

TEN-YEAR LAND MANAGEMENT PLAN

FOR THE

JOHN M. BETHEA STATE FOREST

BAKER COUNTY, FLORIDA



PREPARED BY

FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

FLORIDA FOREST SERVICE

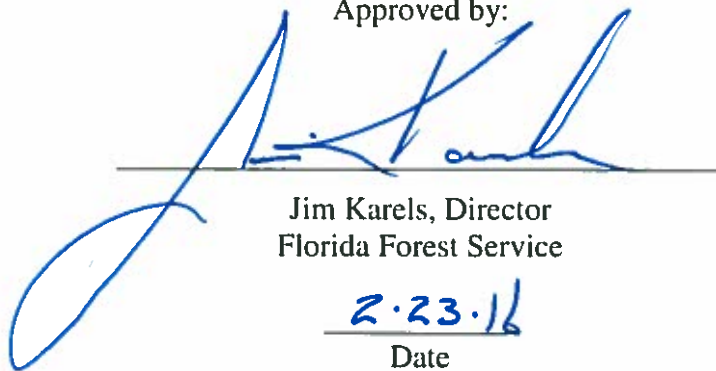
APPROVED ON

FEBRUARY 19, 2016


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FOR THE
JOHN M. BETHEA STATE FOREST



Approved by:



Jim Karels, Director
Florida Forest Service
2.23.16
Date



Brad Ellis, Chief
Forest Management Bureau
2/22/16
Date

**TEN-YEAR LAND MANAGEMENT PLAN
JOHN M. BETHEA STATE FOREST**

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LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

LEAD AGENCY: Florida Department of Agriculture and Consumer Services, Florida Forest Service
COMMON NAME: John M. Bethea State Forest
LOCATION: Baker County
ACREAGE TOTAL: 37,736 acres, more or less

<i>Historical Natural Communities</i>	<i>Acreage</i>
Mesic Flatwoods	16,657
Basin Swamp	15,880
Wet Flatwoods	2,789

<i>Historical Natural Communities</i>	<i>Acreage</i>
Dome Swamp	1,473
Floodplain Forest	714
Basin Marsh	289

LEASE / MANAGEMENT AGREEMENT NUMBER: 4358 and 4359
USE: Single _____ Multiple X

MANAGEMENT AGENCY

Florida DACS, Florida Forest Service
Florida Fish and Wildlife Conservation
Commission
St. Johns River Water Management District
Department of State, Division of Historical
Resources

RESPONSIBILITY

General Forest Resource Management
Wildlife Resources and Laws
Water Resource Protection & Restoration
Historical & Archaeological Resource
Management

DESIGNATED LAND USE: Multiple–Use State Forest

SUBLEASES: Previous Sub-Lease to United States Department of Agriculture (released January 23, 2007)

ENCUMBRANCES: None

TYPE ACQUISITION: Preservation 2000; Save Our Rivers; FFS In-Holdings and Acquisitions; Florida
Forever; Land Donations and Exchanges

UNIQUE FEATURES: This is a corridor between the Okefenokee National Wildlife Refuge and the
Osceola National Forest; Frontage on the St. Marys River; An example of a large basin swamp

ARCHAEOLOGICAL / HISTORICAL: Twenty – two sites

MANAGEMENT NEEDS: Increase equipment to assist with fire pre-suppression and fire lines; control
vandalism; increase law enforcement presence; improve road conditions; funding for additional
positions

ACQUISITION NEEDS: Multiple parcels (See II.D.2)

SURPLUS LANDS / ACREAGE: None

PUBLIC INVOLVEMENT: 2009 Land Management Review, Management Plan Advisory Group and
Public Hearing, and the Acquisition and Restoration Council Public Hearing

DO NOT WRITE BELOW THIS LINE (FOR DIVISION OF STATE LANDS USE ONLY)

ARC Approval Date: _____ BTIITF Approval Date: _____

Comments: _____

I. Introduction

The John M. Bethea State Forest (JMBSF) is located approximately 12 miles north of Glen St. Mary in northern Baker County near the Florida boundary line with Georgia. This 37,736 acre state forest establishes a continuous wildlife corridor between the Okefenokee National Wildlife Refuge and the Osceola National Forest.

A. General Mission and Management Plan Direction

The primary mission of the Florida Forest Service (FFS) is to “protect Florida and its people from the dangers of wildland fire and manage the forest resources through a stewardship ethic to assure they are available for future generations”.

Management strategies for JMBSF center on the multiple-use concept, as defined in sections 589.04(3) and 253.034(2)(a) F.S. Implementation of this concept will utilize and conserve state forest resources in a harmonious and coordinated combination that will best serve the people of the state of Florida, and that is consistent with the purpose for which the forest was acquired. Multiple-use management for JMBSF will be accomplished with the following strategies:

- Practice sustainable forest management for the efficient generation of revenue and in support of state forest management objectives;
- Provide for resource-based outdoor recreation opportunities for multiple interests.
- Restore and manage healthy forests and native ecosystems ensuring the long-term viability of populations and species listed as endangered, threatened or rare, and other components of biological diversity including game and nongame wildlife and plants;
- Protect known archaeological, historical, cultural and paleontological resources;
- Restore, maintain and protect hydrological functions related to water resources and the health of associated wetland and aquatic communities.

This management plan is provided according to requirements of Sections 253.034, 259.032 and 373, Florida Statutes, and was prepared utilizing guidelines outlined in Section 18-2.021 of the Florida Administrative Code. It is not an annual work plan or detailed operational plan but provides general guidance for the management of JMBSF for the next ten-year period and outlines the major concepts that will guide management activities on the forest.

B. Past Accomplishments

A compilation of management activities and public use on JMBSF has been completed monthly and is available from the forest manager. A table has been prepared for this plan that summarizes the accomplishments for each of the past ten years [Exhibit A]. The table does not attempt to account for all activities on the forest, but summarizes major activities. It does not list the multitude of daily activities and public interactions involved in managing the forest.

Since the approval of the previous management plan in 2004, there have been many events, developments and accomplishments. Among the most noteworthy have been the following:

- Over 4.5 million trees were planted on almost 7,000 acres, 80% were longleaf pine.

- An 80 acre land swap was completed.
- Community Wide Protection Plan (CWPP) developed in 2006.
- Forest staff treated 97 acres of invasive, non-native species.
- Over 97,000 tons of trees were harvested on over 1,800 acres, mostly improvement thinnings.
- 36,160 visitors have come to the forest.
- 40 overnight, primitive camping passes have been issued.
- Forest staff has conducted prescribed burning on 27,000 acres.
- 24 wildfires on 25,000 acres were fought.
- Over 1,100 miles of roads have been graded by Forest Staff.
- At the Maple Set Area, a boardwalk, canoe launch, and parking lot were constructed and primitive camping was put in place.
- Forest staff has marked 56 miles of boundaries.
- Trees were planted for shade around the equestrian parking lot.
- Through an Arbor Day Grant, longleaf pines were planted north of State Road 2 in the Eddie Grade area.
- In 2007, forest staff developed a Restoration Plan to mitigate negative impacts from large wildfire events and past hydrological changes.
- Multiple water crossings have been converted to culverts.
- In 2006, the Pinhook Station was constructed by United States Forest Service (USFS) and given to FFS.
- Multiple projects for wetlands restoration and fire suppression have been accomplished.

C. Goals / Objectives for the Next Ten Year Period

The following goals and objectives provide direction and focus management resources for the next ten-year planning period. Funding, agency program priorities, and the potential for wildfire during the planning period will determine the degree to which these objectives can be met. Management activities on JMBSF during this management period must serve to conserve, protect, utilize and enhance the natural and historical resources and manage resource-based public outdoor recreation, which is compatible with the conservation and protection of this forest. The majority of the management operations will be conducted by the FFS, although appropriate activities will be contracted to private sector vendors or completed with the cooperation of other agencies. All activities will seek to enhance the property's natural resource or public recreational value.

The management activities listed below will be addressed within the ten-year management period and are defined as short-term goals, long-term goals or ongoing goals. Short-term goals are goals that are achievable within a two year planning period, and long-term goals are achievable within a ten year planning period. Objectives are listed in priority order for each goal. Cost estimates are provided below for FFS services and contract services where sufficient information is available to make projections. Costs for some activities cannot be estimated at this time. Other activities will be completed with minimal overhead expense and existing staff.

➤ **GOAL 1: Sustainable Forest Management**

Objective 1: Continue to update and implement the Five-Year Silviculture Management Plan including reforestation, harvesting, prescribed burning, restoration, and timber stand improvement activities and goals. (Ongoing Goal)

Performance Measures:

- Completion of the annual updates of the Five-Year Silviculture Management Plan.
- Continued implementation of Silviculture Management Plan (acres treated).

Objective 2: Continue to follow the FFS process for conducting stand descriptions and forest inventory including a GIS database containing forest stands, roads & other attributes (including but not limited to: threatened & endangered species, archaeological resources, non-native invasive species locations, historical areas) The inventory will be conducted according to the State Forest Handbook. (Ongoing Goal)

Performance Measures:

- Complete GIS database and re-inventory all attributes as required by FFS procedures.
- Number of acres inventoried.

Objective 3: Continue thinning over stocked pine plantations as they become merchantable to improve forest health and aesthetics and reforest state forest lands, as necessary.

Performance Measures:

- Prepare one or more timber sales annually.
- Thin 300 acres or more annually.
- Reforest areas, as necessary, with species appropriate to the site and soils.

➤ **GOAL 2: Public Access and Recreational Opportunities**

Objective 1: In order to enhance outdoor public recreation on JMBSF, follow the Five-Year Outdoor Recreation Plan and update annually. (Ongoing Goal)

Performance Measures:

- Completion of the annual updates of the Five-Year Outdoor Recreation Plan.
- Continued implementation of the Five-Year Outdoor Recreation Plan.

Objective 2: Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 148 visitors per day for recreational activities and 1,766 visitors per day during hunting season. (Ongoing Goal)

Performance Measure: Number of visitor opportunities per day.

Objective 3: Continue to engage the liaison panel which consists of a cross section of local residents, community leaders and special interest group representatives (canoe vendors, hunters, trail hikers, military, organized horse groups, etc.), environmental groups, and other public / private entities to establish communication and seek constructive feedback regarding the management of JMBSF. (Ongoing Goal)

Performance Measure: Liaison group continues to meet.

➤ **GOAL 3: Habitat Restoration and Improvement**

Objective 1 Continue to update and implement the Five-Year Prescribed Burning Management Plan. (Ongoing Goal)

Performance Measure: Completion of the annual updates of the Five-Year Prescribed Burning Management Plan.

Objective 2: The JMBSF contains approximately 21,200 acres of fire dependent natural communities. Currently, approximately 18,800 acres are considered “burnable”. In order to achieve an average fire return interval of two to three years across the forest, approximately 5,000 to 8,000 acres will be prescribed burned annually on average. Currently staff estimates approximately 11,000 acres are being maintained within the desired fire frequency. Continue efforts to increase the amount of land considered to be within the desired fire frequency. Based upon the FFS’s contracted burning rate, the average estimated annual cost (including fuel and maintenance) rate is \$150,000 to \$200,000 per year. (Ongoing Goal)

Performance Measures:

- Average number of acres each year.
- Number of acres within target fire return interval.

Objective 3: Utilize both dormant and growing season prescribed fire to reduce fuel levels and enhance restoration of native groundcover. Following efforts to apply dormant / growing season fire, staff will identify and assess any sites where unacceptable level of groundcover cover and/or response is observed. (Long Term Goal)

Performance Measure:

- Number of acres burned in growing and dormant season.

Objective 4 As recommended by the Land Management Review, JMBSF will consult with the FFS State Forest Ecologist to attain an updated natural community map / assessment (given the land traded to USFS since original Florida Natural Areas Inventory (FNAI) mapping and impacts from large wildfires and restoration activities). This mapping would include any depression marshes which are currently in planted pine. (Long Term Goal)

Performance Measures:

- Funding sought for FNAI field assessment / mapping.
- FNAI field assessment/mapping completed.

Objective 5: As recommended by the Land Management Review, JMBSF will coordinate with FFS State Forest Ecologist to develop appropriate priorities and protocols for evaluating groundcover on the forest. The extent and success of these efforts will be dependent on availability of specific contract funding, assistance from Florida Fish and Wildlife Conservation Commission (FWC) biologists, and/or the support of non-profit or volunteer organizations.

(Long Term Goal)

Performance Measures:

- Priorities and protocols developed.
- If funded, groundcover evaluations completed.

➤ **GOAL 4: Listed and Rare Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration**

Objective 1: In cooperation with FWC, incorporate a Wildlife Management Strategy that addresses fish and wildlife species for JMBSF, including imperiled species and associated management prescriptions for their habitats. (Long Term Goal)

Performance Measures:

- Imperiled species management strategy completed.
- Baseline listed and rare species list completed for JMBSF.

Objective 2: In cooperation with FWC and coordination with the FFS State Forest Ecologist, develop appropriate imperiled species survey (plants and animals) and monitoring protocols based on site-specific occurrences, population data, and sustainability potential where survey protocols do not already exist. The extent and success of these efforts will be dependent on availability of specific contract funding, assistance from FWC biologists, and/or support on non-profit or volunteer organizations. (Long Term Goal)

Performance Measure: Number of listed and rare species for which survey plans and monitoring protocols are developed.

Objective 3: In consultation with FWC, implement surveys and monitoring protocols, where feasible, for listed and rare species as identified in Objective 2. (Long Term Goal)

Performance Measure: Number of species for which monitoring is ongoing.

➤ **GOAL 5: Non-Native Invasive Species Maintenance and Control**

Objective 1: Continue to follow and update the Five-Year Ecological Plan for JMBSF to locate, identify, prevent, and control non-native invasive plant species. (Ongoing Goal)

Performance Measures:

- Total number of acres identified and successfully treated.
- Completion of the annual updates of the Five-Year Ecological Management Plan.
- Continued implementation of the Five-Year Ecological Management Plan.

Objective 2: Contact and coordinate with the FWC Upland Invasive Plant Biologist for the area and begin utilization of the FWC herbicide bank to control non-native invasive plant species. (Short Term Goal)

Performance Measures:

- Contact made with FWC Biologist.
- Herbicide bank utilized.

➤ **GOAL 6: Cultural and Historical Resources**

Objective 1: Ensure all known sites are recorded in the Division of Historical Resources (DHR) Florida Master Site file. (Ongoing Goal)

Performance Measure: Number of recorded sites.

Objective 2: Monitor recorded sites and send updates to the DHR Florida Master Site File as needed. (Ongoing Goal)

Performance Measure: Number of sites monitored.

Objective 3: Maintain at least one qualified staff member as an archaeological site monitor. (Ongoing Goal)

Performance Measure: Number of local staff trained.

Objective 4: Increase the number of staff trained by DHR as archaeological site monitors. (Long Term Goal)

Performance Measure: Number of local staff trained increases.

➤ **GOAL7: Hydrological Preservation and Restoration**

Objective 1: Protect water resources during management activities through the use of Silvicultural Best Management Practices (BMP's) for public lands. (Long Term Goal)

Performance Measure: Percent compliance with state lands BMP's.

Objective 2: Close, rehabilitate, or restore those roads and trails having evidence of erosion into water bodies causing alterations to the hydrology. (Long Term Goal)

Performance Measure: Total number of roads and trails closed, rehabilitated, or restored.

➤ **GOAL 8: Capital Facilities and Infrastructure**

Objective 1: JMBSF staff along with help from volunteers and/or user groups will continue maintenance of five primitive camp sites at Maple Set and one seasonal hunt camp; two parking areas / trailheads; all trails; and 230 miles of primary, secondary and tertiary roads. (Ongoing Goal)

Performance Measure: The number of existing facilities, miles of roads, and miles of trails maintained.

Objective 2: Annually update the Five-Year Boundary Survey and Maintenance Plan for the JMBSF and continue maintenance of state forest boundary. The entire boundary will be reworked every five years including harrowing, reposting signage and repainting boundary trees. (Ongoing Goal)

Performance Measures:

- Completion of the annual updates of the Five-Year Boundary Survey and Maintenance Plan.
- Continued implementation of the Five-Year Boundary Survey and Maintenance Plan.
- Percentage of forest boundary maintained each year.

Objective 3: Annually update the Five-Year Road and Bridge Management Plan and continue maintenance of roads and bridges at JMBSF. (Ongoing Goal)

Performance Measures:

- Completion of the annual updates of the Five-Year Road and Bridges Management Plan.
- Continued implementation of the Five-Year Road and Bridges Management Plan.

Objective 4: Cooperate with the Florida Department of Transportation (FDOT) concerning bridge condition and maintenance. (Ongoing Goal)

Performance Measure: Bridge condition and maintenance improves.

Objective 5: Widen road corridors from 20 feet to 30 feet to aid in fire pre-suppression and in fighting wildfires. Approximately fifty percent have been completed. Cost is determined by the number of miles needing to be converted multiplied by the cost per mile to widen the road. (Ongoing Goal)

Performance Measure: Percentage of roads in corridor increased to 30 feet.

Objective 6: Based on a Land Management Review recommendation concerning the maintenance of Eddy Road, the JMBSF manager will contact the Baker County Manager and the Baker County Road Department to discuss developing a Memorandum of Understanding between FFS and Baker County to maintain Eddy Grade corridors. (Short Term Goal)

Performance Measures:

- County contacted.
- Memorandum of Understanding developed.

Objective 7: Improve helicopter dip sites. Increase the acreage around the sites to accommodate equipment, loading zones, and safety issues. Areas should be maintained annually to accommodate equipment and prevent issues. (Long Term Goal)

Performance Measures:

- Areas cleared to appropriate size.
- Areas maintained annually.

II. Administration Section

A. Descriptive Information

1. Common Name of Property

The common name of the property is the John M. Bethea State Forest.

2. Legal Description and Acreage

The JMBSF is comprised 37,736 acres, more or less.

The JMBSF is located in Baker County, Florida. The boundaries and the major parcels are identified in Exhibit B. The legal description is found in lease agreements 4358 and 4359. The property is located in all or part of Sections 23 through 26, and 28 through 36, Township 1 North, Range 19 East; Sections 5 through 9, 16 through 22, and 27 through 35, Township 1 North, Range 20 East; Sections 17 through 23, 25, 26, 30, 31, and 36, Township 2 North, Range 19 East; Sections 26, 28, 29, 32, 35, and 36, Township 2 North, Range 20 East; and Sections 1 through 18, Township 1 South, Range 19 East.

A complete legal description of lands owned by the Board of Trustees of the Internal Improvement Trust Fund (TIITF) and St. John's River Water Management District (SJRWMD) as part of JMBSF is on record at the JMBSF Forestry Station office, Florida Department of Environmental Protection (DEP), and the Florida Forest Service state office in Tallahassee.

3. Proximity to Other Public Resources

There are multiple lands managed by state, federal or local government for conservation of natural or cultural resources that are located within approximately 43 miles of the JMBSF are included in Exhibit F as well as the table below:

Table 1. Nearby Public Conservation Land and Easements

TRACT	AGENCY	DISTANCE
Osceola National Forest	USDA	Adjacent
Okeefenokee Swamp, NWR & Wilderness	USFWS	Adjacent
Benton Conservation Area	SRWMD	6 miles west
Big Shoals Public Lands	FFS/DEP/SRWMD	15 miles west
Cary State Forest	FFS	18 miles east
Stephen Foster Folk Culture Center State Park	DEP	19 miles west
Ralph E. Simmons State Forest	FFS	21 miles northeast
Cecil Commerce Center	FFS / JAX	27 miles southeast
Jennings State Forest	FFS / SJRWMD	27 miles southeast
Camp Blanding	FNG	30 miles southeast
Twin Rivers State Forest	FFS	43 miles west

FFS – Florida Forestry Service

DEP – Department of Environmental Protection

SJRWMD – St. John's River Water Management District

USDA – United States Department of Agriculture

FNG – Florida National Guard

JAX – City of Jacksonville

SRWMD – Suwannee River Water Management District

USFWS – United States Fish and Wildlife Service

4. Property Acquisition and Land Use Considerations

The JMBSF was purchased through the following land acquisition programs: Two parcels for 34,244.70 acres and 21,873.60 acres were purchased through Preservation 2000 and Save Our Rivers on April 27, 2001; Florida Forestry Service's In-Holdings and Acquisitions funds and Florida Forever funds were used to purchase four parcels on November 20 and 21, 2003, totaling 136.54 acres.

Additionally, 10 acres was acquired through a donation on February 7, 2002. The Pinhook Land Exchange, dated April 5, 2005 resolved mineral rights issues and released 18,528.75 acres. An additional exchange in 2012 added 80.49 acres.

B. Management Authority, Purpose and Constraints

1. Purpose for Acquisition / Management Prospectus

Management is conducted by The Florida Department of Agriculture and Consumer Services, FFS, with assistance, as warranted, from other agencies. FFS will be the manager of forest resources, recreation, water resource protection, watershed protection, and land use planning on JMBSF.

Revenue derived from timber sales is used to offset incurred expenses, capital improvements, and other personal services (OPS).

Staffing consists of one Forestry Supervisor, a Forester, one Park Ranger, two Senior Forest Rangers, one Forest Ranger, and one Mechanic. Additional resource planning, administrative function and work project coordination support is provided by the Forestry Operations Administrator. Personnel and equipment is utilized from the Suwannee District.

The primary goal of the acquisition was to establish a natural resource corridor between the Okefenokee National Wildlife Refuge and the Osceola National Forest.

Multiple-use management for JMBSF will be accomplished through the integration of the following strategies:

- Practice sustainable forest management for the efficient generation of revenue and in support of state forest management objectives;
- Provide for resource-based outdoor recreation opportunities for multiple interests;
- Restore and manage healthy forests and native ecosystems ensuring the long-term viability of populations and species listed as endangered, threatened or rare, and other components of biological diversity including game and nongame wildlife and plants;
- Protect known archaeological, historical, cultural and paleontological resources;
- Restore, maintain and protect hydrological functions related water resources and the health of associated wetland and aquatic communities;
- To provide research and educational opportunities related to natural resource management.

2. Degree of Title Interest Held by the Board

The Board of Trustees of the Internal Improvement Trust Fund (TIITF) holds an undivided 50% interest and the St. Johns River Water Management District (SJRWMD) holds an undivided 50% interest to all property east of Eddy Grade Road. For the legal description of this property, please reference TIITF Lease Number 4359.

The TIITF holds title to all property west of Eddy Grade Road. For the legal description of this property, please reference TIITF Lease Number 4358.

3. Designated Single or Multiple-Use Management

The JMBSF is managed under a multiple-use concept by the FFS, under the authority of Chapters 253 and 589, Florida Statutes. The FFS is the lead managing agency as stated in Management Lease Number 4358.

Multiple use is the harmonious and coordinated management of timber, recreation, conservation of fish and wildlife, forage, archaeological and historic sites, habitat and other biological resources, or water resources so that they are utilized in the combination that will best serve the people of the state, making the most judicious use of the land for some or all of these resources and giving consideration to the relative values of the various resources. Local demands, acquisition objectives, and other factors influence the array of uses that are compatible with and allowed on any specific area of the forest. This management approach is believed to provide for the

greatest public benefit, by allowing compatible uses while protecting overall forest health, native ecosystems and the functions and values associated with them.

4. Revenue Producing Activities

Numerous activities on JMBSF provide for multiple-use as well as generate revenue to offset management costs. Revenue producing activities will be considered when they have been determined to be financially feasible and will not adversely impact management of the forest. The potential for revenue producing activities is quite varied and include, but are not limited to:

- a. Timber Harvests
- b. Apiaries
- c. Recreational Activities
- d. Non-timber Forest Products

5. Conformation to State Lands Management Plan

Management of the forest under the multiple-use concept complies with the State Lands Management Plan and provides optimum balanced public utilization of the property. Specific authority for the FFS's management of public land is derived from Chapters 589, 259 and 253, Florida Statutes.

6. Legislative or Executive Constraints

There are no known legislative or executive constraints specifically directed towards the JMBSF other than the name of the property which was legislatively mandated.

7. Aquatic Preserve / Area of Critical State Concern

This area is not within an aquatic preserve or an area of critical state concern, nor is it in an area under study for such designation.

C. Capital Facilities and Infrastructure

1. Property Boundaries Establishment and Preservation

The JMBSF boundary lines (70 miles total) are managed by state forest personnel in accordance with the guidelines stated in the State Forest Handbook.

2. Improvements

- a. Office and Facilities Complex [See Exhibit E]
 - Administration Building
 - Pinhook Station
 - Fuel Station
 - Metal Pole Barn
 - USFWS Okeefenokee Pole Barn
- b. Maple Set Recreation Area
- c. Horse Trailer Parking Area

3. On-Site Housing

There is one lot for housing on JMBSF, which is currently unoccupied.

FFS may establish on-site housing (mobile / manufactured home) on JMBSF if deemed necessary to alleviate security and management issues. The need and

feasibility specific for the state forest will be evaluated and established if considered appropriate by the Suwannee District Manager and approved by the FFS Director. Prior to the occurrence of any ground disturbing activity for the purpose of establishing on-site housing, a notification will be sent to the DHR and FNAI for review and recommendations. This type of housing will not exceed three homes per location with the possibility of more than one on-site housing location occurring if considered necessary by the Suwannee District Manager and approved by the Director.

4. Operations Infrastructure

a. Budget

The total annual budget for Fiscal Year 2013-2014 is \$639,357. This amount includes salaries, expenses, contractual service and OPS. A summary budget is contained in Exhibit V.

Implementation of any of the activities within this management plan is contingent on availability of available funding, other resources, and other statewide priorities.

b. Equipment

To carry out the resource management work on the state forest as well as to maintain forest improvements such as trails, roads and facilities the following equipment has been assigned or is immediately available for work on JMBSF:

- | | |
|---------------------------------------|--|
| ▪ International Transport | ▪ Ford F-550 Type 6 Engine |
| ▪ Dodge 4x4 Pick-Up | ▪ Military Dump Truck |
| ▪ GMC Sonoma Pick-Up | ▪ International All-Wheel-Drive Road Tractor |
| ▪ GMC Sonoma Pick-Up | ▪ Bucket for Posi-Trac |
| ▪ Sterling Road Tractor | ▪ Road Packer |
| ▪ GMC Dump Truck | ▪ 2- Davco Mower Heads for Posi-Trac |
| ▪ Ford F-550 Type 6 Engine | ▪ Tuff-line Harrow |
| ▪ Ford F-250 4x4 Pick-Up | ▪ 6-foot Tilt Trailer |
| ▪ Sterling Dump Truck | ▪ 16-foot Dual Axle Trailer |
| ▪ Ford F-350 Service Truck | ▪ 12-foot Dual Axle Trailer |
| ▪ Ford Ranger 4x4 Pick-Up | ▪ Bushhog Scraper Blade |
| ▪ Caterpillar D-5 Dozer | ▪ Bushhog Hole Auger |
| ▪ Caterpillar Posi-Trac Mower | ▪ Cosmo Fertilizer and Seed Spreader |
| ▪ Case Farm Tractor | ▪ Bushhog Back Hoe Attachment |
| ▪ John Deere 750G Dozer | ▪ Terro-Riser Harrow |
| ▪ John Deere 772CH AWD Motor Grader | ▪ Single Gang High Harrow |
| ▪ John Deere Farm Tractor with Bucket | ▪ Fesco 4-Disc Plow |
| ▪ Caterpillar 950G Loader | ▪ Mathis-Modified 4-Disc Plow |
| ▪ RT Forklift | ▪ 2-Disc Plow |
| ▪ Ford F-550 Stake Body/Dump Truck | ▪ Single-Wing Bush Hog Mower |
| ▪ Ford F-250 Extended Cab 4x4 Pick-Up | ▪ 5-foot Bush Hog Mower |
| | ▪ Double Gang Harrow |
| | ▪ 300-Gallon Fuel Trailer |

- Magnum Mulching Head
- 25-Foot Goose Neck Trailer

Additional equipment from the Suwannee Forestry Center, the Florida Department of Transportation, and surrounding Forestry Districts has been utilized for various projects at JMBSF. Additionally, the US Fish and Wildlife Service provides equipment and the use of a metal pole barn to store equipment.

c. Utilities

The following utilities serve the public and forest staff:

- 4" well for non-potable equestrian horse use and for hunters use while eviscerating wild game next to the check station.
- Electric services for the WMA check station provided by Okeefenokee Rural Electric Membership Cooperative.
- Telephone Service is provided by NEFCOM, long distance service provided by MCI.

d. Staff

Nine staff are currently assigned to JMBSF, including a Forestry Supervisor II, a Forester, one Park Ranger, two Senior Forest Rangers, one Forest Ranger, and one Mechanic. All staff assigned to JMBSF have offices at the state forest office. Additionally, there are two Forest Rangers, stationed at the Pinhook Shop, and a Forest Area Supervisor, stationed at the Macclenny Forestry Station, who frequently assist.

The Forestry Supervisor II will work to achieve the goals outlined in this management plan. Day-to-day resource management (timber cruising, planning, etc) is the responsibility of the Forestry Supervisor. Day to day forest operations (road maintenance, prescribed burning, etc) are the responsibility of the FFS fire control personnel, under the direction of the respective Forest Area Supervisor. Biological support is coordinated through the FFS State Forest Ecologist.

D. Additional Acquisitions and Land Use Considerations

1. Alternate Uses Considered

During this management period, no uses were considered and determined to be incompatible.

Deadhead logging is not compatible, and is not considered an appropriate use within or adjacent to the state forest boundaries.

Other uses will be considered as requests are made and will be accommodated as appropriate if they are determined to be compatible with existing uses and with the management goals and objectives of the forest.

2. Additional Land Needs

Purchasing of additional land within the optimal management boundary [Exhibit C] would facilitate restoration, protection, maintenance, and management of the resources on JMBSF.

There are numerous parcels of land within and immediately adjacent to the property that should be purchased since they are essential to the management of the property [Exhibit C]. The FFS will work with these property owners, on a willing seller basis, in an effort to acquire these parcels. Highest emphasis for purchase should be given to privately owned property (in-holdings) within the boundaries of the JMBSF. Property to acquire adjacent to the forest includes parcels in the Baxter area and parcels located between the eastern forest boundary and the St. Marys River. Additionally, American Timberland parcels between the Osceola National Forest and JMBSF should be acquired.

3. Surplus Land Assessment

All of the property within JMBSF is suitable for and necessary for the management of JMBSF, and none should be declared surplus.

4. Adjacent Conflicting Uses

During the development of this management plan, FFS staff identified and evaluated adjacent land uses and reviewed current comprehensive plans and future land use maps in making the determination concerning known conflicting adjacent land uses. The following issues were determined:

- a. The train corridor running through JMBSF has an issue with non-native invasive species due to seed and vegetative plant structures unintentionally being carried and spread by train movement.
- b. At Maple Set there is an issue with the access. The entrance road to the primitive camping area may be on private property. FFS will explore solutions to this issue. Additionally, FFS staff will meet with adjacent land owners and maintain liaison with those land owners to ensure that any conflicting future land uses may be readily identified and addressed.

FFS will cooperate with adjacent property owners, prospective owners, or prospective developers to discuss methods to minimize negative impacts on management, resources, facilities, roads, recreation, etc., and discuss ways to minimize encroachment onto the forest.

5. Compliance with Comprehensive Plan

This plan was submitted to the Board of County Commissioners in Baker County for review and compliance with their local comprehensive plans [Exhibit W].

6. Utility Corridors and Easements

There are no known easements on JMBSF.

The FFS does not favor the fragmentation of natural communities with linear facilities - consequently, easements for such uses will be discouraged to the greatest extent practical. The FFS does not consider JMBSF suitable for any new linear facilities.

When such encroachments are unavoidable, previously disturbed sites will be the preferred location. The objectives, when identifying possible locations for new linear facilities, will be to minimize damage to sensitive resources (e.g., imperiled species and archaeological sites), to minimize habitat fragmentation, to limit disruption of management activities, including prescribed burning, and to limit disruption of resource-based multiple use activities, such as recreation.

Collocation of new linear facilities with existing corridors will be considered, but will be used only where expansion of existing corridors does not increase the level of habitat fragmentation and disruption of management and multiple use activities. The FFS will further encourage the use of underground cable where scenic considerations are desirable. Easements for such utilities are subject to the review and approval of the BOT. Requests for linear facility uses will be handled according to the Governor and the Cabinet's linear facilities policy and coordinated through the State Forest Ecologist.

E. Agency & Public Involvement

1. Responsibilities of Managing Agencies

The FFS is the lead managing agency, responsible for overall forest management and public recreation activities, as stated in Board of Trustees Management Lease Number 4358. Pursuant to the management lease, the lead managing agency may enter into further agreements or to sub-leases on any part of the forest.

The Florida Fish and Wildlife Conservation Commission has law enforcement responsibilities, enforces hunting regulations, cooperatively sets hunting season dates with FFS, and conducts other wildlife management activities with input from FFS.

The SJRWMD is a part owner and cooperator, providing assistance when needed or requested with respect to water management, and the conservation and protection of the water resources.

The FFS will cooperate with the DHR regarding appropriate management practices on historical or archaeological sites on the property as stated in Section 267.061, Florida Statutes. They will be notified prior to the initiation of any qualifying ground disturbing activities by the FFS or any other agency involved with the forest.

The St. John River Water Management District (SJRWMD) will be consulted and involved in matters relating to water resources as appropriate.

2. Law Enforcement

Primary law enforcement responsibilities will be handled by law enforcement officers from the FWC. Rules governing the use of JMBSF are stated in Chapter 5I-4 of the Florida Administrative Code. FWC will enforce fish and wildlife regulations and provide assistance in enforcing state forest rules. The Office of Agricultural Law Enforcement (OALE) will assist with open burning and wildfire investigations as needed.

Primary law enforcement duties revolve around issues with vandalism, theft, and wildlife violations. Additional assistance is provided by the Baker County Sheriff's Offices as needed. In light of the current statewide budget limitations, the FFS feels that law enforcement is adequate on JMBSF. There may be some flexibility in managing the current staff schedules to get better FFS presence on the weekends. Present law enforcement measures are that at least one fire control forest ranger is on duty during the weekends, during normal business hours.

Special rules under Chapter 5I-4 of the Florida Administrative Code were promulgated for Department of Agriculture and Consumer Services, Florida Forest Service, to manage the use of state lands and better control traffic, camping, and other uses in the state forest.

3. Public and Local Government Involvement

This plan has been prepared by FFS and will be carried out primarily by that agency. The FFS responds to public involvement through direct communication with individuals, user groups and government officials.

The FFS responds to public involvement through its Liaison Committees, Advisory Groups, public hearings, and through direct contact with user groups. A Land Management Review Team conducted a review of management plan implementation in 2009 and in October 2014 [Exhibit T]. The review team's recommendations were incorporated into this plan as appropriate.

The plan was developed with input from the JMBSF Management Plan Advisory Group and was reviewed at a public hearing on July 28, 2015. A summary of the advisory group's meetings and discussions, as well as written comments received on the plan, are included in Exhibit X. The Acquisition and Restoration Council (ARC) public hearing and meeting serve as an additional forum for public input and review of the plan.

4. Volunteers

Volunteers are important assets to JMBSF. Depending upon the type of volunteer service needed, volunteer activities may be one-time events or long-term projects. Volunteers have recently assisted with tree planting (Chickasaw Plums) along the entrance road to Maple Set. Additional volunteer recruitment will be encouraged to assist with other activities to further the FFS's mission.

5. Friends of Florida State Forests

Friends of Florida State Forests (FFSF) is a Direct Support Organization (DSO) of the Florida Forest Service. The FFSF supports recreation and reforestation projects on Florida's state forests. FFSF is an organization established by Florida statute that supports programs within Florida's state forests and is governed by a board of directors representing all areas of the state. Through community support, the FFSF assists the Florida Forest Service to expand opportunities for recreation, environmental education, fire prevention, and forest management within Florida's state forests.

III. Archaeological/Cultural Resources and Protection

A. Past Uses

The past uses include: timber management, naval stores production, agriculture, hunting, and fishing. In the early 1900's as many as 10,000 people reportedly lived in the Baxter area in and around the northern portion of the state forest. The land uses during this early time included naval stores production, logging and sawmill operations, agriculture and grazing. A small sawmill was located on an in-holding near Baxter which operated in the 1940's.

In the early 1950's, Hunt Oil Co. owned the property, which was later sold to Continental Can Corporation. Later, the property was acquired by KMI, an English-owned conglomerate, who sold off some of the surrounding properties. The majority of the now state forest lands were kept by the Continental Can Corporation and sold to the US Steel Corporation in the early 1980's. Continental Can Corporation then leased the property back from US Steel. Jefferson Smurfit took over the Continental Can Corporation lease in the late 1980's and then bought the property from US Steel in the mid 1990's. In the late 1990's, Stone Container and Jefferson Smurfit merged to become Smurfit-Stone. Rayonier purchased the property from Smurfit-Stone in 1999. Prior to state acquisition most of this land was leased to hunt clubs.

Prior to state ownership the majority of this forestland was managed for timber production. The Florida Forest Service acquired John M. Bethea State Forest in 2001. This state forest is named in honor of John M. Bethea, a former State Forester for over 17 years. Since state acquisition, John M. Bethea State Forest has suffered catastrophic wildfires which have impacted over 80% of the state forest.

B. Archaeological and Historical Resources

A review of information contained in the DHR's Florida Master Site file has determined that there are 22 known recorded sites on JMBSF: twenty previously recorded archeological sites, one resource group, and one standing structure. [See Exhibit H]

Table 2. Archaeological and Historical Sites on JMBSF

SITE ID	SITE NAME	SITE TYPE
BA00247	USFS OSC 89-7/OSCEOLA A,B,C	AR

SITE ID	SITE NAME	SITE TYPE
BA00264	USFS 89-44 OSC/JACOBS 15 ON DOG ISLAND	AR
BA00265	USFS 89-45 OSC/JACOBS 16 ON LICE ISLAND	AR
BA00266	USFS 89-46 OSC/PINHOOK 17	AR
BA00269	USFS 89-49 OSC/PINHOOK 20	AR
BA00270	USFS 89-50 OSC/JACOBS PINHOOK 21	AR
BA00345	NN	AR
BA00346	NN	AR
BA00351	NORTH OF TAYLOR	AR
BA00535	USFS #02-06 (B) Osc, "Eddy Tower"	AR
BA00595	FIREBREAK I	AR
BA00596	FIREBREAK II	AR
BA00597	FIREBREAK III	AR
BA00598	MOCCASIN CIRCLE	AR
BA00599	BARNWELL I	AR
BA00600	BARNWELL II	AR
BA00601	SAWMILL EAST OF EDDY	AR
BA00602	SAWDUST PILE	AR
BA00603	WEST OF EDDY	AR
BA00604	EDDY	AR
BA00605	BARNWELL VILLA	RG
BA00111	LYONS, WESLEY - CORN CRIB	SS

C. Ground Disturbing Activities

Representatives of DHR and FNAI will be consulted prior to the initiation of any proposed significant ground disturbing activity, not listed in this plan, by FFS or any other public agency. The FFS will make every effort to protect known archaeological and historical resources. The FFS will follow the "Management Procedures for Archaeological and Historical Sites and Properties on State Owned or Controlled Lands" [Exhibit I] and will comply with all appropriate provisions of Section 267.061(2) z12, Florida Statutes. Ground disturbing activities not specifically covered by this plan will be conducted under the parameters of the "List of ARC/Division of State Lands Approved Interim Management Activities".

D. Survey and Monitoring

Currently, there are 4 local district FFS personnel trained by DHR as archaeological site monitors. FFS will pursue opportunities for getting additional personnel trained. FFS will consult with public lands archaeologists at DHR to determine an appropriate priority and frequency of monitoring at each of the twenty-two listed sites, as well as any

protection measures that might be required. All 22 archaeological and historical sites within the state forest will be monitored at least annually. FFS field staff will monitor the listed sites to note condition and any existing or potential threats.

As information becomes available, and as staffing allows, any known archaeological and historical sites will be identified on maps to aid state forest and law enforcement personnel in patrolling and protecting sites. Applicable surveys will be conducted by FFS staff or others during the process of planning and implementing multiple-use management activities. FFS personnel will remain alert for any environmentally significant resources and protective actions will be taken as necessary. In addition, FFS will seek the advice and recommendations of DHR regarding any additional archaeological survey needs. Trained monitors will oversee ground disturbing activities in which DHR recommends monitoring. The FFS will utilize the services of DHR Public Lands archaeologists, when available, to locate and evaluate unknown resources, and to make recommendations in the management of known resources.

IV. Natural Resources and Protection

A. Soils and Geologic Resources

1. Resources

Soils information for JMBSF was obtained from the United States Department of Agriculture Natural Resources Conservation Service (NRCS). Over 30 different soils are listed on the JMBSF. The predominant soils listed by the NRCS include: Mascotte fine sand, Pantego-Pamlico, Pamlico muck, Sapelo fine sand, Leon fine sand and Mascotte-Pamlico complex. For detailed information on all soils present on the State Forest, see Exhibit J.

2. Descriptions

- a.** Mascotte soils exist in two forms, the Mascotte-Pamilco complex in depressional areas and Mascotte fine sand in the flatwoods.
 - i.** The Mascotte-Pamilco complex is a depressional soil found in basin swamps and wet flatwoods where the water table is either at or above the surface. Overstory species include: cypress (*Taxodium sp.*), pond pine (*Pinus serotina*), slash pine (*Pinus elliottii*), and bays (*Gordonia lasianthus* and *Magnolia virginiana*). Understory species include: gallberry (*Ilex sp.*), fetterbush lyonia (*Lyonia lucida*), myrtleleaf holly (*Ilex myrtifolia*), swamp cyrilla (*Cyrilla racemiflora*), greenbriers (*Smilax sp.*), and sweet pepperbush (*Clethra alnifolia*).
 - ii.** The Mascotte fine sand is a poorly drained, nearly level pine flatwoods soil located near depressional areas with the water table 6 inches from the soil surface. Overstory species include: slash pine (*Pinus elliottii*), pond pine (*Pinus serotina*), and bays (*Gordonia lasianthus* and *Magnolia virginiana*). Understory species include: gallberry (*Ilex sp.*), fetterbush lyonia (*Lyonia lucida*), myrtleleaf holly (*Ilex myrtifolia*), swamp gallberry (*Ilex sp.*), cinnamon fern (*Osmunda cinnamomea*), and maidencane (*Panicum hemitomon*).

- b. Pantego-Pamilico complex is a poorly drained, depressional, nearly level soil found in basin swamps and other depressional areas where the water table is slightly below the water surface during dry periods and 1 – 2 feet above the soil surface during wet periods. Overstory species include: blackgum (*Nyssa sylvatica*), red maple (*Acer rubrum*), cypress (*Taxodium sp.*) and bays (*Gordonia lasianthus* and *Magnolia virginiana*). Understory species include: fetterbush lyonia (*Lyonia lucida*), buttonbush (*Cephalanthus occidentalis*) and wax myrtle (*Myrcia cerifera*).
- c. Sapelo fine sand is poorly drained, nearly level soil found in pine flatwoods where the depth to water table is from 6 – 18 inches. Overstory species include: slash pine (*Pinus elliottii*), loblolly bay (*Gordonia lasianthus*), red bay (*Persea borbonia*), water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia*), and sweet bay (*Magnolia virginiana*). Understory species include: saw palmetto (*Serenoa repens*), gallberry (*Ilex sp.*) and grasses.
- d. Leon fine sand is poorly drained, nearly level soil found in pine flatwoods where water permeability is moderately rapid with a normal depth to water table of 12 inches. Overstory species include: slash pine (*Pinus elliottii*), longleaf pine (*Pinus palustris*), water oak (*Quercus nigra*), and laurel oak (*Quercus laurifolia*). Understory species include: blueberry (*Vaccinium elliottii*), wax myrtle (*Myrica cerifera*), chalky bluestem (*Andropogon capillipes*), broomsedge (*Andropogon virginicus*) and wiregrass (*Aristida stricta*).

3. Soil Protection

There are no known soil erosion problems other than roadway issues at JMBSF. The terrain is extremely flat, but occasionally there are impacts to the road system due to heavy rains. Water crossings are being converted to culverts in many areas and staff rectifies issues as quickly as possible.

Management activities will be executed in a manner to minimize soil erosion. As problems arise, corrective action will be implemented by FFS staff under the direction of the FFS Forest Hydrology section in conjunction with recommendations as contained in the most current version of the Florida Silviculture Best Management Practices Manual.

4. Ground Cover

At JMBSF there is a long history of agriculture and industrial silviculture on the site and subsequent diminishment of native groundcover. The Forest Manager assesses the groundcover prior to site-preparation recommendations and depending on the quality of the existing groundcover, modifies site-preparation treatments accordingly. This assists in determining the presence of remnant sensitive native species, reduces soil disturbances, and reduces impacts to native groundcover and associated fauna. However, any detailed critical assessment of native groundcover quality will require the funding of additional botanical expertise to complete field analysis and mapping.

B. Water Resources

The resources on JMBSF perform essential roles in the protection of water quality, groundwater recharge, flood control and aquatic habitat preservation. In the interest of maintaining these valuable resource functions, state forest management personnel will work with the FFS's Hydrology Section to incorporate wetland restoration into the overall resource management program as opportunities arise, particularly where wetland systems have been impaired or negatively impacted by previous management activities or natural disasters.

For a map of the Water Resources on JMBSF, see Exhibit L.

1. Resources

The JMBSF has numerous streams, lakes, and ponds within its boundaries. Most notably river frontage on the St. Marys River; Ellis Bay; Swamp Creek, Little River; Lake Holes Branch; Moccasin Creek; Cross Branch; and Moccasin Bay.

One of the objectives of the SJRWMD in acquiring this property is the protection of the St. Marys River watershed. The JMBSF contains about 2.9 miles of frontage on the St. Marys River. Seasonal water also flows from several large basin swamp systems including Moccasin Swamp, Pinhook Swamp and the Okefenokee Swamp. Two capped wells exist on the property, which were parts of hunting camps when the property was industry land.

2. Water Classification

The Department of Environmental Protection, Standards Development Section reports the Okefenokee National Wildlife Refuge, which is immediately north of the JMBSF, has been designated as Outstanding Florida Waters. Any surface waters on the site are classified as Class III waters, which is the statewide default classification. [See Exhibit K]

3. Water Protection

Water resource protection measures, at a minimum, will be accomplished through the use of Best Management Practices as described in the most current version of Silviculture Best Management Practices Manual.

4. Wetlands Restoration

Wetland restoration objectives on the state forest include erosion control; restoration of hydrology and/or hydroperiod and restoration of wetland plant and animal communities. To achieve these objectives, restoration activities may involve road and soil stabilization, water level control structure removal or installation, non-native invasive species control, site preparation and re-vegetation with native wetland species, and project monitoring. These activities may be conducted individually or concurrently; implemented by FFS personnel or by non-FFS personnel under mitigation or grant contractual agreements. Wetland restoration projects should be conducted in conjunction with other restoration activities indicated elsewhere in this plan.

Where applicable, JMBSF, with assistance from the Division's Hydrology Section, will pursue funding to develop and implement wetland restoration

projects. In addition, cooperative research among the FFS, other state agencies, and the federal government will provide valuable information in determining future management objectives of wetland restoration.

a. Previous Restoration Activities

In 2005, in response to concerns of an adjacent landowner, the John M. Bethea State Forest management team installed earthen ditch plugs on old firelines and re-located several culverts on Road 6 in the northeastern part of the JMBSF to restore natural sheet flow towards the St. Marys River.

Except for restoration and rehabilitation work conducted on the Forest after the swamp fires of 2004, no formal wetland restoration activities had previously been implemented on JMBSF. Post-fire activities focused on the improvement of primary access roads, involving the replacement of damaged / inadequate culverts with either new culverts or low-water crossings. Rehabilitation was also done on major firebreaks that impacted natural drainage and/or wetland vegetation communities on the forest. In certain areas these activities enhanced surface drainage on the forest, though to what extent is uncertain.

Many of the large (60+ feet) pushed firelines and their berms established during the "Bugaboo" fire suppression effort in 2007 have been rehabilitated and stabilized to restore hydrology and wetland plant communities in the affected areas on the forest.

b. Current, Planned, Proposed Restoration Activities

A portion of JMBSF is typed as basin swamp (43%) and wet flatwoods (7%). Historically, these natural communities were intermixed with formerly classified basin marshes that, along with the mesic and wet flatwoods and basin swamps, have been altered due to past land management activities by previous owners, including lack of frequent fire and alterations in hydrology. Due to these past management practices, these basin marshes have succeeded into shrub bogs. In an effort to recover as many of these areas as possible through wetland restoration, a proposal by the JMBSF management team in 2005 involved the restoration of a 300-acre area located in the northeastern part of the forest within an existing slash pine plantation. The proposal called for restoration of the site's hydroperiod through the installation of ditch plugs and elevated culverts and involves the use of mechanical treatments and prescribed fire for vegetative conversion.

Although the hydrology of the site has to some extent been improved due to work adjacent to the project area, additional restoration work is not anticipated until the slash pine is harvested.

c. Groundwater Monitoring

The St. Johns River Water Management District has a ground water monitoring well at Eddy Tower. JMBSF and FFS cooperate whenever needed for access and

information regarding any groundwater monitoring. This addresses a Land Management Review (LMR) Checklist item.

d. Wetland Restoration Needs Assessment

In April 2007, field data was collected on the part of JMBSF that extends north from State Highway 2 to the Georgia line. This area represents approximately 10,000 acres of the entire forest. One hundred and thirty (130) assessment points were established during this field data collection, representing approximately 80% of the roads, trails, and firelines in that portion of the JMBSF.

In July 2007, an additional hydrological assessment was conducted on the forest as part of the post-Bugaboo Wildfire assessment for the comprehensive John M. Bethea Restoration Plan finalized in 2008. The goal of this assessment was to determine the restoration needs as a result of the Bugaboo Wildfire which occurred in May 2007. The wildfire burned approximately 79% of the forest, including much of the northern portion of the forest that had been assessed previously.

Between the two assessments, over 350 site points were established and 60% of the roads, trails, and firelines were evaluated. The assessment evaluated 61 improved and unimproved low water crossings, 56 culvert crossings, 49 cross-drain culverts, 86 fireline sections, including "potato patch" and major pushed lines, 18 ditches, and 54 service roads that appeared to impact surface drainage.

The following items were considered significant findings as a result of the assessments.

1. Several areas of the forest have been protected by a fireline construction technique referred to as "potato patching", in which narrow firelines are established between planted rows within a pine stand. These plow-lines may connect to road ditches or other plow-lines which increases the potential of accelerating surface drainage from an area, or diverting it away from wetlands to which it would naturally flow. As a result of the post Bugaboo Wildfire assessment, FFS is in the process of rehabilitating many of these areas.
2. The few areas on JMBSF identified as basin marshes in FNAI's Historic Natural Community inventory have been altered as a result of intensive forest management practices implemented by previous landowners. The FFS is interested in restoring as many of these areas to their natural state as possible.
3. Hydrological restoration was identified as crucial to making JMBSF more resistant to devastating wildfires, such as the Bugaboo Wildfire, in the future.
4. Large pushed firelines and their resulting berms established during the Bugaboo Wildfire suppression efforts were identified for rehabilitation. Since the assessment, most sections of pushed lines on JMBSF have been rehabilitated by removing the berms, reworking the footprint of the fireline, and stabilizing the reworked areas by planting or seeding with native species.

5. Surface drainage was impeded by above-grade roads and accelerated by below-grade roads and firelines in many places throughout the forest. Strategic placement of culverts or low-water crossings and earthen plugs is important to restoring the natural hydrology across the landscape.
6. As in the case of any public land adjacent to private land ownerships, there is a concern among state forest managers for off-site hydrological impacts. During restoration activities on the JMBSF, every effort is made to avoid such off-site impacts.

Additional information about the assessment is available upon request from the Hydrology Section of the Florida Forest Service.

C. Wildlife Resources

1. Rare, Threatened, and Endangered Species

The intent of the FFS is to manage JMBSF in a fashion that will minimize the potential for wildlife species to become imperiled. FFS employees continually monitor the forest for rare, threatened, and endangered species while conducting management activities. Specialized management techniques will be used, as necessary, to protect or increase rare, threatened, and endangered species and species of special concern, as applicable for both plants and animals.

Presence of listed species is based on information compiled from FNAI tracking records, FWC, and field observations by SJRWMD and FFS. The following listed species were identified:

Table 3. Rare, Threatened, Endangered, or Species of Special Concern on JMBSF

Common Name	Scientific Name	Federal Status *	State Status *	FNAI Global Rank *	FNAI State Rank *
Large Rosebud Orchid	<i>Cleistes divaricata</i>	N	LT	G4	S1
Hartwrightia	<i>Hartwrightia floridana</i>	N	LT	G2	S2
Spotted Turtle	<i>Clemmys guttata</i>	N	N	G5	S3?
Gopher Tortoise	<i>Gopherus polyphemus</i>	C	ST	G3	S3
Carolina Gopher Frog	<i>Lithobates capito</i>	N	SSC	G3	S3
Okefenokee Zale Moth	<i>Zale perculata</i>	N	N	G2	S1
Little-entrance Oxyethiran Microcaddisfly	<i>Oxyethira janella</i>	N	N	G5	S4S5
Red-Cockaded Woodpecker (1983)	<i>Picoides borealis</i>	LE	FE	G3	S2
Great Egret	<i>Ardea alba</i>	N	N	G5	S4
Little Blue Heron	<i>Egretta caerulea</i>	N	SSC	G5	S4
Wood Stork**	<i>Mycteria americana</i>	LE	FT	G4	S2

Common Name	Scientific Name	Federal Status *	State Status *	FNAI Global Rank *	FNAI State Rank *
Blackbanded Sunfish	<i>Enneacanthus chaetodon</i>	N	N	G3G4	S3
Mud Sunfish	<i>Acantharchus pomotis</i>	N	N	G4G5	S3

*** STATUS/RANK KEY**

Federal Status (USFWS): LE= Listed Endangered, LT= Listed Threatened, N= Not currently listed, C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.

State Status (FWC): Animals: FE = Listed as Endangered Species at the Federal level by the USFWS, FT = Listed as Threatened Species at the Federal level by the USFWS, F(XN) = Federal listed as an experimental population in Florida, FT(S/A) = Federal Threatened due to similarity of appearance, ST = State population listed as Threatened by the FWC, SSC = Listed as Species of Special Concern by the FWC, N = Not currently listed, nor currently being considered for listing.

Plants: LE = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act; LT = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered; N = Not currently listed, nor currently being considered for listing.

FNAI Global Rank: G1= Critically Imperiled, G2 = Imperiled, G3= Very Rare, G4= Apparently Secure, G5= Demonstrably Secure, GNR = Element not yet ranked (temporary), G#? = Tentative rank, T#= Taxonomic Subgroup; numbers have same definition as G#'s.

FNAI State Rank: S1= Critically Imperiled, S2= Imperiled, S3= Very Rare, S4= Apparently Secure, S5 = Demonstrably secure in Florida, S#?= Tentative Rank.

**Wood Stork are not on the FNAI list of documented species but have been seen on JMBSF. Staff will report the sighting to FNAI.

2. Florida Natural Areas Inventory

The Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and significant ecological resources. FNAI has reported the following:

- a. **Element Occurrences:** The Florida Natural Inventories reports several documented Element Occurrences of rare or endangered species within the vicinity of the property. [See Exhibit M]
Documented species are listed in Table 3, Page 24.
- b. **Likely and Potential Habitat for Rare Species:** The JMBSF may be located near other rare species and natural communities. Likely Species include: Wood Stork (*Mycteria americana*), Red-Cockaded Woodpecker (*Picoides borealis*), and Florida Black Bear (*Ursus americanus floridanus*). Likely habitat for rare species includes: Mesic Flatwoods.
- c. **Land Acquisition Projects:** Portions of the site appear to be located within the Pinhook Swamp Florida Forever Project of the State of Florida's Conservation and Recreation Lands Acquisition Program. (See Exhibit G)
- d. **FNAI recommends special care be taken in the southwest portion of the property.** It appears to be a significant region of natural areas and habitat for several rare species [See Exhibit M].

