMZ exist on the Dann Tract. If any areas requiring an SMZ are located, implement the necessary BMP. SMZ's discourage sedimentation and stream bank erosion. The SMZ's provide wildlife habitat for forest dwellers, while also protecting the aquatic biological community. Tree cover provides shade to minimize water temperature fluctuation and provides a source of detritus and woody debris that benefits the aquatic ecosystems in general.

This stand is considered wetlands as defined by the *Silviculture Best Management Practices for Florida* (Florida Department of Agriculture and Consumer Services, 2011). The wetlands are greater than two (2) acres in size but less than two hundred (200) acres in size. These areas can be clear-cut, retaining at least ten (10) percent of the overall harvest area as selectively harvested. If a well-defined stream is present within the wetland, the aforementioned SMZ's must be applied along the stream banks, and that SMZ can constitute the ten (10) percent retention area. Selectively harvest the timber within the ten (10) percent retention area by removing the over mature, diseased, stagnant timber, and leaving young healthy timber to grow. Additionally, any snags (dead trees) need to be retained, unless they cause safety concerns during the harvesting.

Heavy equipment operation should be minimized during wet conditions, and low ground pressure equipment should be utilized if harvesting during excessively wet periods is unavoidable. Whenever possible harvesting should utilize hand crews or low ground pressure tracked equipment during dry conditions or at least when water levels are normally at their lowest to minimize damage to the residual stand. In typical years, harvesting should occur between the months of October and May when the State is at its driest. Taking these actions will help prevent the destruction of Florida's precious resources.

Hardwood pulpwood is described as, any merchantable hardwood trees with a minimum length of 16 feet to a 4.0-inch DIB top, which is not suitable quality for veneer. Hardwood veneer is described as, any merchantable hardwood trees of suitable quality with minimum measurements of 13.0-inch diameter at breast height (DBH) and 16 feet in length to a 10.0-inch DIB top. Cypress mulch-wood is comprised of any merchantable cypress trees not suitable for any other product classes. Cypress B-logs are classified as any merchantable cypress trees of suitable quality with minimum measurements of 8.0-inch DBH, 31 feet in length to a 3-inch top. Cypress sawtimber is defined as any merchantable cypress trees of suitable quality with minimum measurements of 16 feet in length to a 6.0-inch DIB top.

The majority of the acreage within the mixed wetland hardwoods is considered pre-merchantable and no harvesting needs to be scheduled for the next twenty to thirty-years. The mixed wetland hardwood stands are so aesthetically pleasing that harvesting these areas may ruin the beauty of this stand, and be a detriment rather than enhance habitat. Therefore, no harvesting is currently suggested for these areas. If interested in a harvest, monitor the stand and market conditions and schedule a harvest when the timber is mature and when market prices are high.

3210: Farm Pond – 1.8 acres

This stand includes man-made ponds found within the property that provided a water source for the previous cattle operation. Since the cattle have been removed, various forms of wildlife can benefit from these areas and can utilize the ponds as a source of water and nutrients. Maintain these areas and the edges of the ponds mechanically, chemically, or with prescribed fire to reduce the vegetation around and within them. These areas are also very aesthetically pleasing and are wonderful areas to just relax and enjoy nature.

183314: Woodland Pasture – 11.7 acres

This stand represents 1.2% of the total tract acreage and was previously utilized by a cow/calf operation. This stand is found within the southern portion of the property and consists of two pastures. The stand is open consisting of grasses with the overstory being a widely scattered mix of hardwoods, pines, and palm trees. The landowner currently bales hay from these areas and uses them as open areas/edge effects for wildlife to utilize.

1833210: Coniferous Plantation 2010 – 138.1 acres

This pine plantation comprises 13.8% of the total tract acreage. This stand was a mature pine plantation that was affected by the wildfires of 1998. The site was salvage clear-cut in 1998. The site was then site prepared, which included bedding and planted in 1999. This area suffered another wildfire in 2009 and was cleared and planted again in 2010. The slash pines are now approximately ten-years old and have a density of approximately 565 trees per acre. The trees average approximately four-inches in Diameter at Breast Height (DBH), and range in height from twenty-five to thirty feet tall. The understory consists of light herbaceous and woody stemmed vegetation that is easy to navigate in some areas, and then in other areas the vegetation is moderately rough and difficult to navigate. The understory vegetation found within the coniferous plantation stand type includes, but is not limited to the following:

Table 11: Understory Vegetation found within the 2010 Coniferous Plantation

Common Name	Scientific Name
Beaked Panicgrass	<i>Panicum anceps</i>
Blackberry	<i>Rubus betulifolius</i>
Blueberry	<i>Vaccinium spp.</i>
Bracken Fern	<i>Pteridium aquilinum</i>
Briers	<i>Smilax spp.</i>
Broomsedge Bluestem	<i>Andropogon virginicus</i>
Cinnamon Fern	<i>Osmunda cinnamomea</i>
Common Ragweed	<i>Ambrosia artemisiifolia</i>
Fetterbush	<i>Lyonia lucida</i> (Lam.) Koch
Grapevine	<i>Vitis rotundifolia</i>
Graygreen Reindeer Lichen	<i>Cladina rangiferina</i>

Common Name	Scientific Name
Maidencane	<i>Panicum hemitomon</i>
Meadowbeauty	<i>Rhexia spp.</i>
Saw Palmetto	<i>Serenoa repens</i>
Sedges	<i>Carex spp. and Cyperus spp.</i>
Wiregrass	<i>Aristida stricta</i>
Yellow Milkwort	<i>Polygala rugelii</i>

The overstory contains, but is not limited to, the following tree species:

Table 12: Overstory Trees within the 2010 Coniferous Plantation

Common Name	Scientific Name
Cabbage Palm	<i>Sabal palmetto</i>
Dahoon Holly	<i>Ilex cassine</i>
Slash Pine	<i>Pinus elliottii</i>
Wax Myrtle	<i>Myrica cerifera</i>
Winged Sumac	<i>Rhus copallinum</i>

Many landowners who have planted pines on their tracts do not realize they could be receiving supplemental income from harvesting pine straw. Pine straw has become a “hot” commodity throughout the Southeast because of its use in all forms of landscaping. Most planted pine stands that have relatively low amounts of weedy vegetation in the understory are perfect for raking.

The rows between the pines should be mowed at least once, but preferably twice a year. If mowing once, the pines should be mowed in November/December. If mowing twice, the pines should be mowed once in July/August and again in November/December. Mowing should continue between the rows of pines until the pine’s growth inhibits machine accessibility. This would reduce the amount of competing vegetation, and create a “clean” understory for easier harvesting. Having a “clean” site will enable the pine straw to be harvested without debris, making the final product high in value. Therefore, the cleaner the site the more money the landowner will receive from a pine straw producer.

Mowing Alternative (for wildlife): At first, the landowners should try to mow every row to knock back vegetation growth. Thereafter, 1/3 (or 1/5 if time and economics are limiting factors) of the plantation should be mowed each winter. This can be easily accomplished by mowing every third row of the plantation. Rotating the areas, which are mowed each year, will create adjacent “rough areas” that contain different stages of vegetation growth. By leaving “rough areas”, you are creating ideal nesting and cover habitat for most ground nesting birds, such as the bobwhite quail and wild turkey, while still reducing vegetation competition with the pines and providing forage for deer.

Most slash pine plantations would be ready to have pine straw raked at approximately age seven (7). At this point, mowing should cease, and the planted pines should receive an herbicide application in the late summer/early fall. An application of 1½ quarts of Accord per acre will further eliminate

competing weedy vegetation and create an excellent site for pine straw harvesting. A site-specific herbicide recommendation is desirable to refine the herbicide prescription prior to application.

The short rotation time of pine straw harvesting allows landowners the ability to reap benefits from their investment more quickly. The first raking could generate enough money to offset the initial startup and planting costs of establishing the pines. One harvest of pine straw can occur in any one-year, with the possibility of raking continuing until the pines reach age eighteen (18). Raking pine straw would have little detrimental effect on the residual stand of pine trees, and would reduce chances of a wildfire spreading quickly through the pines. Fertilizer applications can be considered to offset nutrient loss from straw raking and to increase both straw and wood production. Monitor the growth rates of the pines between the ages of fifteen and eighteen. This will keep the trees from becoming stagnant. If the trees have reached their peak in growth, it would then be time to formulate a plan to harvest the timber to promote stand health and growth.

Once the pines reach maturity the health of the pines should be reviewed by checking the Basal Area and Live Crown Ratio of the trees. As found within the pine flatwoods stand description, if the basal area within the plantation is at or above 100 square foot per acre, the trees within the plantation are becoming stagnant, and the live crown ratio falls near or below 30%, consider a thinning at that time. Conducting row thinning is the most common type of initial harvest. Typically, initial row thins indiscriminately remove every third, fifth, or seventh row, and selectively harvest the remaining rows, removing the worst trees first (those that are stagnant, diseased, or genetically inferior trees), leaving you with the healthiest, and highest product class trees for future considerations. If any selectively harvested area has no pines present in the overstory and no pine regeneration present in the understory, those individual areas should be site prepared and replanted in the winter months with the appropriate species of pine within two years of the harvest.