FNAI recommends that professionals familiar with Florida's flora and fauna conduct a site specific survey to determine the current presence or absence of rare, threatened or endangered species before any expansions or alterations are made to the property.

3. Florida Fish and Wildlife Conservation Commission

The Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute reports numerous records of listed species occurrences or critical habitats within the confines of the property. This includes state and federally threatened or endangered species. [See Exhibit N]

Other findings by the FWC include:

- a. The JMBSF is located within Primary Black Bear Range.
- b. The property is adjacent to multiple Strategic Habitat Conservation Areas and multiple Prioritized Strategic Habitat Conservation Areas.
- c. The JMBSF is located within an area of Species Richness.
- d. Multiple Priority Wetlands are located in close proximity to the JMBSF.

This data represents only those occurrences recorded by FWC staff and other affiliated researchers. The database does not necessarily contain records of all listed species that may occur in a given area. Also, data on certain species, such as gopher tortoises, is not entered into the database on a site-specific basis. Therefore, one should not assume that an absence of occurrences in our database indicates that species of significance do not occur in the area. [See Exhibit N]

4. Game Species and Other Wildlife

Wildlife management will play an important role in the management of resources on JMBSF. The state forest currently makes up all or part of the following Wildlife Management Areas: Osceola WMA. The FWC provides cooperative technical assistance in managing the wildlife and fish populations, setting seasons, establishing bag and season limits and overall law enforcement.

Notable game species include: wild turkey (*Meleagris gallopavo*), deer (*Odocoileus virginianus*), squirrel (*Sciurus carolinensis*), hogs (*Sus scrofa*), raccoon (*Procyon lotor*), bobcat (*Lynx rufus*), and quail (*Colinus virginianus*).

The FFS and FWC cooperatively maintain approximately 45.8 acres of permanent wildlife openings and planted food plots on the JMBSF ranging in size from 0.29 acres to 4.89 acres and averaging 1.48 acres. Wildlife openings and food plots will be established and maintained in accordance with the FFS State Forest Handbook.

Non-game species will be managed and protected through the restoration and maintenance of native ecosystems found on the forest. The current State Forest Handbook gives additional details for such things as snag management and retention.

5. Survey and Monitoring

Species-specific management plans will be developed when necessary, with assistance from FWC. Such plans will be consistent with rule and statute promulgated for the management of such species. JMBSF uses wildlife observation sheets that all staff keep in forest vehicles to track wildlife species observed during daily operations. When needed, staff may contact the State Forest Ecologist or District personnel for information concerning specific species and identification.

a. 2014 Land Management Review

The LMR team recommended that FFS continue to identify priority imperiled species on JMBSF and develop and implement monitoring strategies. Personnel at JMBSF will coordinate with FFS State Forest Ecologist to develop appropriate priorities and protocols for surveying and monitoring imperiled species on this forest. The extent and success of these efforts will be dependent on availability of specific contract funding, assistance from FWC biologists, and/or the support of non-profit or volunteer organizations.

Additionally, the LMR team recommended that FFS continue to develop its inventory of plant and animal species. JMBSF personnel will coordinate with the FFS State Forest Ecologist to develop appropriate priorities and protocols to inventory plant and animal species on the forest.

b. Red-Cockaded Woodpecker (RCW)

The FNAI report of RCW (*Picoides borealis*) is dated pre-1983. There are no mature pine stands at JMBSF, the oldest current age of a stand being 30 to 35 years, due to previous management. RCW populations require a substantial area of old growth pine suitable for cavity construction, as well as associated habitat necessary for a sustainable population. If any RCWs are observed, FFS personnel will contact the State Forest Ecologist, FWC, and FNAI with the species location.

c. Gopher Tortoises

Gopher tortoises (*Gopherus polyphemus*) have been observed on JMBSF by FFS personnel near the turkey oaks north of Eddy Tower and on several blocks near Taylor in the southeast corner of the forest. Burrow activity status, locations, and observed commensals will be maintained in a GIS data base. Future surveys will be done in cooperation with FWC or private contractors as time, personnel, and budget allow.

Where gopher tortoise burrows occur, FFS staff will attempt to schedule management activities, such as mowing or roller chopping, during the winter months when gopher tortoises are dormant and less susceptible to injury from equipment. If timber harvests are scheduled in these areas, FFS staff will work with the logging crew to ensure deck locations and skid trails avoid burrows to the greatest extent practicable. As applicable, FWC monitoring protocols for gopher tortoise (*Gopherus polyphemus*) will be implemented on the area in concert with resource management actions recommended in the Wildlife BMP Manual.

d. Florida Black Bear

FFS will continue to cooperate with FWC to implement FWC's 2012 Florida Black Bear Management Plan. JMBSF is located in the North Bear Management Unit (BMU) designated by the Bear Management Plan. The North BMU encompasses the primary range of the Osceola sub-population of the Florida black bear (*Ursus americanus floridanus*) and is part of a larger subpopulation that includes bears in the Okefenokee Swamp National Wildlife Refuge in Georgia, which has an estimated 700 to 800 bears (Greg Nelms, Georgia Department of Natural Resources, personal communication, 2010). JMBSF is part of a corridor that connects the Okefenokee / Osceola sub-population to the Ocala / St. Johns sub-population. This corridor is considered vital to conservation of the Florida black bear.

A population estimate conducted in 2002 estimated 200-313 bears in this BMU, but FWC is currently conducting a new population estimate using hair snares and DNA analysis. Field work for the North BMU was completed in 2014 and a preliminary DNA analysis has been conducted and indicates a 30% increase in the Osceola sub-population to approximately 500 bears. The final report is due in the Fall of 2015. During field work, Florida black bears were confirmed on JMBSF with over 100 hair samples collected from snares located on the forest.

e. Listed Plant Species

The goal is for all known locations of listed or rare flora to be mapped. GIS data will be maintained in the JMBSF rare flora shape-file and shared with FNAI. A visual estimate of population numbers and nearby non-native invasive species will be recorded for each location when the most imperiled species (Federal listed, FNAI, G1) are encountered. This information will be maintained in the rare flora shape-file table data.

Large rosebud orchid (*Cleistes divaricata*) is the only species located on JMBSF that is federally listed or has a FNAI Global Rank of G1. All known populations of these species are visited annually while conducting nearby non-native invasive plant eradication work. During these field visits, any obvious threats are noted that might result from illegal activities, erosion, invasive plants or natural disturbances.

An additional species, Hartwrightia (*Hartwrightia floridana*), was last found in October 1929 with no concrete location given according to the FNAI tracking document in Exhibit M. Multiple efforts by JMBSF staff have been made to locate and confirm the presence of this species with no success.

f. Other Rare Biota Surveys

Surveys are done as time and staffing allow. Exemplary plant communities with high potential for rare flora are surveyed for both invasive weeds and listed plants.

D. Sustainable Forest Resources

The FFS practices sustainable multiple-use forestry to meet the forest resource needs and values of the present without compromising the similar capability of the future.

Sustainable forestry involves practicing a land stewardship ethic that integrates the reforestation, managing, growing, nurturing, and harvesting of trees for useful products with the conservation of soil, air and water quality, wildlife and fish habitat, and aesthetics. This is accomplished by maintaining and updating accurate estimates of standing timber in order to assure that the timber resources retain their sustainability. Forest inventories will be updated on a continual basis according to guidelines established by FFS's Forest Management Bureau.

E. Beaches and Dune Resources

No beaches or dunes occur on the JMBSF.

F. Mineral Resources

There are no known significant mineral deposits of commercial value on JMBSF.

G. Unique Natural Features and Outstanding Native Landscapes

Based on available historical information and the Florida Natural Area Inventory, the primary natural forest community on the state forest is mesic flatwoods. Prior to state ownership, the majority of this forestland was managed for timber production and some alteration of natural forest communities has occurred. However, some of the historical natural forest communities such as basin swamp, dome swamp, wet flatwoods and bottomland forest remain intact.

Located along the east boundary the state forest are three miles of river frontage on the St. Mary's River which is ecologically important and provides river access for recreation activities. This part of the river was acquired under the Conservation and Recreation Lands program and the Save Our Rivers program to protect the river's watershed.

The JMBSF is located between the Osceola National Forest and the Okefenokee Swamp and provides a large scale wildlife corridor for species such as Florida black bear (*Ursus americanus floridanus*). Moccasin Swamp provides significant ecological, recreational, and archaeological value.

H. Research Projects / Specimen Collection

Research projects may be performed on the forest, on a temporary or permanent basis, for the purpose of obtaining information that furthers the knowledge of forestry and related fields. The FFS cooperates with other governmental agencies, non-profit organizations, and educational institutions, whenever feasible, on this type of research. The FFS will consider assisting with research projects when funds and manpower are available.

All research projects to be considered on JMBSF must be considered accordance with the guidelines stated in the State Forest Handbook. Any requests for research should be submitted in writing to the appropriate field staff to be forwarded to the State Forest Ecologist in the Forest Management Bureau for approval. Requests must include: a letter outlining the purpose, scope, methodology, and location of the proposed research project. Requests are subject to review by FFS Foresters, Biologists, the Forest Health Section, and the Forest Hydrology Section, as appropriate. Authorization to conduct research will

require that the investigator provide copies of any reports or studies generated from research to the FFS and JMBSF staff. Other special conditions may be applicable and the authorization may be terminated at any point if the study is not in compliance.

Research projects / specimen collections that have been initiated on the property include:

- a. Butterfly research project conducted by the University of Florida in May 2005.
- b. Tall Timbers Research conducted fire effects monitoring after the 2007 Bugaboo Scrub Wildfire.
- c. The Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute (FWRI), is currently conducting a Black Bear Abundance Study in 11 counties in central and northern Florida. FWRI has collected 8,000 tufts of hairs this year, including gathering samples of bear hair in and around Ocala and Osceola National Forests. Results should be available by the summer of 2015. FWRI is conducting the study to create population models and generate an estimate of bear numbers.

The following surveys were conducted on the forest for endangered / threatened / game species:

- a. In 2005, FNAI conducted a survey of native plants and animals and a survey to determine historic natural communities.
- b. In 2007, FFS conducted an invasive species survey.
- c. FWC conducts white-tailed deer track counts annually in the fall.
- d. FWC and USFWS have conducted bear studies on the JMBSF.

I. Ground Disturbing Activities

Although the FFS's approach to handling ground disturbing activities is identified in other sections of this plan, the FFS's overall approach to this issue is summarized here. The FFS recognizes the importance of managing and protecting sensitive resources and will take steps to ensure that such resources are not adversely impacted by ground disturbing activities. This includes areas such as known sensitive species locations; archaeological, fossil, and historical sites; ecotones and wetlands.

When recreational trails, or other low-impact recreational site enhancements are necessary, their placement will be reviewed by state forest field staff to avoid sensitive areas. For ground disturbing activities such as construction of buildings, parking lots, new pre-suppression firelines, and new roads, the FFS will consult with the FNAI, DHR, and when necessary, the Acquisition and Restorations Council (ARC).

V. Public Access and Recreation

The primary recreation objective is to provide the public with dispersed outdoor recreational activities that are dependent on the natural environment. The FFS will continue to promote and encourage public access and recreational use by the public while protecting resources and practicing multiple-use management. Recreation activities available on JMBSF include: hiking, primitive camping, canoeing, fishing, picnicking, hunting, and limited horseback riding.

Periodic evaluations will be conducted by FFS staff to monitor recreational impacts on resources. Modifications to recreational uses will be implemented, should significant negative impacts be identified. New recreation opportunities and facilities, which are compatible with the primary goals and responsibilities of the FFS, will be considered only after the FFS determines their compatibility with other forest uses and forest resources.

A. Existing Recreational Opportunities

A 13 mile equestrian trail was developed that utilizes primary forest roads and several permanently established fire lines. To support the horse riding trail, a designated horse trail parking lot has been installed at the trailhead on the south end of the forest. Equestrian use of the fire lines and forestry roads is permitted. A hand pump for water has been installed at the parking lot. Proof of a current negative Coggins test is required for all horses.

Overnight primitive camping areas are available year round by permit.

B. Planned Recreational Opportunities

FFS will continue to assess plans for additional recreational opportunities based on demand, carrying capacity, demographics, and impact to the resources on the forest. Both terrestrial and aquatic resources and relative activities will be evaluated. Any specific plans will be incorporated into the Five-Year Recreational Plan on file at JMBSF.

Research on the term “Maple Set” will be done and results of the research will be interpreted at the appropriate locations. FFS will determine the feasibility of adding a vault toilet to serve the Maple Set Day Use Area and nearby campground. If feasible, the FFS will install this structure based on funding availability.

C. Hunter Access

Hunting season dates, limits, and methods are established annually by FWC, in consultation with FFS. John M. Bethea State Forest is open to regulated hunting and fishing in cooperation with the Florida Fish and Wildlife Conservation Commission, and is managed as a part of the Osceola Wildlife Management Area. Small ponds are scattered throughout John M. Bethea State Forest providing enjoyable fishing areas in addition to the St. Marys River. Non-hunting recreationists are encouraged to check the Wildlife Management Area regulations and season dates before visiting the forest.

D. Forest Kiosks

Given the remote location of the forest, the primary recreational users on the forest are hunters. There is an on-going problem with educational kiosks being vandalized, especially with bullet holes. Replacement signs are quite costly. Any new signs and sign locations must be able to be monitored by a small forest staff. Therefore, kiosks are placed in central locations.

VI. Habitat Restoration & Management Practices

A. Prescribed Fire

Timber management practices on John M. Bethea State Forest are important in the restoration and maintenance of forest ecosystems and provide a variety of socio-economic benefits to Floridians. Management practices on John M. Bethea State Forest include a prescribed fire program that is an effective tool in controlling the growth of hardwood trees, limiting fuel accumulation to prevent wildfires, stimulating the recovery of native herbaceous and grassy ground cover, and promoting the regeneration of native pines.

The FFS utilizes a fire management program on state forests that includes wildfire prevention, detection and suppression, and prescribed burning. This program is the responsibility of the FFS's Suwannee Forestry Center and is detailed in the Five-Year Prescribed Burning Management Plan. Emphasis will be placed on prescribed burning, wildfire prevention, and education to help reduce wildfire occurrence on the forest.

A Fire History spreadsheet detailing the recent history of prescribed burns and wildfires at JMBSF is available in Exhibit O.

1. Prescribed Burning Plan

The annual forest prescribed burning program produces multiple benefits. The purposes of prescribed burning on JMBSF are to facilitate forest management operations and enhance wildlife and listed species habitat, to decrease fuel loading, consequently enhancing public safety, and to restore, maintain, and protect all native ecosystems, ecotones, and their ecological processes. FFS personnel are responsible for planning and implementing the annual prescribed burn program for JMBSF, which will consist of growing and dormant season burns. Burns are planned by the JMBSF staff with input from cooperating agencies as appropriate. An annual Prescribed Burn Plan is developed each year, which identifies the individual burn unit prescriptions, whether the unit is on a growing or dormant season rotation, map of burn unit, and other information specific to that burn unit. The FFS smoke screening system will be used as a smoke management tool to minimize the adverse impact of smoke that may affect residential communities, public roads, schools, and other smoke sensitive areas.

Additionally, the FFS has developed an innovative, strategic prescribed fire plan that incorporates four fire corridors to be placed on a two-year fire return interval and outlines a personnel management strategy to meet the burning needs of the forest. Aerial burns have been incorporated into the prescribed fire plan. The 2007 Restoration Plan is included in Exhibit U. This plan is critical in reducing fuels strategically within JMBSF, thus decreasing the threat of large catastrophic wildfires moving from one large Federal ownership to another.

Prescribed burning activities are done in conjunction and close cooperation with USFS, USFWS, and Greater Okefenokee Association of Landowners (GOAL). Specific cooperation takes place between staff from FFS, Okefenokee National

Wildlife Refuge (ONWR), and Osceola National Forest (ONF). This is of particular importance in landscape management across geopolitical boundaries.

2. Fire Return Intervals

Historic, fire dependent natural communities on JMBSF are estimated to have occupied approximately 21,208.9 acres, and to have burned at approximately 3 to 10 year intervals. Past land uses have left some of these historically fire dependent communities in a condition unable to carry prescribed fire. Recently, substantial progress has been made by local staff to increase the amount of prescribed burning completed each year. Over the past five years, JMBSF personnel have averaged over 4,000 acres burned per year. This has served to increase the amount of the forest that is considered to be within the desired fire return interval to around 11,000 acres.

Based on current conditions and management objectives, staff considers approximately 18,800 acres to be burnable. In order to achieve an average fire return interval of two to three years across the forest, JMBSF will plan to conduct prescribed burns on 5,000 to 8,000 acres, on average, each year. Restoration of areas, by removal of the off-site species and reforestation, will increase prescribed burn acreage goals over time. Meeting prescribed fire goals will be largely dependent on favorable weather conditions, available personnel, and statewide emergency situations such as wildfires, hurricanes and other natural disasters requiring JMBSF staff involvement to respond and provide needed relief.

3. Community Outreach and Education

The JMBSF is a participant in the Firewise community program, which includes both public and private landowners, and holds multiple outreach programs each year to educate the public and area land owners. JMBSF was a major supporter of Baker County becoming a county-wide Firewise Adapted Community.

Baker County has a Community Wide Protection Plan (CWPP) developed in 2006 through the efforts of FFS, USFS, the Baker County Fire Department, and the Community of Taylor. This plan was designed to help protect the rural community of Taylor, which is surrounded by hundreds of thousands of acres of federal, state and private wild lands and has been affected by many large wildfires in the past.

4. Cooperation with USFS and USFWS

JMBSF personnel are constantly vigilant for wildfires and have developed continuous communications with personnel at Okefenokee National Wildlife Refuge, USFWS, and Osceola National Forest, USFS. Such cooperation is essential in efforts to suppress and fight wildfires.

The FFS and USFS have participated in a multi-state grant program to plant longleaf pine. The Okefenokee and Osceola Longleaf Pine Implementation Team (O₂LIT) provides assistance with prescribed burning of state, federal, and private lands.

Additionally, JMBSF is a member of GOAL, the Greater Okefenokee Association of Landowners. GOAL serves as a unified team managing, protecting, and promoting forest resources in and around the Okefenokee Swamp. During the past several years, GOAL has addressed a number of fire-related issues. Landowners cooperate on maintenance of the Okefenokee Swamp's Perimeter Road, compile and maintain a resource list of fire equipment and personnel, constructed 80 helicopter dip-sites surrounding the Okefenokee Swamp, and share radio frequencies and cellular phone numbers of members.

The U.S. Forest Service and the U.S. Fish and Wildlife Service contributed a total of \$550,000.00 to the construction of the John M. Bethea State Forest Joint Work Center. The Georgia Forestry Commission is also partnering in this important cooperative venture, which is located in Baxter, Florida. The work center is designed to decrease the response time to wildland fires in the adjoining GOAL area.

B. Wildfires, Prevention, Fire / Prescribed Fire Strategies

The FFS utilizes a comprehensive wildfire management approach on state forests that includes an ongoing program of wildfire prevention, detection and suppression, and aggressive prescribed burning. Implementation of this program is the responsibility of the FFS's Suwannee Forestry Center. Emphasis will be placed on consistent accomplishment of prescribed burning goals and community outreach to increase public understanding of wildfire prevention and the benefits of prescribed fire.

The FFS has three paramount considerations regarding wildfires, and these are listed in priority order:

1. Protection of human lives, both that of the firefighter and the public.
2. Protection of improvements.
3. Protection of natural resources.

All procedures regarding wildfire will follow the State Forest Handbook and the 5-Year JMBSF Fire Management Plan.

1. Suppression Strategies

If a wildfire occurs on JMBSF there are two alternative suppression strategies as defined below:

- a. **Contain** is defined as a suppression strategy where a fire is restricted to a specific pre-determined area by using natural or constructed barriers that stop the fires spread under the prevailing and forecasted weather until dead out. This strategy allows the use of environmentally sensitive tactics that achieve desired ecological benefits while monitoring for smoke and fuel conditions that would warrant more aggressive control tactics, described below.
- b. **Control** is defined as a suppression strategy where aggressive suppression tactics are used to establish firelines around a fire to halt its spread and to extinguish all hotspots. This alternative is used whenever there is a threat to human life, property, private lands, and/or critical natural or cultural resources. This strategy should also be used when the total field unit fire load dictates that crews not be involved with individual fires for any longer than absolutely necessary.

Appropriate suppression action will be that which takes into account the three paramount considerations listed above, provides for the most reasonable probability of minimizing fire suppression cost and critical resource damage by taking into consideration probable fire behavior, total fire load, potential resource and environmental impacts, and smoke management issues. The Incident Command System (ICS) will be used for all suppression actions.

2. Smoke Management

Caution will be exercised to prevent a public safety or health hazard from the smoke of any prescribed burn or wildfire. Prescribed burns must pass the smoke screening procedure and be conducted by a certified burner. If smoke threatens to cause a safety hazard or public nuisance then direct immediate suppression action will be taken.

3. Fire Breaks and Firelines

A system of permanent fire breaks will be developed and maintained around and within the boundaries of JMBSF to guard against fires escaping from and entering the forest. Such fire breaks will consist of natural barriers, roads, trails, permanent grass strips and where appropriate, well maintained harrowed lines. All fire breaks will meet the established Silvicultural Best Management Practices (BMP) criteria.

During wildfire suppression, the use of water and foam, permanent fire breaks, natural barriers and existing roads and trails for firelines can be used when human life safety, property, and resource considerations allow. Plowed and/or bulldozed lines will be used for initial installation of approved firelines in heavy fuels and in cases where it's considered necessary to protect life, property, or resources and/or to minimize threats to fire fighters. Plow and bulldozed lines will be rehabilitated and BMPs implemented as soon as practical after the fire is suppressed.

4. Sensitive Areas

The JMBSF has on file in the state forest headquarters an Environmentally Sensitive Area Map that identifies protected sites such as critical wetlands and archaeological and historical sites known to occur on the state forest. Personnel are aware of these areas in the event of a wildfire. Special precautions will be followed when prescribed burning or fighting wildfires in sensitive areas on JMBSF. When possible, fire staff will avoid line construction in wetland ecotones throughout the forest.

5. Past Ownership Practices and FFS Changes

Former private ownership of the property has resulted in long-term issues at JMBSF. Repeated bedding of rows, tight row spacing, and the altering of native landscapes has caused issues with fire suppression and fire-fighter safety. JMBSF has worked to realign the row directions of planted trees perpendicular to the prevailing winds; widened roads and fire breaks; and widened the planted rows. These practices assist in wildfire suppression and with fire-fighter safety.

6. Adjacent Neighbor Contacts

The staff at JMBSF maintains a list of neighbors that have requested they be notified in advance of prescribed burns. These families are contacted by telephone or email with potential sites and dates of anticipated prescribed burns.

7. Post-Burn Evaluations

A post-burn evaluation is required for each wildfire and prescribed burn on the state forests to assess impacts on timber and habitat. Based on the evaluations, decisions will be made on timber salvage operations. An historical fire record for all fires and prescribed burns will be maintained. This will be accomplished through the burn plans in the Forestry Supervisor's files, and through maintenance of GIS data; these records are intended to provide data for future management decisions.

C. Sustainable Forestry & Silviculture

Timber is a valuable economic and ecological resource, and timber harvesting for the purposes of generating revenue, improving stand viability, forest health, and ecological restoration and maintenance, is critical to the silvicultural objectives on the state forest.

1. Strategies

The following silvicultural strategies will apply to silvicultural practices on JMBSF:

- a. To restore and maintain forest health and vigor through timber harvesting, prescribed burning, and reforestation, both naturally and artificially, with species native to the site.
- b. To create, through natural regeneration, uneven-aged, and even-aged management, a forest with both young and old growth components that yields sustainable economic, ecological, and social benefits.

2. Silvicultural Operations

Silvicultural operations on JMBSF will be directed toward improving forest health, wildlife habitat, ecological and economical sustainability, as well as recovery from past management practices by former landowners that are not in accordance with the objectives of this plan. Stands of off-site species with merchantable volume will be scheduled for harvest, followed by a subsequent reforestation with the appropriate native tree species. Herbicide applications may be necessary to control woody competition and to re-establish desired natural species of both overstory and ground cover. Site preparation methods may include prescribed fire, mechanical or chemical vegetation control.

Prescribed fire is the most desirable method of vegetation control in fire dependent ecosystems. However, due to the existence of areas where fuel loads have reached dangerous levels or urban interface dictates prescribed fire is not suitable, mechanical or chemical vegetation control may be used. Mechanical or chemical vegetation control will be utilized where appropriate as determined by FFS staff for wildlife enhancement, fuel mitigation and reforestation.

Maintenance and restoration of timber stands and natural communities through timber harvesting will include thinning for maintenance, natural regeneration harvests, and clear-cutting to remove off site species.

As was suggested in the 2014 Land Management Review, FFS staff will assess proposed reforestation sites prior to planting to determine if any depression marsh areas are present. Planting areas may be modified to keep reforestation activities out of these identified depressions.

All silvicultural activities (including timber harvesting and reforestation) will meet or exceed the standards in the FFS's Silviculture Best Management Practices and the State Forest Handbook, and will follow the Five-Year Silviculture Management Plan.

3. Timber Inventory Control

The purpose of a forest inventory is to provide FFS resource managers with information and tools for short and long range resource management and planning. Ten percent of JMBSF forest will be re-inventoried annually to provide an accurate estimation of the standing timber and to ensure that stands will be managed sustainably.

4. Timber Sales

Timber sales are generally advertised for competitive bids and sold on a per unit or lump sum basis. All timber sales are conducted according to guidelines specified in the State Forest Handbook.

D. Non-Native Invasive Species Control

FFS employees continually monitor the forest for non-native invasive species while conducting management activities. FFS will locate, identify, and apply control measures with the intent to eradicate or control non-native invasive species. When these species are discovered, an eradication or management plan will be developed with the assistance of the Forest Management Bureau's Forest Health Section as needed. This plan will be implemented based upon the severity of the infestation and the availability of personnel and funding. A map of invasive species is found in Exhibit P.

On-going maintenance and monitoring strategies are outlined in the Five-Year Ecological Management Plan which is developed to prevent, locate, identify, and control non-native invasive plant species.

State forests are periodically surveyed by FFS staff, and detection of populations of non-native invasive species are noted and prioritized for appropriate control action. Known occurrences of non-native invasive species are prioritized and treated as funding and personnel allow, with the intention of ultimately eradicating such species. These occurrences are recorded in the GIS database and updated as new plants are discovered. Adjacent landowners who are known to have these species on their property will be approached in an effort to cooperate on control measures.

FFS works to control the spread of non-native invasive species by decontaminating internal equipment and equipment used by private contractors according to the State Forest Handbook.

The FFS will enlist support from the FWC in efforts to control non-native invasive animals. Feral hogs (*Sus scrofa*) are present on some tracts of the JMBSF. The FWC has issued a feral hog control permit to FFS for all state forests and the FFS will encourage hog removal on JMBSF through trapping and hunting.

Training in the identification and control of invasive species will be scheduled for personnel as time and resources permit. Training concerning non-native invasive plants will be coordinated with the Forest Management Bureau's Forest Health Section. Control of non-native invasive species will be target specific and use a variety of methods including appropriately labeled and efficacious herbicides.

Table 4. Non-Native Invasive Plant Species Occurring on JMBSF

Scientific Name	Common Name	Treatment Strategy	Acres Impacted	Status
<i>Imperata cylindrica</i>	Cogongrass	Herbicide Spray	1/40 acre	Decreasing
<i>Lygodium japonicum</i>	Japanese Climbing Fern	Herbicide Spray	7 small spots that are approximately 1/10 acre or less	Decreasing
<i>Panicum repens</i>	Torpedo Grass	Herbicide Spray	Road Shoulders	Stabilized
<i>Sapium sebiferum</i>	Chinese Tallow	Cut and spray stump	Approximately 30 trees	Decreasing
<i>Sesbania punicea</i>	Purple Sesban	Herbicide Spray	5 small spots that are approximately 1/10 acre or less	Stabilized
<i>Ligustrum japonicum</i>	Japanese Privet	Herbicide Spray	1/10 acre	Decreasing
<i>Albizia jublibrissin</i>	Mimosa	Herbicide Spray	Approximately 15 Trees covering 1/20 acre or less	Decreasing
<i>Pueraria montana</i>	Kudzu	Herbicide Spray	1/20 acre or less	Decreasing
<i>Phyllostachys aurea</i>	Golden Bamboo	Cut Low and Herbicide Spray	1/40 acre	Increasing
<i>Sesbania Vesicaria</i>	Elliot Bagpod	Herbicide Spray or Manual Removal	Railroad Track & Road Shoulders	Stabilized

E. Insects, Disease and Forest Health

Currently, there are no insect or disease problems on JMBSF, except for laurel wilt (*Raffaelea lauricola*). However, there is an on-going issue with bark beetles after wildfires and prescribed burns. In the event of an outbreak of bark beetle, consultation with the Forest Management Bureau's Forest Health Section will be sought to formulate an appropriate and effective response.

In compliance with Section 388.4111, Florida Statutes and in Section 5E-13.042, F.A.C., all lands have been evaluated and subsequently designated as environmentally sensitive and biologically highly productive. Such designation is appropriate and consistent with the previously documented natural resources and ecosystem values and affords the appropriate protection for these resources from arthropod control practices that would impose a potential hazard to fish, wildlife and other natural resources existing on this property. Upon the approval of this plan documenting this designation, the local arthropod control agency in Baker County will be notified of this designation.

As a result, prior to conducting any arthropod control activities on JMBSF, the local agency must prepare a public lands control plan that addresses all concerns that FFS may have for protecting the natural resources and ecosystem values on the state forest. In this regard, FFS will provide the local agency details on the management objectives for JMBSF. This public lands control plan must be in compliance with FDACS guidelines and using the appropriate DACS form. The plan must then be approved and mutually adopted by the county, FFS, and FDACS, prior to initiation of any mosquito control work. Should the local mosquito control district not propose any mosquito control operations on the property, no arthropod control plan is required (See Exhibit Y).

F. Use of Private Land Contractors

The forest manager makes ongoing evaluations of the use of private contractors and consultants to facilitate the total resource management activities of this state forest. The opportunities for outsourcing land management work include or are anticipated to include:

- | | |
|----------------------------|--------------------------------------|
| a. Reforestation | d. Borrow Pit Construction |
| b. Site Preparation | e. Road Surveying |
| c. Timber Harvests | f. FNAI for Species Surveying |

VII. Proposed Management Activities for Natural Communities

In 2005, FNAI completed an inventory and natural community mapping project on 37,803.5 acres of JMBSF and a historic natural community type map [Exhibit R] was created. Current natural communities and cover types can be found in Exhibit Q.

For the purposes of this management plan, restoration is defined as the process of returning ecosystems to the appropriate structure and species composition, based on soil type. Management during this ten-year period will begin with a forest wide assessment of the fuel loading, timber densities and groundcover in order to develop a five year comprehensive operational plan for prescribed burning across the forest. Strategies may include thinning of overly dense pine plantations, mowing or chopping in areas of heavy fuel buildup and/or application of cool dormant season fires. The results of these initial efforts will be monitored and more refined and detailed restoration plans will be made. Fire return intervals are included as a guide and may vary depending upon specific conditions. The intention is to use fire in a manner, intensity, and frequency that will attain the desired goals. Fire frequency is generally increased or decreased depending upon the conditions of the specific area.

Table 5. Natural Communities Found on JMBSF

Natural Communities	Acres Mapped (Historical)	Acres Mapped (Current)	Acres Mapped Current Pine Plantation	Historical Burn Interval (Years)
Mesic Flatwoods	16,657	15,866**	15,704	2 – 5
Basin Swamp	15,880	16,811	0	5 – 150*
Wet Flatwoods	2,789	2,671**	1,554	2 – 5
Dome Swamp	1,473	1,605	0	3 – 150*
Alluvial Forest (Floodplain Forest)	714	688	0	N/A
Basin Marsh***	289		0	1 – 10
Shrub Bog		289	4	10 – 20
Other (See Table 6)	N/A	897		

* Infrequent, dependent upon drought.

** Includes extensive amounts of wet and mesic flatwoods that were in the past converted to pine plantation which, following continued effort at thinning harvests, conversion to longleaf pine (*Pinus palustris*), and increase frequency of prescribed fire, is now in varying degrees of restoration to desired pine species and native groundcover.

*** Basin Marsh is now typed as Shrub Bog.

Table 6. Altered Landcover Types Found on JMBSF

Altered Landcover Type*	Current Acres Mapped
Roads	844
Old Borrow Pits	40
Dip Sites	13

* Protocol as described in Exhibit 2 of FNAI's "Guide to the Natural Communities of Florida", 2010 Edition.

The following desired future conditions, existing condition descriptions, and management recommendations are taken from this FNAI mapping project report and the Guide to the Natural Communities of Florida (FNAI 2010), as well as from the knowledge and experience gained by FFS during forest inventory efforts and routine field work on JMBSF.

The Historic Natural Communities were typed by FNAI in 2005 (see Exhibit R). The Current Natural Communities were also typed by FNAI in 2005 (see Exhibit Q). The areas still needing to be typed for the Current Natural Communities are shown in Exhibit S. FFS is working with FNAI to determine the cost of the typing and the schedule for completion. All Natural Communities discussed in this management plan are based on the FNAI data and work completed by FFS personnel to determine the current natural communities on JMBSF where FNAI work has not been completed.

To achieve the objectives outlined in this plan, the following management activities will be performed in the natural communities at JMBSF during the next ten year planning period. Goals, desired future conditions, standards, and guidelines provide management area direction. These goals and desired future conditions may take many planning cycles to attain.

The following, utilizing JMBSF staff knowledge and the 2010 FNAI Guide to the Natural Communities of Florida, describes the desired future condition for the Natural Communities at JMBSF:

A. MESIC FLATWOODS

Description: Mesic flatwoods is characterized by a canopy of tall, mature pines and a dense, low ground layer of low shrubs, grasses, and forbs. Longleaf pine (*Pinus palustris*) is the principal canopy tree in northern Florida, although slash pine (*Pinus elliottii*) is currently more common than longleaf pine (*Pinus palustris*) in mesic flatwoods in northern Florida. Early accounts mention slash pine predominantly in wet flatwoods sites. Characteristic shrubs include saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*), coastal plain staggerbush (*Lyonia fruticosa*), and fetterbush (*Lyonia lucida*). Rhizomatous dwarf shrubs, usually less than two feet tall, are common and include dwarf live oak (*Quercus minima*), runner oak (*Q. elliottii*), shiny blueberry (*Vaccinium myrsinites*), Darrow's blueberry (*V. darrowii*), and dwarf huckleberry (*Gaylussacia dumosa*). The herbaceous layer is predominantly grasses, including wiregrass (*Aristida stricta* var. *beyrichiana*), drop-seeds (*Sporobolus curtissii*, *S. floridanus*), panic grasses (*Dichanthelium* spp.), and broomsedges (*Andropogon* spp.), plus a large number of showy forbs.

Mesic flatwoods is the most widespread natural community in Florida, covering the flat sandy terraces left behind by former high stands of sea level during the Plio-Pleistocene. Soils are acidic, nutrient-poor fine sands with upper layers darkened by organic matter. Mascotte, Pantego, and Sapelo fine sands are common examples. Drainage in this flat terrain can be impeded by a loosely cemented organic layer (spodic horizon) formed within several feet of the soil surface. The soils are alternately droughty during dry periods and saturated, or even inundated, after heavy rains.

Existing Conditions: Most of these areas have been bedded and planted with slash pine prior to state ownership. The mesic flatwoods community is intermingled with dome swamps, basin swamps, and wet flatwoods. Many acres in this community have either been harvested by previous landowners or salvage harvested as a result of the devastating Impassable Wildfire in 2004 and Bugaboo Wildfire in 2007. Many clearcut stands have been replanted with longleaf pine and on the wetter sites, slash pine. These reforestation efforts have converted 7,197 acres from intensely managed slash pine plantations to longleaf pine. Several years after planting, prescribe fire has been used to improved mesic flatwoods restoration efforts. Many of these young longleaf pine stands will continue improving over time as more frequent prescribe fire is used to manage these stands (See Exhibit Z). Although reforestation of longleaf pine is a priority, especially in

stands where it historically existed, the amount of gallberry coverage is hampering this effort. In many pine stands, the understory gallberry coverage makes prescribed burning these areas difficult. In such areas, light disking or other practices may be necessary to suppress the gallberry and allow native grasses to manifest and allow for the use of prescribed fire without causing excessive damage to the overstory.

Fire Requirements (Maintenance): 2 – 5 years.

Restoration: Long term, restoration of this community will focus on both un-even aged and even-aged management regime, where practical. In the interim, periodic thinning and frequent low-intensity prescribed burns will serve to promote native groundcover and pine species appropriate to the community and site.

Groundcover: Growing season prescribed burns at a 2-5 year interval will be the most effective way of altering and maintaining the groundcover to a more pyrogenic suite of groundcover species. Dormant season fires will be used in fire excluded areas to prepare for growing season burns.

Hydrology: Many areas, mainly along the Okefenokee Swamp on the north and the Osceola National Forest on the south and west, have been impacted by fire pre-suppression and suppression efforts due to large scale wildfires in recent years. Many of these stands have been potato patched by plowing the entire stand between the tree rows. Restoring the hydrology is a long-term process. FFS will make improvements as the opportunities present.

Silviculture: This community will be the primary focal area for long term silvicultural management on JMBSF. Management should focus on the goal of a healthy mixed pine forest consisting of both slash and longleaf pine canopies. Currently, some slash pine plantations exist on areas with remnant plants associated with longleaf pine communities. These stands will be prescribed burned at more frequent intervals prior to a final harvest to facilitate woody vegetation control and retain favorable site conditions prior to ultimate conversion to longleaf pine.

B. BASIN SWAMP

Description: Basin swamp is a basin wetland vegetated with hydrophytic trees and shrubs that can withstand an extended hydroperiod. Basin swamps are highly variable in size, shape, and species composition. While mixed species canopies are common, the dominant trees are pond cypress (*Taxodium ascendens*) and swamp tupelo (*Nyssa sylvatica* var. *biflora*). Other typical canopy and sub-canopy trees include slash pine (*Pinus elliottii*), red maple (*Acer rubrum*), dahoon (*Ilex cassine*), swamp bay (*Persea palustris*), sweet bay (*Magnolia virginiana*), loblolly bay (*Gordonia lasianthus*), swamp laurel oak (*Quercus laurifolia*), sweetgum (*Liquidambar styraciflua*), water oak (*Quercus nigra*), green ash (*Fraxinus pennsylvanica*), American hornbeam (*Carpinus caroliniana*), and American elm (*Ulmus americana*). Depending on the hydrology and fire history, shrubs may be found throughout a basin swamp or they may be concentrated around the perimeter. Common species include Virginia willow (*Itea virginica*), swamp dogwood

(*Cornus foemina*), swamp dog hobble (*Leucothoe racemosa*), coastal sweet pepperbush (*Clethra alnifolia*), myrtle dahoon (*Ilex cassine* var. *myrtifolia*), fetterbush (*Lyonia lucida*), wax myrtle (*Myrica cerifera*), titi (*Cyrilla racemiflora*), black titi (*Cliftonia monophylla*), and common buttonbush (*Cephalanthus occidentalis*). The herbaceous layer is also variable and includes a wide array of species including maidencane (*Panicum hemitomon*), Virginia chain fern (*Woodwardia virginica*), arrowheads (*Sagittaria* spp.), lizard's tail (*Saururus cernuus*), false nettle (*Boehmeria cylindrica*), beaksedges (*Rhynchospora* spp.), bladderworts (*Utricularia* spp.), and royal fern (*Osmunda regalis* var. *spectabilis*). Sphagnum moss (*Sphagnum* spp.) often occurs in patches where the soil is saturated but not flooded. Vines may be present, particularly coral greenbrier (*Smilax walteri*), laurel greenbrier (*S. laurifolia*), and eastern poison ivy (*Toxicodendron radicans*). Epiphytic species such as resurrection fern (*Pleopeltis polypodioides* var. *michauxiana*), Spanish moss (*Tillandsia usneoides*), and Bartram's air-plant (*T. bartramii*) are common, especially in older, more mature examples of basin swamp.

This natural community typically occurs in any type of large landscape depression such as old lake beds or river basins, or ancient coastal swales and lagoons that existed during higher sea levels. Basin swamps exist around lakes and are sometimes headwater sources for major rivers, such as the Suwannee. Soils are generally acidic, nutrient-poor peats often overlying a clay lens or other impervious layer.

Existing Conditions: The basin swamps on the JMBSF range from relatively intact to those impacted either by wetland harvests by the previous landowners or by devastating wildfires of recent years. Some of the basin swamps located along the border with the Okefenokee Swamp have been impacted by large scale wildfires in relatively recent droughts and have lost the majority of their overstory, leaving a thick, impenetrable understory of vines and herbaceous shrubs.

Fire Requirements: 5 - 150 years.

Restoration: Restoration will focus on restoring natural hydrology in fire impacted areas and prescribed burning in the ecotones when the adjacent stands are burned.

Hydrology: Existing Firelines will be disked and the junction of firelines with road side ditches will be bermed to reduce the likelihood of increased conveyance of surface waters.

Silviculture: No silvicultural activities will occur in these areas aside from some burning with adjacent stands. These areas may slightly grow in size when adjacent stands are harvested and reforested due to the minimization of planting acres historically typed as basin swamp. During the previous 20 years, many wetland margins were bedded to grow more pine trees. During state led reforestation efforts, no bedding will be utilized, thus hydric areas adjacent to wetland areas will not be planted.

C. WET FLATWOODS

Description: Wet flatwoods are pine forests with a sparse or absent midstory and a dense groundcover of hydrophytic grasses, herbs, and low shrubs. The pine canopy typically consists of one or a combination of longleaf pine (*Pinus palustris*), slash pine (*P. elliotii*), or pond pine (*P. serotina*). The sub-canopy, if present, consists of scattered sweet bay (*Magnolia virginiana*), swamp bay (*Persea palustris*), loblolly bay (*Gordonia lasianthus*), pond cypress (*Taxodium ascendens*), dahoon (*Ilex cassine*), titi (*Cyrilla racemiflora*), and/or wax myrtle (*Myrica cerifera*). Shrubs include large gallberry (*Ilex coriacea*), fetterbush (*Lyonia lucida*), titi, black titi (*Cliftonia monophylla*), sweet pepperbush (*Clethra alnifolia*), red chokeberry (*Photinia pyrifolia*), and azaleas (*Rhododendron canescens*, *R. viscosum*). Saw palmetto (*Serenoa repens*) and gallberry (*I. glabra*), species also found in mesic flatwoods sites, may be present. Herbs include wiregrass (*Aristida stricta* var. *beyrichiana*), blue maidencane (*Amphicarpum muhlenbergianum*), and/or hydrophytic species such as toothache grass (*Ctenium aromaticum*), Curtiss' sandgrass (*Calamovilfa curtissii*), cutover muhly (*Muhlenbergia expansa*), coastal plain yellow-eyed grass (*Xyris ambigua*), Carolina redroot (*Lachnanthes carolina*), beaksedges (*Rhynchospora chapmanii*, *R. latifolia*, *R. compressa*), and pitcher plants (*Sarracenia* spp.), among others.

Wet flatwoods often occur in the ecotones between mesic flatwoods and shrub bogs, wet prairies, dome swamps, or strand swamps. Wet flatwoods also occur in broad, low flatlands, often in a mosaic with these communities. The relative density of shrubs and herbs varies greatly in wet flatwoods. Shrubs tend to dominate where fire has been absent for a long period or where cool season fires predominate; herbs are more abundant in locations that are frequently burned. Soils and hydrology also influence relative density of shrubs and herbs. Soils of shrubby wet flatwoods are generally poorly to very poorly drained sands and include such series as Rutledge/Osier; these soils generally have a mucky texture in the uppermost horizon. Examples of typical soils in grassy wet flatwoods are loamy sands of the Pelham and Pantego Series.

Existing Conditions: The Wet Flatwoods Community is differentiated from the Mesic Flatwoods only by the amount of gallberry and fetterbush and the amount of water in the area. Therefore, like Mesic Flatwoods, most of these areas have been bedded and planted with slash pine prior to state ownership. The wet flatwoods community is intermingled with dome swamps, basin swamps, and mesic flatwoods. Many acres in this community have either been harvested by previous landowners or salvage harvested as a result of the devastating Impassable Wildfire in 2004 and Bugaboo Wildfire in 2007. Many clearcut stands have been replanted with longleaf pines and slash pines on the wetter sites. Although reforestation of longleaf pine is a priority, especially in stands where historically it likely existed, the amount of gallberry coverage is hampering this effort. In many stands the understory gallberry coverage is a significant problem in prescribed burning these areas.

Fire Requirements (Maintenance): 2 – 5 years.

Restoration: Restoration of this vegetative type will focus on an un-even aged management regime, reforestation of harvested areas and frequent prescribed burns.

Groundcover: Early spring prescribed burns at a 2-5 year interval will be the most effective way of altering and maintaining the groundcover to a more fire tolerant mix of groundcover species. Dormant season fires will be used in fire excluded areas to prepare for growing season burns.

Hydrology: Many areas mainly along the Okefenokee Swamp on the North and the Osceola National Forest on the South and West have been impacted by fire pre-suppression and suppression efforts due to large scale wildfires in recent years. Many of these stands have been potato patched by plowing the entire stand between the tree rows. Restoring the hydrology is a long-term process. FFS will make improvements as the opportunities present.

Silviculture: This vegetation type will be the primary area for long term silvicultural management on JMBSF. Management should focus on the goal of an un-even aged mixed pine forest consisting of both Slash and Longleaf pine over-stories. Some current slash pine plantations exist on areas with remnant longleaf pine plant communities, these stands will be prescribed burned at a more frequent interval prior to final harvest and conversion to longleaf pine.

D. DOME SWAMP

Description: Dome swamp is an isolated, forested, depression wetland occurring within a fire-maintained community such as mesic flatwoods. These swamps are generally small, but may also be large and shallow. The characteristic dome shape is created by smaller trees that grow in the shallower waters of the outer edge, while taller trees grow in the deeper water in the interior of the swamp. Pond cypress (*Taxodium ascendens*) often dominates, but swamp tupelo (*Nyssa sylvatica* var. *biflora*), may also form pure stands or occur as a co-dominant. Other canopy or sub-canopy species include red maple (*Acer rubrum*), dahoon (*Ilex cassine*), swamp bay (*Persea palustris*), slash pine (*Pinus elliotii*), sweetbay (*Magnolia virginiana*), and loblolly bay (*Gordonia lasianthus*). Shrubs are typically sparse to moderate, but often are absent in dome swamps with a high fire frequency or dense in swamps where fire has long been absent. Shrubs common in dome swamps include Virginia willow (*Itea virginica*), fetterbush (*Lyonia lucida*), common buttonbush (*Cephalanthus occidentalis*), coastal plain willow (*Salix caroliniana*), wax myrtle (*Myrica cerifera*), titi (*Cyrilla racemiflora*), and St. John's wort (*Hypericum* spp.). Herbaceous species can be dense or absent and include a wide variety of ferns, graminoids, and herbs including Virginia chain fern (*Woodwardia virginica*), royal fern (*Osmunda regalis* var. *spectabilis*), cinnamon fern (*Osmunda cinnamomea*), toothed midsorus fern (*Blechnum serrulatum*), maidencane (*Panicum hemitomon*), sawgrass (*Cladium jamaicense*), various species of beaksedge (*Rhynchospora* spp.), lizard's tail (*Saururus cernuus*), Carolina redroot (*Lachnanthes caroliana*), taper leaf water horehound (*Lycopus rubellus*), false nettle (*Boehmeria cylindrica*), and knotweeds (*Polygonum* spp.). Sphagnum moss (*Sphagnum* spp.) often occurs in patches where the soil is saturated but not flooded. Vines such as eastern poison ivy (*Toxicodendron*

radicans), white twine vine (*Sarcostemma clausum*), laurel greenbrier (*Smilax laurifolia*), epiphytes such as Spanish moss (*Tillandsia usneoides*), several species of wild pine (*Tillandsia* spp.), and orchids can be common in dome swamps. The center of the dome swamp contains the largest cypress trees and the understory can be open with deeper water and floating and emergent species such as alligator flag (*Thalia geniculata*), big floating heart (*Nymphoides aquatica*), floating water spangles (*Salvinia minima*), duckweeds (*Lemna*, *Spirodela*, and/or *Landoltia*), and bulltongue arrowhead (*Sagittaria lancifolia*).

Dome swamps are most often found on flat terraces, where they develop when the overlying sand has slumped into a depression in the underlying limestone, creating a rounded depression connected to a shallow water table. In uplands with clay sub-soils, dome swamps may occupy depressions over a perched water table. Soils in dome swamps are variable but are most often composed of a layer of peat, which may be thin or absent at the periphery, becoming thicker toward the center of the dome. This peat layer is generally underlain with acidic sands or marl and then limestone or a clay lens. Common soil types include Pantego, Pamlico, and Mascotte.

Existing Conditions: The dome swamps on JMBSF are intermingled with mesic flatwoods and wet flatwoods. Most of these areas have lost diversity in plant composition due to management practices prior to state ownership including: bedding of flatwoods surrounding these swamps, select harvesting, and excluding prescribed fire.

Fire Requirements: Variable, burn in rotation with surrounding stands 3-10 years.

Restoration: Restoration in this community will focus on restoring hydrology and prescribed burning with adjacent stands. FFS is burning the dome swamps with the mesic flatwoods and wet flatwoods and restoring the ecotones around the edges of these communities.

Hydrology: Existing firelines should be rehabilitated and eliminated whenever possible, and new firelines will be established / maintained only in extreme situations.

Silviculture: No silvicultural activities will occur in these areas aside from some burning with adjacent stands. These areas may slightly grow in size when adjacent stands are harvested and reforested due to the minimization of planting acres historically typed as dome swamp. During the previous 20 years, many wetland margins were bedded to grow more pine trees. During state led reforestation efforts, no bedding will be utilized, thus hydric areas adjacent to wetland areas will not be planted.

E. ALLUVIAL FOREST

Description: Alluvial forest is a hardwood forest found in river floodplains on low levees, ridges and terraces that are slightly elevated above floodplain swamp and are regularly flooded for a portion of the growing season. The physical environment is greatly influenced by ongoing disturbances created by a fluctuating river bed which is both eroding and depositing substrates. Primary trees found include over-cup oak

(*Quercus lyrata*), swamp laurel oak (*Q. laurifolia*), water hickory (*Carya aquatica*), American elm (*Ulmus americana*), green ash (*Fraxinus pennsylvanica*), water locust (*Gleditsia aquatica*), river birch (*Betula nigra*), and red maple (*Acer rubrum*). A great diversity of less flood-tolerant hardwoods or swamp species such as cypress (*Taxodium* spp.) and tupelo (*Nyssa* spp.) may also be present, but not dominant elements. Shrubs, small trees, and vines are usually sparse or moderate in abundance with green hawthorn (*Crataegus viridis*), swamp dogwood (*Cornus foemina*), eastern swamp privet (*Forestiera acuminata*), dwarf palmetto (*Sabal minor*), coastal plain willow (*Salix caroliniana*), black willow (*S. nigra*), American hornbeam (*Carpinus caroliniana*), *Hypericum* spp., possum haw (*Ilex decidua*), and laurel greenbrier (*Smilax laurifolia*) common. Groundcover is variable in abundance with false nettle (*Boehmeria cylindrica*), butterweed (*Packera glabella*), netted chain fern (*Woodwardia areolata*), redbud panicum (*Panicum rigidulum*), and big carpet grass (*Axonopus furcatus*) among the herbs most commonly encountered. The ability of both adult plants and seedlings to withstand specific flooding regimes throughout the “ridge and swale” topography of the floodplain often creates a mix of mesophytic and hydrophytic tree species.

Floodplain forest occurs in river floodplains and occupies low levees along channels, expansive flats located behind levees, low ridges alternating with swamps, and successional point bars. It is usually intermixed with lower areas of floodplain swamp and higher areas of bottomland forest, baygall, or upland hardwood forest. This forest develops along tertiary or higher order streams where deposition of alluvium becomes a significant factor in floodplain development (rather than simply erosion forces). Soils are variable mixtures of sand and alluvial sediments that have been deposited by the current drainage system and are often distinctly layered. Alluvial forest occupies an elevation within the broader floodplain that is inundated seasonally from river bank overflow for one to four months of the year during the growing season.

Existing Conditions: The alluvial forests on JMBSF have been largely unaffected by management practices prior to state ownership and are essentially in maintenance condition. They exist along the Moccasin Creek and North Prong of the St. Marys River and their tributaries.

Fire Requirements: Not fire dependant.

Restoration: Maintenance of floodplain forests will include prescribed burning ecotones with adjacent uplands, hydrological restoration, and recreation activities that minimize the negative effect on hydrological and ecological resources.

Hydrology: Existing fire breaks should be rehabilitated whenever possible, and new fire breaks will be established / maintained only in extreme situations.

Silviculture: No silvicultural activities will occur in these areas aside from some burning with adjacent stands.

F. SHRUB BOG

Description: Shrub bog consists of dense stands of broadleaved evergreen shrubs, vines, and short trees, three to fifteen feet tall depending on time since fire, with or without an overstory of scattered pine or bay trees, growing in mucky soil where water is usually less than a foot deep. Characteristic shrubs include titi (*Cyrilla racemiflora*), black titi (*Cliftonia monophylla*), fetterbush (*Lyonia lucida*), large gallberry (*Ilex coriacea*), gallberry (*I. glabra*), wax myrtle (*Myrica cerifera*), and sweet pepperbush (*Clethra alnifolia*), often laced together with laurel greenbrier (*Smilax laurifolia*). Other shrubs that may be present include red chokeberry (*Photinia pyrifolia*), Virginia willow (*Itea virginica*), swamp doghobble (*Leucothoe racemosa*), and myrtle dahoon (*Ilex cassine* var. *myrtifolia*). Taller pines, either pond (*Pinus serotina*), slash (*P. elliotii*), or loblolly (*P. taeda*), may be present. Dense clumps of slash pine may be present in long unburned stands. Other occasional trees that may extend above the shrub layer are loblolly bay (*Gordonia lasianthus*), sweetbay (*Magnolia virginiana*), swamp bay (*Persea palustris*), pond cypress (*Taxodium ascendens*), and stunted red maple (*Acer rubrum*). Herbs are sparse and patchy, confined to sunny openings, and often include tenangle pipewort (*Eriocaulon decangulare*), Virginia chain fern (*Woodwardia virginica*), and pitcher plants (*Sarracenia* spp.). Small areas of open water have floating bladderworts (*Utricularia* spp.).

Shrub bog is found on the border of swamps, in streamhead drainages, and in flat, poorly drained areas between rivers. It often forms the border between the mesic or wet flatwoods communities and dome swamp, basin swamp, or hydric hammock communities. Soils of shrub bogs frequently have an organic muck layer of varying depth at the surface underlain by sand or loamy sands. Characteristic soil series include Dasher, Dorovan, and Mascotte-Pamlico depressional. Sphagnum moss (*Sphagnum* spp.) is common on the ground surface.

Existing Conditions: The shrub bogs on JMBSF appear like overgrown wetlands due to fire exclusion and altered hydrology created by road ditches that were established by management practices prior to state ownership. Firelines created during wildfire suppression efforts have also altered these communities. These shrub bogs are slowly becoming dominated with pines and bays.

Fire Requirements: Variable, burn in rotation with surrounding stands 10-20 years.

Restoration: Restoration on these sites will focus on restoring hydrological damage and the return of prescribed burning to limit the colonization of these sites by slash pine and bay trees.

Hydrology: Existing fire breaks around adjacent mesic flatwoods stands should be rehabilitated whenever possible and new fire breaks will be established / maintained only in extreme situations.

Silviculture: No silvicultural activities will occur in these areas aside from some burning with adjacent stands.

VIII. References

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IX. Glossary of Abbreviations

ARCAcquisition and Restoration Council
BMPBest Management Practice
CARL.....Conservation and Recreation Lands
DACS.....Department of Agriculture and Consumer Services
DEP.....Department of Environmental Protection
DHRDivision of Historical Resources
DRP.....Division of Recreation and Parks
FFSFlorida Forest Service
FNAIFlorida Natural Areas Inventory
FWC.....Florida Fish and Wildlife Conservation Commission
FWRI.....Florida Fish & Wildlife Conservation Commission, Fish & Wildlife
 Research Institute
GOALGreater Okefenokee Association of Landowners
JMBSFJohn M. Bethea State Forest
OFWOutstanding Florida Water
ONF.....Osceola National Forest
ONWROkefenokee National Wildlife Refuge
SJRWMD.....St. Johns River Water Management District
TIITF.....Board of Trustees of the Internal Improvement Trust Fund
USFSUnited States Forestry Service
USFWSUnited States Fish and Wildlife Service
WMAWildlife Management Area

JOHN M. BETHEA STATE FOREST

2015

10-YEAR MANAGEMENT PLAN

EXHIBITS

Exhibit A

Ten Year Management Accomplishment Summary

Etoniah State Forest 10-Year Accomplishment Report

Planting	ACTIVITIES		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	Total
Reforestation/ Restoration (Indicate Species & Bareroot (B) or Containerized (C))	Longleaf Bareroot	No.					385,440	275,000			185,130	94,380		939,950
	Slash Bareroot	Acres					584	378			255	130		1,347
		No.		714	300,685	368,940	155,364	145,000	157,000		50,820			1,178,523
		Acres			498	559	214	201	216		70			1,758
		No.		1,471	399,300		700,000	675,000	502,920	209,000			10,890	2,498,581
Seedling Survival Checks	Containerized (C))	Acres			660		1,061	1,027	762	289			15	3,814
	Survival Checks	Acres				1,163	267	1,582	1,718	558	292	300	137	6,017
	Inventory update	Acres				4,000	4,000	3,900	24,328	5,347	2,179	1,215	3,292	48,261
	Chop Single Pass	Acres	501	339	1,778		1,607							4,225
	Chop Tandem	Acres						356		289	404	104	154	1,307
(Indicate treatment) (pre-plant)	Herbicide	Acres		2,081	2,316			722	329		300	104	150	6,002
	Burn	Acres				82			195				37	314
	Disk	Acres					267	520	271					1,058
	Rake	Acres		1,200			170							1,370
		Acres												
Exotic Species Control (Indicate Species & Method)	Japanese Climbing Fern (Sprayed)	Acres								3	1	5	5	14
	Rattlebox (Sprayed)	Acres								15	25	20	20	80
	Chinese Tallow (Girdled)	Acres											2	2
	Cogon Grass	Acres											1	1
		Acres												
Timber Stand Improvement Timber Sales Preparation for next Fiscal Year	Herbicide Treatment Banded	Acres				1,466	1,849	834	693	289				5,131
	Mechanical Treatments Mowing	Acres					10			113				123
	Marking DOF	Acres				320	122	105					20	567
	Contractor	Acres												
	Sale Acreage to Cruise	Acres					260	1,097					695	2,052
Current Year Sales	Harvest	Acres												
		Acres				352	42	380	708	319				1,801
		Tons				10,726	50,640	4,105	22,227	10,258				97,956
Recreation	Day Use	No.	4,570	4,370	2,320	3,450	2,150	4,600	3,900	4,500	300	3,000	3,000	36,160
	Overnight - Primitive	No.							26	10	1	2	1	40
	Wildfire	No.				1	2			11	8			24
	Wildfire	Acres	20,743			2,800	15		15	832	1,579			25,984
	Prescribed Burning	Acres	873	271	1,409	89	1,050	2,907	7,027	3,390	1,092	526	8,407	27,041
Roads & Bridges	Roads Graded	Miles	240	173	183	128	70	76	59	61	21	75	17	1,103
	Roads Rebuilt	Miles		1		5	7		7	2	2	17	8	49
	Bridges Repaired	No.					1		3			1		5
	Culverts Installed	No.		1	1			16	6	9	14	4	3	53
	Low Water Crossing Installed	No.	5	3	3	1			2				10	24
Boundary Maintenance	Maintenance / Marking	Miles				8		1	17	13		8	9	56
Other Activities	Hunt Camp Rental (\$70 hunt)	No.				2			1	2	1		1	7
	Piles Burned	No.					143	64		3		2		212
	Apiary Permits	No.					0		2	2	2	1	2	9

Exhibit B

Boundary Map



Florida Forest Service

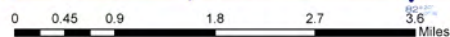
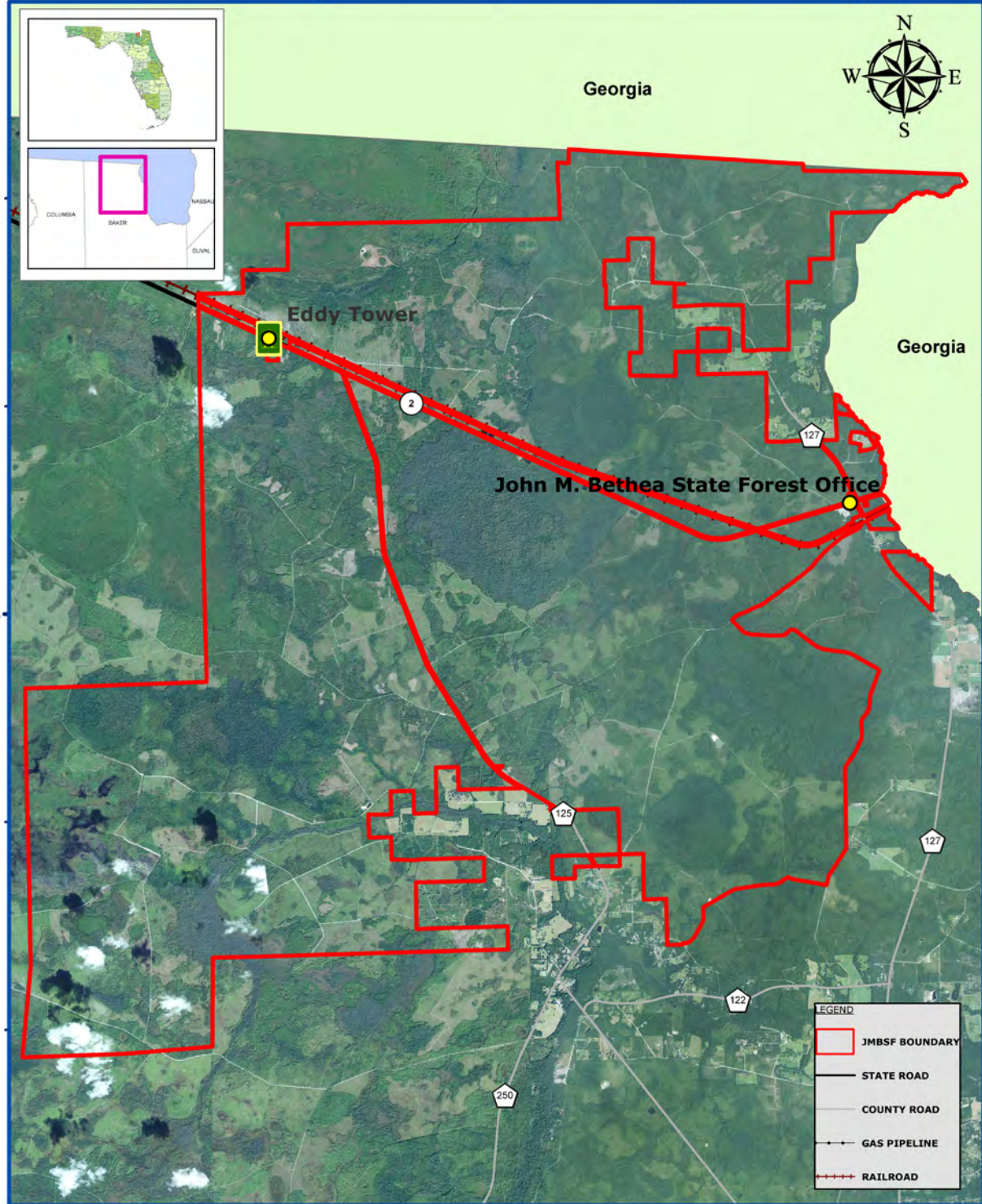
John M. Bethea State Forest

Boundary Map

Coordinate System: Florida Albers
High Accuracy Reference Network (HARN) Datum

DISCLAIMER:
This map was prepared by the Florida Forest Service
and is intended for general informational purposes only.
It is not intended to be used as a legal document.
The Florida Forest Service is not responsible for
any errors or omissions in this map.
The Florida Forest Service is not responsible for
any damages or injuries resulting from the use of
this map.

Managed Area boundaries courtesy of
the Florida Natural Areas Inventory
Forestry State Defense Code (FSDS) from the
US Army Corps of Engineers



Map Month/Year: March 2015

Exhibit C

Optimum Management Boundary Map



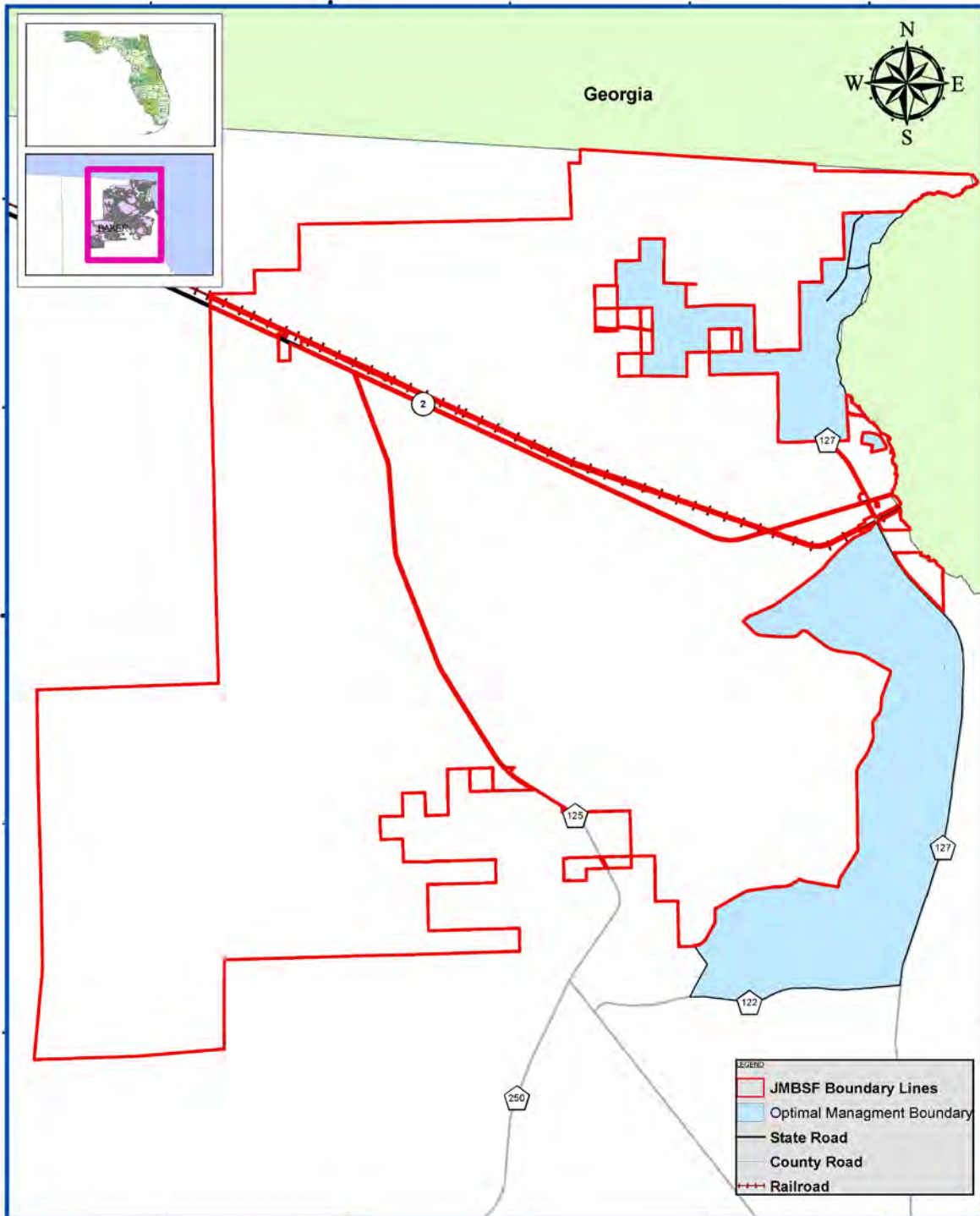
Florida Forest Service

John M. Bethea State Forest Optimal Management Boundary

Geographic System: Florida Albers
NAD 83
Datum: North American Datum of 1983
Units: Meter

DISCLAIMER:
This map was prepared by the Florida Forest Service for informational purposes only. It is not intended to be used for legal or financial purposes. The Florida Forest Service does not warrant the accuracy or completeness of the information contained herein. The Florida Forest Service is not responsible for any errors or omissions in this map. The Florida Forest Service is not responsible for any damages, including consequential damages, arising from the use of this map. The Florida Forest Service is not responsible for any claims, including consequential claims, arising from the use of this map. The Florida Forest Service is not responsible for any claims, including consequential claims, arising from the use of this map.

Revised from the previous edition of the Florida Forest Service's John M. Bethea State Forest Management Plan, dated 2008.



0 0.45 0.9 1.8 2.7 3.6 Miles

Map Month/Year: October 2014

Exhibit D

Road Map



Florida Forest Service

John M. Bethea State Forest

Road Map

Projections: NAD83, Florida Albers
High Accuracy Reference Network (HARN) DATUM

NEAREST AIRCRAFT ROUTES OF
THE FLORIDA DEPARTMENT OF
TRANSPORTATION
FEDERAL AID ROUTE 100 (SR 100)
AND AID ROUTE 101 (SR 101)

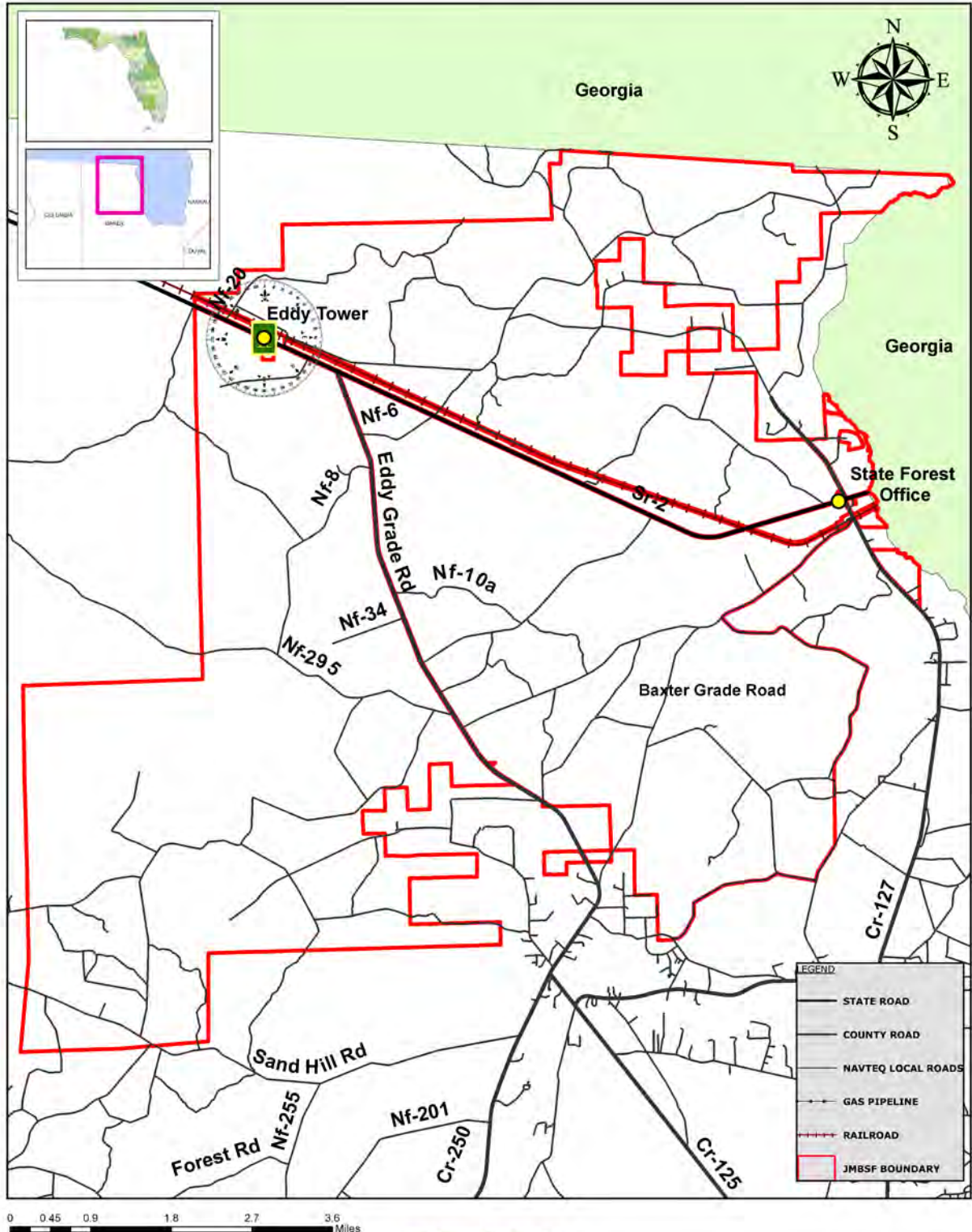


Exhibit E

Facilities and Improvements



Florida Forest Service

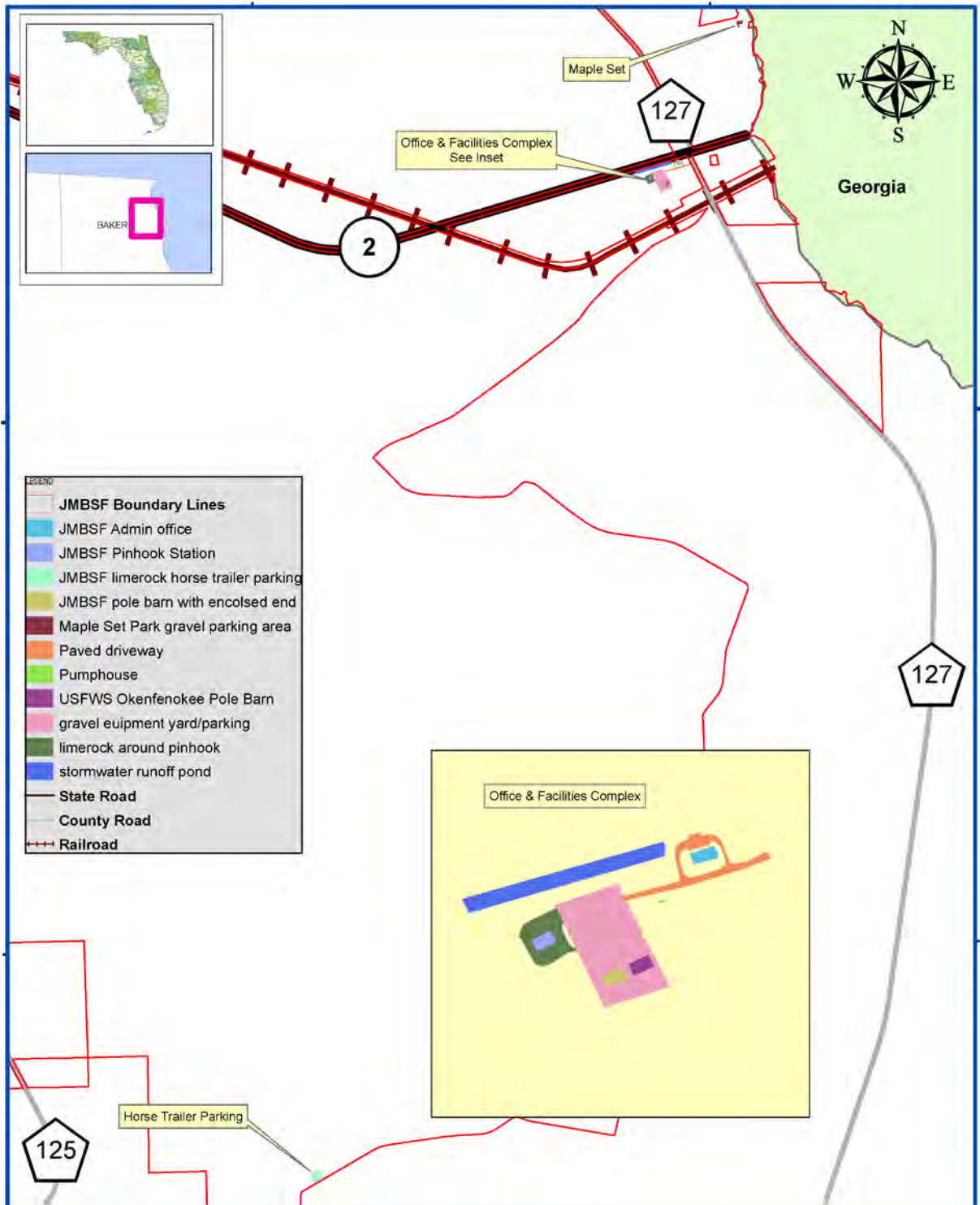
John M. Bethea State Forest

Facilities & Recreation

Coordinate System: Florida Albers
High Accuracy Reference Network (HARN) Datum

DISCLAIMER
This map was prepared by the Florida Forest Service for informational purposes only. It is not intended to be used for legal or financial purposes. The Florida Forest Service is not responsible for any errors or omissions on this map.

Map of the State of Florida showing the location of the John M. Bethea State Forest in the northwestern part of the state.



0 0.175 0.35 0.7 1.05 1.4 Miles

Map Month/Year: September 2014

Exhibit F

Proximity to Significant Managed Lands

[illegible]

Coordinate System: Florida Albers
High Accuracy Reference Network (HARN) Datum

Manager, Area Two-Series Contract of
the Florida Natural Areas Inventory
Formerly USGS Corvallis City (F103) from the
US Army Corps of Engineers

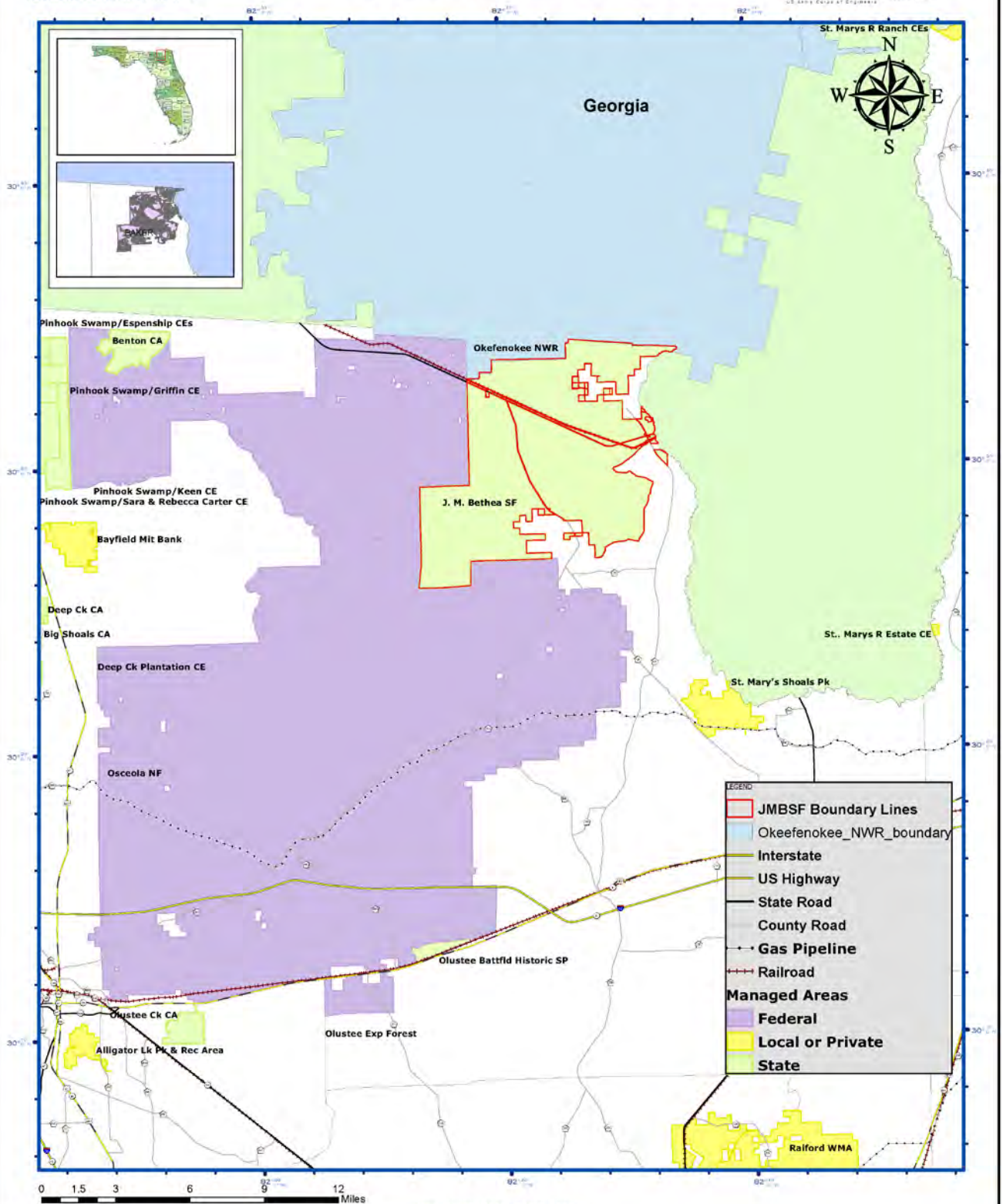


Exhibit G

Florida Forever Projects at JMBSF



Florida Forest Service

John M. Bethea State Forest Florida Forever Projects

Coordinate System: NAD83, Albers
High Accuracy Reference Network (HARN) Datum

NOTES:
1. This map was prepared by the Florida Forest Service, Division of Forest Management, in cooperation with the Florida Department of Transportation, Division of Transportation Planning and Design, and the Florida Department of Environmental Protection, Division of Environmental Planning and Design.
2. The map shows the location of the Florida Forever projects within the John M. Bethea State Forest. The projects are shown in green, and the forest boundary is shown in red.
3. The map is based on data provided by the Florida Department of Transportation, Division of Transportation Planning and Design, and the Florida Department of Environmental Protection, Division of Environmental Planning and Design.

Map data was downloaded courtesy of the Florida Department of Transportation, Division of Transportation Planning and Design, and the Florida Department of Environmental Protection, Division of Environmental Planning and Design.

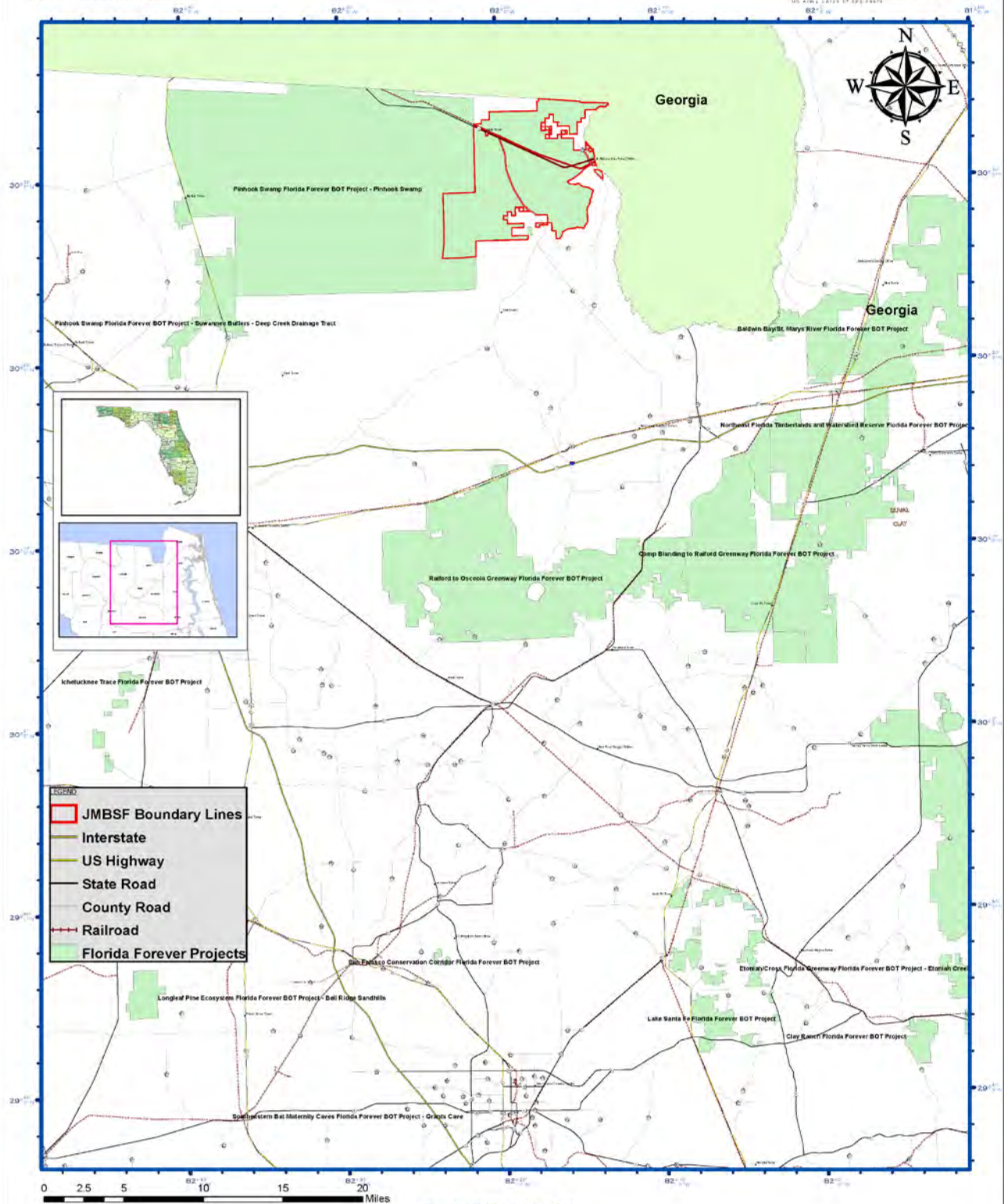


Exhibit H

Department of State Report on Archeological Sites and
Historical Sites

This record search is for informational purposes only and does NOT constitute a project review. This search only identifies resources recorded at the Florida Master Site File and does NOT provide project approval from the Division of Historical Resources. Contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333 for project review information.

May 22, 2014

Jennifer Reed
Florida Forestry Service
3125 Conner Boulevard Tallahassee, FL 32399
Phone: 850-681-5828
Email: Jennifer.reed@freshfromflorida.com



In response to your inquiry of May 22, 2014 the Florida Master Site File lists twenty previously recorded archaeological sites, one resource group, and one standing structure found within the **John M. Bethea State Forest** located in Baker County.

When interpreting the results of our search, please consider the following information:

- This search area may contain *unrecorded* archaeological sites, historical structures or other resources even if previously surveyed for cultural resources.
- Because vandalism and looting are common at Florida sites, we ask that you limit the distribution of location information on archaeological sites.
- While many of our records document historically significant resources, the documentation of a resource at the Florida Master Site File does not necessarily mean the resource is historically significant.
- Federal, state and local laws require formal environmental review for most projects. This search **DOES NOT** constitute such a review. If your project falls under these laws, you should contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333.

Please do not hesitate to contact us if you have any questions regarding the results of this search.

Sincerely,

A handwritten signature in cursive script that reads 'Mary G. Berman'.

Mary Berman
Archaeological Analyst
Florida Master Site File
mary.berman@dos.state.fl.us



AR=20
SS=1
CN=0
RG=1
BR=0
Total=22

Cultural Resource Roster

Created: 5/22/2014

SiteID	Type	Site Name	Address	Additional Info	SHPO Eval	NR Status
BA00247	AR	USFS OSC 89-7/OSCEOLA A,B,C	Taylor		Insufficient Info	
BA00264	AR	USFS 89-44 OSC/JACOBS 15 ON DOG ISLAND				
BA00265	AR	USFS 89-45 OSC/JACOBS 16 ON LICE ISLAND				
BA00266	AR	USFS 89-46 OSC/PINHOCK 17				
BA00269	AR	USFS 89-49 OSC/PINHOCK 20				
BA00270	AR	USFS 89-50 OSC/JACOBS PINHOCK 21				
BA00345	AR	NN		Human Remains May Be Present		
BA00346	AR	NN		Human Remains May Be Present		
BA00351	AR	NORTH OF TAYLOR	TAYLOR			
BA00535	AR	USFS #02-06 (B) Osc, "Eddy Tower"	nono			
BA00595	AR	Firebreak I	Unspecified			
BA00596	AR	Firebreak II	Unspecified			
BA00597	AR	Firebreak III	Unspecified			
BA00598	AR	Moccasin Circle	Unspecified			
BA00599	AR	Barnwell I	Unspecified			
BA00600	AR	Barnwell II	Unspecified			
BA00601	AR	Sawmill East of Eddy	Unspecified			
BA00602	AR	Sawdust Pile	Unspecified			
BA00603	AR	West of Eddy	Unspecified			
BA00604	AR	Eddy	Unspecified			
BA00605	RG	Barnwell Villa		Archaeological District - 3 Contrib Resources		
BA00111	SS	LYONS, WESLEY - CORN CRIB		-RESOURCE DESTROYED-		

Exhibit I

Management Procedures for Archaeological and Historical Sites and Properties

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties
(revised March 2013)

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, *‘Historic property’ or ‘historic resource’ means any prehistoric district, site, building, object, or other real or personal property of historical, architectural, or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state.’*

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources which are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered.

State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in depth information can be found at:
<http://www.flheritage.com/preservation/compliance/guidelines.cfm>

D. Management Implementation

Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information regarding individual projects must be submitted to the Division for review and recommendations.

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to: approval of the project as submitted, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration, or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination. In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case by case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should make preparations for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at:

http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf.

* * *

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Deena S. Woodward
Division of Historical Resources
Bureau of Historic Preservation
Compliance and Review Section
R. A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

Phone: (850) 245-6425

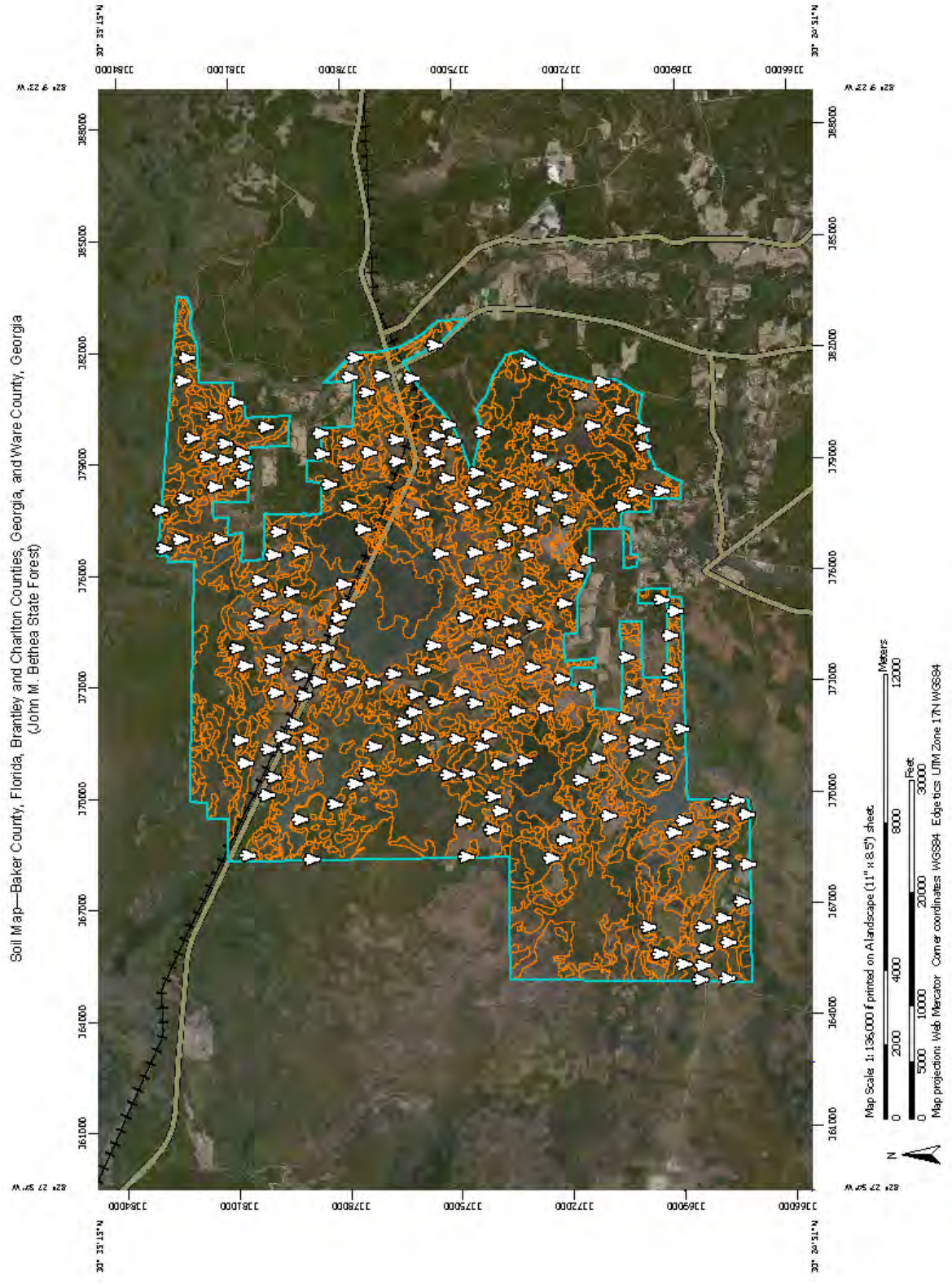
Toll Free: (800) 847-7278

Fax: (850) 245-6435

Exhibit J

Soil Maps and Descriptions

For a Complete Map Unit Description Report, please contact the FFS at 850 / 681-5828



MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:20,000 to 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Baker County, Florida
Survey Area Date: Version 11, Dec 13, 2013

Soil Survey Area: Brantley and Charlton Counties, Georgia
Survey Area Date: Version 7, Nov 22, 2013

Soil Survey Area: Ware County, Georgia
Survey Area Date: Version 8, Dec 14, 2013

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 14, 2011—Mar 13, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Baker County, Florida (FL003)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
11	Boulogne sand	21.4	0.0%
16	Dasher mucky peat, depressional	236.0	0.5%
18	Surrency-Mulat complex, frequently flooded	410.0	0.9%
23	Leon sand	1,170.7	2.7%
24	Leon-Evergreen complex, depressional	9.2	0.0%
26	Kingsferry and Allanton soils	5.8	0.0%
28	Mandarin fine sand, 0 to 2 percent slopes	34.8	0.1%
29	Mascotte fine sand	10,504.1	23.9%
32	Ocilla fine sand, 0 to 3 percent slopes	30.2	0.1%
33	Olustee-Pelham complex	217.5	0.5%
36	Pantego-Pamlico, loamy substratum, complex, depressional	11,936.7	27.1%
37	Pelham fine sand	1,946.5	4.4%
39	Plummer fine sand	405.4	0.9%
40	Pamlico muck, loamy substratum, depressional	4,822.9	11.0%
42	Pottsburg sand, high	1.3	0.0%
43	Pottsburg sand	21.5	0.0%
47	Sapelo fine sand	7,078.1	16.1%
52	Mascotte-Pamlico, loamy substratum, complex, depressional	4,698.1	10.7%
53	Mascotte fine sand, low	345.5	0.8%
99	Water	48.1	0.1%
Subtotals for Soil Survey Area		43,943.9	99.9%
Totals for Area of Interest		43,980.3	100.0%

Brantley and Charlton Counties, Georgia (GA611)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
KJA	Kinston and Johnston soils, 0 to 2 percent slopes, frequently flooded	34.4	0.1%
McA	Mascotte fine sand, 0 to 2 percent slopes	0.2	0.0%

Brantley and Charlton Counties, Georgia (GA611)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PbA	Potsburg fine sand, 0 to 2 percent slopes	0.0	0.0%
PgA	Pantego-Pamlico complex, loamy substratum, ponded, 0 to 1 percent slopes	0.0	0.0%
PmB	Pelham loamy fine sand, 0 to 5 percent slopes	0.6	0.0%
Subtotals for Soil Survey Area		35.2	0.1%
Totals for Area of Interest		43,980.3	100.0%

Ware County, Georgia (GA299)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PgA	Pantego-Pamlico, loamy substratum complex, ponded, 0 to 1 percent slopes	1.1	0.0%
PmB	Pelham loamy fine sand, 0 to 5 percent slopes	0.1	0.0%
Subtotals for Soil Survey Area		1.2	0.0%
Totals for Area of Interest		43,980.3	100.0%

Component Legend

This report presents general information about the map units and map unit components in the selected area. It shows map unit symbols and names and the components in each map unit. It also shows the percent of the components in the map units, the kind of component, and the slope range of each component.

Report—Component Legend

Component Legend—Baker County, Florida							
Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope		
					Low	RV	High
11—Boulogne sand	3,720						
		90	Boulogne	Series	0.0	1.0	2.0
		2	Allanton	Series	0.0	1.0	2.0
		2	Evergreen, depressional	Series	0.0	1.0	2.0
		2	Kingsferry	Series	0.0	1.0	2.0
		2	Leon, non-hydric	Series	0.0	1.0	2.0
		1	Pottsburg	Series	0.0	1.0	2.0
		1	Murville	Series	0.0	1.0	2.0
16—Dasher mucky peat, depressional	4,080						
		90	Dasher, depressional	Series	0.0	1.0	2.0
		10	Mascotte, hydric	Series	0.0	1.0	2.0
18—Surrency-Mulat complex, frequently flooded	7,705						
		59	Surrency	Series	0.0	1.0	2.0
		33	Mulat	Series	0.0	1.0	2.0
		3	Osier	Series	0.0	1.0	2.0
		3	Pamlico, loamy substratum	Series	0.0	1.0	2.0
		2	Pottsburg	Series	0.0	1.0	2.0
23—Leon sand	23,195						
		90	Leon, non-hydric	Series	0.0	1.0	2.0
		5	Leon, hydric	Series	0.0	1.0	2.0
		1	Pottsburg	Series	0.0	1.0	2.0
		1	Hurricane	Series	0.0	3.0	5.0
		1	Mandarin	Series	0.0	1.0	2.0
		1	Kingsferry	Series	0.0	1.0	2.0
		1	Osier	Series	0.0	1.0	2.0

Component Legend--Baker County, Florida							
Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope		
					Low	RV	High
24—Leon-Evergreen complex, depressional	3,095						
		67	Leon, depressional	Series	0.0	1.0	2.0
		28	Evergreen, depressional	Series	0.0	1.0	2.0
		1	Pottsborg	Series	0.0	1.0	2.0
		1	Osier	Series	0.0	1.0	2.0
		1	Boulogne	Series	0.0	1.0	2.0
		1	Allanton	Series	0.0	1.0	2.0
		1	Kingsferry	Series	0.0	1.0	2.0
26—Kingsferry and Allanton soils	2,220						
		76	Kingsferry	Series	0.0	1.0	2.0
		21	Allanton	Series	0.0	1.0	2.0
		2	Boulogne	Series	0.0	1.0	2.0
		1	Leon, non-hydric	Series	0.0	1.0	2.0
28—Mandarin fine sand, 0 to 2 percent slopes	525						
		92	Mandarin	Series	0.0	0.5	2.0
		5	Leon	Series	0.0	0.5	2.0
		1	Centenary	Series	0.0	0.5	2.0
		1	Rutlege	Series	0.0	0.5	2.0
		1	Ortega	Series	0.0	0.5	2.0
29—Mascotte fine sand	74,380						
		80	Mascotte, non-hydric	Series	0.0	1.0	2.0
		10	Mascotte, hydric	Series	0.0	1.0	2.0
		2	Leefield	Series	0.0	3.0	5.0
		2	Ocilla	Series	0.0	2.0	3.0
		2	Pantego	Series	0.0	1.0	2.0
		2	Pelham, hydric	Series	0.0	1.0	2.0
		1	Rains	Series	0.0	1.0	2.0
		1	Plummer, non-hydric	Series	0.0	1.0	2.0
32—Ocilla fine sand, 0 to 3 percent slopes	12,735						
		94	Ocilla	Series	0.0	2.0	3.0
		2	Albany	Series	0.0	3.0	5.0
		1	Pelham, non-hydric	Series	0.0	1.0	2.0
		1	Mascotte, non-hydric	Series	0.0	1.0	2.0
		1	Leefield	Series	0.0	3.0	5.0
		1	Olustee	Series	0.0	1.0	2.0

Component Legend--Baker County, Florida							
Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope		
					Low	RV	High
33—Olustee-Pelham complex	14,660						
		64	Olustee	Series	0.0	1.0	2.0
		21	Pelham, non-hydric	Series	0.0	1.0	2.0
		10	Pelham, hydric	Series	0.0	0.5	1.0
		2	Albany	Series	0.0	3.0	5.0
		2	Ocilla	Series	0.0	2.0	3.0
		1	Rains	Series	0.0	1.0	2.0
36—Pantego-Pamlico, loamy substratum, complex, depressional	67,175						
		60	Pantego	Series	0.0	1.0	2.0
		30	Pamlico, loamy substratum	Series	0.0	1.0	2.0
		3	Olustee	Series	0.0	1.0	2.0
		3	Pelham, non-hydric	Series	0.0	1.0	2.0
		2	Plummer, non-hydric	Series	0.0	1.0	2.0
		2	Rains	Series	0.0	1.0	2.0
37—Pelham fine sand	46,875						
		80	Pelham, non-hydric	Series	0.0	1.0	2.0
		10	Pelham, hydric	Series	0.0	1.0	2.0
		2	Mascotte, non-hydric	Series	0.0	1.0	2.0
		2	Mulat	Series	0.0	1.0	2.0
		2	Albany	Series	0.0	3.0	5.0
		1	Surrency	Series	0.0	1.0	2.0
		1	Sapelo, non-hydric	Series	0.0	1.0	2.0
		1	Ocilla	Series	0.0	2.0	3.0
		1	Olustee	Series	0.0	1.0	2.0
39—Plummer fine sand	4,440						
		80	Plummer, non-hydric	Series	0.0	1.0	2.0
		10	Plummer, hydric	Series	0.0	1.0	2.0
		2	Mulat	Series	0.0	1.0	2.0
		2	Leon, non-hydric	Series	0.0	1.0	2.0
		2	Albany	Series	0.0	3.0	5.0
		1	Pantego	Series	0.0	1.0	2.0
		1	Osier	Series	0.0	1.0	2.0
		1	Sapelo, non-hydric	Series	0.0	1.0	2.0
		1	Surrency	Series	0.0	1.0	2.0

Component Legend--Baker County, Florida							
Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope		
					Low	RV	High
40—Pamlico muck, loamy substratum, depressional	25,155						
		90	Pamlico, loamy substratum	Series	0.0	0.6	2.0
		4	Pantego	Series	0.0	1.0	2.0
		3	Pelham, hydric	Series	0.0	1.0	2.0
		3	Plummer, non-hydric	Series	0.0	1.0	2.0
42—Potsburg sand, high	3,025						
		90	Potsburg, high	Series	0.0	1.0	2.0
		3	Leon, depressional	Series	0.0	1.0	2.0
		3	Allanton	Series	0.0	1.0	2.0
		2	Hurricane	Series	0.0	3.0	5.0
		2	Boulogne	Series	0.0	1.0	2.0
43—Potsburg sand	6,620						
		90	Potsburg	Series	0.0	1.0	2.0
		2	Boulogne	Series	0.0	1.0	2.0
		2	Kingsferry	Series	0.0	1.0	2.0
		2	Evergreen, depressional	Series	0.0	1.0	2.0
		2	Allanton	Series	0.0	1.0	2.0
		1	Osier	Series	0.0	1.0	2.0
		1	Leon, depressional	Series	0.0	1.0	2.0
47—Sapelo fine sand	27,555						
		80	Sapelo, non-hydric	Series	0.0	1.0	2.0
		10	Sapelo, hydric	Series	0.0	1.0	2.0
		2	Albany	Series	0.0	3.0	5.0
		2	Leon, non-hydric	Series	0.0	1.0	2.0
		1	Leefield	Series	0.0	3.0	5.0
		1	Boulogne	Series	0.0	1.0	2.0
		1	Ocilla	Series	0.0	2.0	3.0
		1	Plummer, non-hydric	Series	0.0	1.0	2.0
		1	Pelham, non-hydric	Series	0.0	1.0	2.0
		1	Pantego	Series	0.0	1.0	2.0
52—Mascotte-Pamlico, loamy substratum, complex, depressional	17,620						
		50	Mascotte	Series	0.0	0.8	2.0
		40	Pamlico, loamy substratum	Series	0.0	0.6	2.0
		5	Plummer, non-hydric	Series	0.0	1.0	2.0
		5	Pelham, hydric	Series	0.0	0.5	1.0

Component Legend--Ware County, Georgia							
Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope		
					Low	RV	High
PgA--Pantego-Pamlico, loamy substratum complex, ponded, 0 to 1 percent slopes	645						
		60	Pantego	Series	0.0	1.0	2.0
		30	Pamlico	Series	0.0	1.0	2.0
PmB--Pelham loamy fine sand, 0 to 5 percent slopes	87,910						
		96	Pelham	Series	0.0	1.0	5.0

Data Source Information

Soil Survey Area: Baker County, Florida
 Survey Area Data: Version 11, Dec 13, 2013

Soil Survey Area: Brantley and Charlton Counties, Georgia
 Survey Area Data: Version 7, Nov 22, 2013

Soil Survey Area: Ware County, Georgia
 Survey Area Data: Version 8, Dec 14, 2013

Exhibit K

Department of Environmental Protection
Outstanding Florida Waters



**FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION**

BOB MARTINEZ CENTER
2600 BLAIRSTONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

June 3, 2014

Ms. Jennifer Reed
Land Planning Coordinator
Florida Forestry Service
Florida Department of Agriculture & Consumer Services
The Conner Building
3125 Conner Boulevard - Room 237
Tallahassee, FL 32399-1650

RE: Land Use Plan for John M. Bethea State Forest

Dear Ms. Reed:

Thank you for your inquiry regarding the surface water quality classifications on and near John M. Bethea State Forest in Baker County. The northern portion of the forest is immediately adjacent to Okefenokee National Wildlife Refuge, which has been designated as Outstanding Florida Waters (subparagraph 62-302.700(9)(b)21., Florida Administrative Code (FAC)). Any surface waters on the site are classified as Class III waters (subparagraph 62-302.400(16)(b)2., FAC), which is the statewide default classification.

If you have any questions or need additional information, please feel free to contact me at the letterhead address (mail station 6511), by phone at 850/245-8429, or via E-mail at Eric.Shaw@dep.state.fl.us.

Sincerely,

Eric R. Shaw
Environmental Manager
Standards Development Section

Exhibit L

Water Resources Map



Florida Forest Service

Coordinate Systems: Florida Albers
High Accuracy Reference Network (HARN) Datum

John M. Bethea State Forest Water Resources

DISCLAIMER:
This map was prepared for the Florida Forest Service by the Florida Department of Natural Resources. It is not intended to be used for any other purpose. The Florida Department of Natural Resources is not responsible for any errors or omissions on this map. The Florida Department of Natural Resources is not responsible for any damages or injuries resulting from the use of this map.

Map data and boundaries courtesy of
the Florida Department of Natural Resources.
Originally a DNR product, this map is
now a DNR product.

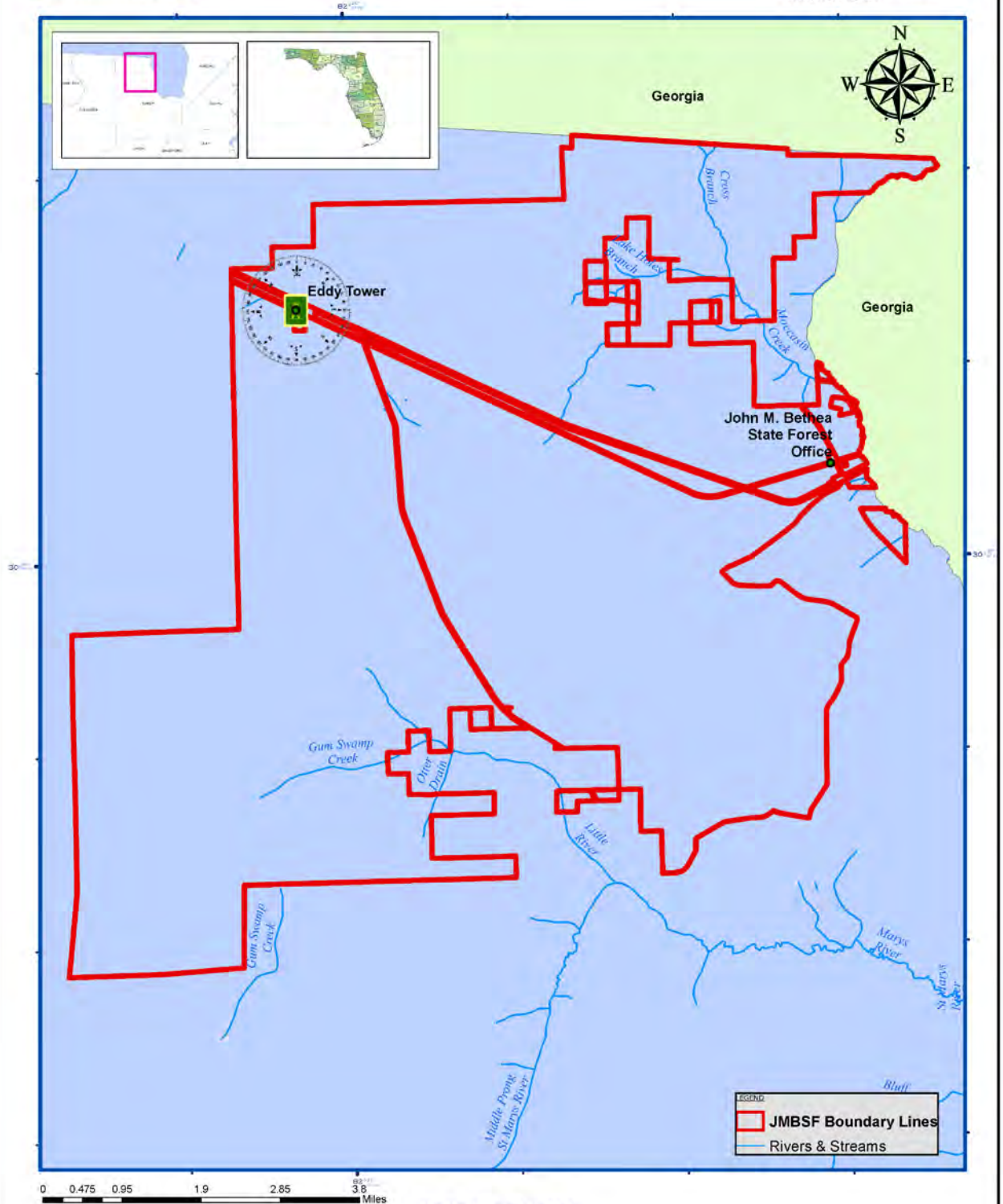


Exhibit M

Florida Natural Areas Inventory Response



CONTACT INFORMATION
Tallahassee, FL 32304
850.488.7000
www.flnai.com

June 5, 2014

Jennifer Reed
FL Dept of Agriculture & Consumer Services
Florida Forest Service
Conner Bldg., 3125 Conner Boulevard
Tallahassee, FL 32399-1650

Dear Ms. Reed,

Thank you for requesting information from the Florida Natural Areas Inventory (FNAI). We have compiled the following information for your project area.