Pine pulpwood is described as, any merchantable pine tree with a minimum length of 16 feet to a 3-inch top diameter inside bark (DIB) which are not suitable for any other products. Pine barn poles are described as; any merchantable pine tree of suitable quality with minimum measurements of 32.0 feet in log-length to a 6-inch diameter inside bark (DIB) top and 10" diameter at the butt. Pine saw logs are described as any merchantable pine trees of suitable quality with minimum measurements of an 11.6-inch diameter at breast height (DBH), which is 4.5' above ground level and 32 feet in length to an 8.0-inch DIB top. Class poles are trees that meet ANSI specifications for poles and are at least 13" DBH and 45' long with no defects or curvature.

Monitor this stand over the next ten years and measure the basal area and LCR at maturity to ensure forest health. Once the stand is nearing the maximum density and minimum LCR measurements and upon favorable weather and market conditions, schedule this stand of timber to be marked and receive a row thinning.

Schedule the timber sale when the timber mills lose inventory and they raise the prices being offered for the wood. Take advantage of market conditions when the weather allows you to do so and sell your timber when the market is high. Since this property is subjected to flooding conditions, the best time to harvest timber would be during the driest times of the year, which normally occur from October

through November, and March through mid-May of any given year. Remove all stagnant, diseased, and genetically inferior trees during the harvest. Leave the best timber to grow for future harvesting and sustainability of the forest.

After one complete calendar year following the thinning of your timber, a three to five-year prescribed burning or chemical/mechanical fuel reduction regime should be initiated on the stand during the dormant season. This will recycle nutrients for the pines, as well as promote new herbaceous vegetation growth for wildlife.

18333299 & 1833321999: Coniferous Plantation 1999 – 286.4 acres

This pine plantation comprises 28.6% of the total tract acreage. This stand was a mature pine plantation that was affected by the wildfires of 1998. The site was salvage clear-cut in 1998. The site was then site prepared, which included bedding and planted in 1999. The slash pines are now approximately twenty-one-years old and within the un-thinned areas have a density of approximately 113 square feet of basal area per acre. The trees average approximately six-inches in DBH, and average forty-eight feet tall. Within the thinned areas the pines have a density of approximately 83 square feet of basal area per acre, average six-inches in DBH, and average 51-feet tall. The understory consists of heavy and dense herbaceous and woody stemmed vegetation that is difficult to navigate. The understory vegetation found within the coniferous plantation stand type includes, but is not limited to the following:

Table 13: Understory Vegetation found within the 1999 Coniferous Plantation

Common Name	Scientific Name
Beaked Panicgrass	<i>Panicum anceps</i>
Blackberry	<i>Rubus betulifolius</i>
Blueberry	<i>Vaccinium spp.</i>
Bracken Fern	<i>Pteridium aquilinum</i>
Briers	<i>Smilax spp.</i>
Broomsedge Bluestem	<i>Andropogon virginicus</i>
Cinnamon Fern	<i>Osmunda cinnamomea</i>
Common Ragweed	<i>Ambrosia artemisiifolia</i>
Fetterbush	<i>Lyonia lucida</i> (Lam.) Koch
Gallberry	<i>Ilex glabra</i>
Grapevine	<i>Vitis rotundifolia</i>
Graygreen Reindeer Lichen	<i>Cladina rangiferina</i>
Maidencane	<i>Panicum hemitomon</i>
Meadowbeauty	<i>Rhexia spp.</i>
Paw Paw	<i>Asimina spp.</i>
Saw Palmetto	<i>Serenoa repens</i>
Sedges	<i>Carex spp. and Cyperus spp.</i>
Wiregrass	<i>Aristida stricta</i>

Common Name	Scientific Name
Yellow Milkwort	<i>Polygala rugelii</i>

The overstory contains, but is not limited to, the following tree species:

Table 14: Overstory Trees within the 1999 Coniferous Plantation

Common Name	Scientific Name
Cabbage Palm	<i>Sabal palmetto</i>
Dahoon Holly	<i>Ilex cassine</i>
Slash Pine	<i>Pinus elliottii</i>
Wax Myrtle	<i>Myrica cerifera</i>
Winged Sumac	<i>Rhus copallinum</i>

This stand was contracted to be marked, inventoried, and harvested in May of 2015. The selective harvest was marked as a fifth row thin whereas every fifth row was removed, and the remaining rows had the trees marked with blue paint to keep, removing the worst trees first (those that are stagnant, diseased, or genetically inferior trees), leaving the healthiest, and highest product class trees for future considerations.

The timber was sold in March of 2017, and to date approximately 155-acres has been thinned, with 131-acres remaining to be thinned. Several factors have hampered thinning of the stand. Mill closures and quotas have been one factor, and the property’s propensity to flood being the other. Over the last three-years, if the site was dry enough to harvest, the mills would have problems taking the wood, or when the mills would be able to take the wood, the site was too wet to harvest. During the most recent thinning in the Spring of 2020, some of the thinned areas just had the fifth rows removed without the remaining four rows being thinned because of production problems at the mill. When the loggers move back to the site, they will need to re-visit those areas and thin the remaining rows appropriately.

Currently the site is too wet, and the local mill (Soil & Mulch Co.) is having issues with their equipment. If the mill fixes their issues, as they say they will by September 2020, the next opportunity to thin the remainder of the stand may be October 2020 (depending upon the weather and site conditions). To date, 179 loads of timber have been harvested from this stand, equaling 4,793.58 tons of timber. The timber has been harvested and sent to the mills as pine pulpwood, pine mulchwood, and pine fence posts.

After one complete calendar year following the thinning of your timber, a three to five-year prescribed burning or chemical/mechanical fuel reduction regime should be initiated on the stand during the dormant season. This will recycle nutrients for the pines, as well as promote new herbaceous vegetation growth for wildlife.

Any treatments occurring in the stands within the Dann property should not compromise the integrity and/or environmental sensitivity of the areas, or wildlife found within them.

FINANCIAL BENEFITS OF FOREST/WILDLIFE MANAGEMENT

Although the property owner can receive revenues as a direct result of marketing the forest products from his property, additional potential benefits are afforded to the landowner. These benefits take several forms as follows:

Reduced Ad Valorem Assessment

Timberland Management can result in drastically reduced ad valorem taxation for the property owner. However, the landowner should submit a written forest management plan for the property and make a good faith effort to follow the recommendations within the plan to qualify for, and retain, the forestry assessment.

Cost Share Assistance

Federal and state cost share assistance is available to landowners to encourage them to manage their lands for timber and wildlife benefits. You may be eligible for assistance through the NRCS Environmental Quality Incentives Program (EQIP) or through the Conservation Stewardship Program (CSP). Both programs provide technical and financial assistance to eligible producers to conserve and enhance soil, water, air, and related natural resources. Cost share assistance is often available for reforestation, timber stand improvement (hardwood and exotic species control), brush management, prescribed burning and other forestry/wildlife conservation practices. Cost share assistance is not a loan and does not require repayment to the federal government; however, some recapture restrictions may apply. Depending on the program, cost sharing is available through the FFS, or FFWCC. However, demand for these funds can at times exceed availability; therefore, funding priorities are based upon a competitive ranking system. The contact information for the NRCS office in Volusia County is (386) 985-4037 ext. 3. A list of the various cost share programs offered by NRCS can be found at the following link: <http://www.nrcs.usda.gov/programs/>. The contact number for the FFS County Forester for Volusia County is (386) 985-7817. The contact number for a FFWCC Private Lands Biologist is (352) 732-1225. Cost share rates vary by program and practice; consult these agencies for more details.

Expensing Reforestation Costs⁶

Reforestation after October 22, 2004: The first \$10,000 of reforestation costs, including but not limited to, site preparation, seedlings, labor, equipment depreciation, etc. within a Qualified Timber Property “QTP” can be expensed as a business or investment expense. Any reforestation costs in excess of \$10,000 can be amortized over an 84-month period, with no limit to the amount that can be amortized. This reforestation tax credit must be filed for the year in which the costs were incurred, regardless of when reforestation was actually completed. Consult a tax specialist prior to filing.

Capital Gains Treatment⁷

In most cases, a private non-industrial landowner who sells timber can receive a long term capital gains tax rate of 20 percent. This gain is based upon the difference in the timber basis from the time of the purchase of the property (or when the initial basis was established) to the time of the sale of the timber. Only the gain in the timber is taxed. Therefore, it is important to establish the basis in the timber at the time of the purchase of the property. Consult with a tax specialist prior to claiming and filing such a gain.