Project: John M. Bethea State Forest
Date Received: 5/29/2014
Location: Baker County

FNAI Element Occurrences

A search of our maps and database indicates that we currently have several element occurrences mapped in the vicinity of the study area (see enclosed map and element occurrence table). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

Federally Listed Species

Our data include records of federally listed species, particularly *Picoides borealis* (Red-cockaded Woodpecker), on or very near this site (see enclosed map and tables for details). This statement should not be interpreted as a legal determination of presence or absence of federally listed species on a property.

The FNAI Element Occurrences data layer includes rigorously documented occurrences of rare species and natural communities. For animals and plants, element occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrence labels indicate the general vicinity of the occurrence. This may be due to lack of precision of the source data, or an element that covers an extended area (such as a wide-ranging species or large natural community). Note that some element occurrences represent historically documented observations which may no longer be extant. Extirpated element occurrences will be marked with an "X" following the occurrence label on the enclosed map.



Florida Department of
Agriculture and Consumer
Services

Division of Forestry
and Public Lands

One University Avenue, Tallahassee, FL 32304

Several of the species and natural communities tracked by the Inventory are considered **data sensitive**. Occurrence records for these elements contain information that we consider sensitive due to collection pressures, extreme rarity, or at the request of the source of the information. The Element Occurrence Record has been labeled "Data Sensitive." We request that you not publish or release specific locational data about these species or communities without consent from the Inventory. If you have any questions concerning this please do not hesitate to call.

"Tracking Florida's Biodiversity"

Biodiversity Matrix

In addition to element occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models. The Biodiversity Matrix Report compiles several data sources – including Element Occurrences, occurrence-based species habitat models, predictive range models, and natural community maps – to provide a broader list of documented, likely, and potential species on or near the site. These species could be taken into consideration in field surveys, land management, and land use decisions. Note that the Biodiversity Matrix Report lists species and communities by square-mile Matrix Unit, rather than by the site of interest, so the Documented list may vary from the Element Occurrence Table supplied with this report. Also, note that this list aggregates results from all matrix units that overlap the site, so the location of the elements are somewhat obscured.

FNAI occurrence-based habitat models indicate areas, which based on land cover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Habitat models have been developed for approximately 300 of the rarest species tracked by the Inventory, including all federally listed species.

FNAI species predictive range models indicate areas that are within the known or predicted range of a species, based on climate variables, soils, vegetation, and/or slope. Species range models have been developed for approximately 340 species, including all federally listed species.

The FNAI Biodiversity Matrix Geodatabase compiles Documented, Likely, and Potential species and natural communities for each square mile Matrix Unit statewide.

Land Acquisition Projects

This site appears to be located within the Pinhook Swamp Florida Forever BOT Project, which is part of the State of Florida's Conservation and Recreation Lands land acquisition program. A description of this project is enclosed. For more information on this Florida Forever Project, contact the Florida Department of Environmental Protection, Division of State Lands.

Florida Forever Board of Trustees (BOT) projects are proposed and acquired through the Florida Department of Environmental Protection, Division of State Lands. The state has no specific land management authority over these lands until they are purchased.

The Inventory always recommends that professionals familiar with Florida's flora and fauna conduct a site-specific survey to determine the current presence or absence of rare, threatened, or endangered species.

Please visit www.fnai.org/trackinglist.cfm for county or statewide element occurrence distributions and links to more element information.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources. However, the data are not always based on comprehensive or site-specific field surveys. Therefore this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and the Inventory must be credited as an information source in these publications. FNAI data may not be resold for profit.

This report is made available at no charge due to funding from the Florida Department of Environmental Protection, Division of State Lands.

Thank you for your use of FNAI services. If I can be of further assistance, please contact me at (850) 224-8207 or at npasco@fnai.org.

Sincerely,

Nathan Pasco

Nathan Pasco
GIS / Data Services

Encl

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
(850) 681-9364 Fax
www.fnal.org

FLORIDA NATURAL AREAS INVENTORY

Element Occurrences

- Animals
- Plants
- Communities
- Other
- Data Sensitive
- Point Indicates General Vicinity of Element

U.S. Fish & Wildlife Service
Scrub Jay Survey 1992-96

Conservation Lands

- Federal
- State
- Local
- Private
- State Aquatic Preserves

Land Acquisition Projects

- Florida Forever
- Board of Trustees Projects

- FNAI Rare Species
- Habitat
- FNAI Biodiversity Matrix
- Square Mile Units

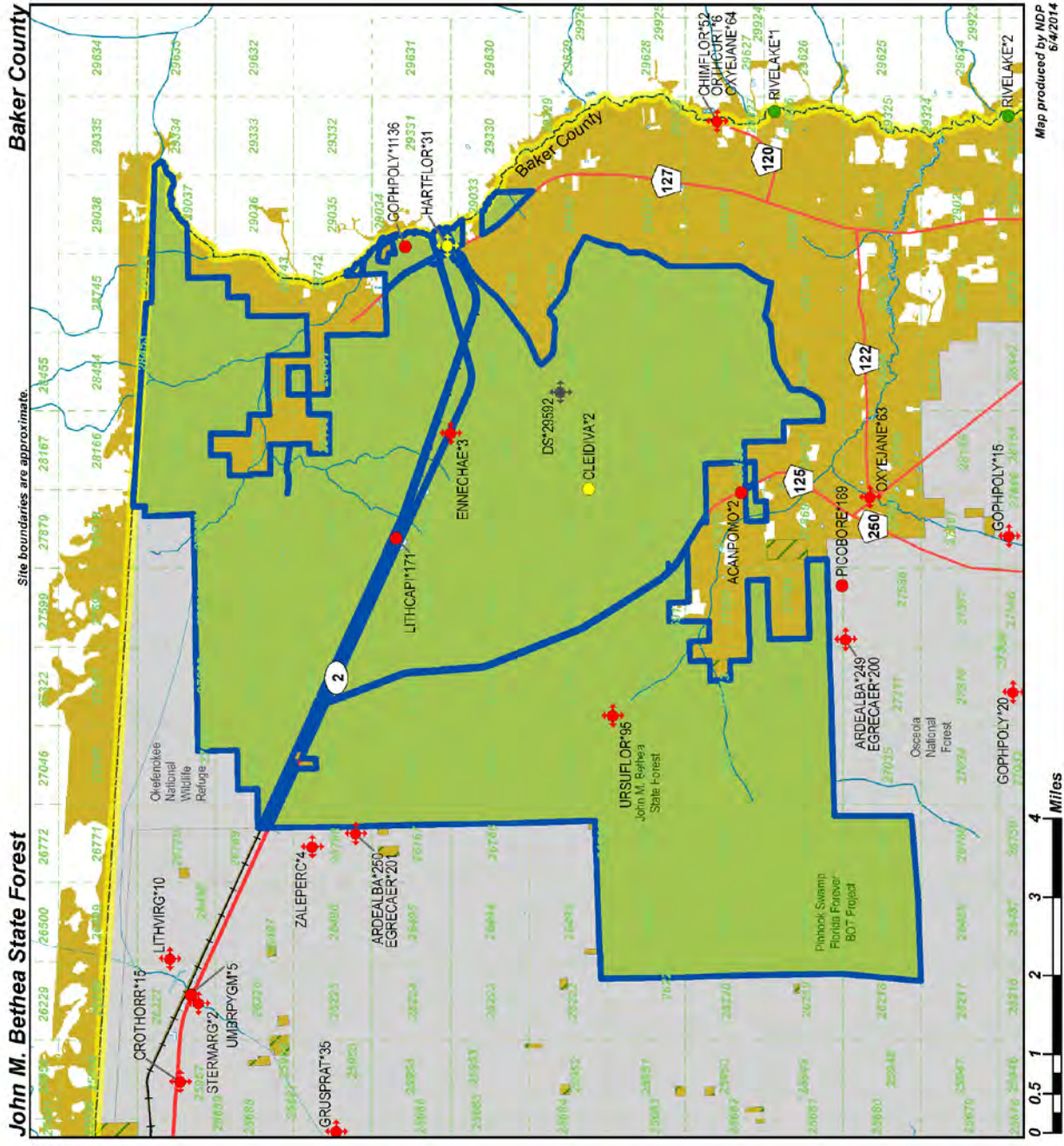
County Boundary

- Interstate
- Turnpike
- Major Highway
- Local Road
- Railroad (Inactive railroads shown in Gray)
- Water

NOTE
Map should not be interpreted without accompanying documents.

John M. Betheta State Forest

Baker County



Map produced by NDP
5/4/2014



1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
(850) 681-9364 Fax
www.fnai.org

FNAI ELEMENT OCCURRENCE REPORT on or near

John M. Bethea State Forest



Map Label	Scientific Name	Common Name	Rank	Status	Listing	Observation Date	Description	EO Comments
ACANPOM02	<i>Acantharchus pomotis</i>	Mud Sunfish	G4G5	S3	N	N	1947-02-02	No general description given. (U97-007503) (U90FSM01FLUS)
ARDEALBA*249	<i>Ardea alba</i>	Great Egret	G5	S4	N	N	1987-05-14	Lake, oldfield community, clearcuts north and east of site.
ARDEALBA*250	<i>Ardea alba</i>	Great Egret	G5	S4	N	N	1987-05-14	1987-05-14: Cypress swamp, shrubs, with pine plantations to south and east. (U97GFC02FLUS)
OLEIDIVA*2	<i>Cleistes divaricata</i>	Large Rosebud Orchid	G4	S1	N	LT	2004-06-16	2004-06-16: Pine plantation (historically mesic flatwoods) that recently had every third row of trees removed, causing great disturbance. Closed canopy of <i>Pinus elliotii</i> with dense but disturbed shrub layer including <i>Serenoa repens</i> , <i>Ilex glabra</i> , <i>Vaccini</i> .
DS*29582	<i>Data Sensitive Element</i>	Data Sensitive	G5	S3?	N	N	2005-04-20	Data Sensitive
EGRECAER*200	<i>Egretta caerulea</i>	Little Blue Heron	G5	S4	N	SSC	1987-05-14	Lake, clearcuts north and east of site.
EGRECAER*201	<i>Egretta caerulea</i>	Little Blue Heron	G5	S4	N	SSC	1988-05-19	cypress swamp, shrubs, with pine plantations to south and east.
ENNECAE*3	<i>Enneanarthrus chaetodon</i>	Blackbanded Sunfish	G3G4	S3	N	N	1968-03	borrow pit
GOPHPOLY*136	<i>Gopherus polyphemus</i>	Gopher/Tortoise	G3	S3	C	ST	2004-06-08	2004-06-08: Area has mostly been converted to pine plantation with artificial raised beds. Area also has alot of piles of dirt from earthmoving projects for a nearby railroad. Historically, the more xeric bluffs and adjacent flatwoods (xeric/mesic to m



1018 Thomasville Road
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FNAI ELEMENT OCCURRENCE REPORT on or near John M. Bethea State Forest



Map Label	Scientific Name	Common Name	Rank	Status	Listing	Observation Date	Description	EO Comments
HARTFLOR31	<i>Hartwrightia floridana</i>	Hartwrightia	G2	S2	N	LT	1929-10-13	Low pine land. Flowering. Collected by Hugh O'Neill (#6057) 13 Oct., 1929. FLAS #24326.
LITHCAP171	<i>Litrobates capito</i>	Carolina Gopher Frog	G3	S3	N	SSC	2004-06-16	2004-06-16: about 8 individuals heard after rain (F04FNA09FLUS). Land use consists mostly of large basin swamps with the uplands mostly converted to pine plantation. The uplands were mostly historically mesic flatwoods (F04FNA).
OXYEJANE63	<i>Oxyethira janella</i>	Little-entrance Oxyethiran Microcaddisfly	G5	S4S5	N	N	2007-06-01	2007-06-01: Three specimens were collected using a 15 watt black light over an alcohol-filled white pan (U09RAS01FLUS, U08RAS01FLUS).
PICOBORE169	<i>Picoides borealis</i>	Red-cockaded Woodpecker	G3	S2	LE	FE	1983-PRE (U83UFS01FLUS)	1983-pre: one colony, ca 3 miles from next nearest known colony (U83UFS01FLUS).
URSUFLOP95	<i>Ursus americanus floridanus</i>	Florida Black Bear	G5T2	S2	N	ST*	2012	2012: This occurrence with 200-313 (U05SIM01FLUS) is part of a larger population of 700-800 bears that includes Okefenokee Swamp National Wildlife Refuge in Georgia. This EO represents the Primary and Secondary Bear Ranges for the Osceola population. Pr
ZALEFER04	<i>Zale percula</i>	Okefenokee Zale Moth	G2	S1	N	N	2001-02-24	2001-02-24: Specimens were collected at a mercury vapor lamp sheet, a black light sheet and black light traps. This species was very common (A06KON01FLUS, PNDKON01FLUS).

Florida Natural Areas Inventory
Biodiversity Matrix Report



Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Documented					
<i>Cleistes divaricata</i>	Large Rosebud Orchid	G4	S1	N	LT
<i>Clemmys guttata</i>	Spotted Turtle	G5	S3?	N	N
<i>Gopherus polyphemus</i>	Gopher Tortoise	G3	S3	C	ST
<i>Lithobates capito</i>	Carolina Gopher Frog		S3	N	SSC
<i>Zale perculata</i>	Okefenokee Zale Moth	G2	S1	N	N
Documented-Historic					
<i>Acantharchus pomotis</i>	Mud Sunfish	G4G5	S3	N	N
Likely					
Mesic flatwoods		G4	S4	N	N
<i>Mycteria americana</i>	Wood Stork		S2	LE	FE
<i>Picoides borealis</i>	Red-cockaded Woodpecker	G3	S2	LE	FE
<i>Ursus americanus floridanus</i>	Florida Black Bear	G5T2	S2	N	ST*
Potential					
<i>Ardea alba</i>	Great Egret	G5	S4	N	N
<i>Asclepias viridula</i>	Southern Milkweed	G2	S2	N	LT
<i>Asplenium heteroresiliens</i>	Wagner's Spleenwort	GNA	S1	N	N
<i>Asplenium plenum</i>	Ruffled Spleenwort	G1Q	S1	N	N
<i>Athene cunicularia floridana</i>	Florida Burrowing Owl	G4T3	S3	N	SSC
<i>Balduina atropurpurea</i>	Purple Honeycomb-head	G2	S1	N	LE
<i>Brickellia cordifolia</i>	Flyr's Brickell-bush	G2G3	S2	N	LE
<i>Calopogon multiflorus</i>	Many-flowered Grass-pink		S2S3	N	LE
<i>Calydorea coelestina</i>	Bartram's Ixia		S2S3	N	LE
<i>Carex chapmanii</i>	Chapman's Sedge	G3	S3	N	LT
<i>Coreopsis integrifolia</i>	Ciliate-leaf Tickseed	G1G2	S1	N	LE
<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared Bat	G3G4	S2	N	N
<i>Ctenium floridanum</i>	Florida Toothache Grass	G2	S2	N	LE
<i>Drymarchon couperi</i>	Eastern Indigo Snake	G3	S3	LT	FT
<i>Egretta caerulea</i>	Little Blue Heron	G5	S4	N	SSC
<i>Enneacanthus chaetodon</i>	Blackbanded Sunfish	G3G4	S3	N	N
<i>Grus canadensis pratensis</i>	Florida Sandhill Crane	G5T2T3	S2S3	N	ST
<i>Gymnopogon chapmanianus</i>	Chapman's Skeletongrass	G3	S3	N	N
<i>Hartwrightia floridana</i>	Hartwrightia	G2	S2	N	LT
<i>Litsea aestivalis</i>	Pondspice	G3?	S2	N	LE
<i>Matelea floridana</i>	Florida Spiny-pod	G2	S2	N	LE
<i>Myotis austroriparius</i>	Southeastern Bat	G3G4	S3	N	N
<i>Notophthalmus perstriatus</i>	Striped Newt	G2G3	S2S3	C	N
<i>Peucaea aestivalis</i>	Bachman's Sparrow	G3	S3	N	N
<i>Pituophis melanoleucus mugitus</i>	Florida Pine Snake	G4T3	S3	N	SSC
<i>Pteroglossaspis ecristata</i>	Giant Orchid	G2G3	S2	N	LT
<i>Salix floridana</i>	Florida Willow	G2	S2	N	LE
<i>Sideroxylon alachuense</i>	Silver Buckthorn	G1	S1	N	LE

Definitions: Documented - Rare species and natural communities documented on or near this site.
Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years.
Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity.
Potential - This site lies within the known or predicted range of the species listed.

Elements and Element Occurrences

An **element** is any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature.

An **element occurrence (EO)** is an area of land and/or water in which a species or natural community is, or was, present. An EO should have practical conservation value for the Element as evidenced by potential continued (or historical) presence and/or regular recurrence at a given location.

Element Ranking and Legal Status

Using a ranking system developed by NatureServe and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks for each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element Occurrences (EOs), estimated abundance (number of individuals for species; area for natural communities), geographic range, estimated number of adequately protected EOs, relative threat of destruction, and ecological fragility.

FNAI GLOBAL ELEMENT RANK

- G1** = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
- G2** = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
- G3** = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
- G4** = Apparently secure globally (may be rare in parts of range).
- G5** = Demonstrably secure globally.
- GH** = Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker).
- GX** = Believed to be extinct throughout range.
- GXC** = Extirpated from the wild but still known from captivity or cultivation.
- G#?** = Tentative rank (e.g., G2?).
- G#G#** = Range of rank; insufficient data to assign specific global rank (e.g., G2G3).
- G#T#** = Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1).
- G#Q** = Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q).
- G#T#Q** = Same as above, but validity as subspecies or variety is questioned.
- GU** = Unrankable; due to a lack of information no rank or range can be assigned (e.g., GUT2).
- GNA** = Ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
- GNR** = Element not yet ranked (temporary).
- GNRTNR** = Neither the element nor the taxonomic subgroup has yet been ranked.

FNAI STATE ELEMENT RANK

- S1** = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
- S2** = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
- S3** = Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
- S4** = Apparently secure in Florida (may be rare in parts of range).
- S5** = Demonstrably secure in Florida.
- SH** = Of historical occurrence in Florida, possibly extirpated, but may be rediscovered (e.g., ivory-billed woodpecker).
- SX** = Believed to be extirpated throughout Florida.
- SU** = Unrankable; due to a lack of information no rank or range can be assigned.
- SNA** = State ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
- SNR** = Element not yet ranked (temporary).

FEDERAL LEGAL STATUS

Legal status information provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant federal agency.

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.

LE = Endangered: species in danger of extinction throughout all or a significant portion of its range.

LE, LT = Species currently listed endangered in a portion of its range but only listed as threatened in other areas

LE, PDL = Species currently listed endangered but has been proposed for delisting.

LE, PT = Species currently listed endangered but has been proposed for listing as threatened.

LE, XN = Species currently listed endangered but tracked population is a non-essential experimental population.

LT = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.

SAT = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.

SC = Not currently listed, but considered a "species of concern" to USFWS.

STATE LEGAL STATUS

Provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant state agency.

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

FE = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service

FT = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service

F(XN) = Federal listed as an experimental population in Florida

FT(S/A) = Federal Threatened due to similarity of appearance

ST = State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future. (ST* for *Ursus americanus floridanus* (Florida black bear) indicates that this status does not apply in Baker and Columbia counties and in the Apalachicola National Forest. ST* for *Neovison vison* pop.1 (Southern mink, South Florida population) indicates that this status applies to the Everglades population only.)

SSC = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC* indicates that a species has SSC status only in selected portions of its range in Florida. SSC* for *Pandion haliaetus* (Osprey) indicates that this status applies in Monroe county only.)

N = Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or see: <http://www.doacs.state.fl.us/pi/>.

LE = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.

LT = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.

N = Not currently listed, nor currently being considered for listing.

Element Occurrence Ranking

FNAI ranks the quality of the element occurrence in terms of its viability (EORANK). Viability is estimated using a combination of factors that contribute to continued survival of the element at the location. Among these are the size of the EO, general condition of the EO at the site, and the conditions of the landscape surrounding the EO (e.g. an immediate threat to an EO by local development pressure could lower an EO rank).

- A** = Excellent estimated viability
- A?** = Possibly excellent estimated viability
- AB** = Excellent or good estimated viability
- AC** = Excellent, good, or fair estimated viability
- B** = Good estimated viability
- B?** = Possibly good estimated viability
- BC** = Good or fair estimated viability
- BD** = Good, fair, or poor estimated viability
- C** = Fair estimated viability
- C?** = Possibly fair estimated viability
- CD** = Fair or poor estimated viability
- D** = Poor estimated viability
- D?** = Possibly poor estimated viability
- E** = Verified extant (viability not assessed)
- F** = Failed to find
- H** = Historical
- NR** = Not ranked, a placeholder when an EO is not (yet) ranked.
- U** = Unrankable
- X** = Extirpated

*For additional detail on the above ranks see: <http://www.natureserve.org/explorer/eorankguide.htm>

FNAI also uses the following EO ranks:

- H?** = Possibly historical
- F?** = Possibly failed to find
- X?** = Possibly extirpated

The following offers further explanation of the H and X ranks as they are used by FNAI:

The rank of H is used when there is a lack of recent field information verifying the continued existence of an EO, such as (a) when an EO is based only on historical collections data; or (b) when an EO was ranked A, B, C, D, or E at one time and is later, without field survey work, considered to be possibly extirpated due to general habitat loss or degradation of the environment in the area. This definition of the H rank is dependent on an interpretation of what constitutes "recent" field information. Generally, if there is no known survey of an EO within the last 20 to 40 years, it should be assigned an H rank. While these time frames represent suggested maximum limits, the actual time period for historical EOs may vary according to the biology of the element and the specific landscape context of each occurrence (including anthropogenic alteration of the environment). Thus, an H rank may be assigned to an EO before the maximum time frames have lapsed. Occurrences that have not been surveyed for periods exceeding these time frames should not be ranked A, B, C, or D. The higher maximum limit for plants and communities (i.e., ranging from 20 to 40 years) is based upon the assumption that occurrences of these elements generally have the potential to persist at a given location for longer periods of time. This greater potential is a reflection of plant biology and community dynamics. However, landscape factors must also be considered. Thus, areas with more anthropogenic impacts on the environment (e.g., development) will be at the lower end of the range, and less-impacted areas will be at the higher end.

The rank of X is assigned to EOs for which there is documented destruction of habitat or environment, or persuasive evidence of eradication based on adequate survey (i.e., thorough or repeated survey efforts by one or more experienced observers at times and under conditions appropriate for the Element at that location).

Exhibit N

Florida Fish and Wildlife Conservation Commission Response



**Florida Fish
and Wildlife
Conservation
Commission**

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Jacksonville

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Tallahassee

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Executive Director

Greg Holder
Assistant Executive Director

Karen Ventimiglia
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**Fish and Wildlife
Research Institute
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(727) 896-8626
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Tallahassee, Florida
32399-1600
Voice: (850) 410-0656

Hearing/speech-impaired:
(800) 955-8771 (T)
(800) 955-8770 (V)

MyFWC.com/Research

June 6, 2014

Ms. Jennifer Reed
Land Planning Coordinator
Department of Agriculture and Consumers Services
Florida Forest Service
3125 Conner Boulevard
Tallahassee, FL 32399-1650

Dear Ms. Reed:

This letter is in response to your request for listed species occurrence records and critical habitats for your project (John M. Bethea State Forest) located in Baker County, Florida. Records from The Florida Fish and Wildlife Conservation Commission's database indicate that listed species occurrence data are located within project area. Enclosed are 8.5 x 11 maps showing listed species locations, SHCA for Cooper's hawk, black bear and swallow-tailed kite, Prioritized SHCA's, species richness, priority wetlands for listed species, and land cover for the project site and surrounding area.

This letter and attachments should not be considered as a review or an assessment of the impact upon threatened or endangered species of the project site. It provides FWC's most current data regarding the location of listed species and their associated habitats.

Our SHCA recommendations are intended to be used as a guide. Land development and ownership in Florida is ever-changing and priority areas identified as SHCA might already have been significantly altered due to development or acquired into public ownership. Onsite surveys, literature reviews, and coordination with FWC biologists remain essential steps in documenting the presence or absence of rare and imperiled species and habitats within the project area.

Our fish and wildlife location data represents only those occurrences recorded by FWC staff and other affiliated researchers. It is important to understand that our database does not necessarily contain records of all listed species that may occur in a given area. Also, data on certain species, such as gopher tortoises, are not entered into our database on a site-specific basis.

Therefore, one should not assume that an absence of occurrences in our database indicates that species of significance do not occur in the area.

The Florida Natural Areas Inventory (FNAI) maintains a separate database of listed plant and wildlife species, please contact FNAI directly for specific information on the location of element occurrences within the project area.

Ms. Jennifer Reed

Page 2

June 6, 2014

Because FNAI is funded to provide information to public agencies only, you may be required to pay a fee for this information. County-wide listed species information can be located at their website (<http://www.fnai.org>).

Please credit the Florida Fish and Wildlife Conservation Commission in any publication or presentation of these data. If you have any questions or further requests, please contact me at (850) 488-0588 or gisrequests@myfwc.com.

Sincerely,



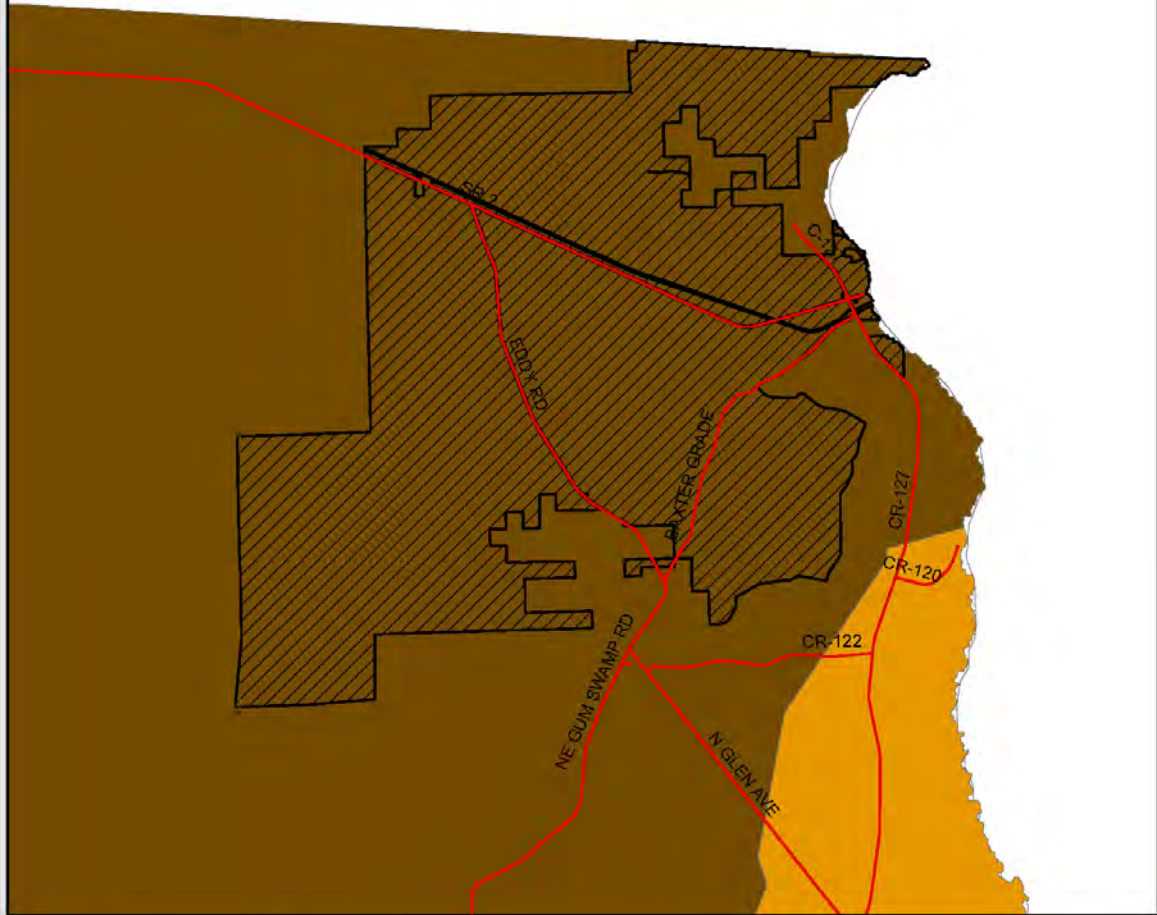
Jan Stearns
Staff Assistant

js
2014_6005
Enclosures

Black Bear Range

John M. Bethea State Forest

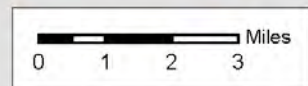
Georgia



Bear Range 2008

RangeType

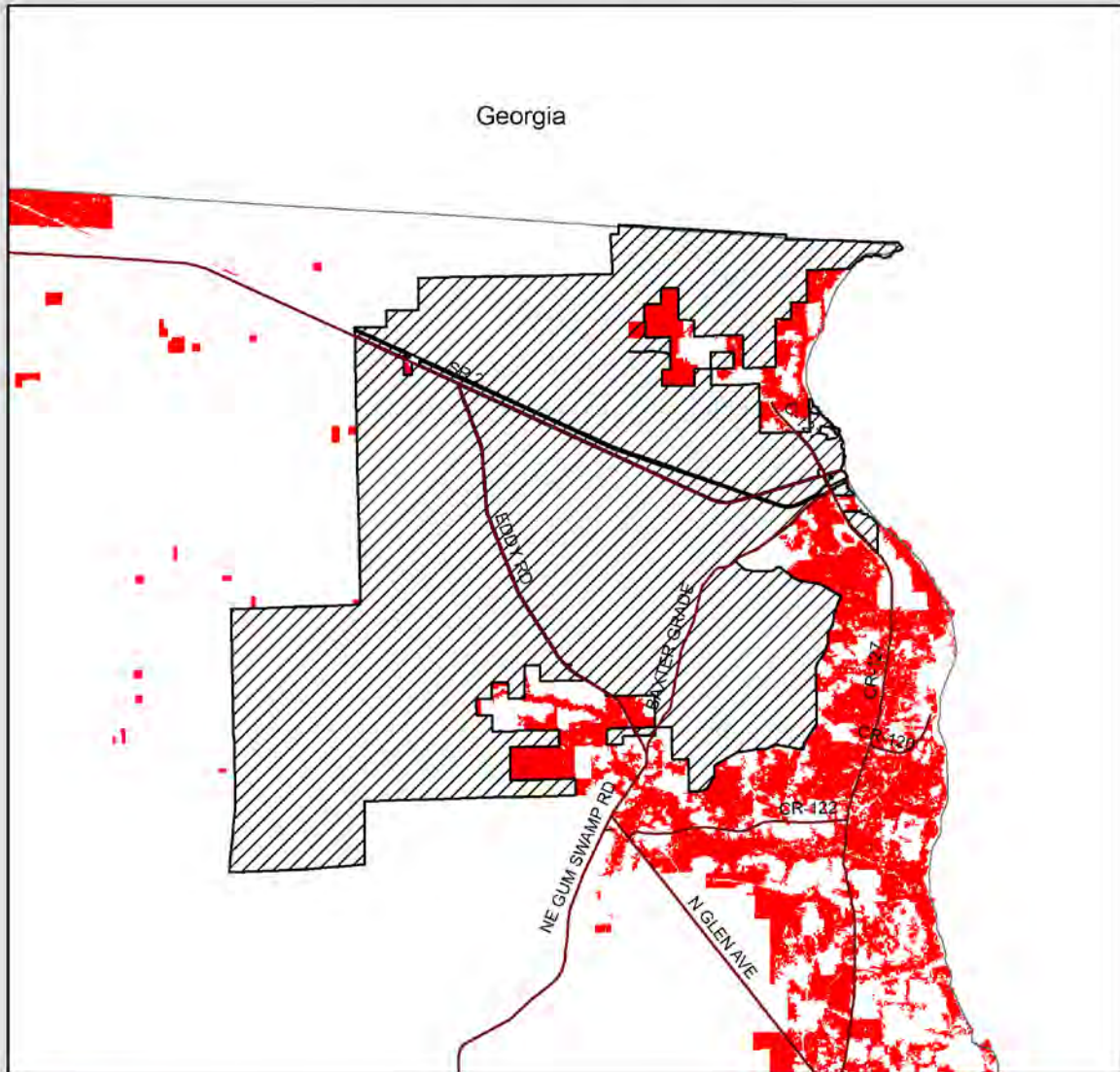
- Primary
- Secondary
- County Boundary
- Project Site



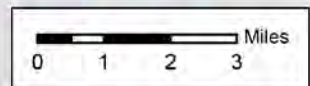
2014_6005

Strategic Habitat Conservation Areas

John M. Bethea State Forest



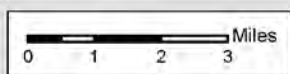
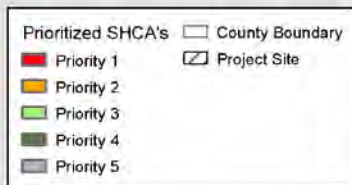
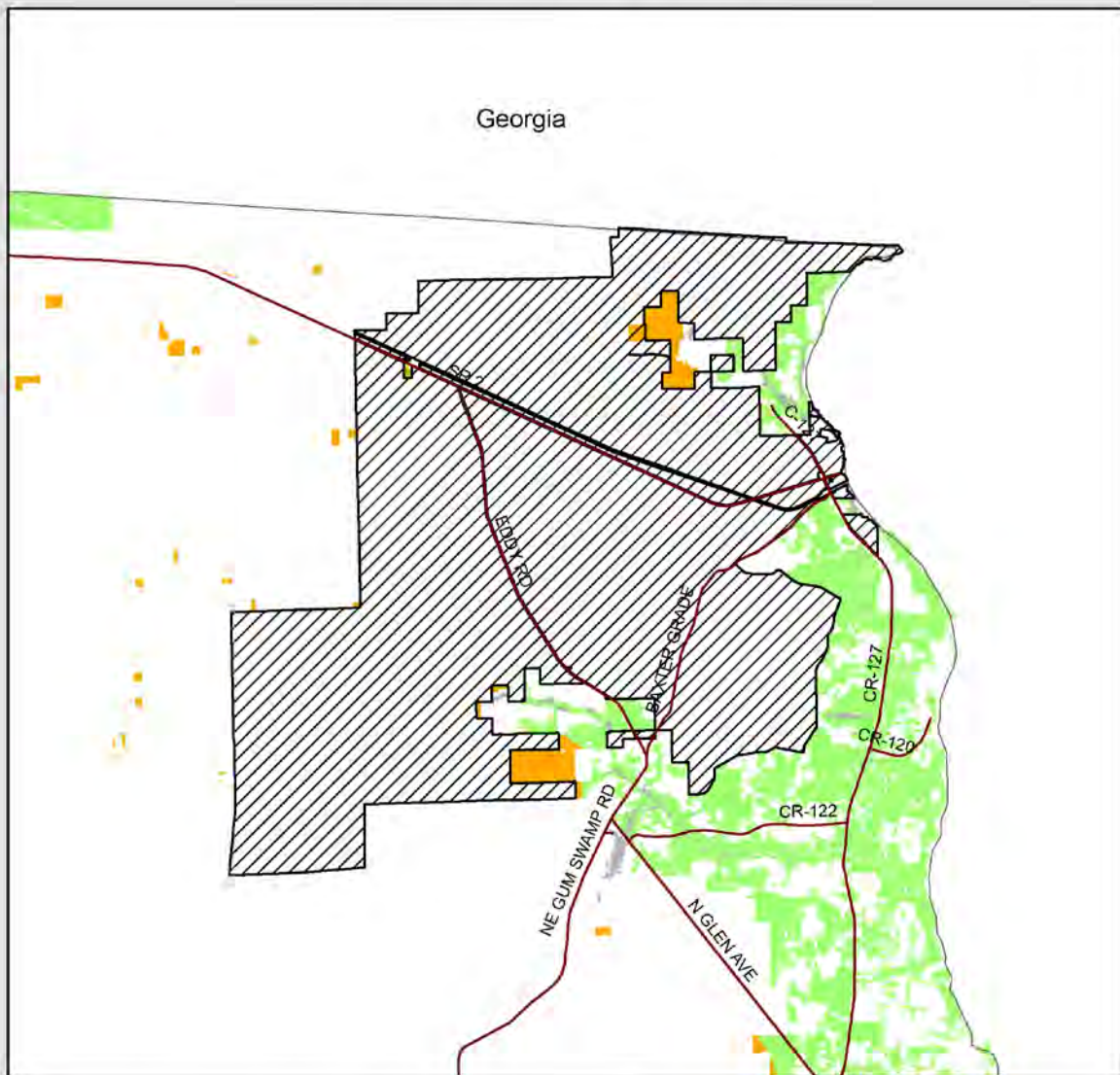
- Strategic Habitat Conservation Areas
- County Boundary
- Project Site



2014_6005

Prioritized SHCA's

John M. Bethea State Forest



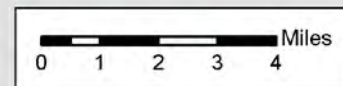
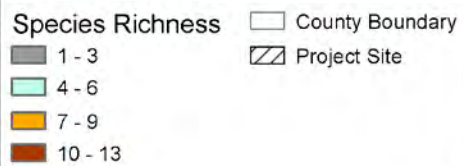
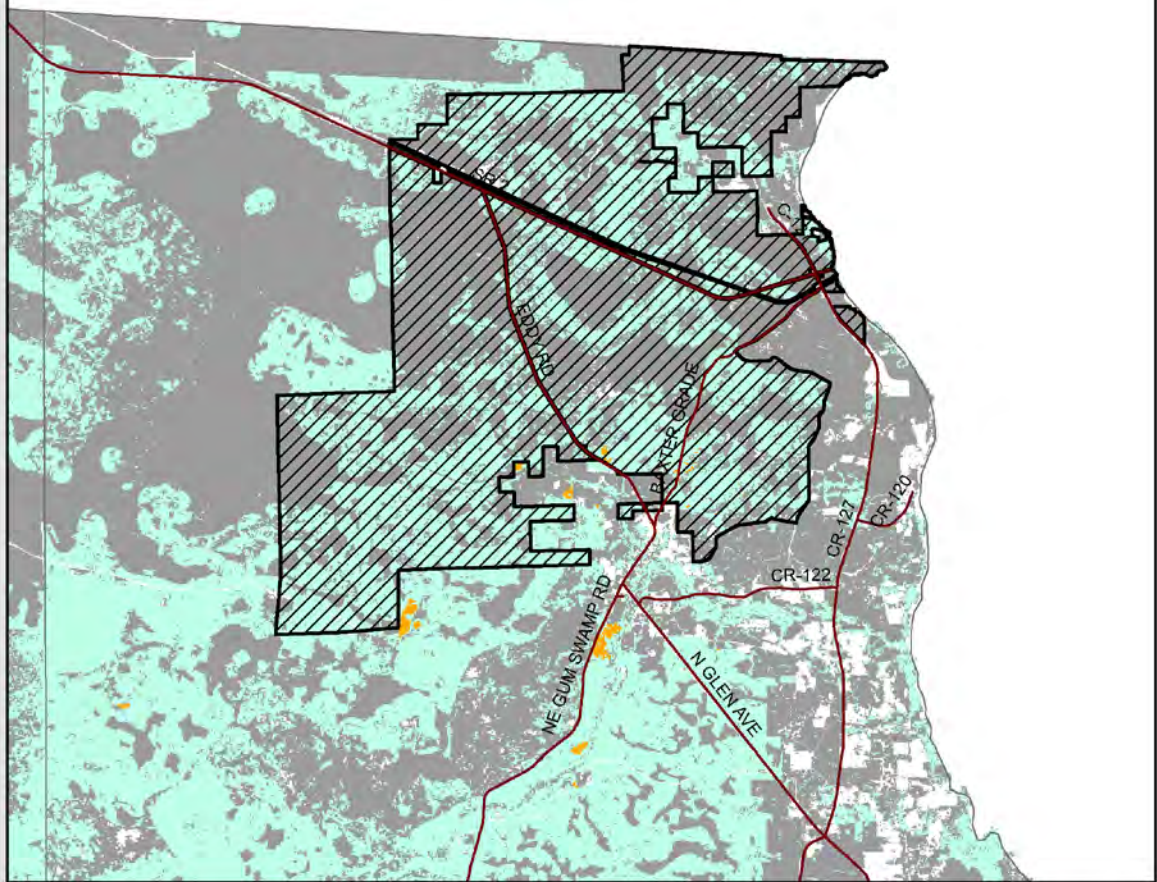
The prioritized SHCA map identifies 5 classes of SHCA based upon Heritage ranking criteria developed by The Nature Conservancy, the Natural Heritage Program Network, and the Florida Natural Areas Inventory. There are 2 possible ranks used to prioritize a species' SHCA: 1) the global rank based on a species worldwide status, and 2) the state rank based upon the species status in Florida. The state and global ranks are based upon many factors such as known occurrence locations, estimated abundance, range, amount of habitat currently protected, perceived levels of threats towards the species, and ecological fragility.

2014_6005

Species Richness

John M. Bethea State Forest

Georgia

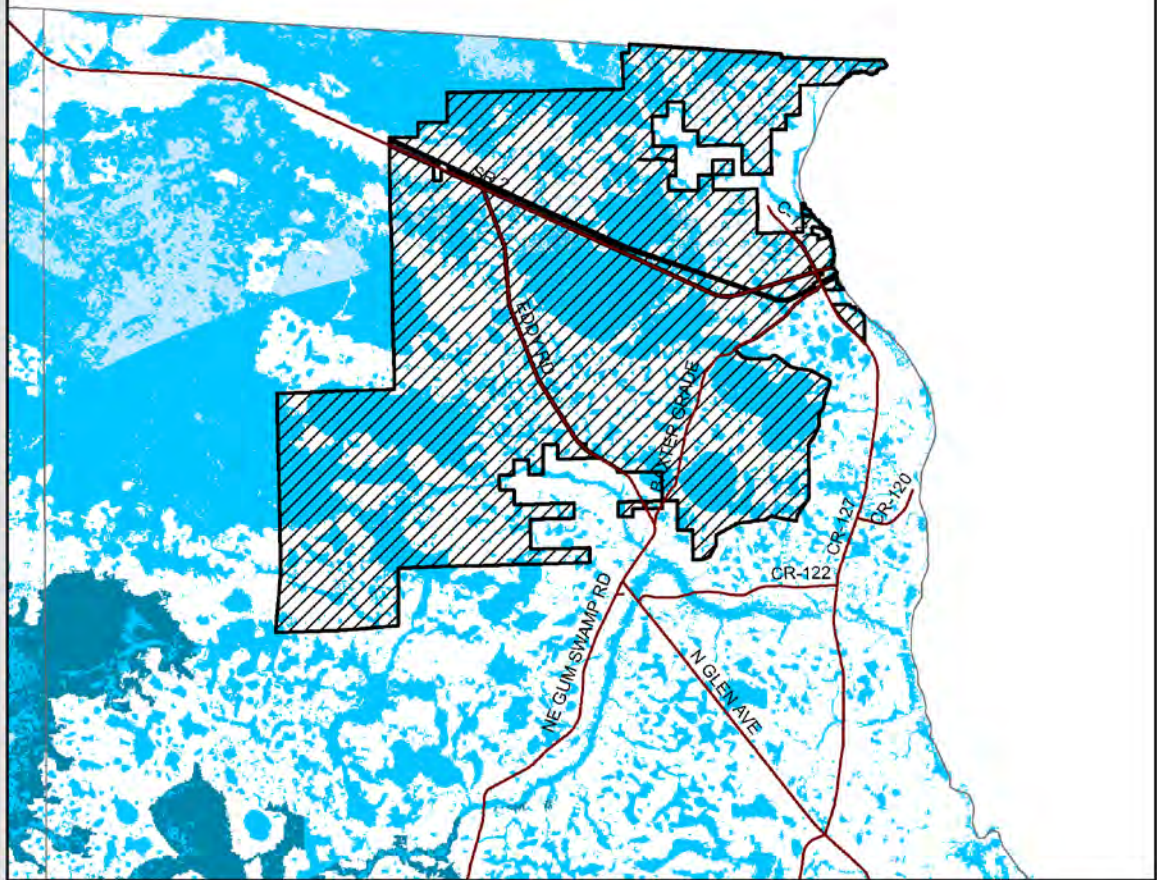


2014_6005

Priority Wetlands

John M. Bethea State Forest

Georgia

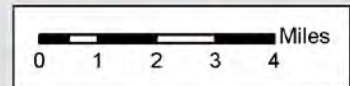


Priority Wetlands

- 1-3 Species, Wetlands habitat
- 4-6 Species, Wetlands habitat
- 7-9 Species, Wetlands habitat
- 10-11 Species, Wetlands habitat

County Boundary

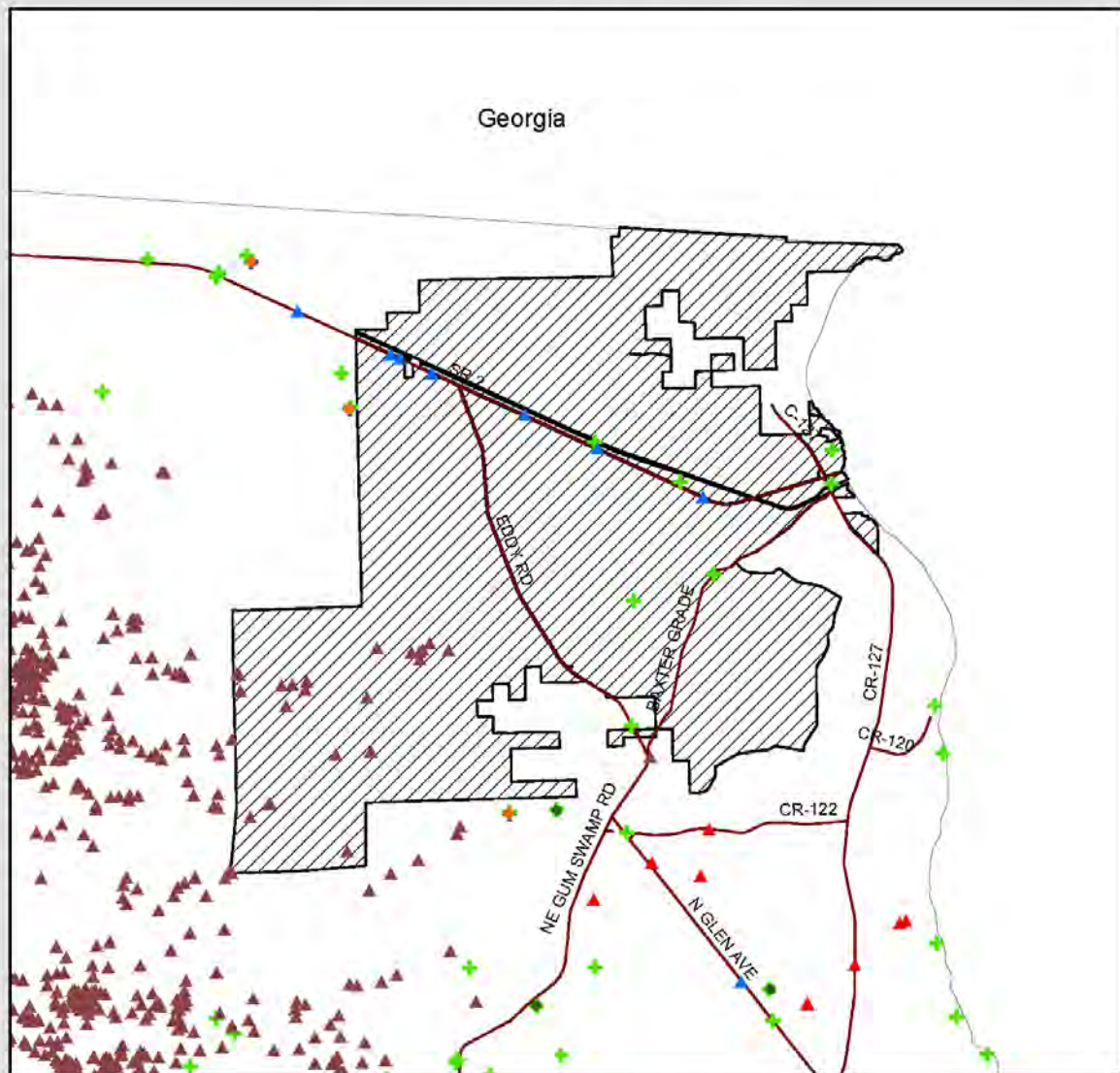
Project Site



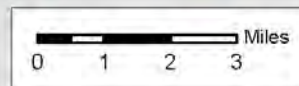
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Species Occurrences

John M. Bethea State Forest



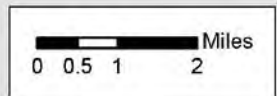
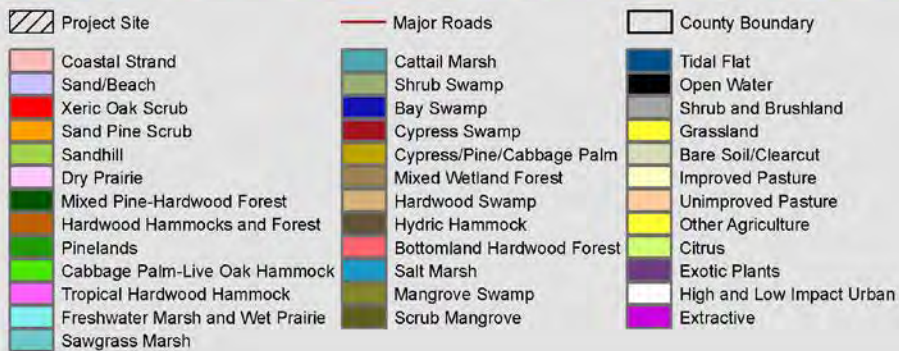
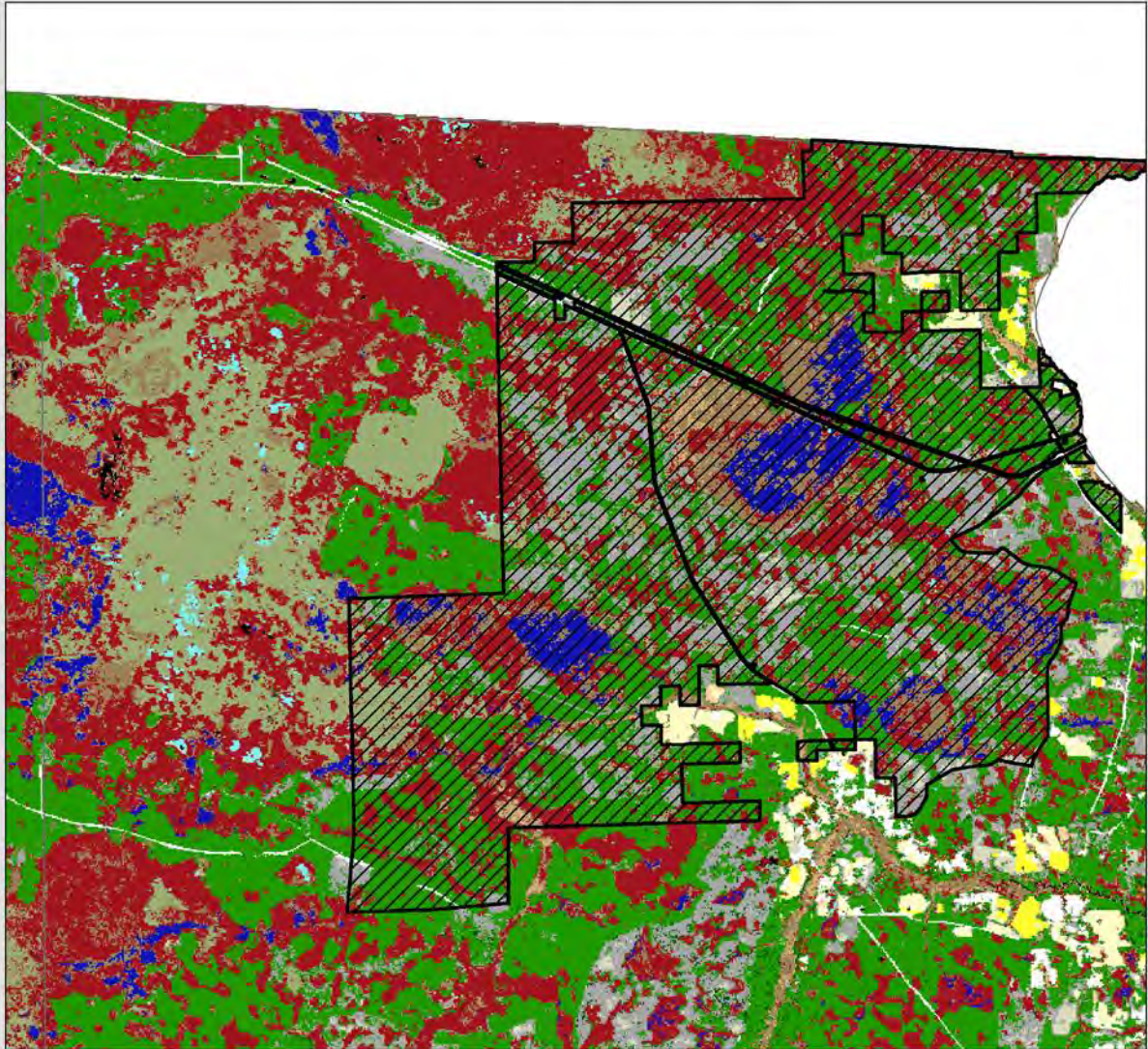
- Red Cockaded Woodpecker
- Wading Bird Rookeries 1999
- ▲ Bear Calls
- ▲ Bear Roadkill
- ▲ Black Bear Telemetry
- ✚ Florida Natural Inventory Areas
- ✚ Wildlife Observations
- County Boundary
- ▨ Project Site



2014_6005

Florida Land Cover - 2003

John M. Bethea State Forest



2014_6005

Exhibit O

Fire History

John M. Bethea State Forest Rx Burn Acres by FY

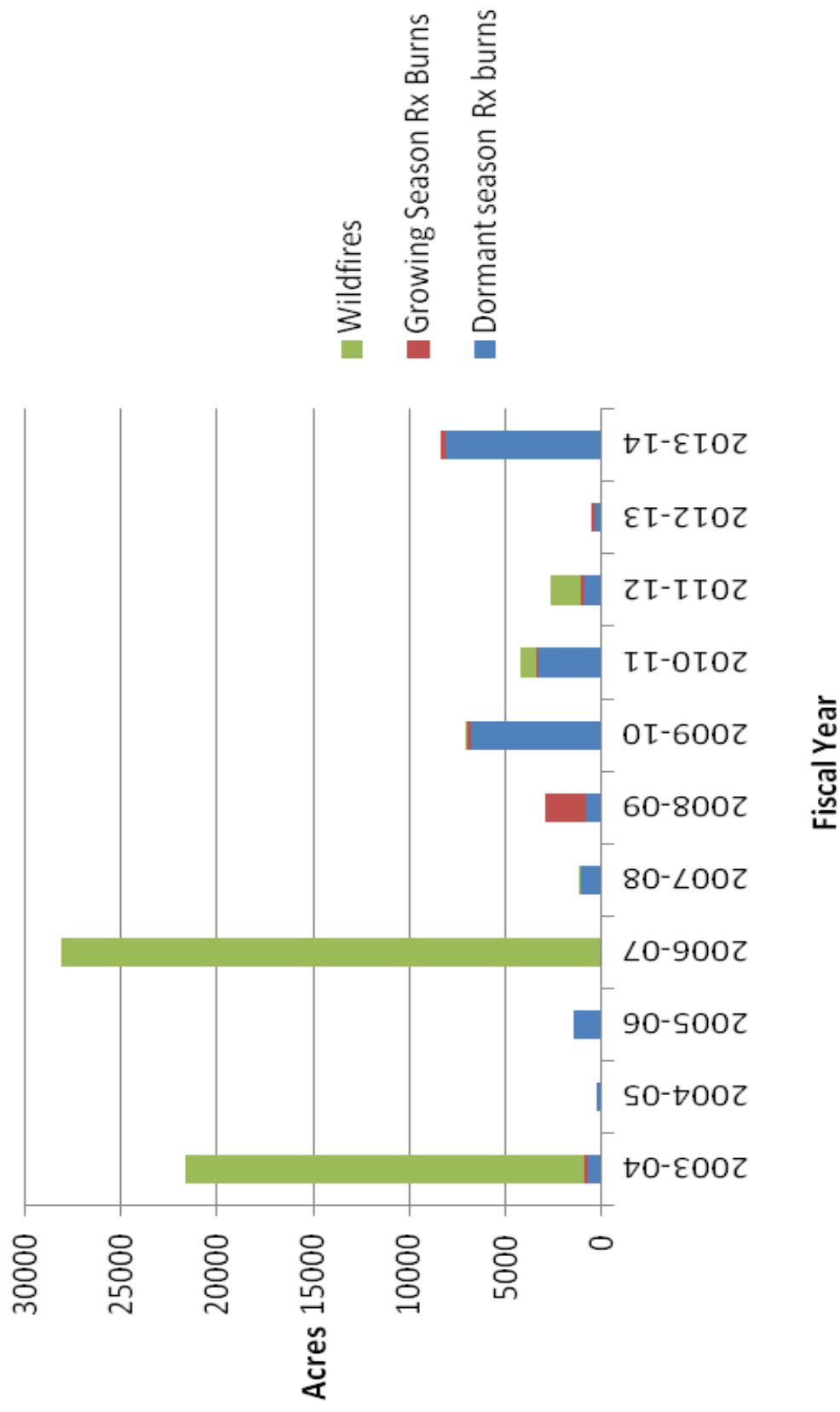


Exhibit P

Non-Native, Invasive Species Plant Map



Florida Forest Service

Geographic System/Florida Atlas
High Accuracy National Wetlands Inventory (HANNI) 01/10/00

John M. Bethea State Forest

Non-Native Invasive Species

DISCLAIMER:
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The Florida Forest Service does not warrant the
accuracy or completeness of the information
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Map prepared using information provided by
the Florida Forest Service. The Florida Forest
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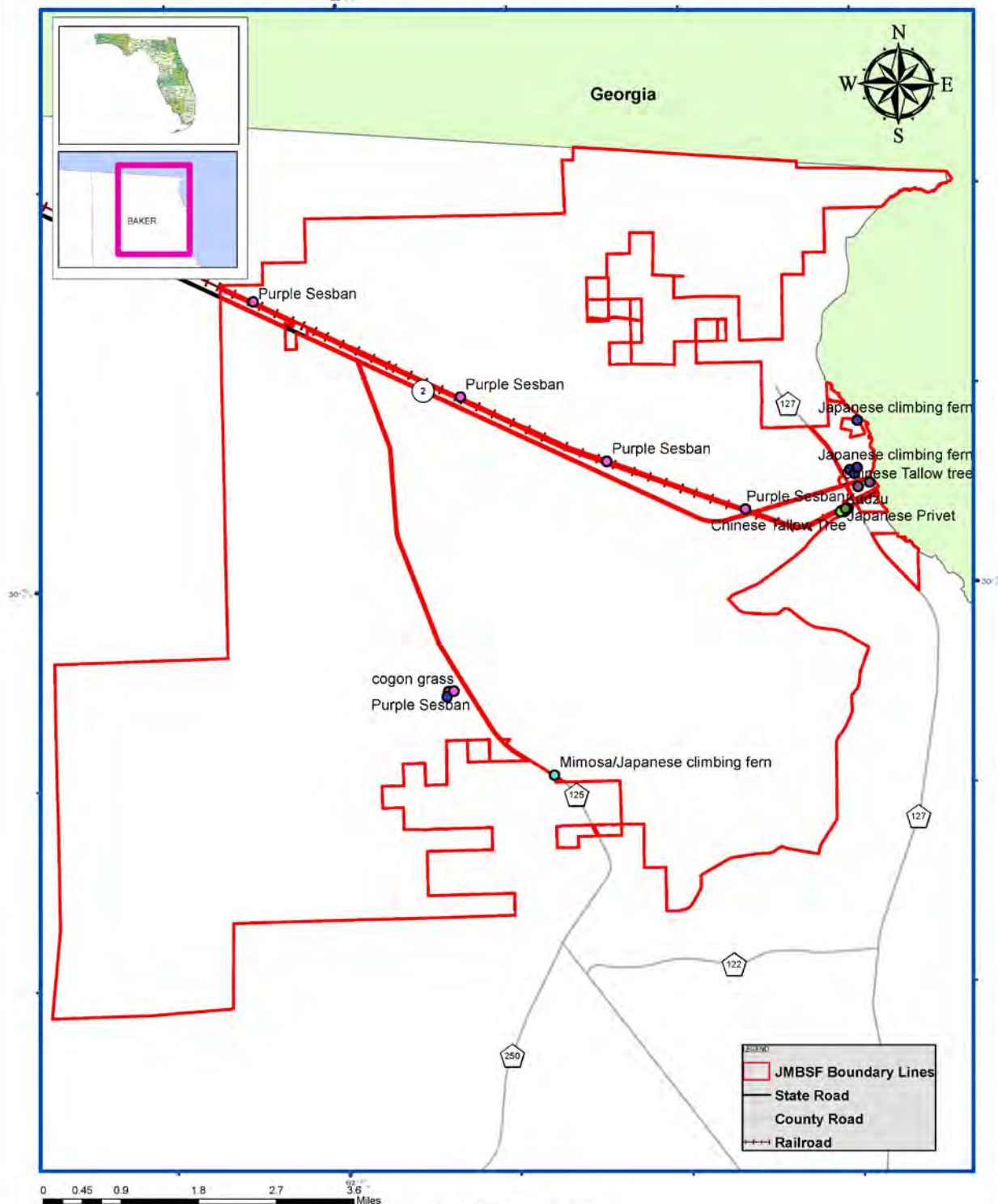


Exhibit Q

Current Natural Communities



Florida Forest Service

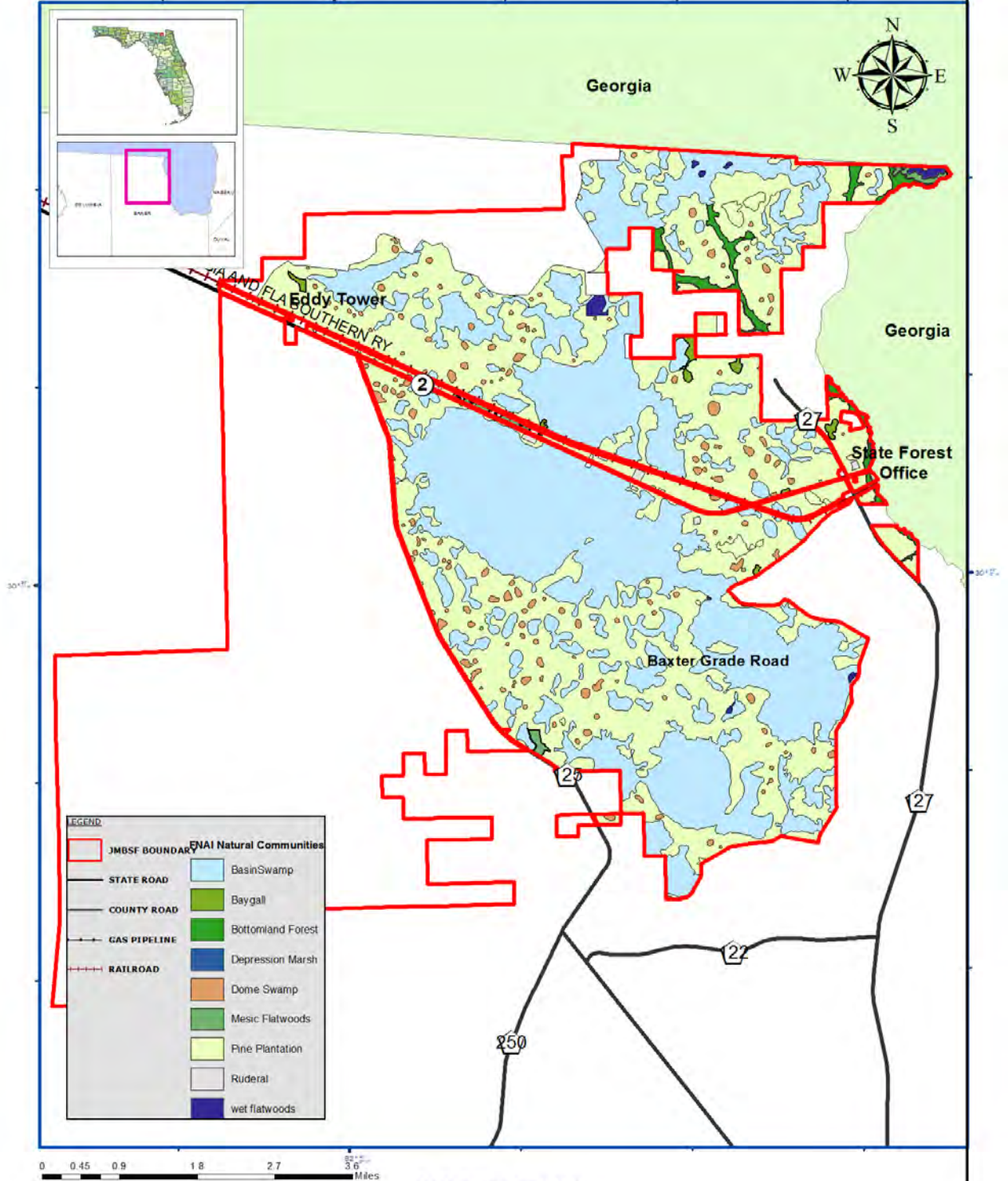
Coordinates Based on Florida Albers
North American Datum 83 (NAD83) datum

John M. Bethea State Forest

FNAI Natural Communities

DISCLAIMER
This map is based on the best available data and is not intended to be used for legal purposes. It is not a warranty, representation, or guarantee of accuracy. The Florida Forest Service is not responsible for any errors or omissions, or for any consequences arising from the use of the information contained herein.

Map of Area Boundary courtesy of
the Florida Natural Areas Inventory
primarily based on the Florida
Statewide Inventory of Natural Areas
and the Florida Natural Areas Inventory
Map Series.





Florida Forest Service

Coordinate System: Florida State Plane
North American Datum 1983 (NAD83) - datum

John M. Bethea State Forest

FNAI Natural Communities Mapping Needs

Disclaimer:
This map was created using data from the Florida Forest Service's FNAI Natural Communities Mapping Project. The data was collected from 2010 to 2012. The map is for informational purposes only and should not be used for legal or regulatory purposes. The Florida Forest Service is not responsible for any errors or omissions on this map.

Florida Forest Service is a division of the Florida Department of Natural Resources. It is located at 1000 Florida State Road 100, Tallahassee, FL 32304. Phone: 904/438-7000. Fax: 904/438-7001. Email: ffs@fldnr.com

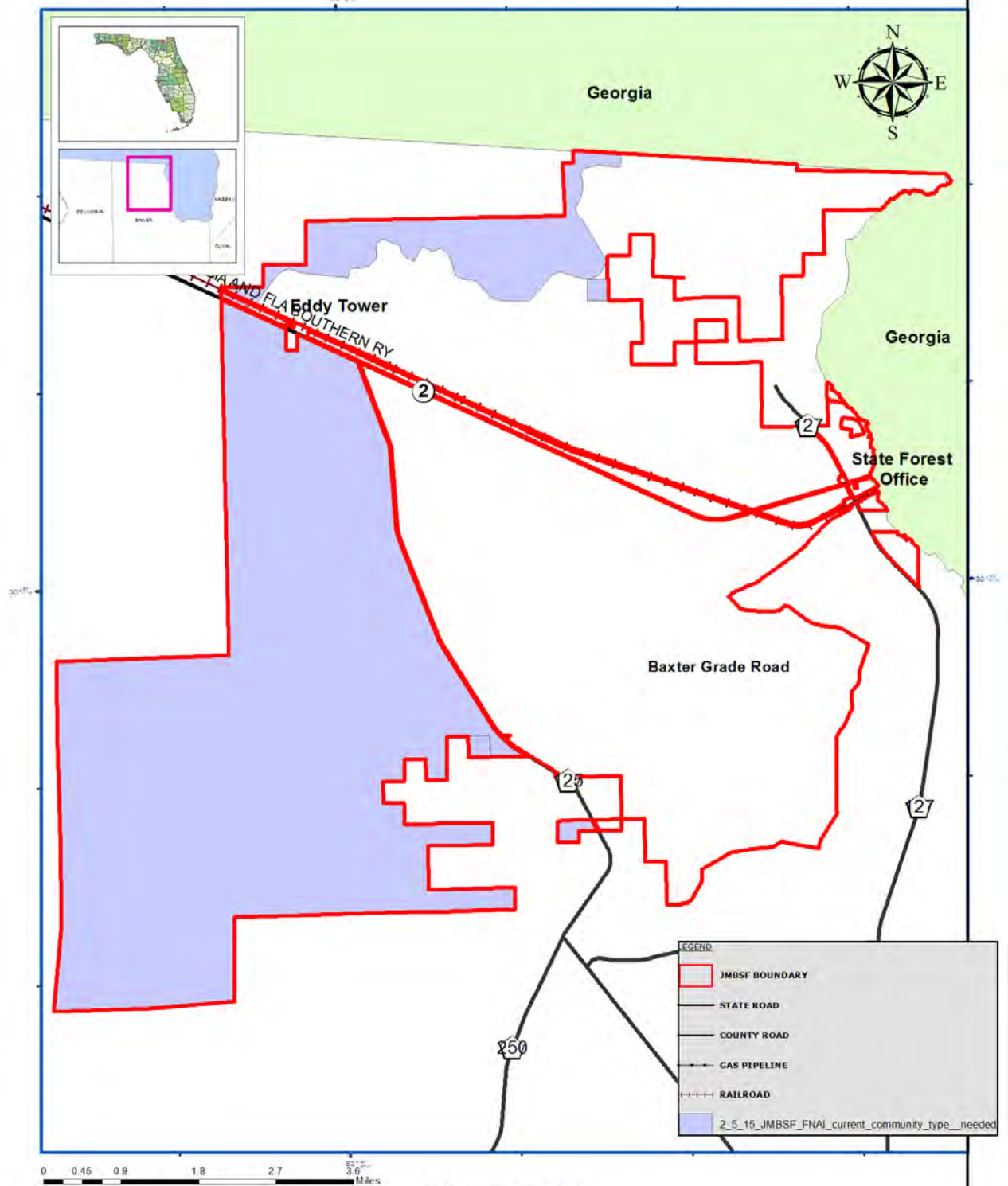


Exhibit R

Historic Natural Communities



Florida Forest Service

Coordinates Based on Florida Albers
North American Datum 83 (NAD83) datum

John M. Bethea State Forest Historic Natural Communities

DISCLAIMER
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Map of Area Boundary courtesy of
the Florida Natural Areas Inventory
Historically, John M. Bethea State Forest, from the
US Army Corps of Engineers

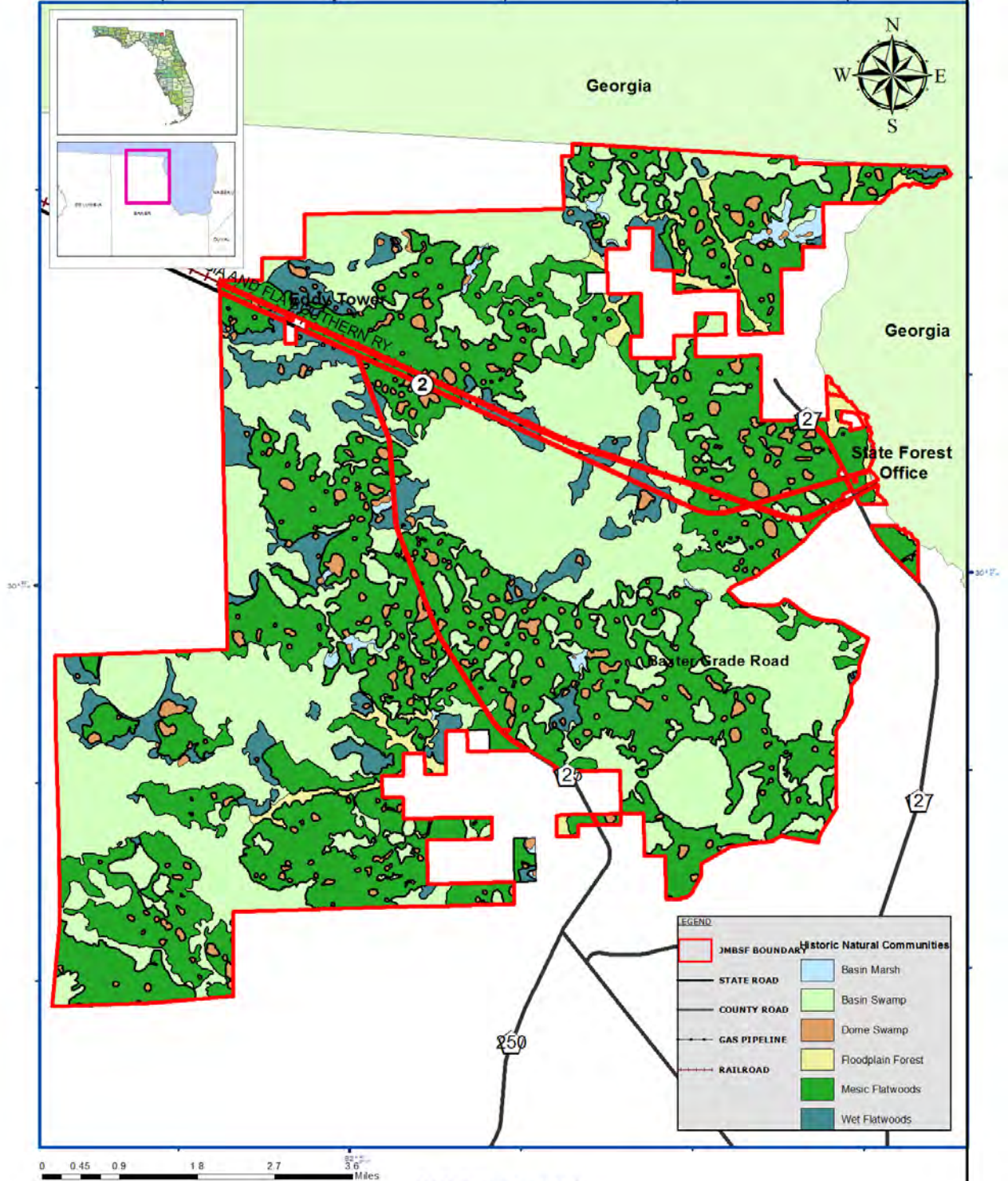


Exhibit S

Management Prospectus

Pinhook Swamp

Baker and Columbia Counties

Critical Natural Lands

Purpose for State Acquisition

Pinhook Swamp: The pine flatwoods and swamps between the Osceola National Forest and the Okefenokee National Wildlife Refuge have been logged, but are otherwise undisturbed. The Pinhook Swamp project will protect and restore a natural area linking those two conservation lands and the Suwannee River, providing a huge unpopulated tract of land for such wildlife as the Florida black bear and sandhill crane; maintaining the water flows from this area to the Okefenokee Swamp, Suwannee River, and St. Mary's River; and giving the public a large, near-wilderness tract in which to enjoy various recreational activities, from simple nature appreciation to active hunting and fishing.

Suwannee Buffers (Deep Creek Site): The Suwannee River, for all its beauty, flows through pine plantations and farms for much of its course, and only its high limestone banks are in close to a natural state—and they are prime sites for residential development. The Deep Creek Site will protect two natural areas along the river or its tributaries, protecting the highest waterfall in the peninsula and the highest bluffs on the river, enhancing the water quality of the river and its tributaries; protecting northern plants that grow along the river and rare fish that live in the river; and giving the public scenic areas to enjoy for years to come. The Florida National Scenic Trail, a cross-Florida hiking and non-motorized trail, is also planned to cross this project. The trail is a

congressionally designated national scenic trail

Managers

Pinhook Swamp: United States Forest Service (USFS) and the Florida Forest Service/FFS (aka Division of Forestry/DOF), Department of Agriculture and Consumer Services. Division of Recreation and Parks (DRP), Florida Department of Environmental Protection (southern Deep Creek); the FFS (northern Deep Creek).

General Description

Pinhook Swamp: The project consists of a large tract of mostly wet flatwoods, floodplain swamp, and floodplain forest between Osceola National Forest and Okefenokee Swamp National Wildlife Refuge. It provides a linkage between these managed areas as well as increased protection for this wetlands/flatwoods ecosystem, which is important for the long-term conservation of the state-threatened Florida black bear and other animals. Pinhook Swamp also provides excellent habitat for other wetland-dependent species such as the state-threatened Florida sandhill crane. The Swamp is connected to the Suwannee River, St. Mary's River and the Okefenokee Swamp. The archaeological and historic value of the project is low to moderate. The greatest threats to the area are intensive silviculture and mining.

The Deep Creek Drainage Tract protects buffer areas of four tributaries of the Suwannee River and much of the watershed of Deep Creek and serves as a corridor between the Osceola National Forest, Big Shoals State Park, and Suwannee River Water Management District lands along the River.

Pinhook Swamp FNAI Elements	
Florida Black Bear	G5T2/S2
Florida Sandhill Crane	G5T2T3/S2S3
Gopher Tortoise	G3/S3
Swallow-tailed Kite	G5/S2
Okefenokee Zale Moth	G2/S1
Large Rosebud Orchid	G4/S1
Many-lined Salamander	G5/S1
Gopher Frog	G3/S3
Carpenter Frog	G5/S2
Timber Rattlesnake	G4/S3
Blackbanded Sunfish	G4/S3
Spotted Turtle	G5/S3?
17 rare species are associated with the project	

Placed on List	1992
Project Area (GIS Acres)	183,991
Acres Acquired (GIS)	126,890*
at a Cost of	\$65,183,376
Acres Remaining (GIS)	60,420
w/Estimated (Tax Assessed) Value of	\$16,469,070

*Includes acreage acquired by the Suwannee River Water Management District

Pinhook Swamp



Pinhook Swamp

Public Use

The Pinhook Swamp is designated as a forest with such uses as fishing, hunting, canoeing, camping and hiking.

The Deep Creek site will be designated for use as a state park and a state forest, with such public uses as fishing, boating, hunting, camping, hiking and environmental education.

Acquisition Planning

The large Rayonier tract connecting the Osceola National Forest to the Okefenokee National Wildlife Refuge has been acquired by the state. It will be used as the basis for a land-and-minerals exchange (projected to close in 2003) with the United States Department of Agriculture (USDA) Forest Service.

Pinhook Swamp: Phase I (essential) consists of large tracts adjacent to Okefenokee National Wildlife Refuge and Osceola National Forest—J.W. Langdale Woodlands, Inc. and Jefferson Smurfit Corp./Carnegie US Steel Pension Funds. Phase II is the “Impassable Bay” tract—ITT Rayonier/Sam Summers (acquired by USFS through The Nature Conservancy (TNC) and all remaining owners.

On 7/16/1996, the LAMAC added 18,100 acres to the project boundary. Additionally, the LAMAC approved the addition of federal mineral rights under state-owned lands to the Pinhook project for exchange purposes.

On 8/22/2000, the Acquisition and Restoration Council added 25,000 acres to the Pinhook Swamp project

At the 4/6/2001, Council meeting, the Suwannee Buffers, Deep Creek Site was combined with the Pinhook Swamp Project.

On 10/24/2002 the Council added 4,585 acres to the project boundaries.

On 6/4/2004 the Council added 31,225 acres in Baker County, previously assumed to be included, as part of a 2000 boundary amendment, in the boundaries of the Pinhook Swamp project.

The BOT acquired 8,311 acres in August 2005 through five conservation easements.

Coordination

Pinhook Swamp is a shared acquisition with the USFS. TNC is an intermediary in the purchase of some tracts for the federal government. The Deep Creek site is on the Suwannee River Water Management District (SRWMD) five-year plan for land acquisition. St. Johns River Water Management District (SJRWMD) is also considered a partner.

Management Policy Statement

Pinhook Swamp: The primary goals of management of the Pinhook Swamp project are: to conserve and protect significant habitat for native species or endangered and threatened species; to conserve, protect, manage, or restore important ecosystems, landscapes, and forests, in order to enhance or protect significant surface water, coastal, recreational, timber, fish or wildlife resources which local or state regulatory programs cannot adequately protect; and to provide areas, including recreational trails, for natural-resource-based recreation.

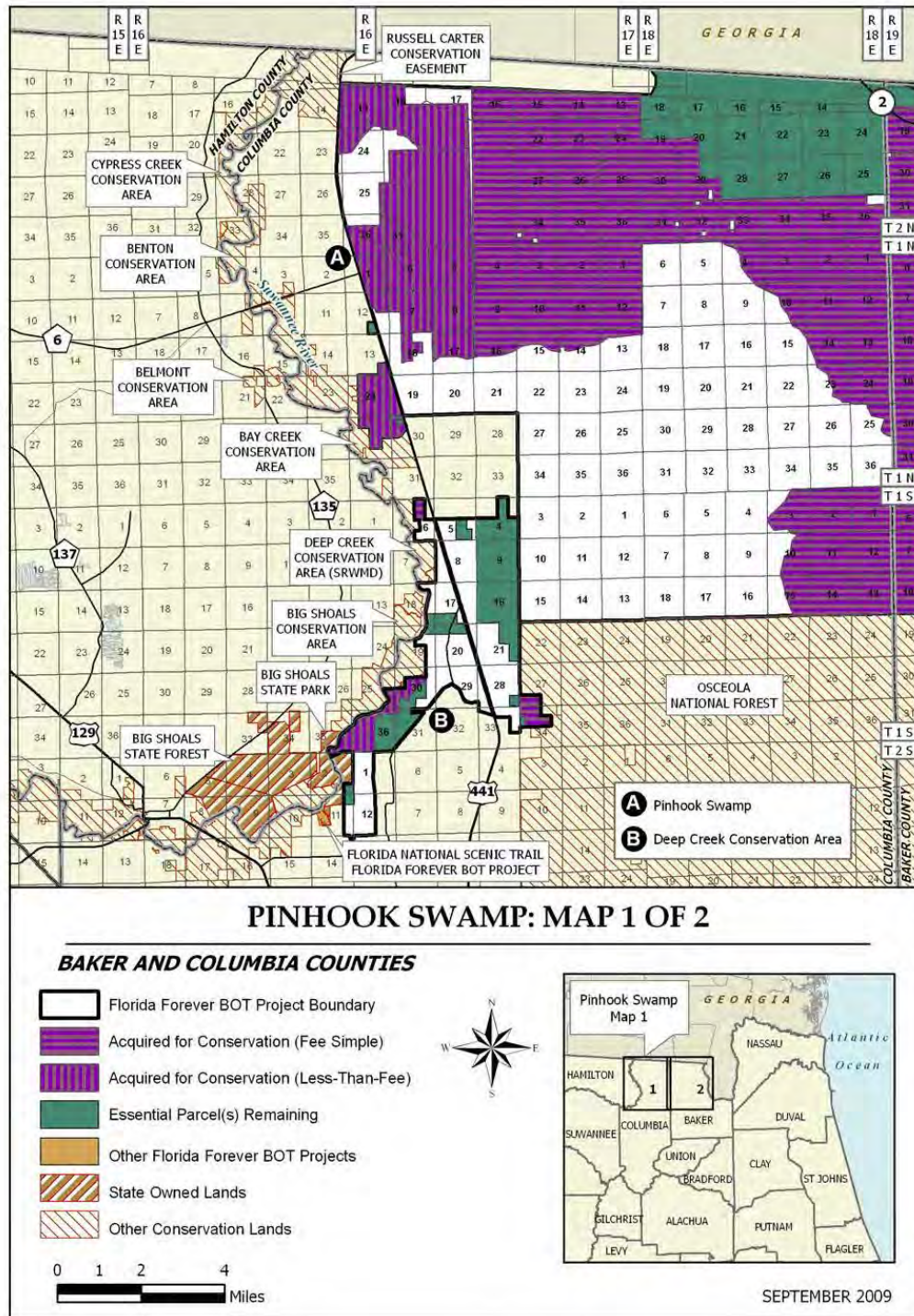
Suwannee Buffers (Deep Creek): The primary goals of management of this part of the project are: to conserve and protect environmentally unique and irreplaceable lands that contain native, relatively unaltered flora and fauna representing a natural area unique to, or scarce within, a region of this state or a larger geographic area; to conserve, protect, manage, or restore important ecosystems, landscapes, and forests, in order to enhance or protect significant surface water, coastal, recreational, timber, fish or wildlife resources which local or state regulatory programs cannot adequately protect; and to provide areas, including recreational trails, for natural-resource-based recreation.

Management Prospectus

Pinhook Swamp:

Qualifications for state designation The Pinhook Swamp is a large area of timbered flatwoods and swamps between the Osceola National Forest and the Okefenokee National Wildlife Refuge. Its large size, strategic location, and forest and wildlife resources qualify it as a state forest and state wildlife management area.

Pinhook Swamp



Pinhook Swamp

Managers (Monitor) The DOF and the United States Department of Agriculture, Forest Service are the recommended Managers.

Conditions affecting intensity of management Pinhook is a low-need (moderate need) tract.

Timetable for implementing management and provisions for security and protection of infrastructure A portion of the site would immediately fall under the National Forests in Florida's Land and Resource Management Plan (Forest Plan) and a portion under state protection. Management activities will focus on site security, resource inventory and management, plus any necessary prescribed fire management.

Revenue-generating potential In cooperation with the Florida Fish and Wildlife Conservation Commission (FWC), this area may one day provide revenues from quota hunts. The Forest Service and DOF will soon be working with FWC to obtain a projected revenue. State and National Forest user fees are other sources of revenue.

Cooperators in management activities The Florida Fish and Wildlife Conservation Commission and the U.S. Fish & Wildlife Service, which manages the Okefenokee National Wildlife Refuge adjacent to Pinhook's northern boundary, will be cooperators in managing the area.

Suwannee Buffers:

Qualifications for state designation The southern part of the Deep Creek Drainage tract has unique resources that qualify it as a unit of the state park system. The project's size and diversity also makes it highly desirable for use and management as a state forest.

Manager The DRP is recommended as Manager of Deep Creek. The FFS is recommended as Manager of the northern three-quarters of the Deep Creek Drainage tract.

Conditions affecting intensity of management

The southern portion of the Deep Creek Drainage tract is a high-need management area including public recreational use and development compatible with resource management. On the areas to be managed by the FFS there are no known major disturbances that will require extraordinary attention, so the level of management intensity is expected to be typical for a state forest.

Timetable for implementing management and provisions for security and protection of infrastructure Within the first year after acquisition of the areas to be

managed by the DRP, management activities will concentrate on site security, natural and cultural resource protection, and efforts toward the development of a plan for long-term public use and resource management.

The DOF will provide public access for low-intensity, non-facilities-related outdoor recreation. Initial activities will include securing the site, providing public and fire management accesses, inventorying resources, and removing trash. The DOF will provide access to the public while protecting sensitive resources. The project's natural resources and threatened and endangered plants and animals will be inventoried to provide the basis for a management plan.

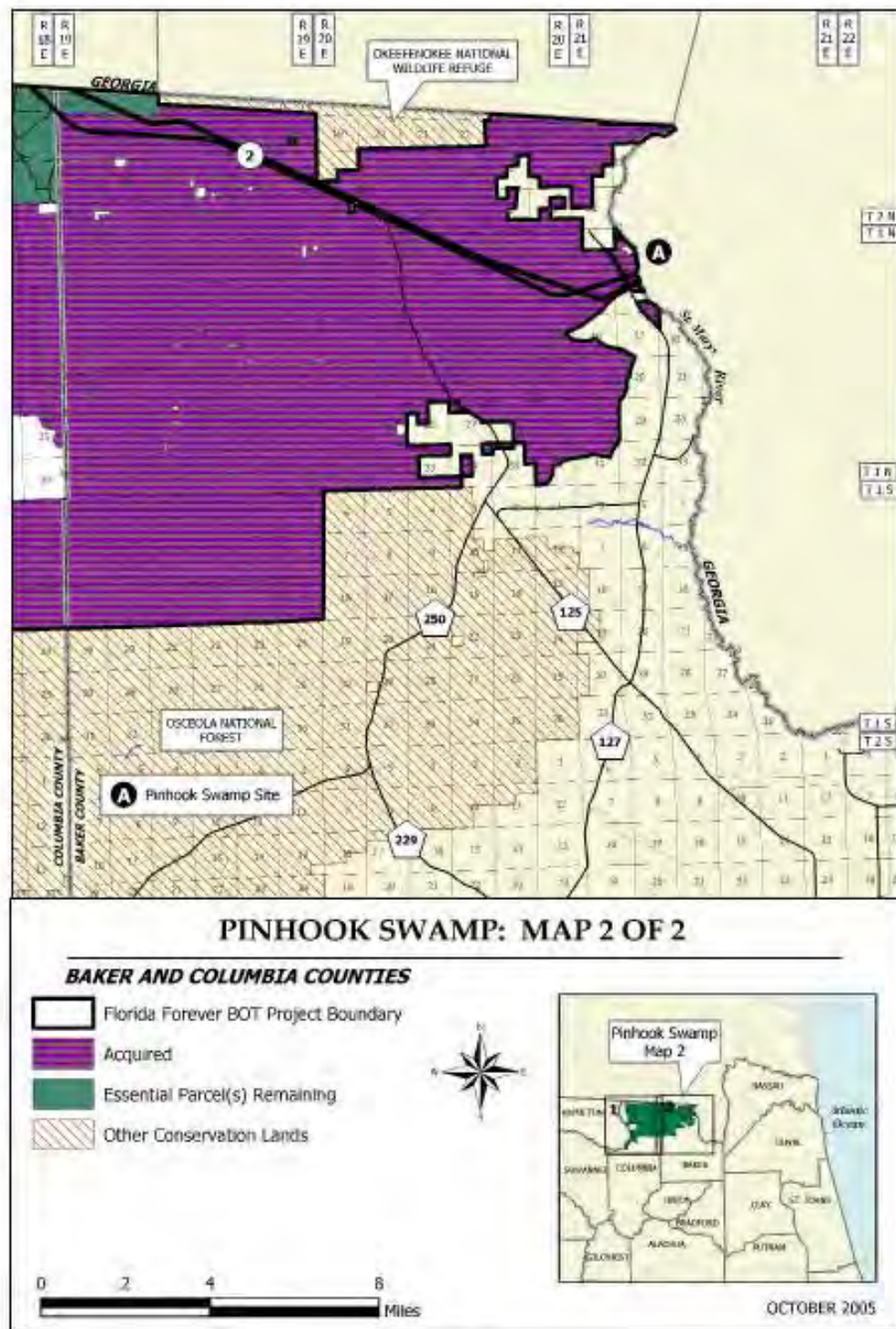
Long-range plans of the DOF will generally be directed toward restoring disturbed areas to their original conditions, as far as possible, as well as protecting threatened and endangered species. An all-season burning program will use, whenever possible, existing roads, black lines, foam lines and natural breaks to contain fires. Timber management will mostly involve improvement thinning and regeneration harvests. Plantations will be thinned and, where appropriate, reforested with species found in natural ecosystems. Stands will not have a targeted rotation age. Infrastructure will primarily be located in disturbed areas and will be the minimum required for management and public access. The FFS will promote environmental education.

Estimate of revenue-generating potential The DRP expects no significant revenue to be generated initially. After acquisition, it will probably be several years before any significant public facilities are developed. The amount of any future revenue generated would depend on the nature and extent of public use and facilities. The FFS will sell timber as needed to improve or maintain desirable ecosystem conditions. These sales will provide a variable source of revenue, but the revenue-generating potential for this project is expected to be low.

Cooperators in management activities No local governments or others are recommended for management of these project areas.

(continued)

Pinhook Swamp





Management Cost Summary/DRP

Category Source of Funds	Startup CARL	Recurring CARL
Salary	\$22,167	\$22,167
OPS	\$14,560	\$14,560
Expense	\$11,400	\$11,400
OCO	\$55,000	\$1,000
FCO	\$85,000	\$0
TOTAL	\$188,127	\$49,127

Management Cost Summary/FFS

Category Source of Funds	Startup CARL	Recurring CARL
Salary	\$28,140	\$28,140
OPS	\$0	\$0
Expense	\$13,000	\$5,000
OCO	\$81,100	\$2,000
FCO	\$0	\$0
TOTAL	\$122,140	\$35,140

Updated 2/3/2012

Exhibit T

2009 Land Management Review
2014 Land Management Review

Name of Site: John M. Bethea State Forest

County: Baker County

Managed by: Department of Agriculture and Consumer Services
Division of Forestry

Acres: 37,801 Acres

Review Date: 3/25-26/09



Review Team Determination

Managed in accordance with
acquisition purpose? Yes = 5, No = 0



Management practices, including public access,
in compliance with the management plan? Yes = 5, No = 0



Categories	Management Plan Review	Field Review
Natural Communities	0.96	3.00
Listed Species	0.40	1.90
Natural Resource Survey	0.61	2.96
Cultural Resources	1.00	3.78
Prescribed Fire	0.80	3.60
Restoration	0.67	3.08
Exotic Species	0.90	3.40
Hydrology	1.00	3.72
Surface Water Monitoring	0.50	2.90
Resource Protection	1.00	3.40
Adjacent Property Concerns	1.00	3.20
Public Access & Education	0.98	3.23
Management Resources	N/A	3.40
Managed Area Uses	1.00	N/A
Buildings, Equipment, Staff & Funding	N/A	3.70

Consensus Commendations to the Managing Agency

The following commendations resulted from discussion and vote of the review team members.

1. The team commends the DOF on their development of an innovative, strategic prescribed fire plan that incorporates four fire corridors to be placed on a two-year burn return interval, and outlines personnel management strategy to meet the burning needs of the forest. (VOTE: 4+, 0-)



2. The team commends the DOF for their participation and outreach in the FireWise community program to be included both public and private landowners. (VOTE: 4+, 0-)



3. The team commends the DOF for their efforts to restore mesic flatwoods, including planting longleaf pine, hydrologic restoration that includes removal of beds and restoration, and more frequent fire return interval. (VOTE: 4+, 0-)



4. The team commends the DOF staff for the recent improvements of the prescribed fire program, including the use of aerial burns. (VOTE: 4+, 0-)



5. The team commends the staff for the efforts to prevent the introduction of invasive exotic plants by inspection of equipment prior to site entry for land management activities. (VOTE: 4+, 0-)



6. The team commends the DOF staff on development of the post-Bugaboo Hydrologic Restoration Plan. (VOTE: 4+, 0-)



7. The team commends the DOF staff for the innovative approach to reestablishing longleaf pine, including by underplanting longleaf in slash pine stands. (VOTE: 4+, 0-)



Consensus Recommendations to the Managing Agency

The following recommendations resulted from a discussion and vote of review team members. The management plan must include responses to the recommendations identified below.

1. The team encourages DOF to work with area partners and others to inventory animal species, and with FWC to develop a wildlife management plan. We recommend that DOF develop and maintain a list of animal species observed on site by staff and others. (VOTE: 4+, 0-)



Managing Agency Response: The Forest Manager has initiated wildlife observation sheets that all staff keep in forest vehicles. The sheets are tabulated monthly. The Forest Manager plans to schedule a future meeting with the Regional FWC biologists to review the needs for wildlife surveys and plans.

2. The team recommends that DOF work with area universities, FNAI or others to develop a floristic inventory of the site. (VOTE: 4+, 0-)



Managing Agency Response: The Forest Manager will consult with the DOF Forest Ecologists to identify sources for floristic research.

3. The team acknowledges the long history of industrial silviculture on the site and subsequent diminishment of native groundcover. The team recommends DOF develop a method for evaluation of groundcover prior to site preparation to determine presence of remnant sensitive native species, and reevaluate site preparation techniques to reduce soil disturbance and impacts as native groundcover and herpetofauna. (VOTE: 4+, 0-)



Managing Agency Response: The Forest Manager will assess the groundcover prior to site-prep recommendations and depending on the quality of the existing groundcover, will modify site-prep treatments accordingly.

4. The team recommends that DOF develop a more detailed desired future conditions criteria for native groundcover species composition in the mesic and wet flatwoods. (VOTE: 4+, 0-)



Managing Agency Response: The Forest Manager will work toward identifying what would have been the native groundcover for the area, and as the information is acquired, we will refine the desired future conditions.

5. The team recommends that DOF implement the approach as suggested in the silvicultural management plan, to identify areas where two or three rotations of prescribed fire in lieu of more intensive site preparation techniques will be used prior to planting pine trees. (VOTE: 4+, 0-)



Managing Agency Response: The Forest Manager will identify a few sites to treat with multiple fires prior to planting to assess the groundcover response.

Checklist Findings

The following items received high scores on the review team checklist, which indicates that management actions exceeded expectations.

- Basin Swamp and Floodplain Forest Natural Communities
- Fire Effects Monitoring and Invasive Species Survey/Monitoring
- Cultural Resources
- Prescribed Fire Management, Area Being Burned and Frequency
- Restoration of Bedded Slash Pine Plantations to Longleaf Pine
- Non-native, Invasive and Problem Species Management, Control of Plants
- Hydrologic/Geologic Function, including Hydro-Alteration
- Resource Protection, Boundary Survey
- Public Access and Education, Roads and Habitat Management Activities Education
- Management of Waste, Buildings and Equipment

The following items received low scores on the review team checklist, which indicates that management actions noted during the Field Review (FR) were not considered sufficient (less than 2.5 score on average), or that the text noted in the Management Plan Review (PR) does not sufficiently address this issue (less than .5 score on average.). The management plan must include responses to the checklist items identified below.

1. Discussion in the management plan regarding Mesic Flatwoods. (FR)

Managing Agency Response: Due to the previous industrial use of the forest, the Mesic Flatwoods will take time to recover to a maintenance condition. The Forest Manager has and will continue to reintroduce the forest canopy and additional growing season fire to improve ground cover quality.

2. Discussion in the management plan regarding Listed Animal and Plant Inventory. (PR)(FR)

Managing Agency Response: Refer to response to recommendation 1 and 2.

3. Discussion in the management plan regarding Listed species or Habitat monitoring and other Non-Game species or Habitat monitoring. (PR)(FR)

Managing Agency Response: Refer to response to recommendation 1 and 2.

4. Discussion in the management plan regarding Ground Cover Restoration. (PR)(FR)

Managing Agency Response: Refer to response to recommendation 4.

5. Discussion in the management plan regarding surface water quality. (PR)

Managing Agency Response: The Forest Manager will contact the DOF Forest Hydrology Section for guidance in addressing the need for surface water quality and monitoring. The information will then be addressed in the next management plan.

2014 Land Management Review Team Report for John M. Bethea State Forest

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1. Introduction

Section 259.036, F.S. requires a periodic on-site review of conservation and recreation lands titled in the name of the Board of Trustees to determine (1) whether the lands are being managed for the purposes for which they were acquired and (2) whether they are being managed in accordance with their land management plan adopted pursuant to s. 259.032, F.S. In case where the managed areas exceed 1,000 acres in size, such a review must be scheduled at least every five years. In conducting this review, a statutorily constructed review team "shall evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions or archaeological features. The review shall also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan."

The land management review teams are coordinated by the Division of State Lands and consist of representatives from the Division of Recreation and Parks (DEP), the Florida Forest Service (DACS), the Fish and Wildlife Conservation Commission, the local government in which the property is located, the DEP District in which the parcel is located, the local soil and water conservation district, a conservation organization member, and a local private land manager.

Each Land Management Review Report is divided into three sections. Section 1 provides the details of the property being reviewed as well as the overall results of the report. Section 2 provides details of the Field Review, in which the Review Team inspects the results of management actions on the site. Section 3 provides details of the Land Management Plan Review, in which the team determines the extent to which the Management Plan provides for and documents adequate natural and recreational resource protection.

Finally, each report may also contain an Appendix that lists individual team member comments. This is a compilation of feedback, concerns or other thoughts raised by individual team members, but not necessarily indicative of the final consensus reached by the Land Management Review Team.

1.1. Property Reviewed in this Report

Name of Site: John M. Bethea State Forest

Managed by: Florida Forest Service

Acres: 37,736

County: Baker

Purpose(s) for Acquisition: to restore, maintain and protect in perpetuity all native ecosystems; to integrate compatible human use; and to insure long-term viability of populations and species considered rare.

Acquisition Program(s): CARL / Save Our Rivers

Original Acquisition Date: April 2001

Area Reviewed: Entire Property

Last Management Plan Approval Date: 12/3/04

Review Date: 10/30/14

Agency Manager and Key Staff Present:

- Lee Barnwell, Manager
- Andy Lamborn, Manager (new)
- Sam Leneave, Forestry Ctr Manager
- Glenn Davis, Operations Administrator

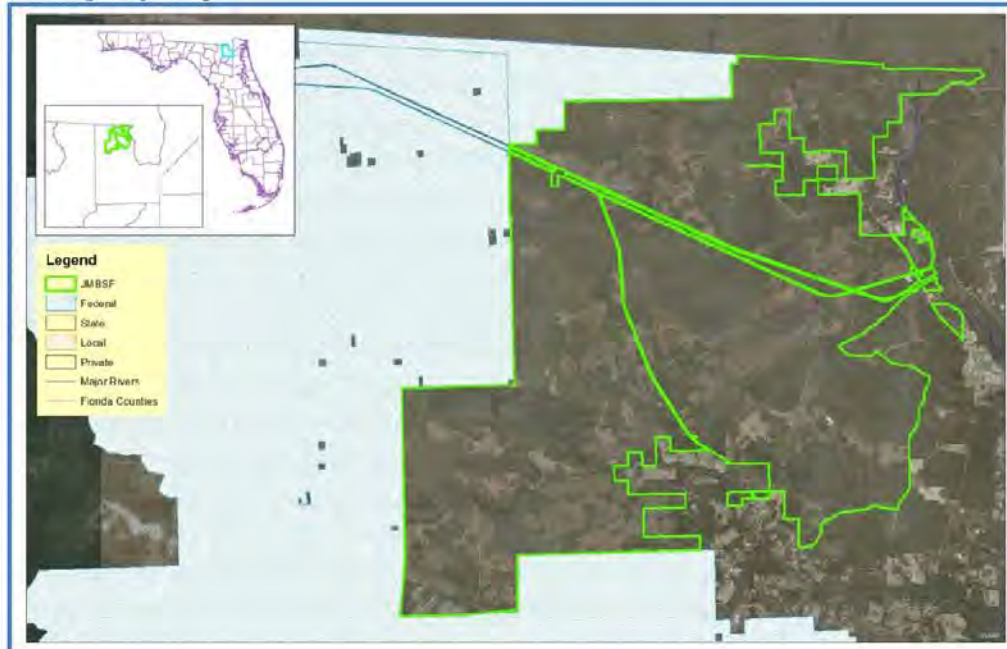
Review Team Members Present (voting)

- DRP: Rick Owen
- FWC: Scotland Tally
- FFS: Bill Korn
- DEP:
- SWCD:
- Local gov't:
- Conservation organization: Walter Bryant
- Private land manager: Donald Murphy

Other Non-Team Members Present (attending)

- Keith Singleton, DEP/DSL
- Tyler Mostellar, SJRWMD
- Aric Larson, DEP/DSL
- Mike Wisenbaker, DHR

1.2 Property Map



1.3. Overview of Land Management Review Results

Is the property managed in accordance with the purposes for which it was acquired?

Yes = 5, No = 0

Are the management practices, including public access, in compliance with the management plan?

Yes = 5, No = 0

Table 1 shows the average scores received for each applicable category of review. *Field Review* scores refer to the adequacy of management actions in the field, while *Management Plan Review* scores refer to adequacy of discussion of these topics in the management plan. Scores range from 1 to 5 with 5 signifying excellence. For a more detailed key to the scores, please see *Appendix A*.

Table 1: Results at a glance.

Major Land Management Categories	Field Review	Management Plan Review
Natural Communities / Forest Management	3.90	3.43
Prescribed Fire / Habitat Restoration	3.53	3.27
Hydrology	3.10	2.33
Imperiled Species	3.00	2.30
Exotic / Invasive Species	3.60	2.65
Cultural Resources	3.30	3.10
Public Access / Education / Law Enforcement	3.73	3.01
Infrastructure / Equipment / Staffing	3.74	N/A

Color Code (See Appendix A for detail)

Excellent	Above Average	Below Average	Poor
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1.3.1 Consensus Commendations for the Managing Agency

The following commendations resulted from discussion and vote of the review team members:

1. The team commends the FFS for the aggressive prescribed fire program. (5+, 0-)
2. The team commends the FFS for conversion to longleaf pine as needed and efforts to prescribe burn many of these planted sites which have resulted in a nice recovery of native groundcover. (5+, 0-)
3. The team commends the FFS for efforts to locate, identify, and treat invasive plants. (5+, 0-)
4. The team commends the FFS staff for aggressive Firewise actions meant to combat continued wildfires that threaten restoration efforts. (5+, 0-)
5. The team commends the FFS staff for maintaining the roads to a high level for public access. (5+, 0-)

1.3.2. Consensus Recommendations to the Managing Agency

The following recommendations resulted from a discussion and vote of review team members. The next management plan update should include information about how these recommendations have been addressed:

1. The team recommends that FFS identify priority imperiled species on JMBSF and develop / implement monitoring strategies. (5+, 0-)

Managing Agency Response: Agree. Forest manager will coordinate with FFS State Forest Ecologist to develop appropriate priorities and protocols for surveying/monitoring imperiled species on this forest. The extent and success of these efforts will be dependent on availability of specific contract funding, assistance from FWC biologists, and/or the support of non-profit or volunteer organizations.

2. The team recommends that FFS identify depressions in the mesic flatwoods that may have been ephemeral ponds / marshes. (5+, 0-)

Managing Agency Response: Agree. The Forest Manager will assess depressions on the forest prior to site prep for planting. Planting areas may be modified to keep heavy equipment and trees out of identified depressions.

3. The team recommends that FFS consider adding a biologist at the District level to coordinate resource protection. (4+, 1-)

Managing Agency Response: Disagree. At this time, biologist support will be coordinated through the FFS State Forest Ecologist. Should opportunities develop for additional staffing, FFS will assess personnel needs at that time.

4. The team recommends that FFS cooperate with county and coordinate in the maintenance of Eddy Road corridors. (5+, 0-)

Managing Agency Response: Agree. Forest manager will contact county manager and county road department to discuss developing a memorandum of understanding between FFS and Baker County to maintain Eddy Grade corridors.

5. The team recommends that FFS have an inventory of plant and animal species prepared by working with area partners and researchers, including FWC wildlife experts. (5+, 0-)

Managing Agency Response: Agree. Forest manager will coordinate with FFS State Forest Ecologist to develop appropriate priorities and protocols to inventory plant and animal species on the forest.

6. The team recommends that FFS work with FNAI and researchers to develop an updated natural community assessment for the next management plan update. (5+, 0-)

Managing Agency Response: Agree. The Forest manager will consult with FFS Forest Ecologist to seek funding for an updated natural community assessment.

7. The team recommends that FFS develop a method of evaluation of groundcover composition and wetland types to determine the presence of remnant sensitive native species.

Managing Agency Response: Agree. The Forest Manager will coordinate with FFS State Forest Ecologist to develop appropriate priorities and protocols for evaluating groundcover on the forest. The extent and success of these efforts will be dependent on availability of specific contract funding, assistance from FWC biologists, and/or the support of non-profit or volunteer organizations.

2. Field Review Details

2.1 Field Review Checklist Findings

The following items received high scores on the review team checklist, which indicates that management actions exceeded expectations.

1. Natural Communities, specifically alluvial forest:
2. Natural Resources Survey/Monitoring Resources, specifically fire effects monitoring:
3. Prescribed Fire, specifically area being burned and quality:
4. Forest Management, specifically timber inventory, reforestation/afforestation and site preparation:
5. Resource Protection, specifically boundary survey and signage:
6. Public Access and Education, specifically roads and parking:
7. Management Resources, specifically waste disposal, sanitary facilities and buildings:

2.2. Items Requiring Improvement Actions in the Field

The following items received low scores on the review team checklist, which indicates that management actions noted during the Field Review were not considered sufficient (less than 3.0 score on average). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. **The management plan update should include information on how these items have been addressed:**

1. The maintenance condition of the Natural Communities, specifically mesic flatwoods and wet flatwoods, received below average scores. The review team is asked to evaluate, based on their perspective, what percent of the natural community is in maintenance condition. The

scores range from 1 to 5, with 1 being 0-20% in maintenance condition, 2 being 21-40%, 3 being 41-60%, 4 being 61-80% and 5 being 81-100%.

Managing Agency Response: Agree. Due to the previous industrial use of the forest, the mesic flatwoods and wet flatwoods will take time to recover to a maintenance condition. It is reassuring to note that reforestation and burning efforts since the 2009 LMR saw the mesic flatwoods team score improve from 1.40 to 2.40 – which translates into approximately a 20 percent increase in “maintenance” condition. The forest manager has and will continue to reforest with longleaf pine on appropriate sites, and continue using prescribed fire to improve ground cover quality to further increase the ecological maintenance condition of these two community types.

2. **Natural Resources Survey, specifically listed species or their habitat, received a below average score. The review team is asked to evaluate, based on information provided by the managing agency, whether survey and monitoring of the resources or their habitats are sufficient.**

Managing Agency Response: Agree. See response to Team Recommendation #1.