Portfolio Diversification

When analyzing an investment, modern portfolio management suggests it is prudent not only to analyze the risk of the investment itself, but also the effect of risk the investment would have on the investor's entire portfolio. The added diversification of timber investments may have downward pressure on portfolio risk. Timber and timberland are often considered moderately low risk investments. Also, as an investment, they tend to not cycle closely with other traditional investments such as stocks. This further reduces portfolio risk.

Flexibility in Timing of Harvests / Cash Flow

One of the advantages of timber investments is flexibility in the timing of harvests. Unless fire, insects, or pathological problems dictate harvests, there is typically reasonable opportunity to adjust harvest schedules to meet the financial objectives and needs of the landowner to provide cash flow and maximize financial parameters and other benefits. Even when growth in prices is stagnant, biological growth can continue realizing gains in stand volume and value.

⁶ Summarized from <http://www.timbertax.org/getstarted/reforestation/>

⁷ Summarized from <http://www.timbertax.org/getstarted/sales/capitalgains/>

TIMETABLE OF MANAGEMENT RECOMMENDATIONS

Provided below is a breakdown of management recommendations by year, season, stand, and practice. These recommendations are provided to enhance the timber management and wildlife habitat utilizing proper silvicultural treatments, but are not mandatory.

Year	Season	Stand	Management Practice
2020+	Fall/Winter	All	Maintain fire lines/trails
2020+	Fall	All	Selective herbicide to non-native invasive species
2020+	Fall	18333210	Chemical or mechanical treatment between rows of planted pines
2020+	Fall/Spring	1833321999	Continue selective harvest of pines.
2021+	Fall	18333210	Pine straw harvesting of slash pine (if feasible conduct for the next eight to ten years)
2022	Fall	1300	Chemical or mechanical treatment to understory vegetation.
2023	Winter	1300, 18333210, 1833299, 183321999	Prescribed burning, repeat every 3 to 5 years (if pine straw harvesting is not feasible in 2010 stand)
2025	Any	All	Update management plan
2028	Winter	1300, 18333210, 1833299, 183321999	Prescribed burning, repeat every 3 to 5 years (if pine straw harvesting is not feasible)
2029	Fall	1300, 18333210, 18333299, 1833321999	Selective harvest of pine flatwoods. Initial selective row harvest upon favorable market conditions 2010 stand. Second selective harvest upon favorable market conditions 1999 stand.
2030	Any	All	Update management plan
2031	Winter	1300, 18333210, 1833299, 183321999	Prescribed burning, repeat every 3 to 5 years
2035	Any	All	Update Management Plan
2036	Winter	1300, 18333210, 1833299, 183321999	Prescribed burning, repeat every 3 to 5 years

Year	Season	Stand	Management Practice
2039	Summer	1300, 18333210, 1833299, 183321999	Selective harvest of pine flatwoods. Second selective row harvest upon favorable market conditions 2010 stand. Final selective harvest upon favorable market conditions 1999 stand.
2040	Winter	1300, 18333210, 1833299, 183321999	Prescribed burning, repeat every 3 to 5 years
2040	Any	All	Update Management Plan

***The + symbol means to continue the management practice on an annual basis**

Stand Land Use Code	Description
1300	Pine Flatwoods
1841	Roads
2111	Wet Prairie
2233	Mixed Wetland Hardwoods
3210	Farm Pond
183314	Woodland Pasture
18333210	Coniferous Plantation – 2010
18333299	Coniferous Plantation – 1999 - Thinned
1833321999	Coniferous Plantation – 1999 - Unthinned

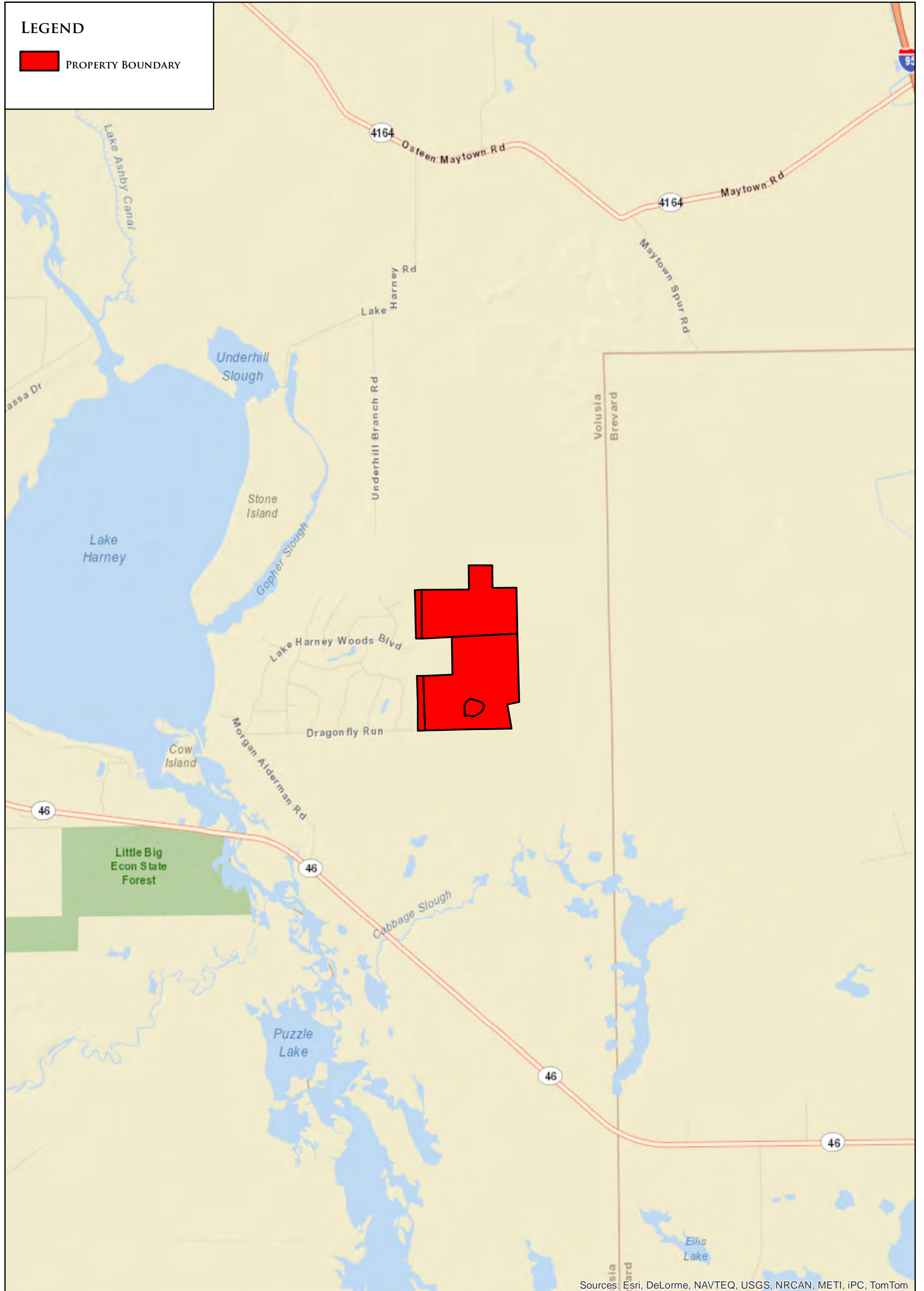
APPENDIX A

Property and Timber Producing Mill Maps

DANN CATTLE CO. INC.
LOCATION MAP
APPROXIMATELY 1,001.7 ACRES
JULY 31, 2020

LATITUDE: 28.730933
LONGITUDE: -81.001068
DECIMAL DEGREES

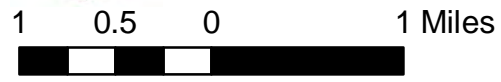
SECTIONS 14, 15, 22 & 23,
TOWNSHIP 20 SOUTH,
RANGE 33 EAST,
VOLUSIA COUNTY, FLORIDA



Sources: Esri, DeLorme, NAVTEQ, USGS, NRCAN, METI, iPC, TomTom



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DADE CITY, FL 33526-0145
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EMAIL: JOE@FESFL.COM



DISCLAIMER:
THIS MAP IS NOT A SURVEY.
ANY DERIVED ACREAGE NUMBERS
ON THIS MAP OR ACCOMPANYING REPORT
ARE APPROXIMATE AND SHOULD ONLY BE
USED FOR PLANNING AND MANAGEMENT PURPOSES.

THIS MAP IS NOT SUITABLE FOR ENGINEERING DESIGN
OR CONSTRUCTION. ANY USE OF ASSOCIATED ACREAGE
NUMBERS FOR SALES OR NEGOTIATIONS IS ENTIRELY AT THE
RISK OF SAID PERSON(S) UTILIZING THE NUMBERS AS SUCH.