3. **Resource Management, Prescribed Fire, specifically frequency, received a below average score. The review team is asked to evaluate, based on information provided by the managing agency, to what degree prescribed fire is accomplished according to the objectives for prescribed fire management. The scores range from 1 to 5, with 1 being 0-20% accomplished, 2 being 21-40%, 3 being 41-60%, 4 being 61-80% and 5 being 81-100%.**

Managing Agency Response: Disagree. FFS and the local forest manager have burned 20,442 acres in the last five years and LMR team members confirmed this achievement in giving “area burned” a collective score of 4.20 or 80-100 percent of our desired objective. Staff estimates 11,000 acres of \pm 18,800 burnable acres (58%) is currently considered to be within the desired fire frequency. These burn numbers warrant a higher checklist score. FFS staff has made great headway in increasing fire frequencies throughout the forest. These efforts will continue to increase the total acreage within fire rotation.

4. **Ground Water Monitoring, specifically ground water quantity, received a below average score. The review team is asked to evaluate, based on information provided by the managing agency, whether consideration of past and present hydrologic and geologic functions are sufficient.**

Managing Agency Response: Disagree. St. Johns Water Management has a ground water monitoring well at Eddy Tower. Not sure what further monitoring is being suggested here and there are no Reviewer Comments that shed any light on this topic.

5. **Environmental Education & Outreach, specifically invasive species and habitat management activities, received below average scores. The review team is asked to evaluate, based on information provided by the managing agency, whether environmental education & outreach are sufficient.**

Managing Agency Response: Disagree. Four of five reviewers found our level of educational outreach acceptable – given the low visitation and remote location of this forest.

6. Management Resources, specifically staff, received a below average score. The review team is asked to evaluate, based on information provided by the managing agency, whether management resources are sufficient.

Managing Agency Response: Agree. The local forest manager has stated a desire to increase the technical forestry staff to address a heavy workload associated with forest inventory, timber sales and other resource monitoring activities.

2.3. Field Review Checklist and Scores

Field Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Mesic Flatwoods	I.A.1	3	2	3	2	2				2.40
Basin Swamp	I.A.2	3	4	3	3	4				3.40
Dome Swamp	I.A.3	3	4	4	3	4				3.60
Wet Flatwoods	I.A.4	4	2	3	2	3				2.80
Alluvial Forest	I.A.5	5		4	5	5				4.75
Shrub Bog	I.A.6	4		3	5	3				3.75
Natural Communities Average Score										3.45
Listed Species: Protection & Preservation (I.B)										
Animals	I.B.1	3	3	2	4	3				3.00
Plants	I.B.2	3	3	2	4	3				3.00
Listed Species Average Score										3.00
Natural Resources Survey/Management Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	3	2	1	2	1				1.80
Fire effects monitoring	I.C.4	4	4	3	5	4				4.00
Other habitat management effects monitoring	I.C.5	3	3	2	4	4				3.20
Invasive species survey / monitoring	I.C.6	4	4	2	4	3				3.40
Cultural Resources (Archeological & Historic sites) (II.A, II.B)										
Cultural Res. Survey	II.A	4	3	3	3	3				3.20
Protection and preservation	II.B	4	4	3	3	3				3.40
Cultural Resources Average Score										3.30
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A1	5	2	5	4	5				4.20
Frequency	III.A.2	2	2	2	2	3				2.20
Quality	III.A.3	5	3	5	4	4				4.20
Resource Management, Prescribed Fire Average Score										3.53

Restoration (III.B)										
Forest Management (III.C)										
Timber Inventory	III.C.1	5	5	3	5	5				4.60
Timber Harvesting	III.C.2	5	3	3	4	4				3.80
Reforestation/Afforestation	III.C.3	5	5	5	5	5				5.00
Site Preparation	III.C.4	4	3		5	4				4.00
Forest Management Average Score										4.35
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention – plants	III.D.1.a	3	3	3	5	4				3.60
prevention – animals	III.D.1.b	4	3	3	4	4				3.60
Control										
control – plants	III.D.2.a	4	3	3	4	4				3.60
control – animals	III.D.2.b	4	3	3	4	4				3.60
Non-Native, Invasive & Problem Species Average Score										3.60
Hydrologic/Geologic function Hydro-Alteration (III.E.1)										
Roads/culverts	III.E.1.a	4	4	3	4	4				3.80
Ditches	III.E.1.b	3	1	3	4	4				3.00
Hydrologic/Geologic function, Hydro-Alteration Average Score										3.40
Ground Water Monitoring (III.E.2)										
Ground water quality	III.E.2.a	3	2	3	3	4				3.00
Ground water quantity	III.E.2.b	3	2	3	2	4				2.80
Ground Water Monitoring Average Score										2.90
Surface Water Monitoring (III.E.3)										
Surface water quality	III.E.3.a	3	3	3	2	4				3.00
Surface water quantity	III.E.3.b	3	3	3	2	4				3.00
Surface Water Monitoring Average Score										3.00
Resource Protection (III.F)										
Boundary survey	III.F.1	4	4	4	4	5				4.20
Gates & fencing	III.F.2	3	4	3	4	5				3.80
Signage	III.F.3	4	4	4	4	5				4.20
Law enforcement presence	III.F.4	3	4	3	4	3				3.40
Resource Protection Average Score										3.90
Adjacent Property Concerns (III.G)										
Land Use										
Inholdings/additions	III.G.2	4	2	3						3.00
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	5	4	5	4	5				4.60
Parking	IV.1.b	5	4	5	5	5				4.80
Environmental Education & Outreach										
Wildlife	IV.2.a	3	3	3	4	2				3.00
Invasive Species	IV.2.b	3	3	3	4	1				2.80
Habitat Management Activities	IV.2.c	3	3	3	4	1				2.80

Interpretive facilities and signs	IV.3	3	3	3	4	2				3.00
Recreational Opportunities	IV.4	4	4	3	4	4				3.80
Management of Visitor Impacts	IV.5	4	3	3	4	4				3.60
Public Access & Education Average Score										3.55
Management Resources (V.1, V.2, V.3, V.4)										
Maintenance										
Waste disposal	V.1.a	4	3	4	5	5				4.20
Sanitary facilities	V.1.b	4	3		5	5				4.25
Infrastructure										
Buildings	V.2.a	5		5	5	5				5.00
Equipment	V.2.b	3	2	3	4	3				3.00
Staff	V.3	2	3	4	3	2				2.80
Funding	V.4	3	4	3	3	3				3.20
Management Resources Average Score										3.74
<div> <div>Color Code:</div> <div> <div>Excellent</div> <div>Above Average</div> <div>Below Average</div> <div>Poor</div> <div>Missing Vote</div> <div>Insufficient Information</div> </div> <div>See Appendix A for detail</div> </div>										

3. Land Management Plan Review Details

3.1 Items Requiring Improvements in the Management Plan

The following items received low scores on the review team checklist, which indicates that the text noted in the Management Plan Review does not sufficiently address this issue (less than 3.0 score on average.). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. The next management plan update should address the checklist items identified below:

1. **Natural Communities, specifically alluvial forest and shrub bog, received below average scores. This is an indication that the management plan does not sufficiently address current or desired condition and/or future management actions to protect or restore.**

Managing Agency Response: Alluvial forest and shrub bog are recently identified natural communities that will be added to the updated management plan.
2. **Listed Species, specifically animals and plants, received below average scores. This is an indication that the management plan does not sufficiently address protection and preservation of listed species.**

Managing Agency Response: The next management plan update will provide information on listed species issues and any management needs.
3. **Natural Resources Survey and Monitoring Resources, specifically listed species or their habitat monitoring and other habitat management effects monitoring, received below average scores.**

This is an indication that the management plan does not sufficiently address survey or monitoring.

Managing Agency Response: The next management plan update will provide information on these monitoring activities and data collection surveys.

4. **Non-native, Invasive & Problem Species, specifically prevention and control of plants and animals, received below average scores. This is an indication that the management plan does not sufficiently address prevention of invasive species.**

Managing Agency Response: The next management plan update will provide information non-native invasive species control. The forest manager will continue working to control the spread of non-native invasive species.

5. **Hydrologic/Geologic function, Hydro-Alteration, specifically ditches, received a below average score. This is an indication that the management plan does not sufficiently address hydrologic and geologic function.**

Managing Agency Response: The next management plan update will provide information on hydrologic function issues and any management needs related to ditches on the property.

6. **Ground Water Monitoring, specifically ground water quality and quantity, received a below average score. This is an indication that the management plan does not sufficiently address ground water quality and quantity.**

Managing Agency Response: The next management plan update will provide information on ground water monitoring.

7. **Surface Water Monitoring, specifically surface water quality and quantity, received a below average score. This is an indication that the management plan does not sufficiently address surface water quality monitoring.**

Managing Agency Response: The next management plan update will provide information on surface water monitoring.

8. **Adjacent Property Concerns, specifically inholdings/additions and discussion of potential surplus land determination, received below average scores. This is an indication that the management plan does not sufficiently address inholdings/additions and surplus lands.**

Managing Agency Response: The next management plan update will address inholdings and addition land needs. The plan will also provide an assessment and determination of any potential surplus lands.

9. **Environmental Education & Outreach, specifically for wildlife, invasive species, habitat management activities and interpretive facilities and signs, received below average scores.**

This is an indication that the management plan does not sufficiently address Environmental Education & Outreach.

Managing Agency Response: FFS is confident the current management plan sufficiently addresses environmental education and outreach – given the remote location of the forest. The primary recreational users on the forest are hunters. As the forest manager has a problem with educational kiosks being vandalized – any new signs and sign locations must be able to be monitored by a small forest staff. The next management plan will include a discussion and assessment of current and future kiosk improvements.

3.2 Management Plan Review Checklist and Scores

Plan Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Mesic Flatwoods	I.A.1	3	5	3	4	3				3.60
Basin Swamp	I.A.2	3	5	3	4	3				3.60
Dome Swamp	I.A.3	3	5	3	4	3				3.60
Wet Flatwoods	I.A.4	4	5	3	3	3				3.60
Alluvial Forest	I.A.5	4	1	1	5	3				2.80
Shrub Bog	I.A.6	2	1	1	2	1				1.40
Natural Communities Average Score										3.10
Listed species: Protection & Preservation (I.B)										
Animals	I.B.1	3	2	2	2	2				2.20
Plants	I.B.2	3	2	2	2	3				2.40
Listed Species Average Score										2.30
Natural Resources Survey/Management Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	3	2	2	2	2				2.20
Fire effects monitoring	I.C.4	3	3	2	4	4				3.20
Other habitat management effects monitoring	I.C.5	2	3	2	4	3				2.80
Invasive species survey / monitoring	I.C.6	3	4	2	4	3				3.20
Cultural Resources (Archeological & Historic sites) (II.A,II.B)										
Cultural Res. Survey	II.A	3	3	2	5	3				3.20
Protection and preservation	II.B	3	3	2	4	3				3.00
Cultural Resources Average Score										3.10
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A.1	3	5	2	5	2				3.40
Frequency	III.A.2	3	5	2	2	3				3.00
Quality	III.A.3	3	5	2	5	2				3.40
Resource Management, Prescribed Fire Average Score										3.27
Restoration (III.B)										

Forest Management (III.C)										
Timber Inventory	III.C.1	3		2	5	5				3.75
Timber Harvesting	III.C.2	3		2	4	5				3.50
Reforestation/Afforestation	III.C.3	3		2	5	5				3.75
Site Preparation	III.C.4	3			4	5				4.00
Forest Management Average Score										3.75
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention – plants	III.E.1.a	2	3	2	2	3				2.40
prevention – animals	III.E.1.b	3	3	2	2	3				2.60
Control										
control – plants	III.E.2.a	3	3	2	3	3				2.80
control – animals	III.E.2.b	3	3	2	3	3				2.80
Non-Native, Invasive & Problem Species Average Score										2.65
Hydrologic/Geologic function, Hydro-Alteration (III.E.1)										
Roads/culverts	III.F.1.a	3	4	2	4	2				3.00
Ditches	III.F.1.b	3	4	2	3	2				2.80
Hydrologic/Geologic function, Hydro-Alteration Average Score										2.90
Ground Water Monitoring (III.E.2)										
Ground water quality	III.F.2.a	3	2	2	2	2				2.20
Ground water quantity	III.F.2.b	3	2	2	1	2				2.00
Ground Water Monitoring Average Score										2.10
Surface Water Monitoring (III.E.3)										
Surface water quality	III.F.3.a	3	2	2	1	2				2.00
Surface water quantity	III.F.3.b	3	2	2	1	2				2.00
Surface Water Monitoring Average Score										2.00
Resource Protection (III.F)										
Boundary survey	III.G.1	3	3	2	4	3				3.00
Gates & fencing	III.G.2	3	3	2	4	3				3.00
Signage	III.G.3	3	4	2	4	3				3.20
Law enforcement presence	III.G.4	2	4	2	4	3				3.00
Resource Protection Average Score										3.05
Adjacent Property Concerns (III.G)										
Land Use										
Inholdings/additions	III.H.2	2	2	2	4	3				2.60
Discussion of Potential Surplus Land Determination	III.H.3	3	1	1	1	2				1.60
Surplus Lands Identified?	III.H.4	3	5	4	4	5				4.20
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	3	4	2	5	3				3.40
Parking	IV.1.b	3	4	2	5	3				3.40
Environmental Education & Outreach										
Wildlife	IV.2.a		3	2	3	2				2.50
Invasive Species	IV.2.b		3	2	3	2				2.50

Habitat Management Activities	IV.2.c		4	2	3	2				2.75
Interpretive facilities and signs	IV.3		3	2	4	2				2.75
Recreational Opportunities	IV.4		4	2	5	3				3.50
Management of Visitor Impacts	IV.5		3	2	4	3				3.00
Public Access & Education Average Score										2.98

Managed Area Uses (VI.A, VI.B)										
Existing Uses										
Apiary Lease	VI.A.1	5	4		5	5				4.75
Silviculture	VI.A.3	5	4	5	5	5				4.80
Hunting	VI.A.4	5	4	5	5	5				4.80
Hiking	VI.A.5	5	4	5	5	5				4.80
Primitive Camping	VI.A.6	5	4	5	5	5				4.80
Wildlife Viewing	VI.A.7	5	4	5	5	5				4.80
Equestrian Use	VI.A.8	5	4	5	5	5				4.80
Canoe/Kayaking	VI.A.9	5	4	5	5	5				4.80
Proposed Uses										

Color Code:

Excellent

Above
Average

Below
Average

Poor

Missing
Vote

Insufficient
Information

See
Appendix A
for detail

Appendix A: Scoring System Detail

Explanation of Consensus Commendations:

Often, the exceptional condition of some of the property's attributes impress review team members. In those instances, team members are encouraged to offer positive feedback to the managing agency in the form of a commendation. The teams develop commendations generally by standard consensus processes or by majority vote if they cannot obtain a true consensus.

Explanation of Consensus Recommendations:

Subsection 259.036(2), F.S., specifically states that the managing entity shall consider the findings and recommendations of the land management review. We ask team members to provide general recommendations for improving the management or public access and use of the property. The teams discuss these recommendations and develop consensus recommendations as described above. We provide these recommendations to the managing agency to consider when finalizing the required ten-year management plan update. We encourage the manager to respond directly to these recommendations and include their responses in the final report when received in a timely manner.

Explanation of Field Review Checklist and Scores, and Management Plan Review Checklist and Scores:

We provide team members with a checklist to fill out during the evaluation workshop phase of the Land Management Review. The checklist is the uniform tool used to evaluate both the management actions and condition of the managed area, and the sufficiency of the management plan elements. During the evaluation workshop, team members individually provide scores on each issue on the checklist, from their individual perspective. Team members also base their evaluations on information provided by the managing agency staff as well as other team member discussions. Staff averages these scores to evaluate the overall conditions on the ground, and how the management plan addresses the issues. Team members must score each management issue 1 to 5: 1 being the management practices are clearly insufficient, and 5 being that the management practices are excellent. Members may choose to abstain if they have inadequate expertise or information to make a cardinal numeric choice, as indicated by an "X" on the checklist scores, or they may not provide a vote for other unknown reasons, as indicated by a blank. If a majority of members failed to vote on any issue, that issue is determined to be irrelevant to management of that property or it was inadequately reviewed by the team to make an intelligent choice. In either case staff eliminated the issue from the report to the manager.

Average scores are interpreted as follows:

Scores 4.0 to 5.0 are *Excellent*

Scores 3.0 to 3.99 are *Above Average*

Scores 2.0 to 2.99 are *Below Average*

Scores 1.0 to 1.99 are considered *Poor*

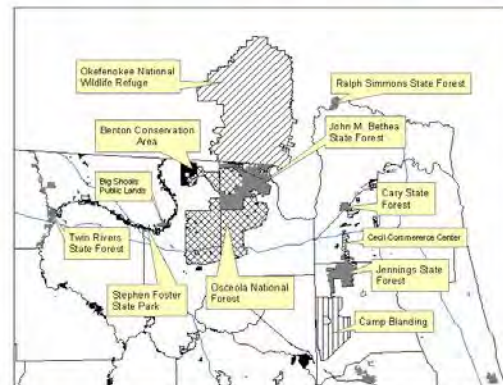
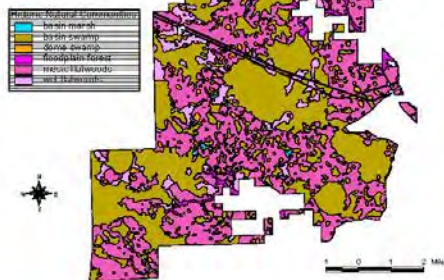
Exhibit U

John M. Bethea State Forest Restoration Plan

RESTORATION AT JOHN M. BETHEA STATE FOREST

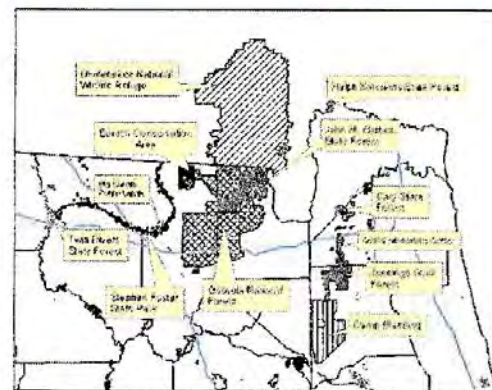
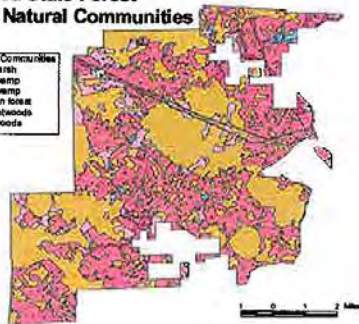


**JM Bethea State Forest
Historic Natural Communities**




Prepared by the
Florida Division of Forestry
January 21, 2009

Approved _____



Approved

Approved 

Land Acquisition History

The John M. Bethea State Forest (JMBSF) was acquired by the State of Florida in April, 2001. The original acquisition consisted of 34,244.7 acres of JMBSF purchased with CARL program funding, and 21,873.6 acres purchased with CARL and SOR funding. After portions of the original acquisition were traded to the federal government, the JMBSF consisted of 37,736 acres.

The main objectives for the acquisition of the property and the primary goals of the Division of Forestry (DOF) in managing the tract are:

- To conserve and protect environmentally unique and irreplaceable lands that contain native, relatively unaltered flora and fauna representing a natural area unique to, or scarce within, a region of this state or a larger geographical area.
- To conserve and protect native species habitat or endangered or threatened species.
- To conserve, protect, manage, or restore important ecosystems, landscapes, and forests, if the protection and conservation of such lands is necessary to enhance or protect significant surface water, ground water, coastal, recreational, and timber resources, or to protect fish or wildlife resources which cannot otherwise be accomplished through local and state regulatory programs.
- To provide areas, including recreational trails, for natural resource-based recreation.
- To preserve archaeological or historical sites.

The forest is also part of an important corridor between two larger federal land bases, the Osceola National Forest to the south and west, and the Okefenokee National Wildlife Refuge to the north, which is important for the movement of black bear and other wildlife.

Historical Natural Communities

An assessment of the historic natural communities at JMBSF was completed by the Florida Natural Areas Inventory (FNAI) in 2005 (see map on cover). This assessment was based on interpretation of 1943 aerial photographs, a timber-type map for Baker County from the 1930's, and ground-truthing by the staff of FNAI. The assessment suggests that JMBSF was historically a complex of mesic and wet flatwoods interspersed with basin swamps and marshes and scattered dome swamps. The 1943 aerials show open-canopied flatwoods savannas, woodlands and prairies crossed with a network of trails. Wetland areas appear to be open-canopied woodlands and forests, along with marshes and prairies. Presumably, the area had a history of selective logging and open range grazing prior to the time of these photographs. The timber-type map shows that the flatwoods were longleaf-dominated savannas, with a few stands of slash pine and loblolly pine. Larger stands of slash pine were located west of the current state forest boundary in Pinhook Swamp and Impassable Bay. The larger basin swamps were labeled as cypress-gum forests, or "bays". Forests of hardwoods and slash pine occupied portions of these larger basin swamps and some of the smaller to medium sized basin and dome swamps. Many of the wet areas were labeled as a mix of hardwoods and slash pine. Agricultural lands were identified along the Middle Prong and St. Mary's River.

Land Use History

The past uses of JMBSF include timber management, naval stores production, agriculture, hunting, and fishing. In the early 1900's as many as 10,000 people reportedly lived in the Baxter area in and around the northern portion of the state forest. The land uses during this early time included naval stores production, logging and sawmill operations, agriculture and grazing. A small sawmill that operated in the 1940's was located on an inholding near Baxter.

In the early 1950's, Hunt Oil Co. owned the property, which was later sold to Continental Can Corporation. The property was then acquired by KMI, an English-owned conglomerate, who sold off some of the surrounding properties. The majority of the lands that are now state forest were kept by the Continental Can Corporation and sold to the US Steel Corporation in the early 1980's. Continental Can Corporation then leased the property back from US Steel. Jefferson Smurfit took over the Continental Can Corporation lease in the late 1980's and then bought the property from US Steel in the mid 1990's. In the late 1990's Stone Container and Jefferson Smurfit merged to become Smurfit-Stone. Rayonier purchased the property from Smurfit-Stone in 1999. Prior to state acquisition most of this land was leased to hunt clubs.

At the time of the original acquisition by the state, approximately forty-four percent was plantations of southern pine species. Eleven percent of the total forest acreage was considered to be of natural pines. Cutover mesic flatwoods acreage was about 4% of the total forest acreage. The remaining acreage on the forest was comprised of native hardwoods. Within these acres the primary hardwood community type was basin swamp, dome swamp, and bottomland forest, the bulk of which occurred in the floodplain area of the St. Mary's River.

The JMBSF is a modified landscape transformed by large timber companies into a fiber production area primarily for local paper mills. The methods used to transform these lands were to bed (raise the soil in long mounds), in some places deeply, and plant slash or loblolly pine on the beds and wait for the first pulpwood removal.

Wildfire History

This area has experienced catastrophic wildfires many times in the past 20 years. A review of recent fire history demonstrates that fire management should be the central focus of any management strategy developed for the JMBSF. Wetland dominated landscapes such as this are notorious for a heavy buildup of waxy vegetation, especially gallberry, that occurs with the elimination of native, grass-dominated ground cover and the absence of regular prescribed fire. Recent large scale wildfires include the Friendly Fire in 1999, the Blackjack Island Fire in 2002, the Impassible I Fire in 2004 and the Bugaboo Fire in 2007. During the 1999 and 2002 large wildfires, a practice called stripping was used in a pre-suppression effort to slow down the advancing wildfire from entering swamp fuels. This practice entailed using dozers and fire plows to plow every third row in a pine plantation in advance of the fires' path. During the Blackjack Island fire, 1,228 acres were treated on the eastern side of the forest and 1,163 acres

were treated on the western parcel. This plowing has further modified the ground cover and surface water flows in these areas and has been done twice in a 3 year time frame. One of the objectives under this plan is to mitigate the effects of stripping these areas and work towards restoring more fire tolerant species such as longleaf pine and understory grasses in these areas adjacent to the Okefenokee Swamp. In 2007, lightning ignited two fires on Bugaboo Island approximately 18 miles north of the John Bethea State Forest in the Okefenokee Swamp. Initial attempts at suppression were unsuccessful and the fires burned together and began exhibiting extreme fire behavior. The second day the fire made a southerly run of approximately 15 miles, threatening to cross the state line onto the John Bethea State Forest. The Bugaboo Fire crossed into Florida on the third day at 0700. All attempts to suppress the fire were ineffective as it moved south towards the town of Taylor. Fire behavior remained extreme through the day and well into the evening making it extremely difficult to protect threatened structures in and around Taylor. On May 10th the fire made another major run to the southwest, this time threatening Lake City, Florida. Fire behavior on this day could be described as plume dominated, with high rates of spread and flame lengths measuring in the 100 to 200 foot range. At about 1900 -2000 hours, the fire hit an area recently prescribed burned by the USFS. This area effectively slowed the progress of the fire allowing firefighters to establish control lines and stop the fire.

Restoration and Management

Restoration and management at JMBSF is a long-term proposition that will require an adaptive management approach. Precise restoration targets cannot be brought into sharp focus at this point, but may include communities that do not precisely match the presumed composition, structure or function of historical conditions. In addition, restoration and management at JMBSF must also address the need to develop a landscape that will be resistant to wildfires or will promote an increased ability to control the wildfires that are expected to impact upon this landscape in the future. Furthermore, DOF considers the ability of this forest to generate revenue through sound silvicultural management to be essential to its land management program.

There is little information and experience in the restoration of such an altered, wetland-dominated landscape such as this one. This plan will guide activities in the coming year as an action plan. Activities described in this plan for subsequent years will be adapted based on experience and analysis of previous years' efforts, as well as on any new information that may become available from other restoration projects and research. This restoration plan has four major components that address prescribed fire, hydrological restoration, wetland restoration and silviculture. The restoration of prescribed fire and hydroperiod are considered key elements to restoring and managing this landscape.

Fire Management Plan

The JMBSF has had a low prescribed fire record, averaging just over 500 acres per year for the six years since acquisition. The matrix of the forest is low flat woods or wetlands, which means that in many years the terrain is wet and difficult to burn. During dry years great care must be taken not to kill the pine overstory due to fuel accumulations or to have escapes

from prescribed burns. One of the major problems in starting a prescribed burning program in this area is that no prescribed fire has been used in the past 20 years prior to state acquisition. Most pine plantations have never been prescribed burned. During dry years, the previous timber industry owners often site prepared areas that would normally be too wet to plant. This practice resulted in areas along the edges of the basin swamps and dome swamps acquiring a thick understory of plant species normally only found in wetland vegetative classes. When these pine plantations with this wetland understory are prescribed burned, the results can be extremely difficult to control. The prescribed fire can burn with intensity similar to a wildfire. In these areas around margins of wetlands, extreme care must be exercised in order to contain the prescribed burn, which reduces the number of acres that can be safely burned in a single day. In addition to the problem with typical wetland fuels in the pine plantation edges, a significant challenge is dealing with the young trees in areas with high fuel loading. In many cases the gallberry is three to five feet tall, with the bottom branches of the trees in the same area as the top of the shrubs. The lack of prescribed fire has also allowed gallberry root mats to develop, which impede the establishment of longleaf and grasses after timber harvest. The use of herbicide helps in planting success but the high water table makes longleaf difficult to establish in many years.

Fire exclusion in these wetland areas by previous landowners has left many of these wetlands with extremely high fuel loadings. When prescribed burning adjacent to these areas, the possibility of fire-brands falling into these high fuel loaded wetlands often slows the number of acres that can be burned in a day. One of the future goals for these wetland margin areas is to allow the margins to burn with the associated mesic flatwoods prescribed burn. In the years since the state forest was acquired, drought conditions have made this goal unachievable except in the case of embedded dome swamps. With the return of wetter conditions, this practice of burning these wetland types with the adjacent mesic flatwoods should be achievable.

The goals of the Fire Management Plan (see Attachment) are to develop a "Firewise" State Forest, providing opportunities for a defensible forest during dry years with the ultimate outcome of minimizing damage from catastrophic wildfires; and, to establish the fire return interval necessary to maintain the health and vitality of the ecosystems within the forest boundaries. At JMBSF, the use of all available methods, including prescribed burning and mechanical and chemical vegetation control, are considered in the Plan.

The ultimate prescribed burning goal is to achieve a fire return interval of between two and four years. Using the acreages of historical natural communities as mapped by FNAI, this would mean burning 5,000 to 10,000 acres annually. As a practical matter, the average annual prescribed burn acreage will be increased initially to 5,000 to 8,000 acres. Prescribed burning plans will consider whether the age class and species of existing timber stands can tolerate prescribed fire. In the near future, annual prescribed burning plans that encompass up to 10,000 acres will be necessary in order to adapt to years and conditions that are most favorable for prescribed burning. In order to achieve these kinds of objectives, the potential for night burning will be evaluated and prescribed burning parameter guidelines specific to JMBSF and Baker County will be developed. Prescribed burning at JMBSF will also be expanded to include more aerial burning and burning during the growing season. Strengthening

partnerships with federal and private neighbors through cooperative projects is addressed by the Plan.

There are clear interactions between silvicultural practices and prescribed burning at JMBSF; these interactions will require some adjustments to standards set for normal state forest management. These exceptions may include reduced stocking densities, increased row spacing, creation of unplanted buffers and open areas that can be used as food plots, wildlife openings or locations for ground cover restoration, and re-orientation of rows to run perpendicular to the predominant direction of wildfires. Existing dense plantations must be thinned as a high priority, using both row thinning methods and select thinning. Each method has its own advantages and disadvantages, which must be weighed on a stand by stand basis. Row thinning is easier to supervise and quicker in a silvicultural sense but selective thinning results in the uniform reduction of the canopy across the entire stand, thus reducing the potential for major crown fires.

The Fire Management Plan also calls for greater coordination with Baker County on road maintenance and upgrading the forest road network to increase the width of primary and secondary roads to 30 feet, ensuring clear and permanent road identification, and the creation of turn around spots sufficient to accommodate fire-fighting equipment on dead-end roads. As the Plan evolves further, it will identify established anchor points for making stands against wildfire threats, developing trigger points for strategic and tactical decisions within or in proximity to the forest, and address personnel management strategies and resource requirement lists for fire events.

Hydrological Restoration Plan

Following the May 2007 Bugaboo Wildfire, the DOF deployed an experienced Hydrological Evaluation and Assessment Team in July, 2007, to examine existing roads, firelines and water control and drainage structures on JMBSF to determine their influence on the hydrology of the forest. The Team developed a Hydrological Restoration Plan (see Attachment) with the objectives of identifying priority “at risk” areas and recommending management practices that would restore both the hydrology and hydroperiod within the area affected by the Bugaboo Wildfire. The intent of this plan was to provide information and offer guidance in the rehydration of parts of the JMBSF that were impacted by previous land management activities in an effort to mitigate wildfire effects, especially in areas that have been made drier. The Team recommended that the JMBSF undergo a more thorough assessment involving elevation mapping and hydrological modeling, especially in areas bordering private properties adjacent to JMBSF.

The Hydrological Restoration Plan calls for road and structure maintenance on the primary roads as a priority for the forest management team at JMBSF, especially while salvage logging is ongoing. The Plan prioritizes actions in four quadrants of the state forest. These actions will include reinforcing low water crossings, repairing or replacing culverts, and reshaping road beds. Many of the existing culverts and low-water crossings on the primary roads should be elevated to slow the flow of surface water exiting the forest. The Plan also calls for rehabbing and reworking pushed firelines to restore sheet flow and reworking

roadways that are trapping, channeling and re-directing surface drainage. New firelines that tie into road ditches, existing firelines, waterbodies or wetlands should be blocked with soil plugs above the discharge point but outside of any Streamside Management Zone or wetland edge. Older firelines and drainage ditches should be plugged to prevent accelerated flow out of the system or wetland drainage. Any expanded fireline that is left intact as a fire safety lane should be maintained in such a way that surface flow during the wet seasons is maintained as naturally as possible.

Wetland/Upland Ecosystem Restoration

An approximately two square mile area in the forest is being evaluated as a focus area for restoration of ecological structure, function and composition. The DOF is seeking partnerships with other agencies, such as the Institute of Food and Agricultural Sciences with the University of Florida, in order to conduct adaptive management and research projects whose results can be exported to the ecological restoration of other areas of the forest. Development of these partnerships is an effort to leverage grant funding for applied management and research projects that address the complexity of restoration issues in a highly modified, wet landscape. The projects being discussed are restoration of Basin Marshes, Dome Swamps, and upland ground cover in their vicinity.

The historical Natural Communities map generated by the Florida Natural Areas Inventory for JMBSF identified 18 Basin Marsh occurrences for a total of about 299 acres. These ranged in size from 2.5 to 115.7 acres. Basin Marshes are ephemeral wetlands that provide important habitat for wildlife, especially amphibians and reptiles. The ecological function of these wetlands is closely tied to the condition of the surrounding wet and mesic flatwoods. An open pine canopy with a frequently burned ground cover of wiregrass and other grasses and forbs surrounding these Basin Marshes is especially important for the amphibians that depend on the wetlands to complete their life cycles. The Basin Marshes at JMBSF range in condition from small remnants overgrown with trees and shrubs to those that have been bedded and planted with off-site pine species. Some of the latter are hardly recognizable as wetlands.

These ecological restoration projects will involve the removal of off-site planted pines and encroaching hardwoods from the basins identified in the 1943 aerials. Some of these wetlands were bedded, so it may be necessary to apply intensive treatments such as harrowing to level the beds and other mechanical means to restore slopes and contours of the basins. Any ditches or fire lines that lead into the marsh will be harrowed or restored to grade. Restoration of ground cover in the surrounding wet and mesic flatwoods will focus on these communities within one-half mile of the basin marsh. Treatments may involve removal of off-site pines where these were not consumed by the wildfire. Identification of a seed source for wetter site ground cover will be necessary. Restoration may eventually involve both planting of wiregrass plugs and reseeded of scarified sites.

The historical natural communities map identified 393 Dome Swamp occurrences for a total of about 1,483 acres. These ranged in size from 0.5 to 26.2 acres. Cypress trees were harvested from these before acquisition by the state. Many were surrounded by fire lines. As a

result, some have no cypress and are a dense thicket of vines and hardwood shrub and tree species. Others have remnant cypress and slash pines over the dense thicket. Restoration of these may involve rehabilitation of the ecotonal fire lines and ditches, mechanical treatment to reduce hardwood cover, prescribed burning, and replanting cypress. Some of these actions may be contrary to Silvicultural BMPs and may not be possible or may require the granting of exemptions from BMPs.

Silviculture Plan

Since 2004, approximately 1,160 acres of timber have been harvested, not counting salvage sales from the significant wildfires. For the health of the stands and reduction of fuels, many acres are still in need of thinning. JMBSF personnel have developed a harvest plan for the remaining merchantable stands; implementation of this plan is on schedule.

The Bugaboo Fire burned approximately 28,000 acres of JMBSF and severely damaged about 6,500 acres of pine plantations, resulting in a significant loss to the timber resource on the Forest. The Silviculture Plan includes goals and objectives for thinning, site preparation and reforestation for the affected stands. The primary goals are to thin overly dense stands that were not burned and to reforest those areas formerly in pine production that were adversely affect by the recent wildfire in order to establish a Firewise State Forest that will better withstand the next wildfire event. Reforestation will be implemented by planting longleaf and slash pine where these are most appropriate, given their historical distribution and current site conditions. Site preparation prescriptions will be a combination of prescribed burning, mechanical and chemical treatments where appropriate.

Reforestation will take into consideration all aspects of hydrological restoration, which may result in the loss of some planted areas. Decisions whether to plant longleaf pine, slash pine or cypress can be dependent on the future hydrological objectives. Thus, reforestation must be adaptive and the Plan contained herein will be used as a living document.

Reforestation for 2007-08 concentrated on those stands that were planted during the 2005, 2006 and 2007 winters and were <1 to 3 years of age; that were treated with herbicide in the 2006 spring; and, that were burned over during Bugaboo in the 2007 spring. No additional site preparation treatments are recommended for the majority of this acreage. Rows were reoriented perpendicular to the general direction of wildfire movement in strategic areas to facilitate wildfire suppression. To facilitate increased survival rates, the 1,873 acres planted in 2007-08 were post-plant band-sprayed with Arsenal over the top of the seedlings. About 88% of these areas was planted with longleaf pine.

About 87% of the 1,607 acres scheduled for planting in 2008-09 will be planted to longleaf, and will include stands that were clearcut during the Bugaboo Fire salvage. Site preparation consists of spot raking and piling of logging debris, single drum chopping and broadcast application of herbicides to control gallberry and other herbaceous vegetation.

About 82% of the 1,261 acres scheduled for reforestation in 2009-10 will be planted to longleaf and will include stands currently about 4 to 8 years of age that were severely damaged

by the wildfire. Mechanical site preparation will be used to lay down residual snags and to control woody vegetation. A follow-up treatment of appropriate herbicide may be used to further control competing vegetation.

About 93% of the 971 acres scheduled for reforestation in 2010-11 will be planted to longleaf and will include stands currently about 9 to 13 years of age that retain an insufficient density of trees due to the severe wildfire damage. Mechanical site preparation will be used to lay down residual snags and surviving trees and to control woody vegetation. A follow-up treatment of appropriate herbicide may be used to further control competing vegetation.

Two years after planting, longleaf pine stands will be evaluated for dormant season prescribed fire suitability and, if appropriate, will be prescribed burned when they reach 2 to 3 years of age. Subsequent prescribed fires should be conducted once the pines reach sapling stage and thereafter with a return interval of no more than three years.

Six to eight years after planting, slash pine stands will be evaluated for dormant season prescribed fire suitability and, if appropriate will be prescribed burned when they reach 8 to 10 years of age. Subsequent prescribed fires should be conducted once the pines reach sapling stage and thereafter with a return interval of no more than 5 years.

Evaluation

A meeting will be held at JMBSF headquarters during 2009 to evaluate progress made during the first two years of restoration and to develop or modify plans for the coming year. All Action Items listed in this plan will be addressed. Those that have not been accomplished will be scheduled as Action Items in specific coming years. This meeting will consist of key staff from JMBSF, the Suwannee Forestry Center, the Forest Management Bureau and the Forest Resource Planning and Support Services Bureau.

Reforestation efforts will be judged based on the current State Forest Handbook criteria. Given the unusual restoration circumstances at JMBSF, it may be necessary to evaluate whether these are appropriate for restoration. Prescribed burns will also be subjected to post-burn evaluations as described in the State Forest Handbook.

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In the past eight years, the area now known as the John M. Bethea State Forest has seen several catastrophic wildfires burn onto and through the Forest. The Forest borders multiple large swamps (Pinhook, Impassable Bay and the Okeefenokee) which are major fire corridors in dry years. These swamps present significant fire control problems for the managing agencies and private landowners bordering the forest. Suppression efforts in these swamps are limited for several reasons, such as agency rules, equipment accessibility, fuel loading and fire behavior during these events.

As we develop a plan to re-establish our forest it must be accepted that time will be needed to fully realize the results of our efforts. Prior to State acquisition of this property it was managed with the primary focus of producing timber. This management practice has significantly altered the forest from what it is believed to have been many years ago. The result of this manipulation is a very homogeneous forest that will require intensive management and planning to achieve the desired future condition.

It has become readily apparent that a standard cookie cutter approach will not produce acceptable results in any program area of this forest. Therefore, we have established several committees to create plans and evaluate results that will allow this forest to withstand future fire onslaughts and thrive in this environment. This will require creative thinking and compromise throughout the organization over time.

A review of recent fire history demonstrates that fire management should be the central focus of any management strategy developed for the JMBSF. Without a centrally focused fire management plan, which is congruent with all other program areas, no single program area will be successful. *Understanding this is pivotal for successful development of future plans on the John Bethea State Forest.*

Goals -

- a. Develop a "Firewise" State Forest, providing opportunities for a defensible forest during dry years with the ultimate outcome of minimizing damage from catastrophic wildfires.
- b. Establish the fire return interval necessary to maintain the health and vitality of the ecosystems within the forest boundaries.

As we begin to develop the fire management plan, it is important to review the acquisition objectives for the property.

Fuels Management – This is crucial to meeting the overall goals of the fire management plan. History has shown managing fuels through prescribed fire, herbicide or mechanical means provides a greater probability of success during suppression actions and fire damage is greatly reduced overall. On JMBSF, we will need to apply all of these methods to manage fuel loading across the landscape with the overall intent of returning fire frequency to the appropriate level of two to four years.

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Prescribed Burning – A fire return interval of two to four years seems to be ideal in most areas of the forest. However, there are many areas (primarily heavy gallberry sites) that will need a fire return of less than four years to maintain fuel loads at an acceptable level. Adjusting this interval at the stand level is expected but this is a good overall target for most of the forest. Establishing this as our return interval (“ideal”) will require burning an average of 5,000 to 10,000 acres annually. Although this is a reasonable goal, it will be difficult to achieve during the initial years of implementation for several reasons. We discuss these reasons and our plan to mitigate them throughout this section.

Burning methods –

- ◆ Previous fuel loads dictated the majority of burning be accomplished through the standard method of hand ignition during daylight hours. This is labor intensive and generally slow burning method. The recent Bugaboo fire coupled with increased longleaf planting will allow for a more aggressive approach in the burning program, potentially increasing our total burn acreage. The fuel accumulations on the east side of the forest remain, presenting challenges when burning in these stands. These areas will be evaluated for potential night burning opportunities, as well as other initial fuel treatments, such as mowing, as a means to reduce fuel loads to acceptable levels, allowing for more aggressive burning.
- ◆ Ideally, the burning program will transition from the standard burning practice to more aerial burning as fuel loads are reduced and we become proficient with this more complex type of burning. This will be accomplished through training and planned cooperation with adjacent federal agencies.
- ◆ Develop and propose some specific burning parameter guidelines to submit for pre-approval through Forest Protection to minimize delays and increase burning opportunities overall.

Seasonal timing

- ◆ Due to historical fuel loads and containment concerns, growing season burning has not been accomplished. The fuel load reductions resulting from the Bugaboo Fire and additional longleaf plantations have created more opportunities to conduct growing season burns. Transitioning acreage, where appropriate, to growing season burns will increase the overall timeframe to meet the annual burning goals. Initially, this transition will provide the best opportunity to meet the ideal burn acreages.

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Strengthen Partnerships

- ◆ Continue to strengthen relationships developed with our neighbors, US Forest Service, US Fish & Wildlife, Rayonier and Langdale, through additional cooperative projects. These projects should include but not be limited to, road and bridge projects, boundary maintenance and burning across forest boundaries where it is mutually beneficial.

Training

- ◆ The continued development adjacent to the forest, increasing aerial and night burning projects, and multi-agency burns will result in more complex burn projects in the future. Training decreases the learning curve, facilitating the development of more confident and competent prescribed burners. Identify personnel across the Suwannee Forestry Center for advanced training in the planning, preparation, and execution of increasingly complex burn projects. Courses should include Inter-Agency Prescribed Fire, Complex Prescribed Fire and PLDO training at a minimum. A mentoring program should be established with sister State forests that currently have an established aerial ignition program, such as Tate's Hell and Withlacoochee State Forests. This will provide additional insight and experience for planning and safely conducting complex aerial burns.

Mechanical Treatments

- ◆ This practice should be conducted on sites where burning is currently impractical due to fuel loads or timber stand types. Mid rotation slash pine stands should be evaluated for this treatment due to long fire return interval and the risk of unacceptable mortality that could be caused by burning too early. Schedule mowed areas for burning within one to two years post treatment, eliminating artificial duff buildup. As an alternative, breaking these stands into smaller blocks and using backing fire should be considered.

Herbicide Applications

- ◆ Though herbicide application may be the least desirable fuel treatment, consideration for a site-specific application where ground cover is predominately gallberry is necessary. Additionally, younger Slash Pine stands should be evaluated for herbicide application to control vegetation prior to implementing a feasible burning rotation.

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Silviculture - This section provides general guidelines which if followed will assist in creating a “Firewise” forest in the future.

Reforestation- The Division has standard reforestation guidelines to follow when replanting on a state forest. These guidelines are generally consistent with accepted forestry practices providing a sound baseline to produce a valuable timber stand over time. These guidelines work very well in most places and have a proven record of accomplishment. However, the JMBSF is a unique situation that may require thoughtful application of reforestation guidelines and perhaps modification to the guidelines in some areas in order to protect the valuable timber already established, as well as on reforested acres.

Tree species selection

- ◆ As reforestation begins, every consideration should be given to planting longleaf when possible. This will provide early opportunities to re-introduce fire in the stand without allowing shrub vegetation to be reestablished. Additionally, the fire tolerant nature of this species will help to reduce timber damage when a wildfire does burn through the stand.
- ◆ Slash Pine is a less desirable selection due to difficulties with re-establishing fire in these stands, generally 10-13 years in wet flatwood sites. In these stands, early rotation mowing and/or herbicide applications may be necessary to facilitate fire return without unacceptable mortality from wildfire or prescribed burning.

Row spacing

- ◆ The standard row spacing should be at a 12 foot minimum, with 13 – 14 feet being ideal. This will optimize tractor operation during suppression activities while minimizing root damage caused by the fireline plow. However, this additional spacing creates problems when attempting to utilize existing beds during reforestation efforts.
- ◆ Leave 10 to 15 feet minimum (both sides) between the stand and any roads in the planting area. This increased width will provide greater opportunities for success during counterfire, burnout and holding operations conducted in suppression efforts. The increased grasses on the roadside will decrease the amount of time needed to establish a good baseline during prescribed fire operations, allowing for a safer burn and more efficient use of available resources.

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Open Areas

- ◆ Establish open areas periodically by not planting a row or two within larger interior stands and next to pre-established anchor points. Create open strips within a ½ mile of all boundaries, specifically those adjacent to fire corridors (major swamps). Orientation of these strips will be determined prior to planting and harvesting operations. These open areas may be used as food plots, wildlife corridors/openings and fire breaks during suppression activities. Proper maintenance for these strips will be harrowing prior to fire season or prescribed burn operations and mowing as needed to minimize shrub encroachment and enhance native wildlife browse.
- ◆ Evaluate the feasibility of creating 30 – 50 foot open areas around all major bays such as Pinhook and Impassable, effectively establishing a swamp edge break around historical fire corridors. Any established breaks in these areas will be harrowed flat not to create any further hydrological issues.

Row Orientation

- ◆ Row orientation in reforested areas should be perpendicular to major fire corridors. For example north and south of SR 2 and the railroad track pines need to be planted generally east and west within ½ mile on both sides. This particular location will be one of the major anchor points created on the forest. Further discussion regarding anchor point development is in the Wildfire Operations section.

Timber Harvesting

- ◆ Thinning is perhaps the most important method to increase the probability of success during suppression activities and to prevent the loss of timber and ecological resources due to wildfires. At least in the beginning of this plan, preference and emphasis will be given to third-row thinning especially in stands of a younger age class. The reason is that this method will allow the thinning of a greater number of acres and is less dependent on manpower availability. Thinning using selection methods in older stands will be tested during the first few years of the plan to determine the feasibility of this approach (see Silviculture Plan). These methods can thus be carefully evaluated and monitored to determine if they create more breaks within the stand when compared to a row thin, if they create better access throughout the stand, and if the uniform canopy reduction can reduce the potential for major crown fire runs. These potential advantages can

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then be evaluated to determine whether a balance can be reached with the ability to achieve long-term silvicultural goals and costs of conducting selection thinnings. Reducing the probability of extreme fire behavior and increasing overall firefighter safety, especially when traveling across the rows as compared to within the rows, are primary objectives for all these thinning operations.

- ◆ Historically, thinned stands have decreased mortality rates after a wildfire burns through when compared to unthinned stands. The thinning operations that are currently in progress will help to control vegetation, re-establish fire return intervals and reduce potential losses during future wildfire events. Thinned stands will be placed on the burning rotation and burned within two years of thinning being completed.

Road Considerations

Primary Road Network

- ◆ Work with Baker County officials to develop better maintenance schedules and possibly pursue potential grant funding to enhance the major county grades bisecting the forest.

Secondary Road Network

- ◆ Increase width of all secondary roads by 10 feet on each side, with the standard being a minimum of 30 feet, tree line to tree line.
- ◆ Ensure road network is correctly and permanently marked and develop a marking scheme identifying all dead end roads.
- ◆ Create turn around spots along all dead end roads; distance between turnarounds will be based on road length.
- ◆ Completing these items will increase safety of firefighting personnel, reduce response times, provide clearer direction for outside personnel assisting during major wildfires and increase burnout and holding options. Additionally these enhancements will create additional breaks for use during prescribed fire operations, creating opportunities for more efficient use of available resources.

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- ◆ Evaluate industry standard map books to determine applicability, scale and detail needed for state forest management.

Wildfire Planning Considerations - Fires over the last ten years have provided opportunities to hone our firefighting skills. We have developed outstanding working relationships with cooperators in the area, readily assisting each other during trying times. We have safely battled major wildfires with multiple agencies, private landowners, and industry personnel all with different experience levels, equipment, and fire fighting strategies. We have become well versed in establishing and maintaining this type of network, minimizing potential conflicts when the big fire breaks. Firefighters in this area are as good initial attack firefighters as you will find anywhere in the state and country. An area needing some fine-tuning is the transition from initial attack to extended and reinforced attack. The development of a fire management plan will assist with this transition and provide the framework for decision making during future fire events.

Established Baselines – These baselines will be established along major roads bisecting the forest, effectively breaking the forest into zones or quadrants. These quadrants can then be used to assist in determining trigger points (predetermined action based on current or expected events) for future wildfires. The first ½ mile on each side will be intensively managed to provide the greatest potential of success in controlling any major wildfire. These areas will incorporate many if not all of the ideas mentioned throughout the plan, to include decreasing the fire return interval to two years.

- ◆ These areas have been selected by Resource and Operations personnel with intimate knowledge of fire history, behavior, suppression tactics and resource planning knowledge.
- ◆ Maintenance work on these areas will be identified in the forest's annual action plan and conducted primarily by Operations personnel.
- ◆ Location considerations were included but were not limited to major roads, interior forest roads that traverse the entire forest, major breaks or open areas developed around major fire corridors.

i. Trigger Point Development

- ◆ Develop course of action based on fire location, expected fire weather, fire behavior, and resources available for each anchor point on the forest. This should be used as a guide when making strategic and tactical decisions within or in proximity to the forest.

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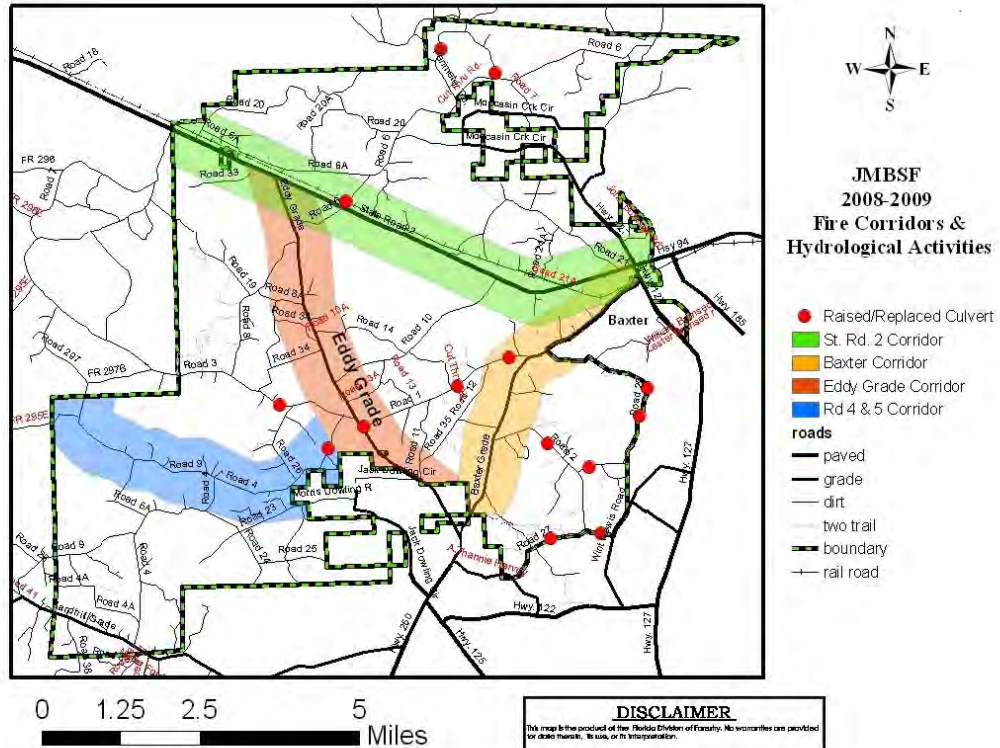
j. *Resource Utilization*

- ◆ Develop tiered personnel management strategy assigning specific roles and responsibilities to assigned personnel, implemented during any major operations such as wildfire or large prescribed fire.
- ◆ Develop resource requirement lists for fire events; consider holding, burnout operations and suppression activities. Completing some minor modifications and this could easily transfer to the burning program.
- ◆ Relocate Su 52/53 from Taylor to the Pinhook Fire Station at the JMBSF headquarters.

Discussion Items:

1. Identify stands which should be considered in rotation and prioritize these stands for future burning. Development of priorities should consider stand location (proximity to major swamps and boundary), stand type and burn history. We do not need to lose what is currently in rotation!
2. Increased burn acreage and maintenance issues created by development of open areas etc...throughout our forest will strain the limits of our current workforce. Look at staffing requirements, current structure and personnel management issues. Develop courses of action based on current and ideal staffing. Consider all options for increasing burn opportunities.
3. Improve weather monitoring system or better utilize available systems.

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Action Items:

1. Relocate Su 52/53 from Taylor to the Pinhook Fire Station at the JMBSF headquarters. Complete.
2. Identify stands which should be considered in rotation and prioritize these stands for future burning. Complete.
3. Identify personnel in the Suwanee Forestry Center for advanced training in the planning, preparation and execution of aerial burning and in complex prescribed burning projects. Complete, still need to execute some of the training.
4. Identify stands on the east (unburned) side of the forest with
 - a. Potential for night burning. Identification complete, burning has commenced.
 - b. Potential for other fuel treatments.
5. Identify stands suitable for growing season burning. In Progress
6. Hold a meeting with potential partner agencies to discuss fire management strategies, cooperative projects, restoration, road and bridge projects, boundary maintenance and burning across forest boundaries. In Progress, working with USFWS and GOAL.
7. Conduct both row thinning and selective thinning and compare the efficacy and efficiency of the methods. In Progress, all stands in thinning window will be complete by close of FY08-09.
8. Refine map of potential open (nonreforested) areas along major roads and in the vicinity of boundaries. Fully develop a baseline open area along at least one of the major road corridors in the forest. In Progress.
9. Increase width of select secondary roads by 10 feet on each side; if initial results are promising, develop plan for accomplishing this on a wider group of secondary roads. In Progress.
10. Develop road marking scheme that identifies dead end roads. In Progress.
11. Create turn-around spots on dead end roads that can accommodate DOF equipment. In Progress.
12. Evaluate industry standard map books to determine applicability, scale and detail needed for state forest management. In Progress.
13. Improve weather monitoring system or better utilize available systems. In Progress.

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14. Evaluate mid-rotation slash pine stands for the potential use of mechanical fuel reduction treatments such as mowing and chopping prior to prescribed burning.
15. Evaluate slash pine stands for the potential of use of herbicides to control vegetation prior to implementing prescribed burning.
16. Evaluate the feasibility of creating 30 to 50 foot open areas that are harrowed around major bays, such as Pinhook and Impassable.
17. Meet with Baker County officials to develop better maintenance schedules and possibly pursue grant funding to enhance the major county grades bisecting the forest.
18. Develop a fire management plan that addresses the transition from initial attack to extended and reinforced attack, and provides a framework for decision making during future events.
19. Develop course of action based on fire location, expected fire weather, fire behavior, and resources available for each anchor point on the forest to be used as guide (trigger points) when making strategic and tactical decisions.
20. Develop tiered personnel management strategy assigning specific roles and responsibilities to assigned personnel, implemented during any major operations such as wildfire or large prescribed fire.
21. Develop resource requirement lists for fire events; consider holding, burnout operations and suppression activities.