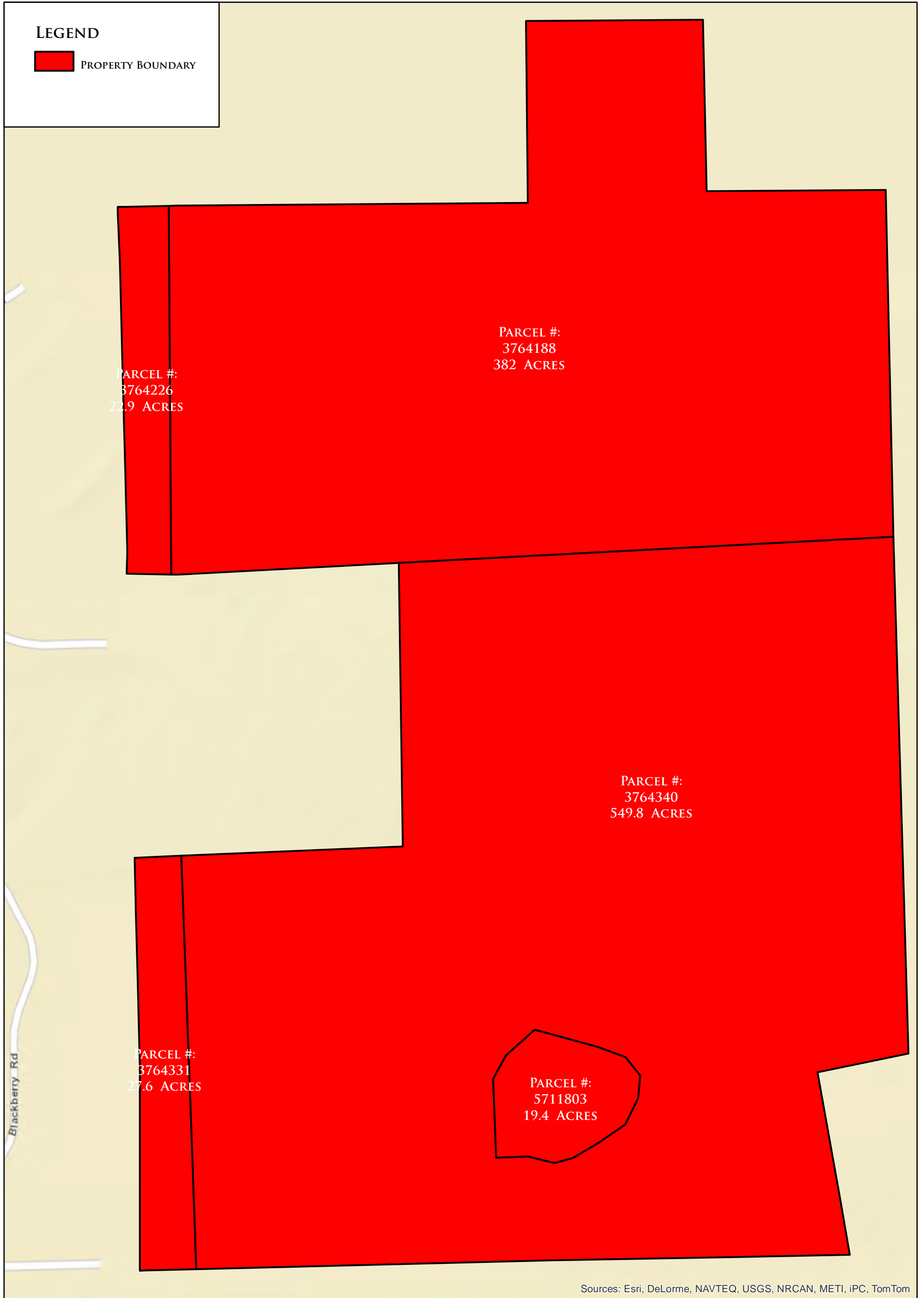
DANN CATTLE CO. INC.
PARCEL MAP
APPROXIMATELY 1,001.7 ACRES
JULY 31, 2020

LATITUDE: 28.730933
LONGITUDE: -81.001068
DECIMAL DEGREES

SECTIONS 14, 15, 22 & 23,
TOWNSHIP 20 SOUTH,
RANGE 33 EAST,
VOLUSIA COUNTY, FLORIDA

LEGEND

 PROPERTY BOUNDARY




Sources: Esri, DeLorme, NAVTEQ, USGS, NRCAN, METI, iPC, TomTom



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700 350 0 700 Feet



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DANN CATTLE CO. INC.
STAND MAP
APPROXIMATELY 1,001.7 ACRES
JULY 31, 2020

LATITUDE: 28.730933
LONGITUDE: -81.001068
DECIMAL DEGREES

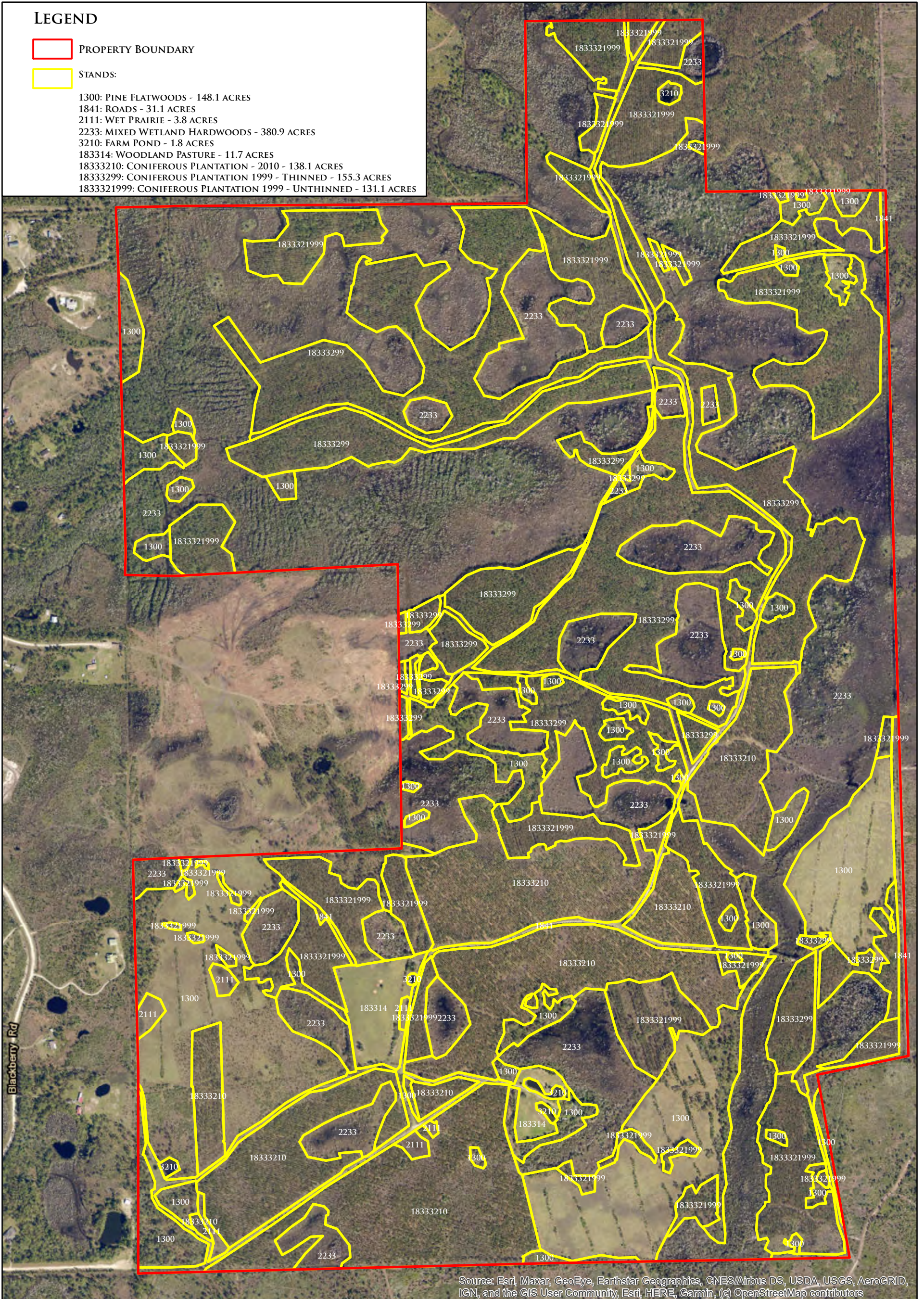
SECTIONS 14, 15, 22 & 23,
TOWNSHIP 20 SOUTH,
RANGE 33 EAST,
VOLUSIA COUNTY, FLORIDA

LEGEND

 PROPERTY BOUNDARY

 STANDS:

- 1300: PINE FLATWOODS - 148.1 ACRES
- 1841: ROADS - 31.1 ACRES
- 2111: WET PRAIRIE - 3.8 ACRES
- 2233: MIXED WETLAND HARDWOODS - 380.9 ACRES
- 3210: FARM POND - 1.8 ACRES
- 183314: WOODLAND PASTURE - 11.7 ACRES
- 18333210: CONIFEROUS PLANTATION - 2010 - 138.1 ACRES
- 18333299: CONIFEROUS PLANTATION 1999 - THINNED - 155.3 ACRES
- 1833321999: CONIFEROUS PLANTATION 1999 - UNTHINNED - 131.1 ACRES



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors



FOREST ENVIRONMENTAL SOLUTIONS, LLC
P.O. BOX 145
DADE CITY, FL 33526-0145
PHONE: 352-206-8776
EMAIL: JOE@FESFL.COM



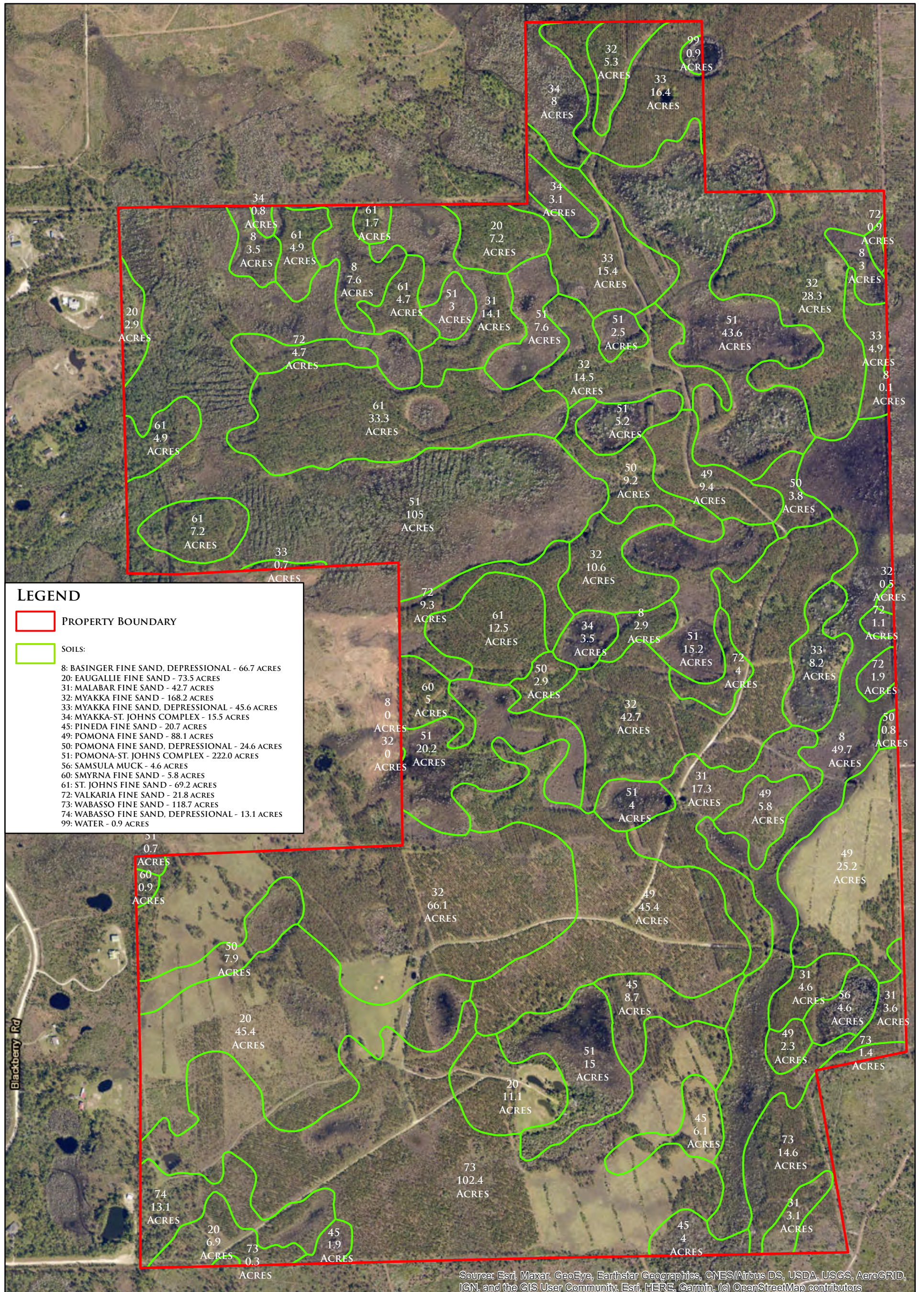
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DISCLAIMER:

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NUMBERS FOR SALES OR NEGOTIATIONS IS ENTIRELY AT THE
RISK OF SAID PERSON(S) UTILIZING THE NUMBERS AS SUCH.



LEGEND

PROPERTY BOUNDARY

SOILS:

- 8: BASINGER FINE SAND, DEPRESSIONAL - 66.7 ACRES
- 20: EAUGALLIE FINE SAND - 73.5 ACRES
- 31: MALABAR FINE SAND - 42.7 ACRES
- 32: MYAKKA FINE SAND - 168.2 ACRES
- 33: MYAKKA FINE SAND, DEPRESSIONAL - 45.6 ACRES
- 34: MYAKKA-ST. JOHNS COMPLEX - 15.5 ACRES
- 45: PINEDA FINE SAND - 20.7 ACRES
- 49: POMONA FINE SAND - 88.1 ACRES
- 50: POMONA FINE SAND, DEPRESSIONAL - 24.6 ACRES
- 51: POMONA-ST. JOHNS COMPLEX - 222.0 ACRES
- 56: SAMSULA MUCK - 4.6 ACRES
- 60: SMYRNA FINE SAND - 5.8 ACRES
- 61: ST. JOHNS FINE SAND - 69.2 ACRES
- 72: VALKARIA FINE SAND - 21.8 ACRES
- 73: WABASSO FINE SAND - 118.7 ACRES
- 74: WABASSO FINE SAND, DEPRESSIONAL - 13.1 ACRES
- 99: WATER - 0.9 ACRES

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors



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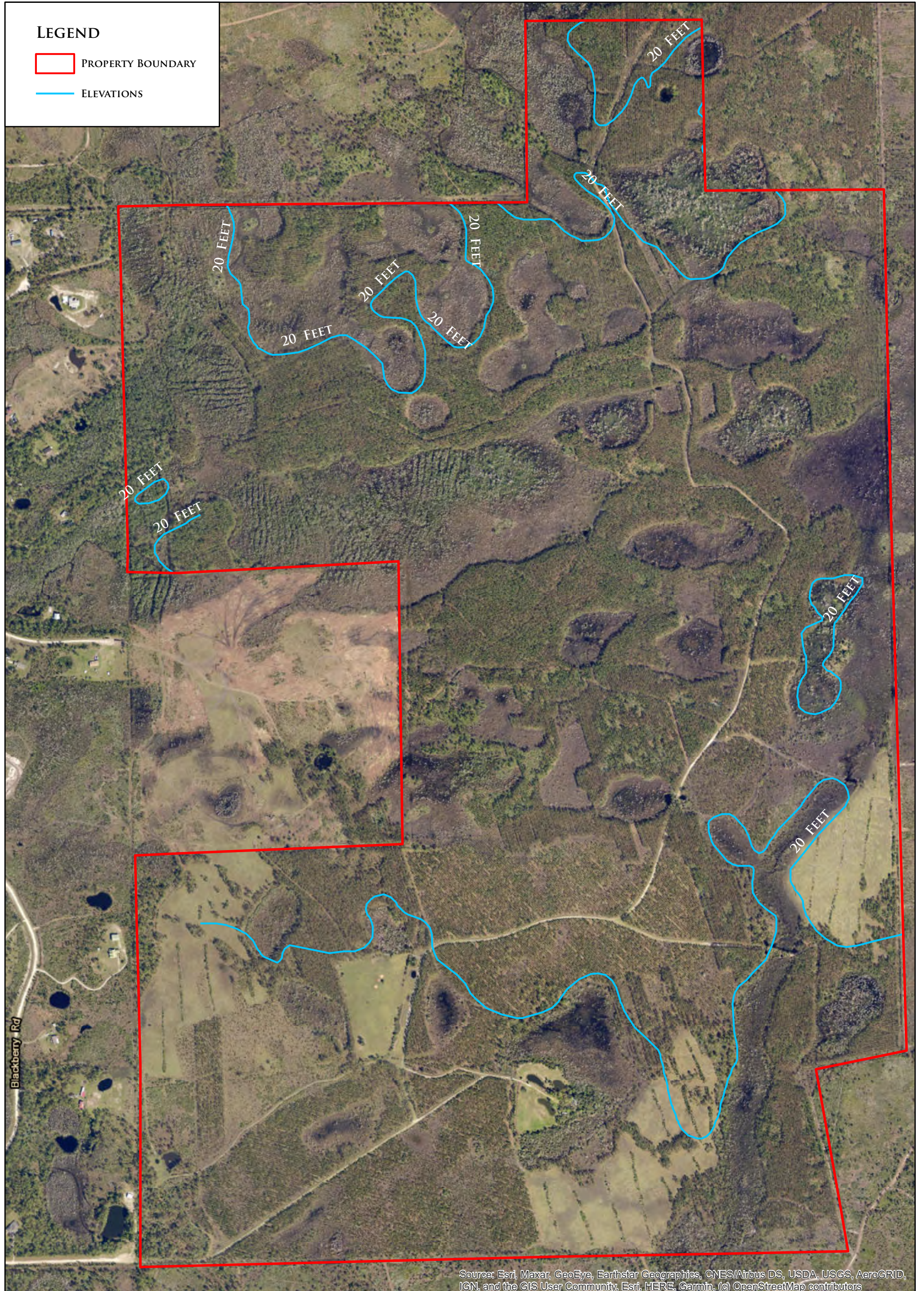
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LEGEND

-  PROPERTY BOUNDARY
-  ELEVATIONS



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STATEWIDE FLORIDA FOREST INVENTORY

Primary Wood-using Mills

Overview

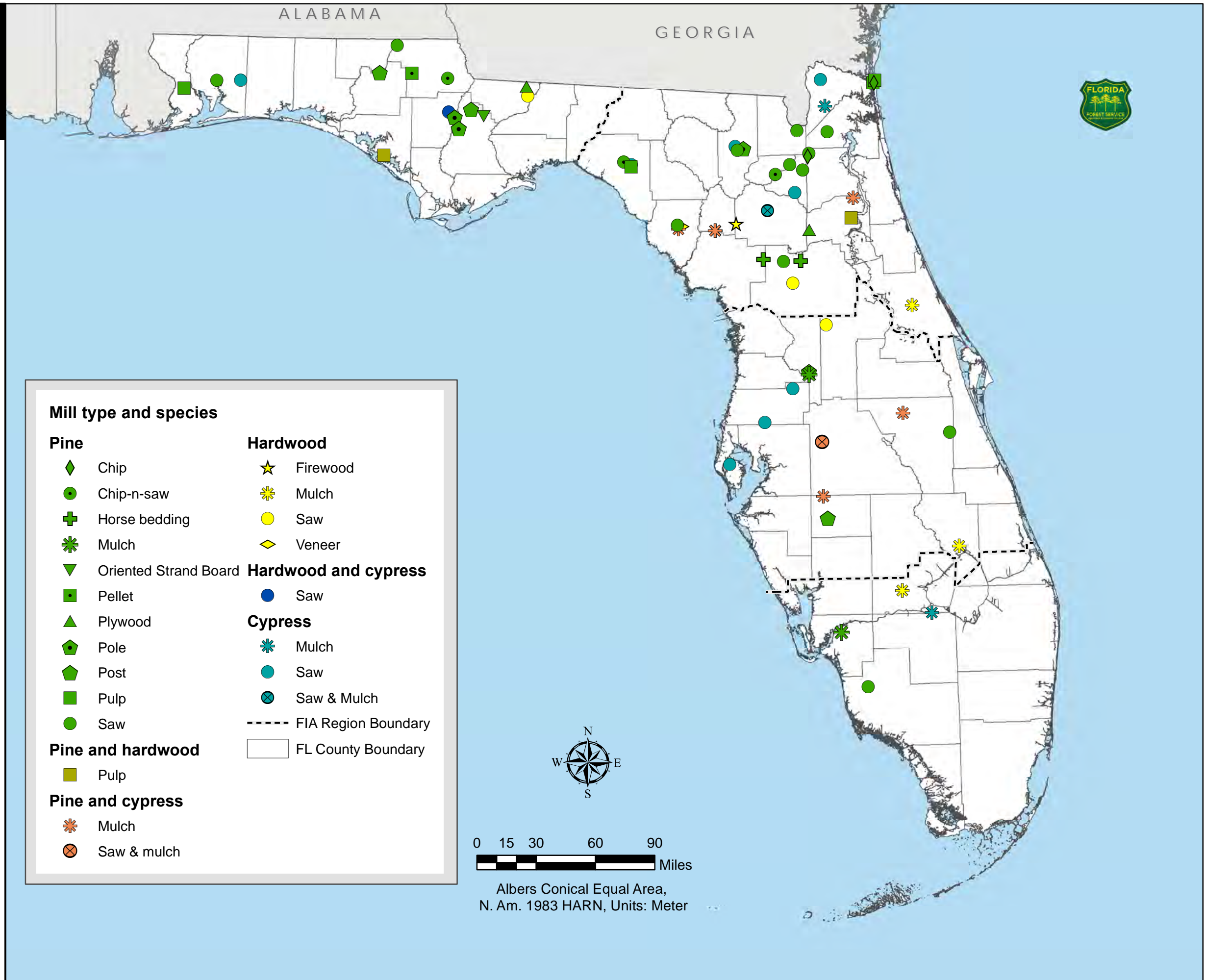
This map was developed as part of the Comprehensive Statewide Forest Inventory Analysis and Study (CSFIAS) initiated by the State of Florida.

The state-wide Primary Wood-using Mills data layer is based on data from BioResource Management Inc., and the Florida Forest Service.



Photo Science and the Florida Dept. of Agriculture and Consumer Services make no warranties, representations or guarantees, either expressed or implied, as to the completeness, accuracy or correctness of the data, nor accept or assume any liability arising from or for any incorrect, incomplete or misleading data provided pursuant to this request.

June 27, 2013



APPENDIX B

Invasive Species Information

Brazilian Pepper-tree Control ¹

Ken Gioeli and Ken Langeland²

Common Name: **Brazilian Pepper-tree**

Scientific Name: *Schinus terebinthifolius*

Family Name: Anacardiaceae, Sumac Family



Figure 1. The Brazilian pepper-tree is an aggressive non-native invader that needs to be controlled throughout Florida.

Florida's natural ecosystems are being degraded by an invasion of non-native plants. This invasion is partially responsible for the declining numbers and quality of native biotic communities throughout Florida.

Brazilian pepper-tree is one of the most aggressive of these non-native invaders. Where once there were ecologically productive mangrove communities, now there are pure stands of Brazilian pepper-trees. Scrub and pine flatwood

communities are also being affected by this invasion. Nearly all terrestrial ecosystems in central and southern Florida are being encroached upon by the Brazilian pepper-tree.

Land managers and home owners now are realizing the need to remove and stop the spread of Brazilian pepper-trees.

History

Brazilian pepper-tree is a native of Argentina, Paraguay, and Brazil. It is thought to have been introduced into Florida around 1842-1849 as a cultivated ornamental plant. *Schinus* is the Greek word for mastic-tree, a plant with resinous sap, which this genus resembles. The species name *terebinthifolius* is a combination of the genus name *Terebinthus* and the Latin word *folia*, leaf. It refers to the leaves of Brazilian pepper-tree that resemble the leaves of species in the genus *Terebinthus*.

Habitat

Brazilian pepper-tree is sensitive to cold temperatures, so it is more abundant in southern Florida and protected areas of central and north Florida. Brazilian pepper-tree successfully colonizes native tree hammocks, pine flatlands, and mangrove forest communities.

1. This document is SS-AGR-17, one of a series of the Agronomy Department, UF/IFAS Extension. Original publication date April 1997. Revised February 2009. Reviewed January 2015. Visit the EDIS website at <http://edis.ifas.ufl.edu>.

2. Ken Gioeli, courtesy Extension agent I, St. Lucie County; and Ken Langeland, professor, Agronomy Department, UF/IFAS Extension, Gainesville, FL 32611.

The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication do not signify our approval to the exclusion of other products of suitable composition. Use herbicides safely. Read and follow directions on the manufacturer's label.

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U.S. Department of Agriculture, UF/IFAS Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Nick T. Place, dean for UF/IFAS Extension.

Identification

Seedlings

The cotyledons are simple with both the apex and the base having an obtuse outline. The margin is generally curved inward on one side. The first true leaves are simple with a toothed margin (Figure 2). The later leaves are compound (Figure 3).