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INTRODUCTION

In May 2007 the wildfire event known as the “Bugaboo Fire” burned over 120,000 acres in northeast Florida, including over 29,000 acres of the John M. Bethea State Forest (JMBSF) in Baker County. While the fire consumed over 70% of the standing timber in the forest exposing the forest floor to direct impact from rainfall; fire suppression efforts further exposed soil and road structures to erosion and degradation.

Additionally, the current salvage timber harvesting operations are impacting roads and water management structures that may ultimately have a long term impact on the hydrological integrity of the forest.

The JMBSF, acquired by the State of Florida in 2001, has been vulnerable to wildfire events over the years but in the recent past several major fires (the “Friendly Fire” in 1999 and the “Impassable Bay Fire” in 2004) have resulted in the loss of tens of thousands of dollars in timber revenue.

Consequently, the Division of Forestry is developing methods and forest management practices to make JMBSF more “resistant” to devastating affects of wildfires by taking a comprehensive look at various aspects of the forest’s management, such as planting row/drill orientation, species composition, and, as this document reports, hydrologic restoration.

PURPOSE

A Hydrological Evaluation and Assessment Team (“Team”), made up of four individuals from the Hydrology Section in the Forest Resource Planning and Support Services Bureau, conducted a field assessment from July 27 – August 1, 2007. The team was assigned the task of looking at existing roads, firelines and water control and drainage structures on JMBSF to determine their influence on the hydrology of the forest.

Based on their observations in the field the team has developed this Hydrological Restoration Plan with the objective of identifying priority “at risk” areas and provide guidance by recommending management practices that would restore both the hydrology and hydroperiod within the area affected by the Bugaboo Wildfire.

METHODOLOGY

The Team divided the entire forest into four quadrants, Northeast (NE), Southeast (SE), Southwest (SW), and Northwest (NW), and each team member assessed one quadrant. Because most of the burned area lay in the north and western portions of the forest the SE was combined with the SW Quadrant ([See Attachment 2, Map 1](#)).

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Each Quadrant was assessed using a GPS unit and standard Assessment Form developed specifically for this project. Each assessment point was located by lat./long. (for mapping purposes) and described by identifying type of structure and condition or status encountered, proposed remedy for problematic situations, and priority in terms of hydrological improvement. ([See Attachment 1](#))

The Team identified **12** Hydrological Priority Areas on the Forest, which are listed below by Quadrant and team member responsible for assessing the area. The findings and recommendations for restoration for each Priority Area are discussed in detail in this Plan. ([Refer to Maps 2-5 of Attachment 2 and Attachment 3](#))

The **NE QUADRANT** was assessed by G. Marshall and earlier by T. Gilpin during a separate Wetland Restoration Needs Assessment and revealed the following Priority Areas:

- 1) St. Mary's River/Bugaboo Pushed Fire Break Area, 2) Okefenokee Swamp Fire Break/Perimeter Road Area, 3) Perimeter Road/ "Cut Through" Road/ Road 6 Area, 4) Bugaboo Pushed Fire Break/Road 21/Moccasin Swamp Area, and 5) Moccasin Creek Area ([See Attachment 2, Map 2](#))

The **NW QUADRANT** was assessed by T. Gilpin and had the following Priority Areas:

- 1) Road 20/ Okefenokee Swamp Fire Break Area, 2) Road 6/ Railroad Track Area, 3) "Potato Patch" Firelines, and 4) Interior Road Areas ([See Attachment 2, Map 3](#))

The **SW/SE QUADRANTS** were assessed by L. Barnwell and R. Lima and revealed the following Priority Areas:

- 1) Pinhook Swamp Area, 2) Moccasin Swamp Area, and 3) Little River Bay Area ([See Attachment 2, Map 4](#))



Photo 1: Plowed Fireline connected to Moccasin Creek

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GENERAL OBSERVATIONS

The Team mapped a total of 228 waypoints, identified and evaluated a total of 192 structures, 186 of which fell within a priority area. Findings included 37 Above- and Below-Grade Roads (AGR/BGR), 16 culverted stream/drainage crossings (CX), 28 improved low-water crossings (LWX), 29 bridges, approximately 7 miles of field drainage ditches (DCH), and over 100 miles of road ditches (RD) and firelines (OFL/NFL), including approximately 2.5 miles of new pushed firelines (PL).

It should be noted that some areas covered in this assessment have historically been wetter but are now drier as a result of land management practices implemented by previous land owners over the last 50+ years. Consequently, these sites currently support artificially regenerated pine plantations and plant communities adapted to drier sites.

In addition, it should be understood that the intention of this Plan is to provide information and offer guidance in the re-hydration of parts of the forest impacted by previous land management activities in an effort to mitigate wildfire affects on JMBSF. If these recommendations are followed some of those sites may be wetter, more closely resembling their natural historical condition.

Finally, it should be noted that prior to the implementation of the recommendations offered in this plan the property should undergo a more thorough assessment involving state-of-the-art elevation mapping (LIDAR) and hydrological modeling to determine all potential off-site impacts. This is particularly critical for those areas bordering private properties adjacent to the state forest.



Photo 2: Service Road channeling surface flow into Road 20 ditch

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**FINDINGS/RECOMMENDATIONS
NORTHEASTERN QUADRANT**

Field Assessment By
Greg Marshall

(See Attachment 2, Map 2)

The Northeast Quadrant of JBSF consists of wet flatwoods, mesic flatwoods, floodplain forest, basin swamps, dome swamps and basin marshes (JBSF Stand map). Most of the area has been drained and converted to pine plantation over the last 50 years. Otherwise the dominant ecological community would likely be wet flatwoods and basin swamps.

The drainage in this quadrant flows from the north through Cross Branch which flows out of the Okefenokee Swamp to the north; from the west through Lake Holes Branch out of the Lake Holes Swamp; and from the south from Moccasin Swamp to Moccasin Creek. Much of the water in the area flows into Moccasin Creek which flows southeast into the St. Mary's River. Plowed lines, pushed firelines, ditches, roads, and plantation rows disrupt the natural hydrological pattern in the area.

The road network in the quadrant consists of several primary forest roads (Rd 6, Rd 7, Rd 21, Perimeter and 'Cut-Thru' Roads) and numerous secondary roads. All of the roads included in this assessment need improvements and maintenance such as replacing, cleaning and removing culverts; adding armoring material to low water crossings; raising low water crossings and culverts; installing turnouts at bridge approaches; and re-pulling road ditches.

Firelines and push lines are another concern on the forest and need to be addressed. The majority of these lines are draining the water directly to road ditches which is accelerating the drainage of the area. These lines can be found along stand edges (swamps and hills) and through ponds and plantations. These lines need to be plugged in order to allow the water to recharge in the forest.

However, from a hydrological standpoint, listed below are several key areas of concern that need to be considered high priority:

4. ST. MARY'S RIVER/BUGABOO PUSHED FIRE BREAK AREA
(Bugaboo Waypoint # 154, 216-218)

The condition of this spot has improved somewhat since the fire. The woody debris has been re-distributed to some extent and the flow of the waterbody has resumed a somewhat natural pattern. To try to do more at this point would create more negative impact than positive. **Recommend monitoring for degradation.**

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However, some old firelines tie directly or indirectly into the Pushed Line from the north. **Recommend ditch plugs where surface flow is being re-directed and channeled into the St. Mary's River or its flood plain.**

The Bugaboo Pushed Fireline, though effective in cutting off fuel to an open run of a wildfire, leaves soils exposed, potential for channelization, as well as a berm of debris and soil which impedes natural sheet flow across a landscape. In this case, where the pushed line ties directly into the St. Mary's River water quality may be impacted by sediment discharge. **Recommend elongated ditch plugs or high water bars where surface flow is being re-directed into the St. Mary's River floodplain; rehab pushed fireline by either pulling berm back into open area or breaking wide "holes" in berm and maintain open as a fire "safety lane" in which only grasses or low groundcover vegetation is encouraged.** * *This should be done as soon as possible, before the site is overgrown with mid-story vegetation*

5. OKEFENOKEE SWAMP FIRE BREAK/PERIMETER ROAD AREA
(Bugaboo Waypoint # 172)

The forest's north boundary lies adjacent to the "Okefenokee Swamp Break" (a 30-ft. wide firebreak). In several places along its route the swamp break traps water and redirects flow during the wet season. Where practical, and without creating a problem for our neighbor to the north, **Recommend installing ditch plugs at all points where the swamp break intersects with roads, firelines and "potato patch" lines leading onto the State Forest.**

Observations:

- On a secondary road north of the intersection of Road 6 and Perimeter Road in the northeast portion of the forest surface drainage from the swamp break has overtopped a damaged 18" metal culvert and caused erosion to the east. The water ultimately flows to a drain that contributes to the St. Mary's River. **Recommend replacing the culvert with the same size, thus avoiding the necessity of acquiring a Noticed General ("Jiffy") Permit from St. John's River Water Management District (SJRWMD).**

6. PERIMETER ROAD/CUT THROUGH/ROAD 6 AREA
(Bugaboo Waypoints #195, 196, 197, 199, 223, 225)

This area lies adjacent to the north forest boundary and is influenced by the Okefenokee Swamp Break, particularly during lower water levels when the water is trapped or channeled by the swamp break and forced to flow south into the State Forest. **Recommend removing "Cut-Thru" Road if deemed unnecessary to operations; if "Cut-Thru" remains, provide additional conveyance either with culverts or elevated low-water crossings on both Perimeter and "Cut-Thru" Roads to slowly encourage flow through the area.**

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Observations:

- On the north portion of Perimeter Road, close to the north forest boundary, the water is impounding on the north side of the road. This water needs to be slowly redirected across the road through elevated low water crossings.
- “Cut Thru” Road is acting as a dam and the water is impounding on the north side. The water can be redirected along the road and conveyed under Perimeter Road to Lake Holes Branch during high water periods by replacing the culvert and installing an elevated low water crossing. If another low-water crossing is in close proximity to this location that one should be elevated. Also, an elevated low water crossing can be installed on “Cut Thru” Road to encourage the water south at high periods. Caution needs to be taken as water can be redirected onto adjacent landowners.
- On the west side of the loop, on both sides of Perimeter Road, a basin marsh site exists that is important to restore to its natural plant community.
- Previous industrial landowner(s) delineated timber stands and, effectively, wetland plant communities, by plowing or blading shallow firelines around their peripheries and tying them into nearby road ditches. Over time some of these lines have eroded to an extent which causes significant surface water channelization during storm events and in some cases draining wetlands.

7. BUGABOO PUSHED FIRE BREAK/ROAD 21/MOCCASIN SWAMP AREA
(Waypoints #174 & #154)

There are two large pushed firelines that were a result of the Bugaboo Fire that need to be rehabbed as soon as practical and maintained. These lines need to be rehabbed by leveling and spreading grass seed in order to stabilize the line. If this is not achieved the lines will continually accelerate the drainage causing an erosion problem in the future. If the lines are not maintained after rehab the open areas will become overgrown with vegetation and once again become a fire danger. If the lines cannot be maintained the lines need to be chemically treated to control woody vegetation and then planted with slash pine. **Recommend immediate rehab effort by either pulling berm back into open area or breaking wide “holes” in berm and maintain open as a fire “safety lane” in which only grasses or low groundcover vegetation is encouraged. * This should be done as soon as possible, before the site is overgrown with mid-story vegetation.**

Observations:

- A section of the road within the Pushed Fireline, near the forest boundary in Section 35, has a small berm on each side, channelizing water within the road and impeding natural flow (**Photo # 3**). The road edges should be disked to permit flow across the travel lane. Some areas of the road may need armoring with rock, tile or other suitable material.

8. MOCCASIN CREEK AREA
(Bugaboo Waypoint #s149, 161-163, 204)

This area may need additional hydrological assessment to identify potential off-site impacts resulting from restoration efforts. A number of private properties exist adjacent to the forest in this area so residents should be notified of any restoration activities occurring there. New firelines that tie into Moccasin Creek and road ditches need to be plugged to

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prevent wetland drain and water pollution. **Recommend ditch plug on south end of fireline near SW curve of Moccasin Creek Circle and on north end at the creek itself; immediately remove debris from ingress of culverts on Moccasin Creek on W Moccasin Creek Circle.**

Observations:

- A secondary road the runs south off of Road 6 along the edge of a basin marsh. The road is accelerating and redirecting the drainage of the area. The area is low and the water flows west towards Moccasin Creek. This area has great potential for ecological restoration.
- The north east portion of a secondary road located on the northwest side of Moccasin Swamp needs to be removed (closing it off will not keep ATV's out) since it is underwater and it does not provide benefit for land management operations.
- The water flows southeast across the road towards Moccasin Creek.
- New fireline ties directly into Moccasin Creek from secondary road leading southwest from Moccasin Creek Circle; road being used as loading area for logging operation (**Photo #1**).



Photo 3: “Bugaboo” Line showing road trapping & channeling surface flow and berms associated with line construction.

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**FINDINGS/RECOMMENDATIONS
NORTHWESTERN QUADRANT**

Field Assessment By
Tom Gilpin

(See Attachment 2, Map 3)

9. ROAD 20/ OKEFENOKEE SWAMP FIRE BREAK AREA

(Bugaboo Waypoint #s 123-125, 128-131, 133,138)

This part of the forest tends to remain wetter than other parts of the forest, being so close to the Okefenokee. Road 20 runs east-west, following a “ridge” of high ground – mesic and wet flatwoods - and is the primary access to this area. It was constructed at grade for most of its length but has ditches on both sides and is elevated above grade in numerous places to provide drier access.

In general, surface drainage appears to flow north, except where the road ditches or firelines intercept and re-direct it (**Photo #2**). At the time of this assessment the Division Road Crew was working on Road 20 – re-shaping the road bed, replacing culverts and making improvements to the low-water crossings – in response to traffic damage incurred after the fire. Their progress, however, was slow, and has since ceased altogether because of the extremely wet conditions.

As in other parts of the forest basic road maintenance is needed: several culverts and low-water crossings need to be improved or re-worked. Also, several dips in the road need to be made low-water crossings to provide continued flow.

If the intention is to re-hydrate parts of the forest that have burned in recent fires: **Recommend major effort in relocating, elevating, and/or removing crossings on Road 20 to slow rate of surface drainage to the north. Several culverts can be replaced with elevated low-water crossings, armored with rock or other appropriate material.**

Observations:

- On the western end of Road 20 new road work has been done and early traffic is beginning to rut the roadbed. Access to road should be restricted once the salvage logging is complete until road can stabilize.
- Western end Road 20 impedes surface flow and forces flow northeast along its eastern ditch. **Recommend installing additional conveyance, either cross-drain culvert or low-water hard-surface crossing to encourage flow to west side road ditch.**
- Some old firelines tie directly into road ditches. **Recommend installing ditch plugs at these locations just outside the road ditch.**
- “Potato patch” lines perpendicular to the western end of Road 20 are cut off from the ditches by a secondary plow line. However, these lines themselves are tied to nearby drains or other firelines and are re-directing flow, in some cases accelerating drainage. **Recommend re-evaluating these lines and install ditch plugs where needed.**

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10. ROAD 6 / RAILROAD TRACK AREA

(Bugaboo Waypoint #s 140, 141)

Several old ditches installed by previous landowners to purposely drain wetlands exist on the forest. Many are deep, wide structures, but most are like the one found here, 2-3 feet deep and 6-8 feet wide. Most are covered by dense shrubby vegetation and are difficult to locate on an aerial photograph. Since this area burned in the Bugaboo Fire the spoil pile are accessible. **Recommend filling the ditch as much as possible with remnant spoil along the ditch, effectively plugging the drain to the wetland.**

Observations:

- Old drainage ditch extends from west side of Road 6 about 10 chains into a dome swamp, effectively draining it.
- Ditches adjacent to old woods road leading into an old burn area parallel to the railroad track still transport water from the bay swamp west. Ditch plugs needed.

11. "POTATO PATCH" FIRELINE AREAS

(Wetland Restoration Assessment Waypoint #s 122-126, 132-133, 139, 142)

Due to the high fire activity in the past many of the flatwoods pine plantations have firelines pulled down their rows ("potato patch"). Initially, the potato patch lines are pulled down every third or fifth row but over the years, as the practice is repeated, the lines are shifted to another, un-plowed row. Ultimately, in some areas, every row ends up being plowed. In areas where these rows tie into road ditches and/or firelines the surface drainage is accelerated, altering the hydroperiod of the site. **(Photo # 4)**

Since DOF typically does not implement the practice of "bedding" when planting state forest lands, it is anticipated that drainage from planted sites will ultimately revert more or less to a natural sheet flow pattern across the landscape in the future.

At the present time most of the "potato patching" that is altering the hydrology on JMBSF occurs adjacent to the primary roads in the northern part of the forest (Roads 6, 6A, 7, 20, and Perimeter Road); many of the plantations in which they occur are either being salvaged now or will be harvested with the next 5 years.

- In those areas being cut now and which will be machine planted: **Recommend plowing lines within the plantation area perpendicular to the row direction after planting. The length of these plow lines should not be extensive but should be between the crest of the "hill" and the road ditches, wetlands, and/or firelines. It is important not to connect these lines to a swamp or an existing line or ditch.**

- Where re-planting will be done by hand: **Recommend plowing lines within the plantation area perpendicular to the row direction before or after planting. The length of these plow lines should not be extensive but should be between the crest of the "hill" and the road ditches, wetlands, and/or firelines. It is important not to connect these lines to a swamp or an existing line or ditch.**

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-In those areas where a final harvest is not scheduled within the next 5 years: **Recommend re-pulling road ditches with an emphasis on creating a berm to stop or at least minimize the drainage from the plantation.**

12. INTERIOR ROAD AREAS

(Wetland Restoration Assessment Waypoint #s 153,194, 172, 174)

Forest road construction, more than any other forest management activity, can affect water movement on a tract of land with as little topographic relief as JMBSF has. Under normal circumstances, where natural hydrology is impeded by above grade roads, the solution is to remove all or part of the road to improve flow.

Although JMBSF doesn't have any roads that run above grade their full extent, there are a considerable number of above-grade sections of road that significantly affect the hydrology of the forest. However, on JMBSF the objective is to lengthen the hydroperiod to minimize the amount of water draining from the area, thus reducing the risk of destructive fire events. Consequently, there are very few recommendations for road closures in this plan.

Recommendations made in this Restoration Plan, if followed, should re-hydrate many areas of the forest where secondary and tertiary roads will become flooded and less desirable for traffic. The State Forest management team should be aware of any undesirable hydrological changes that interfere with management objectives by flooding important forest roads.

**FINDINGS/RECOMMENDATIONS
SOUTHERN QUADRANTS**

Field Assessment By
Lee Barnwell and Roy Lima

(See Attachment 2, Map 4)

Critical areas of impact south of Highway 2 were noted in three separate quadrants: 1) the area west of Eddy Grade to the property line encompassing Pinhook Swamp and associated forest roads; 2) the area between Eddy Grade and Baxter Grade encompassing Moccasin Swamp; and 3) the area southwest of Eddy Grade involving Roads 3, 4, 9 and 26 and encompassing Little River Bay.

1. PINHOOK SWAMP AREA, WEST OF EDDY GRADE

[Bugaboo Waypoint #s 22, 23, 78-81 (Lima); 150-152, 159-160 (Gilpin)]

Generally speaking, the existing water control structures (i.e. low water hard surface crossings, culvert crossings, and bridges) are in fair-to-good condition. However, Eddy Grade, the primary access in the southwestern part of the forest, impounds surface flow where it is above grade, and is subject to flooding where it is at- or below grade. Additional conveyance is recommended through culvert replacement or improvement.

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Eddy Grade, with open access by the public, particularly on the south end of the road, is a county road. Baker County holds a 100-ft right-of-way easement and is responsible for maintenance. ** Any reparations or maintenance work recommended for Eddy Grade in this Plan must be coordinated with the county.*

It appears that surface flow in an area along and at the end of Road 33 south of SR 2 is being accelerated by the road ditch which extends into a wetland. According to aerial photographs and industry type maps this area was historically wetter than it is now, and would flow south under Road 19 into Pinhook Swamp. Two metal culverts and a Low Water Crossing provide conveyance on Road 19. However, one of the culverts is badly damaged and essentially nonfunctional. **Recommend replacing the damaged culvert on Road 19, remove the western section of Road 33, and plug the south ditch from where Road 33 turns NW.**

Observations:

- The north-south orientation of Eddy Grade occasionally impounds the flow of water from west to east.
- Several culverts are in poor condition and should be replaced with like diameters.
- Existing road conditions are degrading near low lying areas due to timber salvage operations and truck traffic.
- Existing culverts along Eddy Grade appear to be in good condition and functioning satisfactorily. However, several waypoints were noted where flow patterns across the road dictate additional road work or perhaps Low Water Crossings should be installed. Road washouts and vehicular traffic is a concern.

2. MOCCASIN SWAMP AREA, S. OF SR 2, BETWEEN EDDY GRADE, & RD 10
(Bugaboo Waypoint #s 4, 6, 8-69)

The greatest concern for hydrological restoration occurs within this area of the forest. Moccasin Swamp occupies a very large area on both sides (north and south) of Highway 2. The general surface water flow into Moccasin Swamp is from the south and east. Problems were observed where existing above-grade roads, Road 10, in particular, serve as impediments to the natural direction of flow. Conveyance under Road 10 is inadequate, both in number of and capacity of structures. Here the team observed that while one side of the swamp was hydrated, the other remained dry. **Additional conveyance under Road 10 is recommended to equalize the hydrology on both sides of road.**

Observations:

- Road 10 from Highway 2 to the intersection of Eddy Grade is a high priority item. The general flow is from the southeast to the northwest into Moccasin Swamp. Two concrete bridges were noted and are in good shape. Two existing Low Water Crossings are functional but need additional rock or other inert material, especially along both approaches to the wetland drain. The four crossings on this road seem to be inadequate - Road 10 is an above grade fill road constructed through the southeast one-third of Moccasin Swamp and impedes flow into Moccasin Swamp.
- The flow along Road 14 is southwest to northeast into Moccasin Swamp. Four Low Water Crossings were found to be in similar condition, all requiring improvements such as additional rock in the channel and along both of the approaches.

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3. LITTLE RIVER BAY, SW OF EDDY GRADE, TO WESTERN FOREST LINE
(Bugaboo Waypoint #s 74-76, 59, 61, 64-65)

This area, though burned in the Bugaboo Fire, had much of its fuel load reduced dramatically in the Impassable Bay Fire. For the most part, this area of the forest, seems to be least impacted from a hydrological standpoint. Most of the structures encountered in this area remain intact. However, the hydrology in several areas on the western extreme of the forest is being affected by old firelines draining wetlands and/or re-directing surface flow.

Recommend plugging firelines prior to intersecting with road ditches.

Fire suppression and logging traffic has severely degraded some roads in this area, primarily Road 24, Road 4 and the lower part of Eddy Grade. Where surface drainage connects with primary water arteries during the rainy season water quality may be an issue.

Recommend re-working roads and stabilizing with armoring if continued use is anticipated; with vegetation, if not.

Observations:

- Direction of flow north of Road 3 is to the east from Pinhook Swamp toward Moccasin Swamp.
- Surface water flows south from Road 3 into Little River Bay. Existing bridges are in good shape.
- Flow continues south under Road 4 into Gum Swamp and Gum Swamp Creek. Culverts, bridges, and LW crossings are in good shape.
- There is a need for road work along a stretch on Road 24 between Road 4 and Road 25. Two wallowed/rutted spots have occurred at waypoints 064 and 065 on Road 24; perhaps due to logging truck traffic. Installation of several LW crossings is recommended.
- The extreme southwest portion of the forest west of Road 4 has flow problems. Waypoints 075 and 076 are old firelines that tie into Road 9 and should be plugged.
- Waypoint 077 is a ditch and should be plugged. This should help retain water within existing isolated wetlands north and south of Road 9.
- Established LW crossings are functioning satisfactorily. However, several were observed that need improving. **Improvements such as adding rock (slag, tile, etc.) along both sides of the approaches in addition to the channel itself.**

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Photo 4: “Potato Patch” Fireline Re-Directing surface flow into Road 6 Ditch

SUMMARY

(See Attachment 2, Map 5)

Any comprehensive effort to restore the hydrology on John M. Bethea State Forest should take into consideration the Division’s land management objectives and any long-term off-site impacts since there are private properties adjacent to the forest.

Road and structure maintenance on the primary roads on JMBSF is imperative for continued land management activities. Salvage logging operations, although slowed by recent rains, may continue for the next month, so road maintenance should be a priority for the forest management team, including reinforcing low-water crossings, repairing or replacing culverts, and reshaping road beds. As soon as practical after salvage operations cease road beds and shoulders should be stabilized in an appropriate and expedient manner.

Also, as soon as possible, the Bugaboo Pushed Firelines should be rehabbed and reworked to restore sheet flow across those lanes. Roadways that are trapping, channeling, and re-directing surface drainage should be reworked by disk or blade before erosion and sediment discharge into waterbodies and wetlands occurs.

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New firelines that tie into road ditches, pushed lines, waterbodies, or wetlands should be blocked with soil plugs just above the discharge point, outside of any SMZ or wetland edge.

Older firelines and drainage ditches should be plugged to prevent accelerated flow out of the system or wetland drain.

“Potato patch” firelines can be dealt with at the time of final timber harvest. “Cut-off” lines should be pulled perpendicular to the direction of the beds, between the break of the “hill” and the discharge point, being careful not to tie these lines into other channels such as old firelines, wetlands or road ditches. In those cases where the “potato patch” lines must be dealt with before final harvest, it may be practical to re-pull the road ditches, provided that enough soil is available to create sufficient berms to plug the ends of the lines.

Many of the existing culverts and low-water crossings on the primary roads, particularly Roads 6, 20, Perimeter, and Eddy Grade Roads, should be elevated to slow the flow of surface water exiting the forest. Sections of the Eddy Grade Road need to be reinforced with fill and armoring material, especially in the Little River Bay area. Any work on the Eddy Grade Road will require the cooperation of Baker County since it is a county-maintained roadway.

Finally, any expanded fireline that is left intact as a fire “safety lane” should be maintained in such a way that surface flow during the wet seasons is maintained as naturally as possible.

ACTION ITEMS

(By Priority Area)

(See Attachment 3)

1. Moccasin Creek Area (NE)

1a. - West Moccasin Creek Circle (Wypt. #211-213): *Immediately* remove debris from ingress end of double culverts on Moccasin Creek.

1b. - Near SW curve of Moccasin Creek Circle (Wypt. #147-148): Install ditch plugs on both ends of fireline - south end near secondary road and north end at Moccasin Creek.

2. St. Mary’s River/Bugaboo Pushed Fire Break Area (NE)

2a. - Bugaboo Pushed Fireline: Recommend elongated ditch plugs or high water bars where surface flow is being re-directed into the St. Mary’s River floodplain; rehab pushed fireline by either pulling berm back into open area or breaking wide “holes” in berm and maintain open as a fire “safety lane” in which only grasses or low groundcover vegetation is encouraged. ** This should be done as soon as possible, before the site is overgrown with mid-story vegetation*

2b. - St. Mary’s River channel (Wypt # 154): Continue monitoring for degradation

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.2c. - Some old firelines tie directly or indirectly into the Pushed Line from the north. Recommend ditch plugs where surface flow is being re-directed and channeled into the St. Mary's River or its flood plain.

3. Bugaboo Pushed Fire Break/Road 21/Moccasin Swamp Area (NE)

3a. - Recommend immediate rehab effort by either pulling berm back into open area or breaking wide "holes" in berm and maintain open as a fire "safety lane" in which only grasses or low groundcover vegetation is encouraged. ** This should be done as soon as possible, before the site is overgrown with mid-story vegetation.*

3b. - Section of the road within Pushed Fireline (Wypt. #143-145, **Photo #3**): Disk raised road shoulders (berms) to facilitate flow across the travel lane and to prevent channelization of surface flow.

3c. - Armor problematic sections of road with rock, tile, or other suitable material.

4. Moccasin Swamp Area (SW)

4a. - Additional conveyance under Road 10 is recommended to equalize the hydrology on both sides of road.

4b. - Road 14: Four Low Water Crossings were found to be in similar condition, all requiring improvements such as additional rock in the channel and along both of the approaches.

5. Road 20/ Okefenokee Swamp Fire Break Area (NW)

5a. - Western end of Road 20 (Wypt. # 126): Restrict access to road once salvage logging is complete and stabilize road with vegetation.

5b. - Western end of Road 20: Install additional conveyance, either cross-drain culvert or low-water hard-surface crossing to encourage flow to west side road ditch.

5c. - Road 20: Replace damaged culverts in flatwoods with elevated low-water crossings, armored with rock or other appropriate material.

5d. - Road 20: Implement comprehensive, consistent effort in relocating, elevating, and/or removing crossings to slow rate of surface drainage to the north.

5e. - (Wypt. #123 -125): Install ditch plugs at ends of old firelines prior to connecting with road ditches.

6. Perimeter Road/ "Cut Through" Road/Road 6 Area (NE)

6a. - "Cut Thru" Road: Remove road or redirect surface flow to Lake Holes Branch by replacing the culvert on Perimeter Road and installing an elevated low-water crossing. Another low-water crossing in close proximity to this location that one should be elevated as well.

6b. - Install an elevated low water crossing on "Cut Thru" Road to encourage the water to flow south during the wet season. Caution needs to be taken as water can be redirected onto adjacent landowners.

6c. - Install ditch plugs in shallow firelines (industry) where they tie into nearby road ditches, especially where wetlands are impacted.

6d. - West side of Perimeter Road loop: restore natural basin marsh plant community site through passive management.

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7. “Potato Patch” Firelines (NE/NW)

7a. - For salvaged/harvested areas with existing “potato patch” lines: Plow shallow lines within the plantation area perpendicular to the row direction before or after planting, depending on method used.

7b. - In those areas where a final harvest is not scheduled within the next 5 years: Re-pull road ditches with an emphasis on creating a berm to stop or at least minimize the drainage from the plantation.

8. Pinhook Swamp Area (SW)

8a. - Recommend replacing the damaged culvert on Road 19, remove Road 33, and plug the ditch associated with Road 33.

8c. - Eddy Grade, the primary access in the southwestern part of the forest, impounds surface flow where it is above grade, and is subject to flooding where it is at- or below grade. Additional conveyance is recommended

8b. - Existing road conditions are degrading near low lying areas due to timber salvage operations and truck traffic.

9. Little River Bay Area (SW)

9a. -Roads 4 and 24; lower part of Eddy Grade: Where surface drainage connects with primary water arteries during the rainy season water quality may be an issue. Recommend re-working roads and stabilizing with armoring if continued use is anticipated; with vegetation, if not.

9b. -The hydrology in several areas on the western extreme of the forest is being affected by old firelines draining wetlands and/or re-directing surface flow. Recommend plugging firelines prior to intersecting with road ditches.

9d. - Road 9 (Wypts. 075, 076) are old firelines that tie into and should be plugged.

9c. - Road 9 (Wypt. 077) is a ditch and should be plugged.

10. Road 6/ Railroad Track Area (NW)

10a. - Road 6 (Wypt. #140): Fill field ditch as much as possible with remnant spoil along the ditch.

11. Okefenokee Swamp Fire Break/Perimeter Road Area (NE)

11a. - Recommend installing ditch plugs at all points where the swamp break intersects with roads, firelines and “potato patch” lines leading onto the State Forest.

11a. - Secondary road north of the intersection of Road 6 and Perimeter Road: Recommend replacing the culvert with the same size.

12. Interior Road Areas (Forest-wide)

No Recommendations

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Introduction

The spring 2007 Bugaboo Fire burned over approximately 28,000 acres of the 37,000 acre John M. Bethea State Forest. As a result, approximately 6,500 acres of productive pines were severely damaged. This included some pine stands that had recently been initially thinned. In the aftermath, the Bugaboo Fire resulted in a significant loss to the timber resource on the State Forest.

This silviculture plan is an effort to lay out recommendations for thinning, site preparation and tree planting on the State Forest. The other components of the JMBSF Restoration Plan, which includes Hydrological Restoration, Wetland/Upland Ecosystem Restoration and Fire Management, will all be considered when determining the silvicultural recommendations. These will influence the manner in which pine stands are site prepared and planted as well as site suitability and species selection. Some former planted pine stands and/or portions of these stands are expected to be no longer suitable for pine production, once the natural hydrology is restored and assessments of Desired Future Conditions (DFC) in the aftermath of the fire are taken into account. However, as it cannot yet be accurately determined which pine stands will be affected, this plan component will provide recommendations for replanting all of the former pine stands to the same or the more appropriate pine species.

The goal of this silviculture plan is to reforest those areas formerly in pine production that were adversely affected by the recent wildfire, to thin overly dense pine plantations, and to establish a "Firewise" State Forest that will better withstand the next wildfire event. The recommendations in this section established a timeline of four years to accomplish these goals. Budget constraints, seedling availability and other factors make it impractical to accomplish this goal in any less time and may result in a need to extend this timeline. The feasibility of plan implementation within the proposed timeline will depend on several factors. These include adequate funding, tree seedling availability, favorable weather conditions and contractor availability to name a few. Any shortfalls in the above may alter the proposed schedule and lengthen the timber resource recovery period.

Furthermore, in an attempt to better promote the native ground cover in some areas, it may later be determined that it is more advantageous to use prescribed fire on a 2 to 3 year rotation for 5 to 6 years prior to planting of pines. Certainly, prescribed fire will be used as a preferred method of site preparation whenever feasible and in combination with other mechanical and/or chemical treatments.

The silviculture section of this plan should be considered a living document. There are some unknowns that once learned could change some of the recommendations outlined in this plan. As formerly mentioned, once some of the restoration measures are undertaken to restore the natural hydrology, a mean annual hydroperiod increase is anticipated in some areas. As such, affected pine stands will need to be evaluated to determine tree species suitability and perhaps a reassessment of DFC undertaken. In some instances, cypress or other tree species may be planted instead of pines or areas

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may be excluded from tree planting in an effort to restore natural community types. For this reason, the recommendations outlined in this plan, particularly those 3 and 4 years out, need to be flexible and this reforestation component used as a guideline for restoring the timber resource on the former pine stands only. There may be additional opportunities to expand this plan in time to include the restoration of basin swamps, basin marshes and other wetland habitats that have been altered by past silvicultural activities, fire exclusion and other factors. However, it will take additional information derived from historical maps and photos, field observations, photo points, research study, and other methods to make an appropriate assessment on these areas prior to implementing any on the ground practices.

The ground cover in many areas has not recovered from the intensive site preparation used to establish the plantations, the various wildfire events and the salvage harvest operations that ensued after the wildfires. It should be noted that irrespective of the acreage prescribed burned in the last few years, most of the property now associated with the John M. Bethea State Forest, formerly with Rayonier Incorporated SE Forest Resources, has sustained more than one and in many areas three or more fires over the last two decades as a result of recurring wildfires. These fires include the Shorts, Blackjack, Friendly, Impassible Bay, Road 1 and Bugaboo. All these were large fires that resulted in significant timber resource losses to the area. As such, the existing groundcover and associated plant composition that exists, whether from the respective seedbank or residual plant rootstocks, is to some extent attributable to these fires, most of which occurred during the spring or summer season.

The Site Preparation and Planting plans below outline specific recommendations for site preparing and establishing pines on the areas that were formerly in pine production but severely damaged by the Bugaboo Fire. The associated maps, recommended species and site prep treatments are found in this section.

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Thinning and Harvest Plan

Since acquisition of the John M. Bethea State Forest (JMBSF), planned harvesting has been limited. Since 2004, approximately 1,160 acres have been harvested, not counting salvage sales from the significant wildfires that have plagued the area. With the current pine forest types that are present in the area, predominantly densely stocked, fiber producing type stands, many acres are in need of thinning.

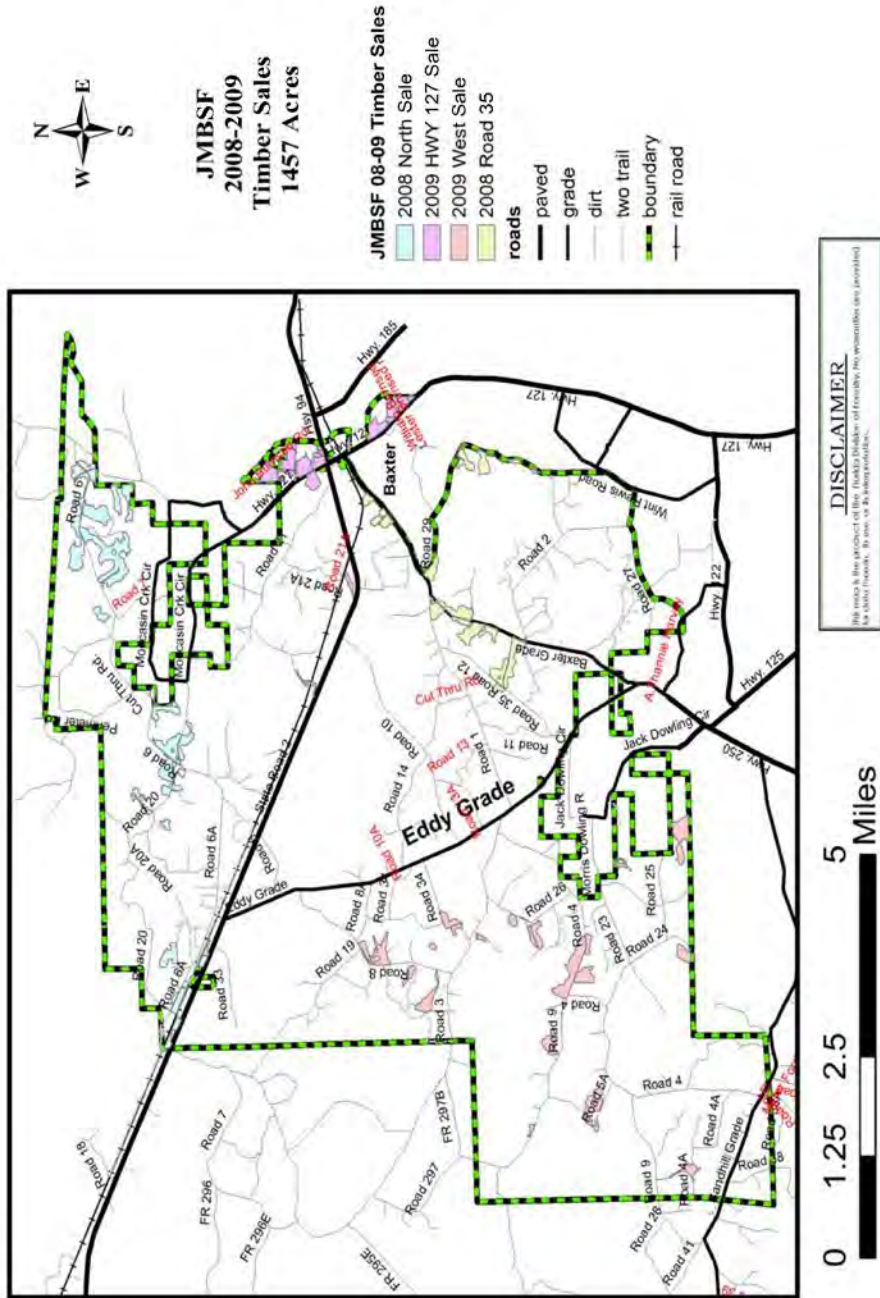
As has been seen after the numerous wildfires in the past, well managed open stands are more fire resistant than the densely stocked, short rotation type stands that are currently present. By thinning these densely stocked timber stands, the health of the forest will be improved and hazardous fuels will be reduced, both on the forest floor and in the canopy. Also, after initial thinnings, prescribed fire can be reintroduced with less chance of mortality in the remaining stand. Fire without thinning in densely stocked stands has very little ecological benefit and is mainly done as a hazard reduction treatment. Fire after thinning is a much safer, more cost effective practice with more ecological benefits.

Following the Bugaboo Wildfire, JMBSF personnel developed a harvest plan that entailed conducting an initial thinning on all the remaining merchantable pine stands prior to FY 2008-2009's end. This plan is on schedule with two outstanding timber sales that need to be advertised and sold to effectively meet this goal (see attached map). It is crucial that future, first thins be done in a timely manner to maintain the health and productivity of stands while allowing beneficial prescribed burning and restoration to begin.

Selection thinning methods were primarily used in older age class stands. These methods employed marking by DOF staff as well as logger-select. Logger select thinnings resulted in minimal additional cost, required slightly more time to administer, but provided better and more uniform residual tree spacing for the purpose of wildfire protection, provided more sunlight to the forest floor, better facilitated prescribed burning, and promoted other ecological benefits. Future selection efforts will require adequate monitoring and will be coordinated with the State Lands Section of the Forest Management Bureau.

Future thinnings, especially in younger age class pine stands, should emphasize third row thinnings, if time constraints are a concern. This method will allow a larger number of acres to be addressed as compared to selective thinnings, because it requires less manpower and supervision. Row thinning will also insure that enough of a stand will remain to ensure adequate volume for future thinnings.

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**Site Prep and Planting
2007-2008**

The reforestation effort for the 2007-08 FY was concentrated on those stands that were planted during the 2005, 2006 and 2007 winters, <1 to 3 years of age, and/or that were treated with herbicide in the 2006 spring, and that were burned over during Bugaboo in the 2007 spring. Prior to this most recent wildfire event, most of these stands were formerly site prepared at some time by band spraying of herbicide in strips over the tops of the existing beds.

As these stands were burned over in the 2007 spring, the existing ground cover is the result of the later half of a single growing season. Evidence of the formerly herbicided strips is in the form of a somewhat altered composition, reduced density and less height growth of the woody and herbaceous plants within the strips. This is particularly noticeable in those stands that were treated in the 2006 fall. As such, no additional site preparation treatments are recommended for the majority of this acreage. The exception is those stands, approximately 262 acres in total, that are within ½ mile north of SR 2, and in which the residual beds are oriented in a north to south direction. To facilitate fire suppression efforts in the future, these rows are to be reoriented in an east to west direction, parallel to SR 2. As such, the recommendation for these stands is to disk harrow strips in the fall on 12 foot centers perpendicular to the existing beds and residual stump rows in an east to west orientation. This practice will serve to help knock down the residual beds, break up the dense gallberry root mat and facilitate the machine planting of pines at a right angle to the former planting rows.

The following summarizes the accomplishments for the 2007-2008 FY reforestation season. Approximately 267 acres were planted with longleaf pines in September of 2007. Normal winter (dormant season) planting occurred on approximately 1,592 acres from December 2007 through February of 2008. Of the total 1,873 acres reforested, 1,660 acres were planted with longleaf pine and 213 acres were planted with slash pine. Stocking densities ranged from 605 trees per acre to 726 trees per acre.

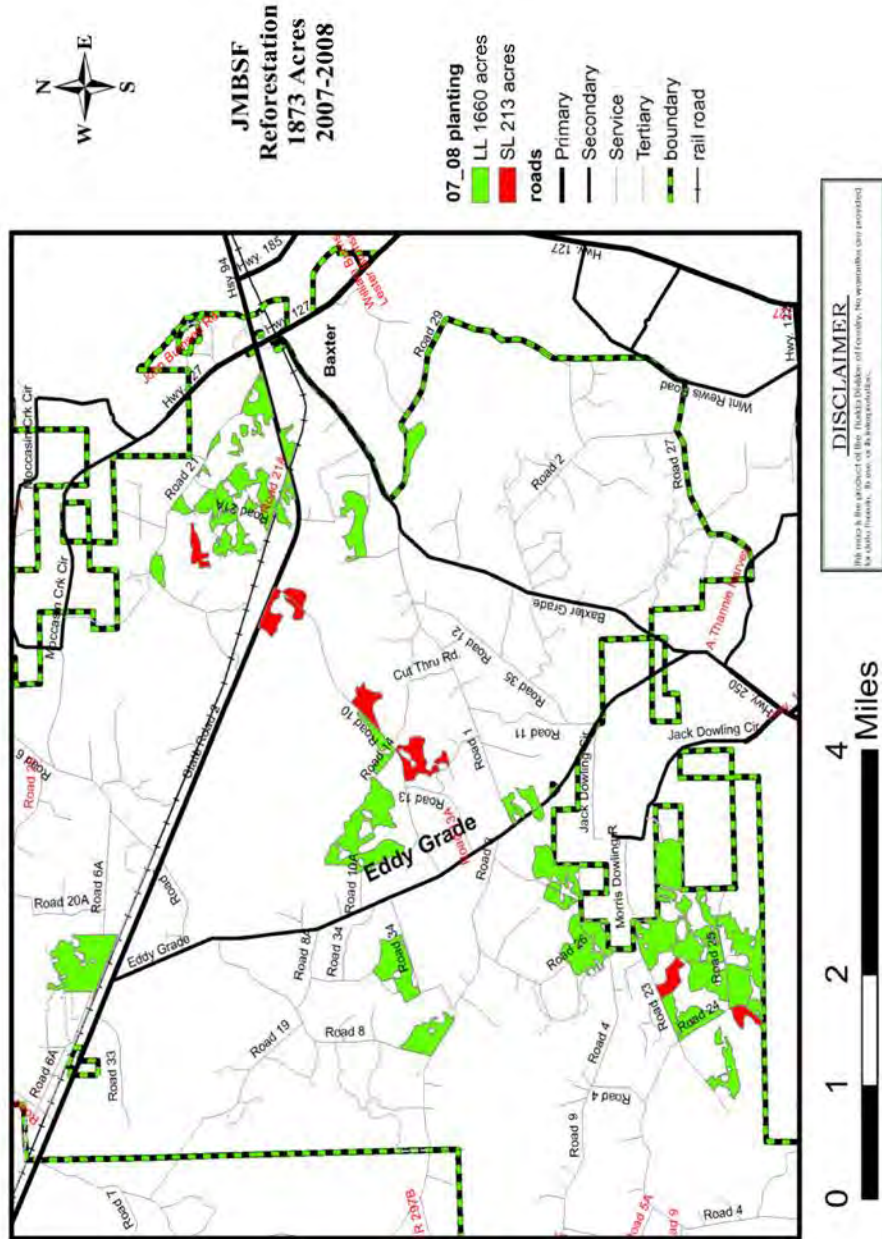
Site preparation consisted of previously herbicided strips and newly disked or harrowed strips, as mentioned above. Trees were planted in the strips and a post plant herbicide treatment of Arsenal Applicators Concentrate (Imazapyr) was made in the Spring of 2008 at the rate of 4 ounces per treated acre in five foot wide bands.

In addition to the above accomplishments, to further facilitate both future fire suppression efforts and the use of prescribed fire, 15' wide strips along portions of stand boundaries that adjoin a forest road are to be excluded from any tree planting. These strips are to be maintained by mowing and/or disking and may also function as permanent openings to benefit a variety of resident wildlife species or as sites for ground cover restoration.

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Silviculture Plan

Two years after planting, all of the longleaf stands planted in FY 2008 will be evaluated for dormant season prescribed fire suitability and if appropriate, a controlled burn will be executed when these reach 2 to 3 years of age. Subsequent prescribed fires should be conducted once the pines reach sapling stage 8+ feet with a return interval of no more than three years.

John M. Bethea State Forest Silviculture Plan



John M. Bethea State Forest
Silviculture Plan

**Site Prep and Planting
2008-2009**

The reforestation efforts for the 2008-2009 FY have focused on those slash pine stands, planted and natural, and portions of those stands that were clearcut harvested during the Bugaboo salvage operation and/or the result of other timber sales conducted for restoration purposes. A total of 1,406 out of 1,607 acres or 87 percent of these stands are to be planted back to longleaf pine. Initial site preparation entailed spot raking and piling the residual logging debris in and around the scattered loading decks. Single drum chopping was incorporated on all the sites as well.

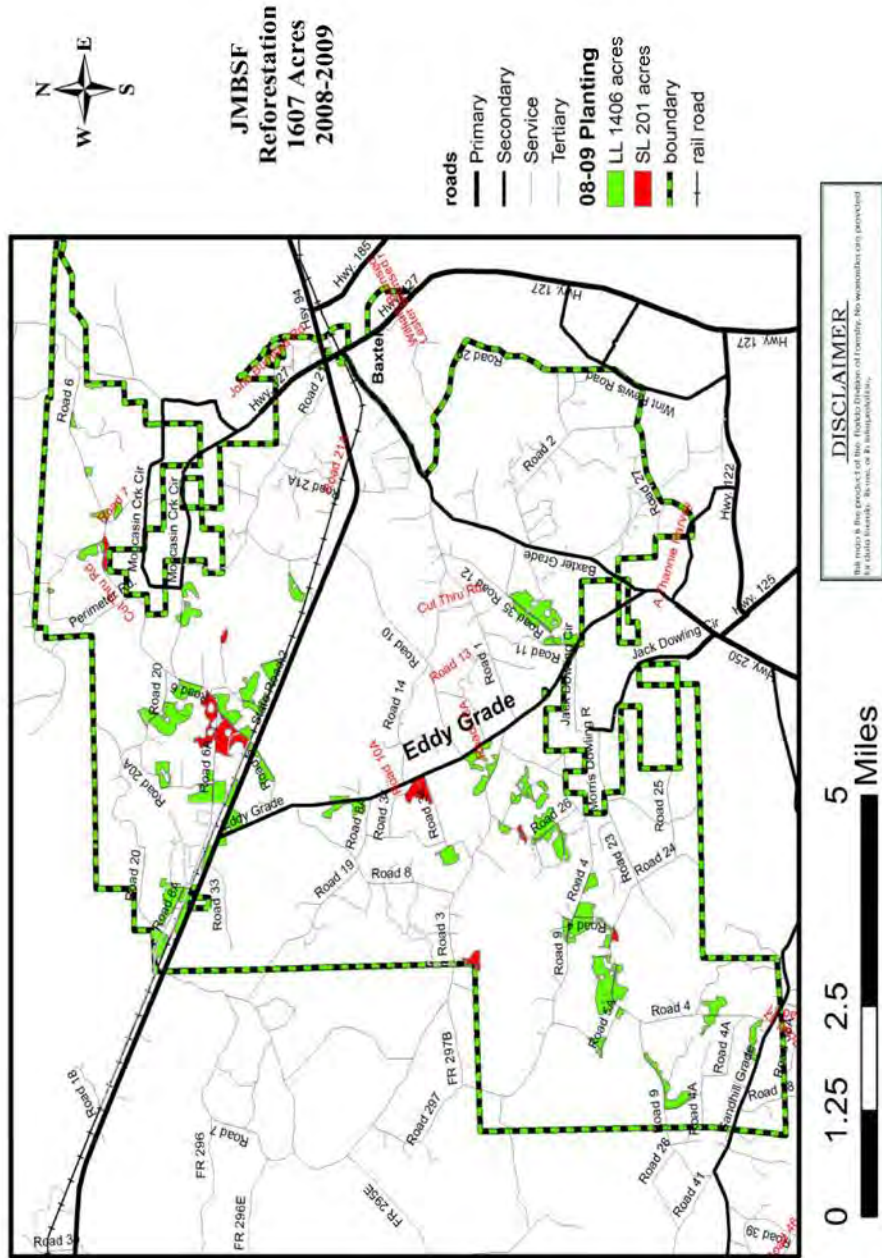
In the fall of 2008, Chopper herbicide was applied at the rate of 48 ounces per acre to control heavier areas of gallberry and other herbaceous vegetation on 784 acres. This was done as a broadcast application.

Approximately 520 acres was strip disk harrowed on twelve foot centers. These strips were double disked, two passes over the same strip, with an un-disked strip left in between.

Planting will be done by machine, either V-Blade with a crawler type tractor or rough woods with rubber tired tractors. Planting will consist of 1,406 acres of longleaf pine and 201 acres of bareroot slash pine according to the planting schedule. Bareroot stock will be planted on a 5' x 12' spacing to establish 726 seedlings per acre. Containerized longleaf will be planted on a 5'6" x 12' spacing to establish 660 seedlings per acre.

Two years after planting, evaluate all of the longleaf stands planted in FY 2008-2009 for dormant season prescribed fire suitability and if appropriate, execute a controlled burn when these reach 2 to 3 years of age. Subsequent prescribed fires should be conducted once the pines reach sapling stage, 8+ feet, with a return interval of no more than three years.

John M. Bethea State Forest Silviculture Plan



John M. Bethea State Forest
Silviculture Plan

**Site Prep and Planting
2009-2010**

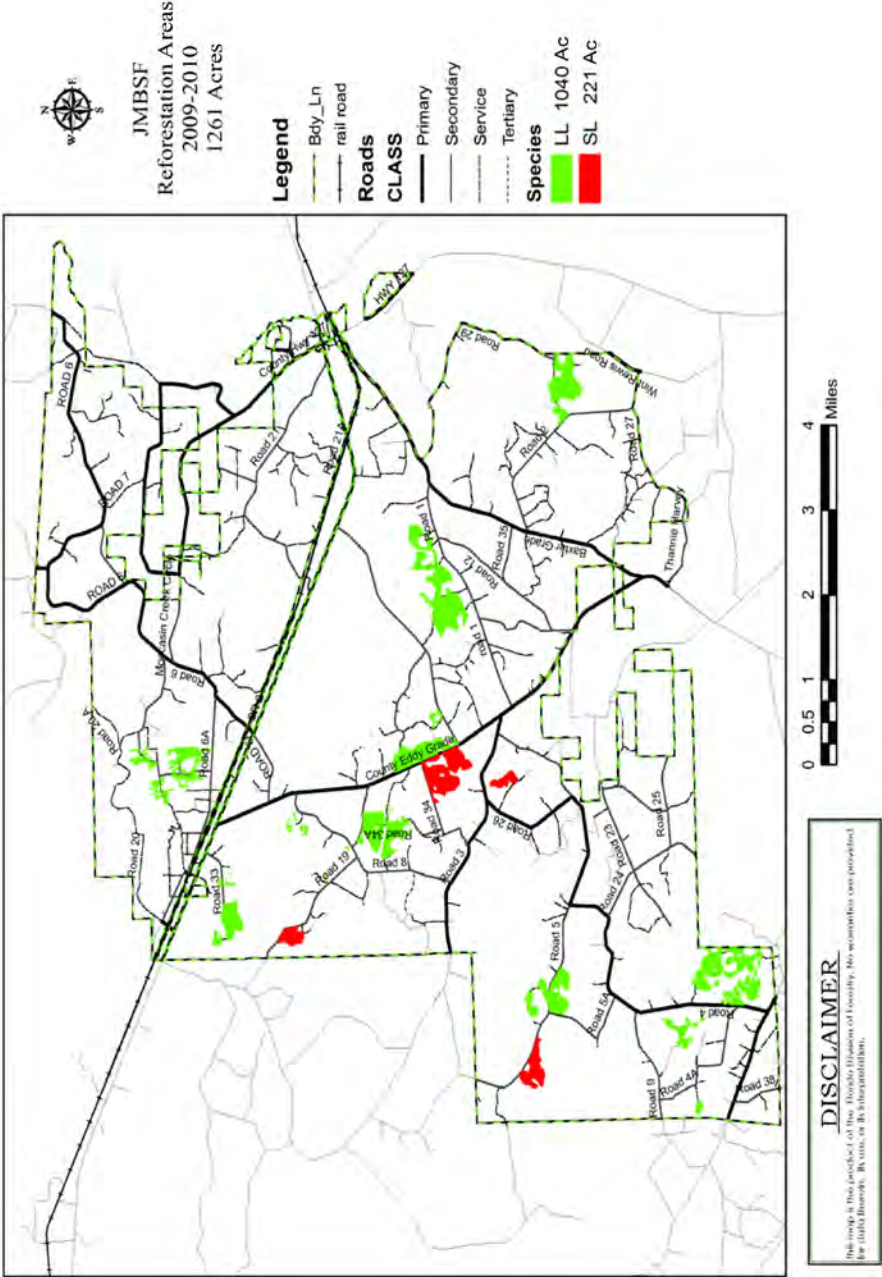
The reforestation effort for the 2009-2010 FY will concentrate on those planted slash pine stands and portions of the same, 4 to 8 years of age that were severely damaged by the wildfire. There are some slash pines scattered throughout these stands that survived but an insufficient amount to carry the stand to rotation age. Furthermore, 1,040 out of 1,261 acres or 82 percent of these sites are to be planted with longleaf pine. As such, mechanical site preparation to effectively lay down most of the residual snags and surviving trees and control the woody and herbaceous vegetation is recommended. Subsequently, a follow-up treatment with an appropriate herbicide to further control the competing vegetation will help to ensure a successful reforestation effort.