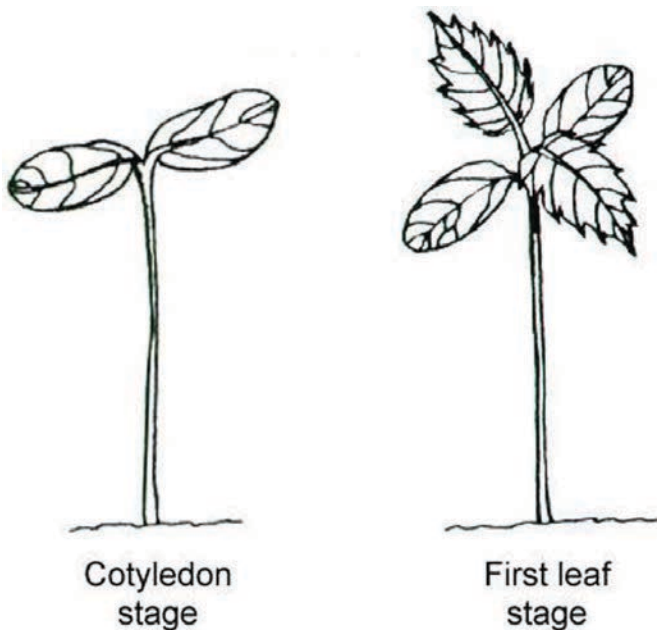


Figure 2. Brazilian pepper seedlings.



Figure 3. Leaves and fruits of mature Brazilian pepper-tree.

Mature Plant

Brazilian pepper-tree is a shrub or small tree to 10 m (33 ft) tall with a short trunk usually hidden in a dense head of contorted, intertwining branches. The leaves have a reddish, sometimes winged midrib, and have 3 to 13 sessile, oblong or elliptic, finely toothed leaflets, 2.5 to 5 cm (1 to 2 in) long (Figure 3). Leaves smell of turpentine when crushed. The plants have separate male or female flowers and each sex occurs in clusters on separate plants. The male and female flowers are both white and are made up of five parts with male flowers having 10 stamens in 2 rows of 5 (Figure 4). Petals are 1.5 mm (0.6 in) long. The male flowers also have a lobed disc within the stamens. The fruits are in clusters, glossy, green and juicy at first, becoming bright red on ripening, and 6 mm (2.4 in) wide. The red skin dries to become a papery shell surrounding the seed. The seed is dark brown and 0.3 mm (0.1 in) in diameter.



Figure 4. Male and female flowers of mature Brazilian pepper-tree.

Biology

Seedlings are flood-tolerant, but rapid change of water level up or down causes some mortality. About 20 percent of seedlings exposed to fire re-sprout. Flowering occurs predominantly from September through November. Male flowers last only 1 day. Female flowers last up to 6 days and are pollinated by insects. Fruits usually are mature by December. Birds and mammals are the chief means of seed dispersal. Seed viability is 30 to 60 percent and can last up to 2 months, but declines to 0.05 percent at 5 months. Many native species have a lower percentage of germination than *Schinus*. The high seed viability combined with animal dispersing agents may explain colonization by Brazilian pepper-tree in our native plant communities.

Seedlings have a high rate of survival and some can be found all year. Any break in the tree canopy can be exploited by seedlings. Reproduction can occur 3 years after germination. Some trees can live for about 35 years.

Control

Using Herbicides

Herbicides are available that aid in the control of Brazilian pepper-trees (Table 1). Only those herbicides that are recommended for Brazilian pepper-tree control should be used. They are safe and effective when used correctly. **It is illegal to use an herbicide in a manner inconsistent with the label's instructions; therefore, read the label carefully and follow the instructions.**

Herbicide Application to Cut-Stump

Brazilian pepper-trees can be controlled by cutting them down and treating the stumps with herbicide. A saw should be used to cut the trunk as close to the ground as possible. Within 5 minutes, an herbicide that contains the active ingredient glyphosate or triclopyr should be applied as carefully as possible to the thin layer of living tissue, called the cambium, which is just inside the bark of the stump (Figure 5).

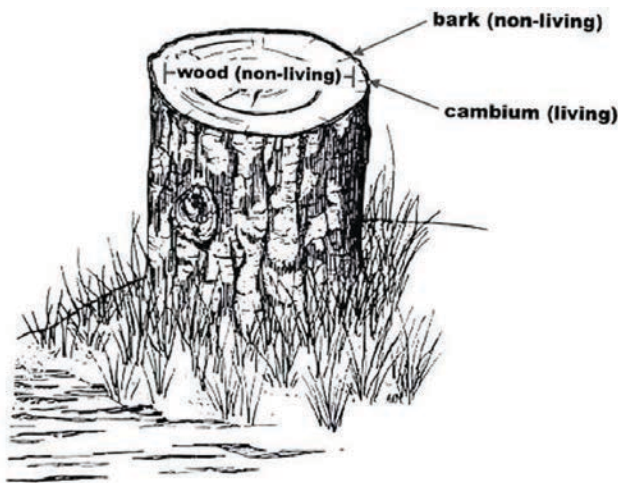


Figure 5. Brazilian pepper-tree stump showing location of the cambium layer.

The best time to cut Brazilian pepper-trees is when they are not fruiting because seeds contained in the fruits have the capability of producing new Brazilian pepper-trees. If Brazilian pepper-trees that have fruits attached are cut, care should be taken not to spread the fruits to locations where they can cause future problems. Fruiting Brazilian pepper-trees can be controlled using a basal bark herbicide application. Information about basal bark herbicide applications is described in the next section.

Caution: Avoid touching the tree's cambium. A rash can result. Some individuals are very sensitive to touching only the leaves. Use proper protective gear when sawing the tree and applying the herbicides.

Basal Bark Herbicide Application

Brazilian pepper-trees can be controlled using basal bark herbicide application. An application of an herbicide product that contains triclopyr ester is applied to the Brazilian pepper-tree's bark between one half and one foot from the ground. Garlon 4® is diluted with a penetrating oil. Pathfinder II® is pre-mixed with a penetrating oil. The herbicide will pass through the bark. Therefore, girdling the tree's trunk is not necessary and, in fact, may reduce the effectiveness. Once the basal bark treatment has been completed, it may take several weeks before there is evidence that the tree has been controlled. Defoliation and the presence of termites are indicators that the treatment has been successful.

Basal bark treatments are most effective in the fall when the Brazilian pepper-trees are flowering. This is due to the high level of translocation occurring within the tree. Fruiting occurs during winter, and Brazilian pepper-trees that have been controlled using a basal bark treatment may retain their fruit. This situation will require that the area be checked for seedlings on a regular basis.

Foliar Herbicide Application

Foliar herbicide application can be used on Brazilian pepper-tree seedlings. An herbicide containing triclopyr or glyphosate is applied directly to the tree's foliage. Results of a foliar application will be wilting of leaves. The herbicide will be translocated to other parts of the tree, thus effectively controlling the Brazilian pepper-tree.

Caution: Foliar applications require considerably more herbicide to control Brazilian pepper-tree. Also, damage to nearby plants resulting from wind drift of the herbicide should be avoided.

Biological Control

Currently, there are no biological controls that have been released in the United States for Brazilian pepper-tree. Over 200 insects have been identified that feed on Brazilian pepper-trees in the tree's native land. However, in order for them to be considered as possible biological control agents, scientists must prove that they are specific to Brazilian pepper-trees. Effective biological control agents must be able to reproduce after introduction into the United States.

University of Florida scientists have identified two insect species that may prove to be effective biological control agents, a sawfly and a thrips. The sawfly causes defoliation and the thrips feeds on new shoots. UF scientists expect authorization to release these insects in the future. However,

their effectiveness for controlling Brazilian pepper-trees in Florida is as yet unknown.

For more information, see UF/IFAS EDIS publication ENY-820 Classical Biological Control of Brazilian Peppertree (*Schinus terebinthifolius*) in Florida at <http://edis.ifas.ufl.edu/IN114> and EENY-270 Brazilian Peppertree Seed Wasp, *Megastigmus transvaalensis* (Hymenoptera: Torymidae) at <http://edis.ifas.ufl.edu/IN453>.

Table 1. Herbicides and application methods for Brazilian pepper-tree control.

Active ingredient ¹	Application Methods	Comments
Glyphosate	Cut stump Foliar	Some products available in small containers from retail garden suppliers. Some products may be applied directly to water
Imazapyr (2 lb/gallon)	Cut stump Foliar (low volume) Basal bark	Should only be applied by licensed herbicide applicators.
Triclopyr amine	Cut stump Foliar	Some products available in small containers from retail garden suppliers. Some products may be applied directly to water
Triclopyr ester	Cut stump Foliar Basal bark	Available from agricultural suppliers. May not be applied directly to water.
¹ Based on the acid.		

APPENDIX C

BMP Notice of Intent to Implement

CHAPTER 5I-6
BEST MANAGEMENT PRACTICES FOR SILVICULTURE

5I-6.001	Purpose (Repealed)
5I-6.002	Approved Best Management Practices BMPs
5I-6.003	Presumption of Compliance
5I-6.004	Notice of Intent to Implement
5I-6.005	Record Keeping
5I-6.006	Implementation Verification

5I-6.001 Purpose.

Rulemaking Authority 403.067(7)(c)2., 570.07(23) FS. Law Implemented 403.067(7)(c)2., 589.04(1)(a) FS. History--New 2-11-04, Repromulgated 3-17-10, Repealed 12-6-17.

5I-6.002 Approved Best Management Practices (BMPs).

The document titled Best Management Practices for Silviculture (DACS-P-01284, 2008) is hereby incorporated and adopted by reference in this rule. Copies of the document may be obtained from the Department of Agriculture and Consumer Services, Florida Forest Service, 3125 Conner Boulevard, Tallahassee, Florida 32399-1650, (850)681-5943 or Fax (850)681-5801 or online at <https://www.flrules.org/Gateway/reference.asp?No=Ref-08682>.

Rulemaking Authority 403.067(7)(c)2., 570.07(23) FS. Law Implemented 403.067(7)(c)2., 589.04(1)(a) FS. History--New 2-11-04, Amended 3-17-10, 12-6-17.

5I-6.003 Presumption of Compliance.

In order to obtain the presumption of compliance with state water quality standards and release from the provisions of section 376.307(5), F.S., for those pollutants addressed by the practices the applicant must:

- (1) Conduct an assessment of the subject properties using the document titled Best Management Practices for Silviculture (DACS-P-01284, Revised 2008), adopted in rule 5I-6.002, F.A.C.
- (2) Submit a Notice of Intent to Implement as described in rule 5I-6.004, F.A.C.
- (3) Implement the BMPs identified as a result of the assessment of the subject properties and listed in the Notice of Intent to Implement.
- (4) Maintain documentation to verify the implementation and maintenance of the Silviculture BMPs as outlined in rule 5I-6.005, F.A.C.

Rulemaking Authority 403.067(7)(c)2., 570.07(23) FS. Law Implemented 403.067(7)(c)2., 589.04(1)(a) FS. History--New 2-11-04, Amended 3-17-10, 8-5-10, 12-6-17.

5I-6.004 Notice of Intent to Implement.

(1) A Notice of Intent to Implement shall be submitted to the Department of Agriculture and Consumer Services, Florida Forest Service, 3125 Conner Boulevard, Tallahassee, Florida 32399-1650, (850)681-5943 or FAX (850)681-5801. Such notice shall identify BMPs the applicant will implement. This notice is a one-time notification and is not required for each and every individual silviculture activity undertaken by the applicant.

(2) Once filed with FDACS, the Notice of Intent to Implement shall enable the applicant to apply for assistance with implementation as identified in section 403.067(7)(c), F.S.

(3) Notice of Intent to Implement Best Management Practices for Silviculture, (FDACS 11305, Revised 06/17), is hereby adopted and incorporated by reference and can be obtained online at <http://www.flrules.org/Gateway/reference.asp?No=Ref-08683>.

Rulemaking Authority 403.067(7)(c)2., 570.07(23) FS. Law Implemented 403.067(7)(c)2., 589.04(1)(a) FS. History--New 2-11-04, Amended 3-17-10, 8-5-10, 12-6-17.

5I-6.005 Record Keeping.

Where silviculture BMP implementation is not physically observable in the field, participants must preserve sufficient documentation to confirm implementation of the BMPs identified in the Notice of Intent to Implement. All field activities and documentation related to BMP implementation are subject to FDACS, Florida Forest Service inspection. Section 403.067(7)(c)5., F.S., provides that agricultural records, defined therein, are confidential and exempt from public records disclosure.

Rulemaking Authority 403.067(7)(c)2., 570.07(23) FS. Law Implemented 403.067(7)(c)2., 589.04(1)(a) FS. History—New 2-11-04, Repromulgated 3-17-10, Amended 12-6-17.

5I-6.006 Implementation Verification

(1) Definitions. Unless defined below, words, phrases, or terms contained herein shall have the definitions set forth in rule 5M-1.001, F.A.C. References to “Producer” used in rule 5M-1.001, F.A.C., shall mean “Practitioner” as defined in this rule section. As used in this rule the following words, phrases, or terms shall mean:

(a) “Notice of Intent to Implement” means the form provided by the Department titled, “Notice of Intent to Implement Best Management Practices for Silviculture,” (FDACS 11305, Revised 06/17), adopted in rule 5I-6.004, F.A.C., to be submitted by a Practitioner to enroll in the Department’s Best Management Practices (BMPs) for Silviculture.

(b) “Practitioner” means any person or legal entity engaged in silviculture operations, whereby the trees constituting forests are tended, harvested, and reproduced.

(2) The Department will perform implementation status assessments of Applicable BMPs by Enrolled Practitioners using data from periodic self-verifications, staff-assisted verifications, record reviews, and site visits, supplemented by information from other sources including county property appraisers, aerial surveys, the Florida Department of Environmental Protection (DEP), and water management districts. The Department will notify the Landowner when an Enrolled Practitioner self-verification or staff assisted verification is completed if the Practitioner is not the Landowner.

(3) The Department will provide implementation assistance to Enrolled Practitioners as follows:

(a) If the implementation status assessment described in subsection (2), indicates that an Enrolled Practitioner has not achieved full implementation of Applicable BMPs, the Department will work in cooperation with the Practitioner to identify corrective measures for the Practitioner’s implementation. If the Practitioner is not the Landowner, the Landowner will be notified that corrective measures have been identified for the Practitioner’s implementation.

(b) If the Practitioner does not implement the identified corrective measures, the Department will work in cooperation with the Practitioner and Landowner, if the Practitioner is not the Landowner, to identify remedial measures to be taken by the Practitioner and, if necessary, the Landowner to achieve full implementation of Applicable BMPs. A Practitioner or Landowner that fails to implement the identified remedial measures will be subject to subsection (4).

(c) A Practitioner or Landowner that does not cooperate with the Department to identify corrective or remedial measures is subject to subsection (4).

(4) The Department will notify DEP within 60 days after the date of scheduled completion of remedial measures identified pursuant to paragraph (3)(b), of any Practitioner or Landowner that refuses or fails to implement Applicable BMPs.

Rulemaking Authority 403.067(7)(c)2., 403.067(7)(d)2.c., 570.07(10), 570.07(23) FS. Law Implemented 403.067(7)(d)2.c. FS. History—New 12-6-17.



Florida Department of Agriculture and Consumer Services
Florida Forest Service

**BEST MANAGEMENT PRACTICES FOR SILVICULTURE
AND NOTICE OF INTENT TO IMPLEMENT**

NICOLE "NIKKI" FRIED
COMMISSIONER

NOTICE OF INTENT TO IMPLEMENT

In accordance with sections 403.067(7)(c)2., 570.07(23), F.S., and Rule 5I-6.004, F.A.C. The following information is hereby submitted as verification of my intent to implement Silviculture Best Management Practices.

Property Owner _____ Acres _____

Property Tax ID# (s) _____

Location of Property _____

County(s) _____

Authorized Local Contact _____

Landowner or Representative Address: _____

Phone _____

Complete the attached Silviculture Best Management Practices Checklist and submit it along with this Notice of Intent to the Department of Agriculture and Consumer Services, Florida Forest Service at the address listed below. Keep the completed Checklist in your files along with a copy of your completed Notice(s) of Intent.

Signature of Property Owner or Authorized Representative

Date

Mail this notice and the attached Checklist to:

FDACS – Florida Forest Service
Attn: Silviculture BMP Program
3125 Conner Boulevard
Tallahassee, FL 32399-1650

SILVICULTURE BEST MANAGEMENT PRACTICES CHECKLIST

Instructions: Place a check beside each sub-category of Best Management Practices (BMP) that are currently being implemented. For those BMPs that are not currently being implemented but planned for the future, enter the year that you expect BMP implementation to occur beside each category and/or sub-category. Use the Silviculture BMP Manual for details on individual practices within each sub-category.

Special Management Zones

- _____ Primary Zone
- _____ Secondary Zone
- _____ Stringer

Wetlands

- _____ Drainage and Conversion
- _____ Roads
- _____ Harvesting
- _____ Skidding

Canals

- _____ General
- _____ Maintenance

Sinkholes

- _____ General

Forest Roads

- _____ Planning
- _____ Construction
- _____ Drainage
- _____ Maintenance

Stream Crossings

- _____ General
- _____ Culverts
- _____ Hard Surface Crossings

Timber Harvesting

- _____ Skid Trails
- _____ Slash Disposal

Site Preparation and Planting

- _____ General

Fireline Construction

- _____ General

Pesticide and Fertilizer Use

- _____ Pesticides
- _____ Fertilizer

Waste Disposal

- _____ Waste Oil
- _____ Solid Waste

Wet Weather Operations

- _____ General

Emergency Operations

- _____ Wildfire
- _____ Insect and Disease

Primary Zone Exceptions

- _____ Exception #1
- _____ Exception #2
- _____ Exception #3a
- _____ Exception #3b