Prior to any treatments, in the 2009 spring, evaluate these stands for prescribed burning suitability. For those stands with sufficient surface fuel contiguity, prescribe burn in the late spring and/or summer. In the 2008 fall, determine which stands will require single drum chopping and follow up with this practice in the 2009 spring. In the ensuing summer, apply a tank mix of Chopper @ 48 oz. /ac. and Accord @ 32 oz. /ac. or other appropriate herbicide tank mix at an appropriate rate to control the gallberry and other herbaceous and woody vegetation.

Follow up, in the winter, with machine planting 1,040 acres of containerized and/or bareroot longleaf and 221 acres of bareroot slash pine for a total of 1,261 acres. (See map for details) All bareroot seedling stock should be planted on a 5' x 12' spacing to establish 726 seedlings per acre. Containerized longleaf could be planted on a 6' x 12' spacing to establish 605 seedlings per acre.

Two years after planting, evaluate all of the longleaf stands planted in FY 2009-2010 for dormant season prescribed fire suitability and if appropriate, execute a controlled burn when these reach 2 to 3 years of age. Subsequent prescribed fires should be conducted once the pines reach sapling stage, 8+ feet, with a return interval of no more than three years.

John M. Bethea State Forest Silviculture Plan



John M. Bethea State Forest
Silviculture Plan

**Site Prep and Planting
2010-2011**

The reforestation effort for the 2010-2011 FY will concentrate on those planted slash pine stands, and portions of these, 9 to 13 years of age that were severely damaged as a result of the wildfire. There are also some slash pines scattered throughout these stands that survived, but an insufficient amount to carry the stand to rotation age. Furthermore, 905 out of 971 acres or 93 percent of these sites are to be restored to longleaf pine. As such, mechanical site preparation to effectively lay down most of the larger residual snags and surviving trees as well as control the woody and herbaceous vegetation is recommended. Subsequently, a follow-up treatment with an appropriate herbicide to further control the competing vegetation will help to ensure a successful reforestation effort.

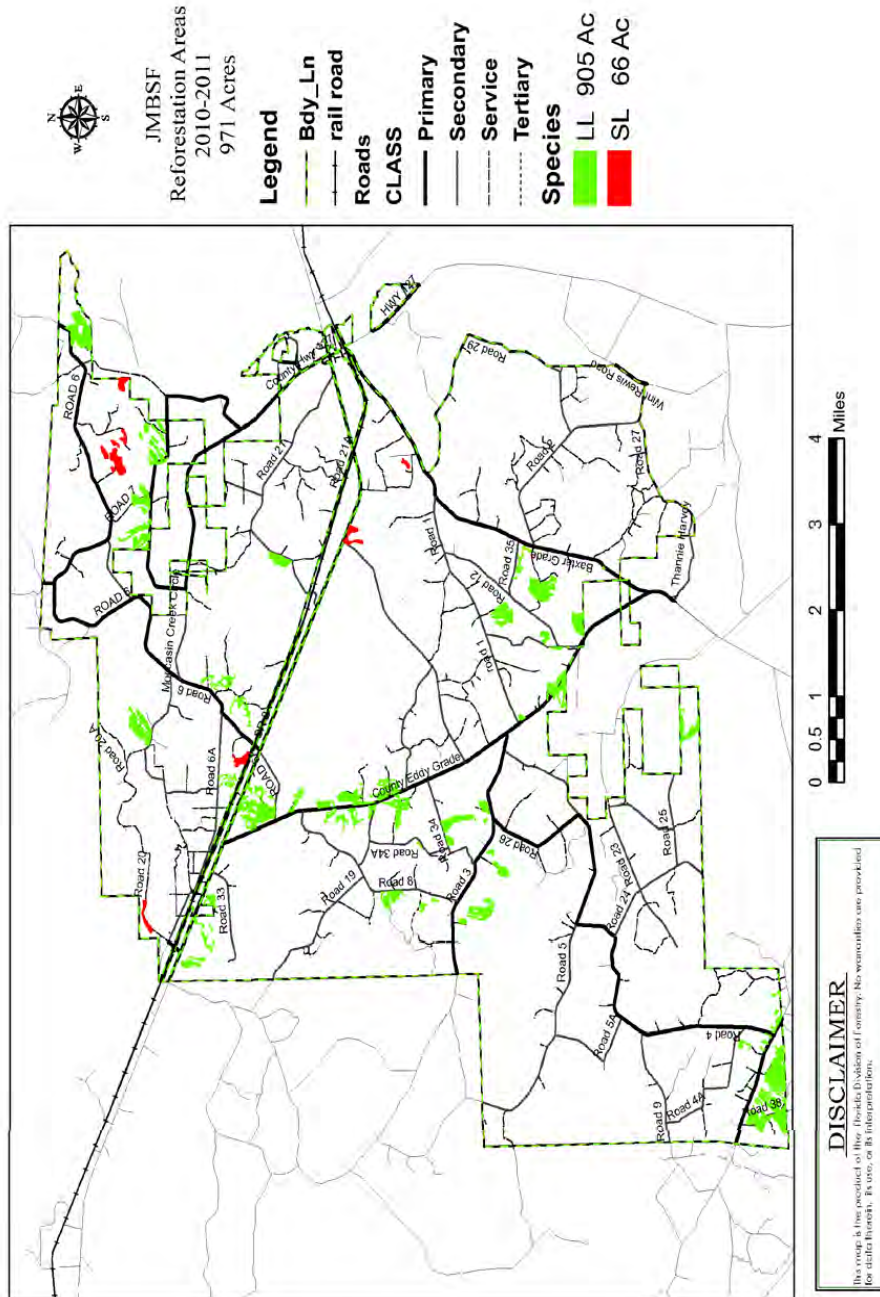
In regards to prescribed fire, for site preparation, fuels reduction and natural community restoration, evaluate these stands for burning feasibility in the 2009 spring. Evaluate the two year roughs on these stands for prescribed burning suitability. For those stands with sufficient surface fuel contiguity, prescribe burn in the late spring and/or summer. In the 2009 fall, determine which stands will necessitate a tandem drum chop. It is expected that due to the size of the residual pines, in the pre-merchantable to small pulpwood size classes, that a tandem drum chopper will be needed to prepare these sites. Tandem drum chop these stands in the 2010 spring.

In the summer, apply a tank mix of Chopper @ 48 oz. /ac. and Accord @ 32 oz. /ac. or other appropriate herbicide at an appropriate rate to control gallberry and other herbaceous vegetation.

Follow up, in the winter, with V-blade planting 905 acres of containerized and/or bareroot longleafs and 66 acres of bareroot slash pine. Bareroot stock should be planted on a 5' x 12' spacing to establish 726 seedlings per acre. Containerized longleaf should be planted on a 6' x 12' spacing to establish 605 seedlings per acre.

Two years after planting, evaluate all of the longleaf stands planted in FY 2010-2011 for dormant season prescribed fire suitability and if appropriate, execute a controlled burn when these reach 2 to 3 years of age. Subsequent prescribed fires should be conducted once the pines reach sapling stage 8+ feet with a return interval of no more than three years.

John M. Bethea State Forest Silviculture Plan



Florida Division of Forestry - John M. Bethea State Forest
Post-2007 Bugaboo Fire Hydrological Restoration Plan

ATTACHMENT 1

POST-BUGABOO HYDROLOGICAL RESTORATION JOHN M. BETHEA STATE FOREST

FIELD DATA SHEETS

Florida Division of Forestry
Post-Fire Hydrological Restoration Assessment Waypoints for
JOHN M. BETHEA STATE FOREST - July 27 - August 1, 2007

ATTACHMENT 1

Reference			Observations		Status/ Condition (2)	Remedy - (To Minimize, Redirect, or Stop Flow) (3)	Priority 1 = High 2 = Med. 3 = Low	Quadrant/Date
No.	WyPt.	Flow Dir.	Structure (1)	Size (Dia.)				
1	37	S	(Multiple) CR	18"/18"	FAC	CU	2	SW/SE
2	38	S	BX		FLD	NA	3	7/27/2007
3	39	S	CR		(Not Found)	NA	3	(Lima)
4	40	S	BX		FLD	NA	3	
5	41	S	LWX		FLD	IX	2	
6	42	S	CR	18"	D	IX (Fill)	2	
7	43	S	CR		(Not Found)	NA	3	
8	44	E	CR	24	D	RPL+CU	1	
9	45	?	BX		FLD	NA	3	
10	46	S	BX		FLD	NA	3	
11	47	W	FL		FX	DP+	2	
12	48	W	BX		FLD	IX (Rock Spillover)	1	
13	49	S	BX		FLD	NA	3	
14	50	S	LWX		D	IX (Rock)	1	
15	51	S	BX		FLD	NA	3	
16	52	S	BX		FAC	NA	3	
17	53	S	BX (Bailey)		FLD	NA	3	
18	54	S	BX (Concrete)		FLD	NA	3	
19	55	S	BX (Wood)		FLD	NA	3	
20	56	S	CR		FX	RPL (Difficult)	3	
21	57	E	LWX		D	XC (Rock)	2	
22	58	E	BX (Concrete)		FLD	NA	3	
23	59	E-S	LWX		D	IX (Rock)	1	
24	60	SW	CR	24	FLD	NA	3	
25	61	E	CR	12	FLD	CU	1	
26	62	E	BX (Wood)		FAC	NA	3	
27	63	NE	BX (Concrete)		FLD	NA	3	
28	64	NE	Road		FLD	LW+	1	
29	65	?	Road		FLD	LW+ (3)	1	
30	66	N	CR	18	FLD	NA	3	
31	67	N	DCH		FLD/WTB	DP+	1	
32	68	N	CR	24	FLD	NA	3	
33	69	S	(Multiple) CR	10"/10"	FLD	NA	3	
34	70	S	CR	?	FLD	NA	3	
35	71	S	BX (Wood)		FLD	NA	3	
36	72	S	BX (Concrete)		FLD	NA	3	
37	73	N	BX (Wood)		FLD	NA	3	
38	74	S	FL		FLD	DP+	1	
39	75	S	FL		FLD	DP+	1	
40	76	S	DCH		FLD/WTB	DP+	1	
41	77	N	CR	18	FLD	NA	3	

PLEASE SEE PAGE 6 FOR CODE INDEX

Florida Division of Forestry
Post-Fire Hydrological Restoration Assessment Waypoints for
JOHN M. BETHEA STATE FOREST - July 27 - August 1, 2007

ATTACHMENT 1

Reference			Observations		Status/ Condition (2)	Remedy - (To Minimize, Redirect, or Stop Flow) (3)	Priority 1 = High 2 = Med. 3 = Low	Quadrant/Date
No.	WyPt.	Flow Dir.	Structure (1)	Size (Dia.)				
42	78	E	LWX		FLD	IX (Rock)	1	
43	79	S	LWX		FLD	IX (Rock)	1	
44	80	E	CR	10	D	RPL/LW+	1	
45	81	E	DCH		FLD/WTB	DP+	1	
46	82	E	CR	?	(Not Found)	C+?	3	
47	83	SE	CR	18	FX	IX	1	
48	84	SE	LWX		FLD	NA	3	
49	85	SE	CR	18	FLD	NA	3	
50	86	SE	CR	18	FLD	NA	3	
51	87	NW	CR	18	D	NA	3	
52	88	NW	CR	24	FLD	NA	3	SW/SE
53	4	NW	LWX		D	IX (Rock)	1	7/30/2007
54	5	NW	BX (Concrete)		WTB	NA	3	(Lima)
55	6	NW	AGR	24	WR/FX	C+	1	
56	7	NW	BX (Concrete)		WTB	NA	3	
57	8	NW	AGR		WR/FX	LW+	1	
58	9	NW	AGR		WR/FX	LW+	1	
59	10	NW	OFL		FLD	PL+	1	
60	11	NW	AGR		WR/FX	LW+	1	
61	12	NE	AGR		WR/FX	LW+	1	
62	13	NE	OFL		FLD	PL+	1	
63	14	N	LWX		WR	IX (Rock)	1	
64	15	NE	BGR		WR	LW+	1	
65	16	NE	LWX		FLD	IX (Rock)	1	
66	17	NE	LWX		FAC	IX (Rock)	1	
67	18	NE	LWX		FLD	IX (Rock)	1	
68	19	NE	LWX		FLD	IX (Rock)	1	
69	20	N	CR		FAC	CU	1	
70	21	SE	AGR		FX	C+	2	
71	22	NE	AGR		FX	CU	1	
72	23	W	AGR		FLD	C+	1	
73	24	E	CR	24	FAC	NA	3	
74	25	S	CR	18	FX	IX (Clean)	1	
75	26	E	CR	24	FAC	CU	2	
76	27	NE	CR	18	FX	RPL	1	
77	28	S	AGR		FLD	C+	1	
78	29	?	BGR		FLD	LW+	1	
79	30	E	LWX		D	NA	3	
80	31	NE	CR	24	FLD	NA	3	
81	32	NE	BGR		WTB	LW+	2	
82	33	NE	AGR	24	FLD	NA	3	
83	34	N	BGR/LWX		D	NA	3	

PLEASE SEE PAGE 6 FOR CODE INDEX

Florida Division of Forestry
Post-Fire Hydrological Restoration Assessment Waypoints for
JOHN M. BETHEA STATE FOREST - July 27 - August 1, 2007
ATTACHMENT 1

Reference			Observations		Status/ Condition (2)	Remedy - (To Minimize, Redirect, or Stop Flow) (3)	Priority 1 = High 2 = Med. 3 = Low	Quadrant/Date
No.	WyPt.	Flow Dir.	Structure (1)	Size (Dia.)				
84	35	E	CR	36	DM/ (Crushed)/FX	IX	1	
85	36	SE	BX (Concrete)		WTD	NA	3	
86	37	x	CR		(Removed)	NA	3	SW/SE
87	38	E	CR	36	D	IX (Shoulders)	1	7/31/2007
88	39	E	CR	?	(Not Found)	RPL	2	(Lima)
89	40	E	LWX		D	IX (Rock)	3	
90	41	E	CR (Concrete)	24	DM/ (Crushed)	RPL	1	
91	42	E	BX (Wood)		D	IX (Approaches)	2	
92	43	E	AGR		D/FX	LW+	2	
93	44	E	BX (Wood)		D	NA	3	
94	45		CR	?	(Not Found)	?		
95	46	NE	LWX		D	IX (Rock)	2	
96	47	SE	CR (Concrete)	24	D/(Buried)	RPL	1	
97	48		CR (Concrete)	24	D	IX (Clean)	2	
98	49	SW	CR (Concrete)	36	D	IX (Clean)	2	
99	50	SW	(2) CR (Metal & Concrete)	48/36	WTD	NA	3	
100	51	SW	CR (Concrete)	24	WTD	IX (Clean)	2	
101	54	S	CR (Metal)	24	D	RPL	2	
102	55		BX (Concrete)		WTD	NA	3	
103	56	S	CR	?	DM (Buried)/WTD	LW+	1	
104	57	SE	CR	36	WTD/WR	IX (Clean & Rock)	1	
105	149		LWX/PTCH		WTD	CU/DP+	1	NE
106	150		PL		FZ	DP+	2	7/27/2007
107	152	S	PL		FZ	DP+	2	(Marshall)
108	153	S	BGR		FZ	DP+/XR	3	
109	154		PL		FZ	WB+	1	
110	155		PTCH		FZ	PL+	3	
111	156		LWX/RD		FZ	CU	2	
112	157		PL		FZ	DP+	2	
113	158		BX/RD		FZ	WTO	3	
114	159		PTCH/RD		FZ	XR	3	
115	160		PTCH/FL		FZ/WTD	PL+	3	
116	161		BGR/RD		FZ	?	3	
117	162		AGR		FZ	DP+	3	
118	163		FL		FZ	DP+	3	
119	164		FL		FZ/WTD	DP+	1	
120	165		PTCH		?	?	3	
121	166		PL		FZ	DP+	3	
122	167		BX		ERN	WTO+	2	
123	168		PL/CR		FZ/WTD	DP+/LW+	1	
124	169		PTCH		FZ	?	?	
125	170		PL		FZ	DP+	1	

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Florida Division of Forestry
Post-Fire Hydrological Restoration Assessment Waypoints for
JOHN M. BETHEA STATE FOREST - July 27 - August 1, 2007

ATTACHMENT 1

Reference			Observations		Status/ Condition (2)	Remedy - (To Minimize, Redirect, or Stop Flow) (3)	Priority 1 = High 2 = Med. 3 = Low	Quadrant/Date
No.	WyPt.	Flow Dir.	Structure (1)	Size (Dia.)				
126	171		PL		FZ	DP+	3	
127	172		AGR		FX	C+ or XR	1	
128	173		PTCH		?	?		
129	174		BGR/PL		FZ/FX	DP+ or XR	1	
130	175		AGR		?	WTO+	2	
131	176		FL		FZ	DP+	2	
132	178	S	CR	?	FX/DM	RPL	2	
133	179	S	CR	?	FX/FZ/DM	RPL	2	
134	180	S	RD		ERN/FAC	WTO+	3	
135	181		OFL/PTCH		FZ	DP+	3	
136	182		PL/PTCH		FZ	DP+	3	
137	183							
138	184		RD		FZ	WTO+	3	NE
139	185		BX		FZ	WTO+	3	7/30/2007
140	186		PL		FZ	DP+	3	(Marshall)
141	187		OFL		WTD	DP+	1	
142	188		PL/BGR		FZ	DP+/XR	2	
143	189		OFL		FZ	DP+	2	
144	190		PL		FZ	DP+	3	
145	191		PL		FZ	DP+	2	
146	192		CX	?	FX	IX (Clean)	2	
147	193		BX/RD		FZ	WTO+	2	
148	194		AGR/LWX		FX/FZ	XR	2	
149	195		AGR/CR		FX	LW+	1	
150	196	S	AGR		FX	C+ or LW+	1	
151	197		AGR		FX	C+ or LW+	1	
152	198		LWX		FX	IX	2	
153	199		CX		FX/DM?	RPL	2	
154	200		PL		FZ	DP+	2	
155	201		PL		FZ	DP+	2	
156	202		BX		ERN/FX	WTO+	1	
157	203		NFL		FZ	DP+	2	
158	204		ABGR		FLD	WTO+	3	
159	205		ABGR		WR	LW+	3	
160	206		ABGR		FX	LW+	3	
161	207		RD		FX/LOG	RD = Remove Debris	3	
162	208		PL		FZ	DP+	3	NE
163	209		BGR		FZ	XR/DP+?	3	7/31/2007
164	210		BX		ERN	WTO+	3	(Marshall)
165	211		OFL		FZ	DP+	2	
166	212		CX		FX	RPL	2	
167	213		PL		FZ	DP+	2	

PLEASE SEE PAGE 6 FOR CODE INDEX

Florida Division of Forestry
Post-Fire Hydrological Restoration Assessment Waypoints for
JOHN M. BETHEA STATE FOREST - July 27 - August 1, 2007
ATTACHMENT 1

Reference			Observations		Status/ Condition (2)	Remedy - (To Minimize, Redirect, or Stop Flow) (3)	Priority 1 = High 2 = Med. 3 = Low	Quadrant/Date
No.	WyPt.	Flow Dir.	Structure (1)	Size (Dia.)				
168	214		DCH		FZ/WTD	DP+	1	
169	215		OFL		FZ	DP+	3	
170	216		DCH		WTD	DP+	1	
171	217		LWX		WTD	DP+ or CU	1	
172	218		CR	18"	WTD	CU	1	
173	219		OFL		FZ	DP+	3	
174	220		CX		WTD	CU	1	
175	221		OFL		WTD	DP+	1	
176	222		CX		WTD	CU	1	
177	223		LWX/PL		FZ/WTD	IX/DP+	1	
178	224		PL		FZ/WTD	DP+	1	
179	225		CR		FZ	LW+	3	
180	226		LWX		WTD	XC	1	
181	120		CR (DOT)	12"	D	NA	3	NW
182	121	W	OFL/RD		D	NA	3	7/27/2007
183	122	N	RD (Road 20)		FX/FZ	C+	2	(Gilpin)
184	123		NFL/RD		WTD	DP+	1	
185	124	N	OFL/RD		FZ	DP+	1	
186	125	N	CX	24"	D/FX	RPL or XC	1	
187	126	N	AGR		WR	ERD/IX	2	
188	127	NE	HWX/RD		ERN	IX	3	
189	128	E	BGR/RD		FAC/WTD/FZ	DP+	1	
190	129		OFL/RD		FZ	DP+	1	
191	130	S	NFL/RD/CX/PG	24"	FAC/FX/FZ/DM	RPL or CU	1	NW
192	131	NW	CX/DCH		FX/FZ	RPL	1	7/30/2007
193	132	E	CX/BGR	18"	D	NA	3	(Gilpin)
194	133	N	CX/DCH or OFL	24"	DM/WTD	XC or CU	1	
195	134		PTCH/RD		FZ	PL+	2	
196	135	E	LWX		FLD	NA	3	
197		E-S-E	CX/DCH	24"?	DM/FAC/WTD?	XC or CU	2	
198	136		PTCH/RD		D	NA	3	
199	137	NE	CX	?	FX	IX	2	
200	138	NW	(Multiple) CX	Var.	FX	IX	1	
201	139	S	LWX		ERN	IX	3	
202	140	S	DCH/RD		FZ/WTD	DP+	1	
203	141	S	BGR/RD		FZ	XR	2	NW
204	142		PL (Cutthru from Rd 21)		D/FX?	NA	3	7/31/2007
205	143		PL/ULWX		FX/FZ/WR	RB/IX/SL	1	(Gilpin)
206	144		PL/ULWX		FZ/WR	IX/SL	1	
207	145		PL/BGR		FLD/FZ	RB/SL	1	
208	146		BX (Moccasin Crk)		OK	NA	3	
209	147		NFL/RD		FX/FZ	DP+/RB	1	

PLEASE SEE PAGE 6 FOR CODE INDEX

ATTACHMENT 1

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ATTACHMENT 2

**POST-BUGABOO HYDROLOGICAL RESTORATION MAPS
JOHN M. BETHEA STATE FOREST**

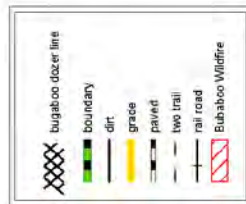
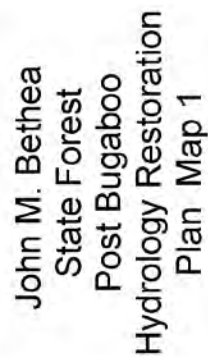
**MAP 1:
MAP SHOWING EXTENT OF “BUGABOO” FIRE DAMAGE W/IN JMBSF**

**MAP 2:
NE QUADRANT SHOWING PRIORITY ASSESSMENT POINTS**

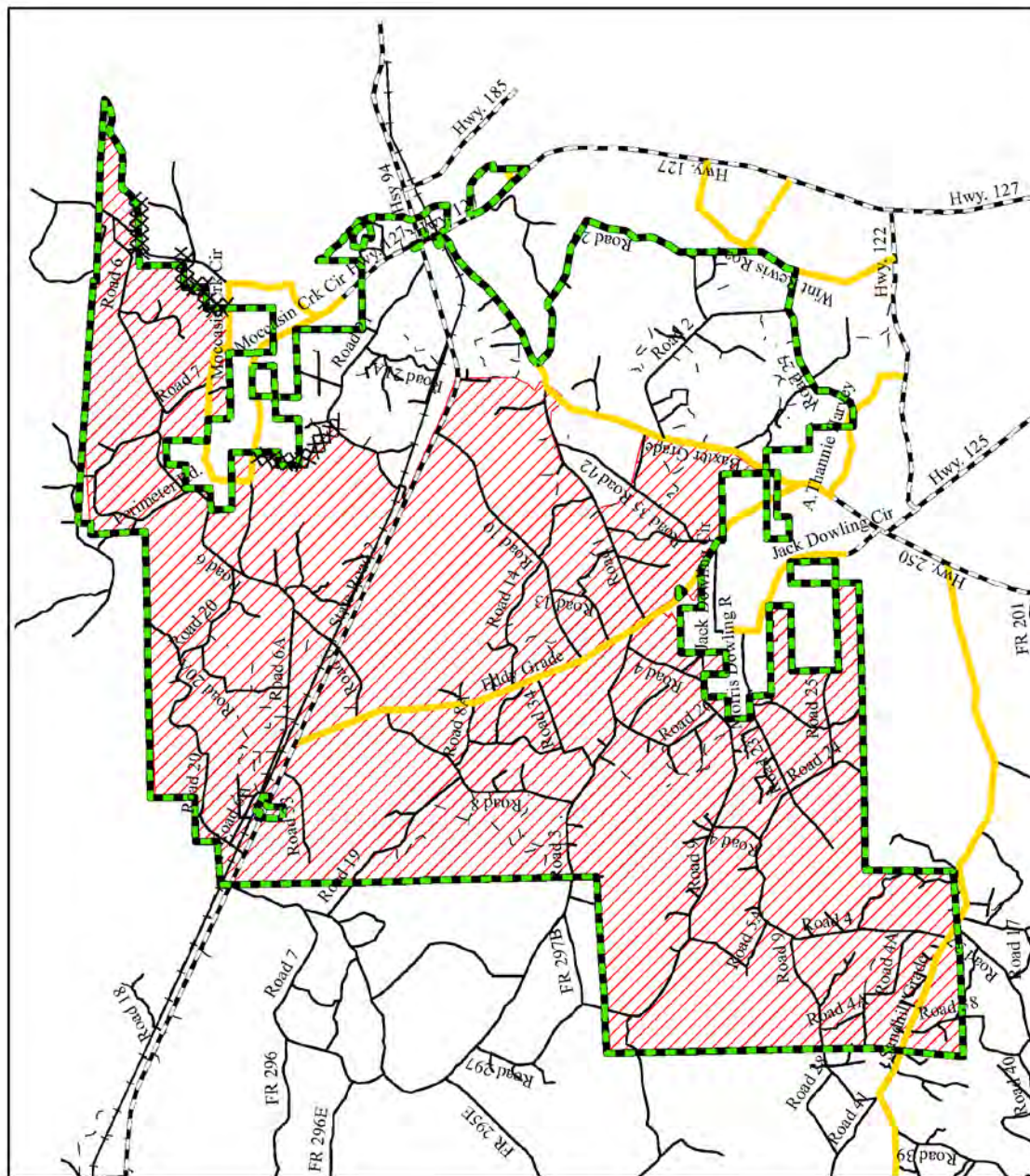
**MAP 3:
NW QUADRANT SHOWING PRIORITY ASSESSMENT POINTS**

**MAP 4:
SE & SW QUADRANTS SHOWING PRIORITY ASSESSMENT POINTS**

**MAP 5:
HYDROLOGY RESTORATION OVERVIEW MAP
SHOWING PRIORITY ASSESSMENT POINTS AND DETECTED
FLOW PATTERNS**



drawn by
Lee Bamwell
Forestry Supervisor II
8/9/07



DISCLAIMER

This map is the product of the Florida Division of Forestry. No warranties are provided for data therein, its use, or its interpretation.



John M. Bethea State Forest Post Bugaboo Hydrology Restoration Plan Map 2

JMBSF post Bugaboo Hydrology Restoration Points

bugaboo dozer line

boundary

dirt

grace

paved

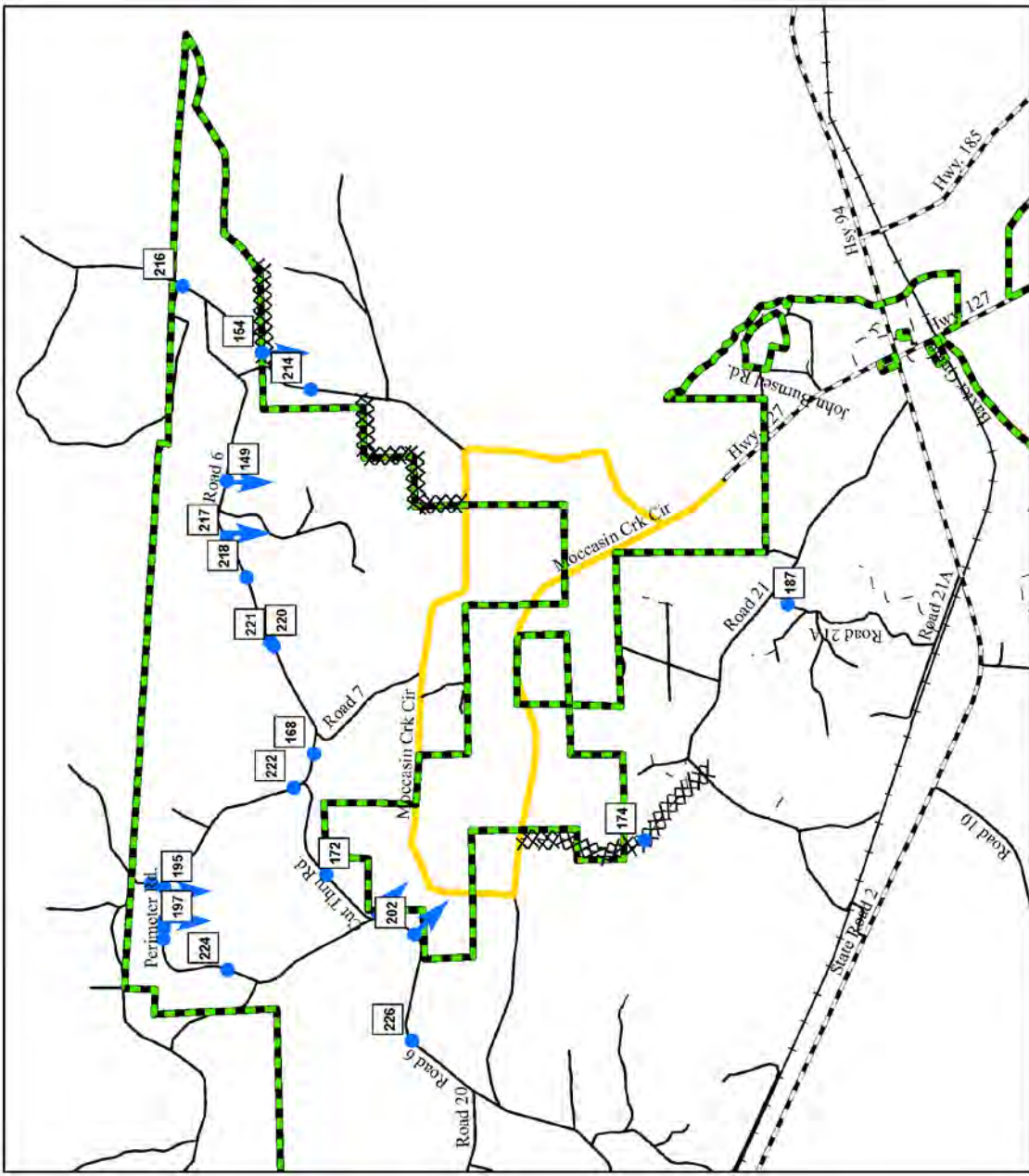
two trail

rail road

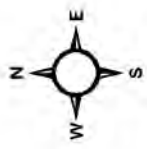
Direction of Surface Flows

SE Flow

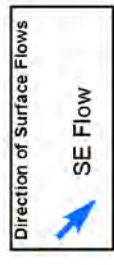
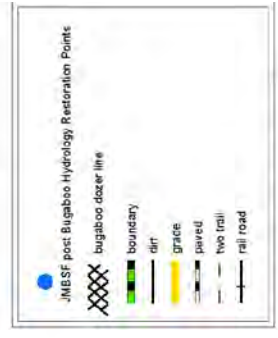
drawn by
Lee B. Burrell
Forestry Supervisor II
6/20/07



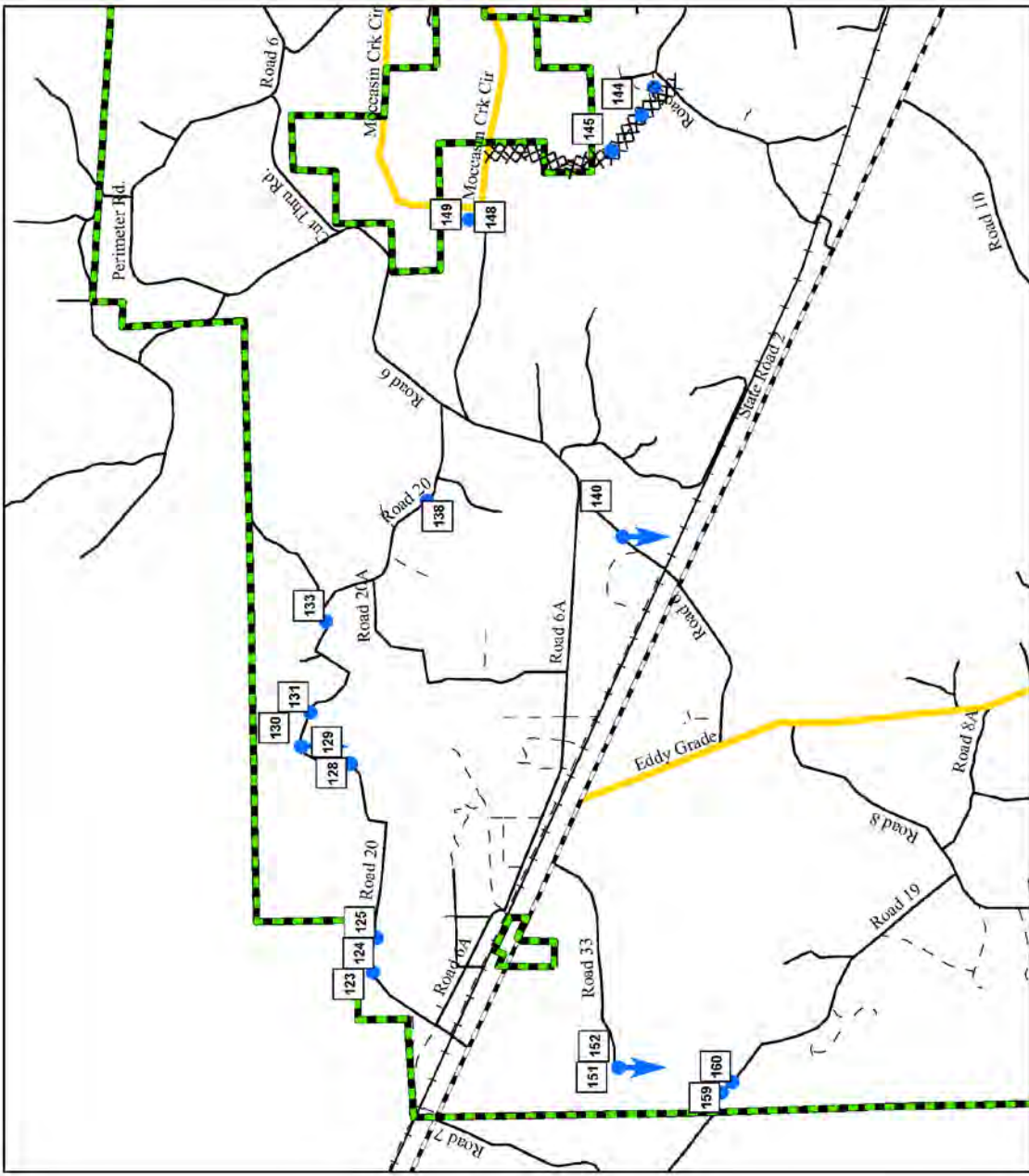
DISCLAIMER
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John M. Bethea
State Forest
Post Bugaboo
Hydrology Restoration
Plan Map 3

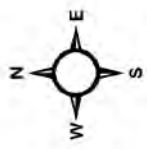


drawn by
Lee B. Bunker
Forestry Supervisor II
5/20/07

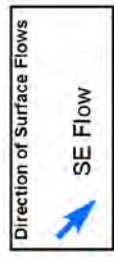
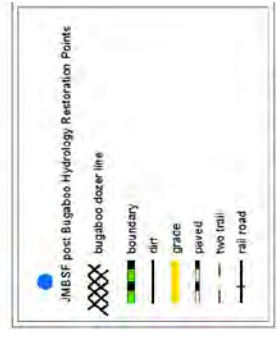


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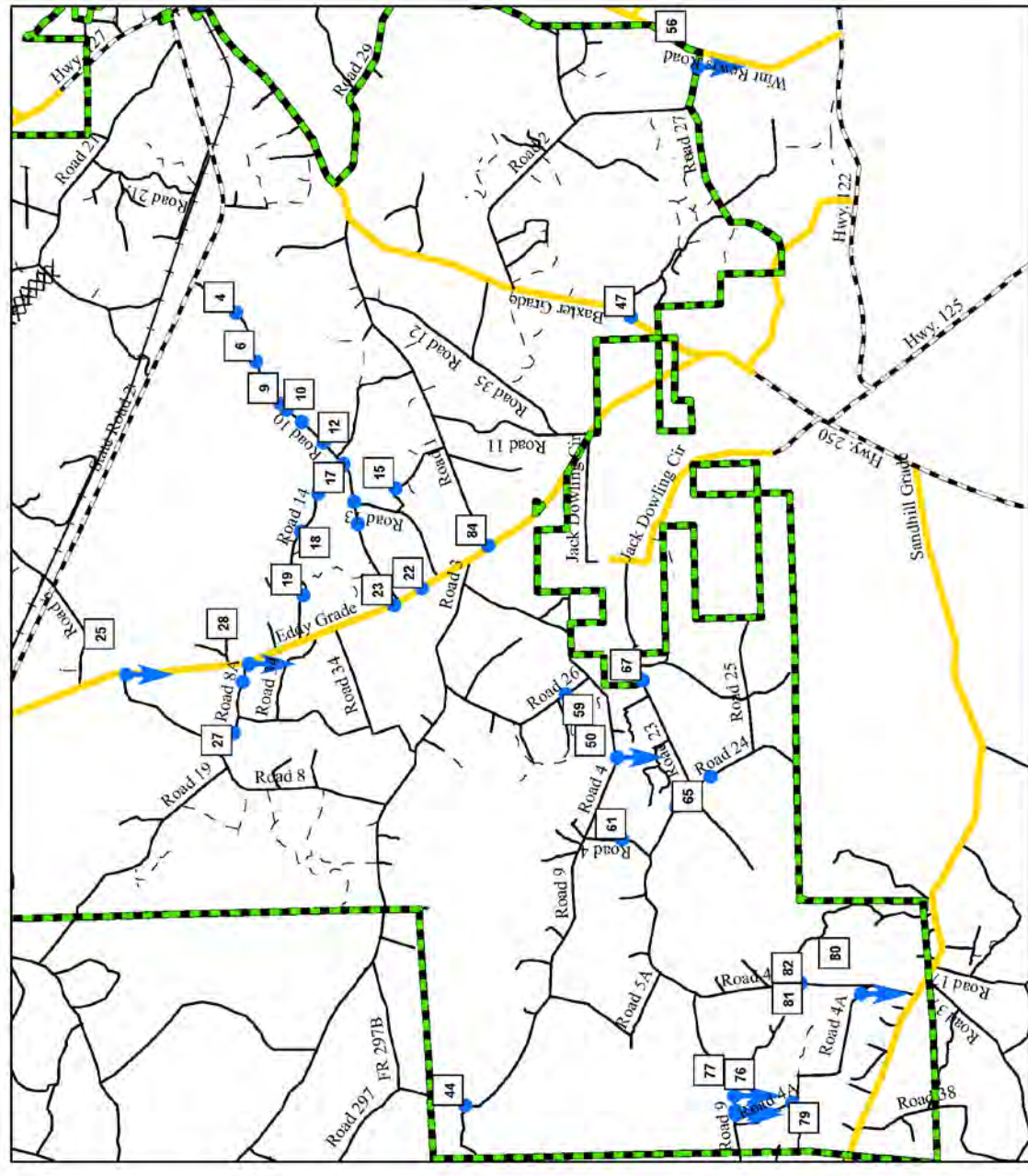
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John M. Bethea
State Forest
Post Bugaboo
Hydrology Restoration
Plan Map 4

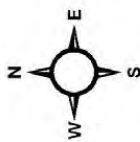


drawn by
Lee B. Smith
Forestry Supervisor II
6/20/07



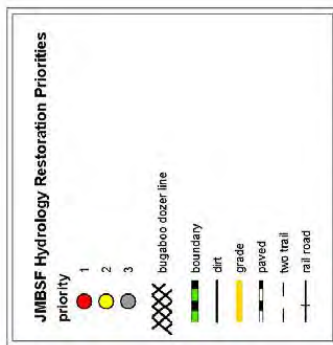
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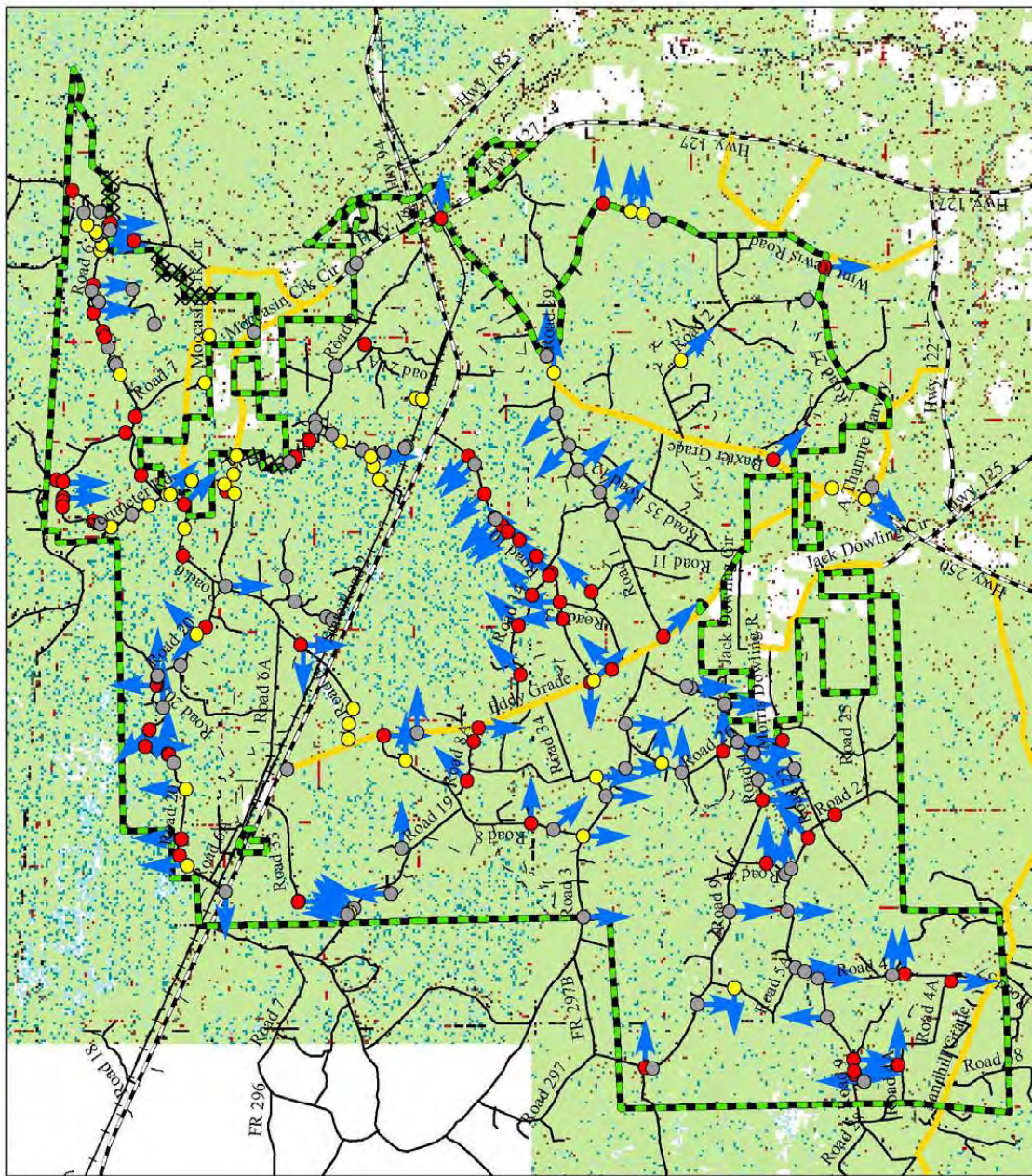


John M. Bethea State Forest Post Bugaboo Hydrology Restoration Plan Overview

Map 5



drawn by
Lee Barnwell
Forestry Supervisor II
6/6/07



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Florida Division of Forestry - John M. Bethea State Forest
Post-2007 Bugaboo Fire Hydrological Restoration Plan

ATTACHMENT 3

POST-BUGABOO HYDROLOGICAL RESTORATION JOHN M. BETHEA STATE FOREST

ACTION ITEM PLAN/TIMETABLE

ATTACHMENT 3
JOHN M. BETHEA STATE FOREST
POST-BUGABOO HYDROLOGICAL RESTORATION
ACTION ITEMS PLAN/SCHEDULE

PRTY. #	PRIORITY AREA	FOREST QUAD/ WAYPT. REF.	ACTION	SCHEDULED	REFERENCE (Page #s)
1	Moccasin Creek Area	NE/	1a: Immediately remove debris from culverts; 1b: Ditch Plugs on Fireline	1 st Qtr., FY2007-08	9 - 10
2	St. Mary's River/Bugaboo Pushed Line	NE/154,	2a: Ditch Plugs & Water Bars on Bugaboo Line; 2b: Monitor tributary to SMR; 2c: Ditch Plugs on Firelines	1 st & 2 nd Qtrs., FY2007-08	7 - 8
3	Bugaboo Pushed Line/Road 21/ Moccasin Creek	NE/	3a: Bugaboo Line Rehab, Berm Removal, Stabilization Activities; 3b: Remove Berms on Road Shoulders within Bugaboo Line; 3c: Armor Road Sections	1 st & 2 nd Qtrs., FY2007-08	9
4	Moccasin Swamp/Road 10	SW	4a: Create Additional Conveyance under Road 10 with installation of culverts or LWHs Crossings; 4b: Improve (reinforce LW Crossings on Road 14	2 nd & 3 rd Qtrs., FY2007-08	5
5	Road 20/ Okfefenokee Swamp Break	NW	5a: Restrict Traffic on Rd 20 until Stabilized; Install additional conveyance under west end of Road 20 5b: Replaced damaged culverts, elevate crossings; 5d: Install Ditch Plugs on Firelines;	1 st & 3 rd Qtrs., FY 2007-08	11 - 12
6	Perimeter Road/ "Cut Thru" Road Loop	NE	6a: Remove "Cut Thru" Road or Re-direct flow to Lake Holes Branch under Perimeter Road; 6b: Or install elevated LWHs Crossings on "Cut Thru" Road 6c: Install Ditch Plugs in Old Firelines (Delineation Lines); 6d: Monitor Basin Marsh reversion in west Perimeter Loop Area	3 rd & 4 th Qtrs., FY2007-08	8 - 9

ATTACHMENT 3

**JOHN M. BETHEA STATE FOREST
POST-BUGABOO HYDROLOGICAL RESTORATION**

**ACTION ITEMS PLAN/SCHEDULE
(Continued)**

PRTY. #	PRIORITY AREA	FOREST QUAD./WAY PT. REF.	ACTION	SCHEDULED	REFERENCE (Page #)
7	"Potato Patch" Firelines	NE&NW/	7a: Plow "cut-off" across beds; 7b: Re-Work Road Ditches – outer berms	1st & 3rd Qtrs., FY 2007-08	12 – 13
8	Pinhook Swamp	SW/	8a: Replace Damaged Culverts; Improve Crossings on Road 19; 8b: Work with County to Improve Crossings and Sections of Eddy Grade	3rd & 4th Qtr., FY 2007-08	4
9	Little River Bay	SW/	9a: Re-work, Stabilize, Improve Crossings on Road 4 and 24, and Eddy Grade; 9b: Install Ditch Plugs on Firelines; 9c: Install Ditch Plug in Field Ditch off Road 9	1st & 2nd Qtrs., FY 2008-09	5 – 6
10	Road 6/Railroad Track	NW/	10a: Install Ditch Plug in Field Ditch off Road 6	1st & 2nd Qtrs., FY 2008-09	12
11	Okfenokee Swamp FireBreak/Perimeter Road	NW/	11a: Install Ditch Plugs As Needed Along Southern Edge Of Break; 11b: Replace culvert on Secondary Road off of Road 6	1st & 2nd Qtrs., FY 2008-09	8
12	Interior Forest Roads	Forest-wide	12a: Restore Historically wet areas through passive management	On-going	13

Exhibit V

State Forest Summary Budget

State Forest Summary Budget

	JOHN M. BETHEA STATE FOREST LANDS MGT. ONLY 13-14 EXPENDITURES -	Percentage of Total for FY 2013-14	JMBSF Based Upon LMUAC Resource Management Funding Need
Resource Management	\$ 324,850	30.40%	\$ 878,286.09
Exotic Species Control	\$ 15,984	2.50%	\$ 72,227.47
Prescribed Burning	\$ 167,568	5.80%	\$ 167,567.74
Cultural Resources Management	\$ 639	0.10%	\$ 2,889.10
Timber Management	\$ 64,575	10.10%	\$ 291,799.00
Hydrological Management	\$ 4,475	0.70%	\$ 20,223.69
	\$ -		\$ -
<u>OTHER RESOURCE MANAGEMENT</u>	\$ 71,608	11.20%	\$ 323,579.08
Listed Species Management	\$ -		\$ -
Forest Pest and Disease	\$ -		\$ -
Plant Conservation Program	\$ -		\$ -
State Forest Research Projects	\$ -		\$ -
Boundary Surveys for State Forests	\$ -		\$ -
<u>Other Activities Also Include:</u>	\$ -		\$ -
Liaison Community Meetings / Boundary Line Maintenance / Forest Inventories and Various Other Activities / Wildfire Suppression on State Forests			
			\$ -
Administration	\$ 49,870	7.80%	\$ 225,349.72
Central Office Headquarters	\$ 49,870	7.80%	\$ 225,349.72
District/Regions	\$ -		\$ -
Units/Projects	\$ -		\$ -
	\$ -		\$ -
Support	\$ 188,610	29.50%	\$ 421,808.45
Land Management Planning	\$ 11,508	1.80%	\$ 52,003.78
Land Management Reviews	\$ 1,918	0.30%	\$ 8,667.30
Training/Staff Development	\$ 36,443	5.70%	\$ 164,678.64
Vehicle Purchase	\$ 2,557	0.40%	\$ 11,556.40
Vehicle Operations and Maintenance	\$ 95,264	14.90%	\$ -
	\$ -		\$ -
OTHER SUPPORT	\$ 40,919	6.40%	\$ 184,902.33
State Forest Land Acquisition Support			\$ -
<u>Other Support Activities Also Include:</u>	\$ -		\$ -
Computer Maintenance / Radio Maintenance / Technical Support / Management of Apiary and Cattle Leases / State Forest Easements and Other Various Activities	\$ -		\$ -
			\$ -
Capital Improvements	\$ 124,675	19.50%	\$ 563,374.30
New Facility Construction	\$ 29,410	4.60%	\$ 132,898.55
Facility Maintenance	\$ 95,264	14.90%	\$ 430,475.75
			\$ -
Visitor Services/Recreation	\$ 81,838	12.80%	\$ 369,804.67
Information/Education	\$ 18,541	2.90%	\$ 83,783.87
Operations	\$ 63,296	9.90%	\$ 286,020.80
			\$ -
Law Enforcement	\$ -	0.00%	\$ -
Total	\$ 639,357	100.00%	2,889,098.97

Exhibit W

Compliance with Local Comprehensive Plan

*Baker County
Planning and Zoning Department*

360 East Shuey Avenue
Macclenny, Florida 32063
Phone (904) 259-3354
Fax (904) 259-5057

Ed Preston
Planning & Zoning Director

November 5, 2015

**Jennifer Reed
3125 Conner Boulevard
Tallahassee, FL 32399-1650**

Jennifer Reed:

The Baker County Planning Department has completed its review of the Florida Forest Service Ten Year Resource Management Plan for the John M. Bethea State Forest.

We have found the Plan consistent with the Baker County Local Comprehensive Plan.

If you have any questions, please contact Ed Preston, at (904) 259-3354.

Sincerely,



**Ed Preston
Baker County Planning & Zoning Director**

EP

**cc: Sam Leneave
John Raulerson
Andy Lamborn**

Exhibit X

State Forest Management Plan Advisory Group Summary

Management Plan Advisory Group Introductory Meeting
John Bethea State Forest
July 28, 2015 at 6:00 p.m.
Meeting Minutes

MPAG Members Present: All

- Pete Bowyer, Hunter
- Doug Moore, Private Landowner
- David Walls, Private Landowner
- Candice Leek, Hiker
- Scotland Talley, FWC
- Chad Rischar, SJRWMD
- Sam LeNeave, FFS
- James Croft, Baker County Commissioner

MPAG Members Not Present: N/A

Guests:

- Joel Addington, Baker County Press

Staff:

- Sam LeNeave, District Manager, FFS
- John Raulerson, FFS
- Andy Lamborn, FFS
- Jennifer Reed, FFS
- Bill Korn, FFS
- Cat Ingram, FFS

Starting Time: 6:01 p.m.

- Mr. Korn opened the meeting by explaining the purpose, statutory requirement and at what point during the management plan development process the MPAG members are called upon to provide input into the draft land management plan. Mr. Korn also explained the Sunshine Law's role in the MPAG public hearings, the member appointment timeframe, and a rundown of how the meetings were appropriately advertised to the public.
- Mr. Korn provided a rundown of the various approvals the draft land management plan must go through both before and after the MPAG public hearings have occurred.
- Introductions were made by everybody in the room.
- Mr. Korn went over the different roles of each of the MPAG public hearings, and how each meeting is structured. He also provided how various scenarios could play out at the individual meetings.
- Mr. Talley moved to elect Mr. LeNeave as MPAG Chair. Mr. Walls seconded the motion.
- No opposition; the motion was approved.

Ending Time: 6:20 p.m.

Public Hearing
John Bethea State Forest
July 28, 2015
6:30 p.m.
Meeting Minutes

MPAG Members Present: All

- Pete Bowyer, Hunter
- Doug Moore, Private Landowner
- David Walls, Private Landowner
- Candice Leek, Hiker
- Scotland Talley, FWC
- Chad Rischar, SJRWMD
- Sam LeNeave, FFS
- James Croft, Baker County Commissioner

MPAG Members Not Present: N/A

Public Guests:

- Joel Addington, Baker County Press

Staff:

- Sam LeNeave, Center Manager, FFS
- John Raulerson, FFS
- Andy Lamborn, FFS
- Jennifer Reed, FFS
- Bill Korn, FFS
- Cat Ingram, FFS

Starting Time: 6:30 p.m.

- Mr. Korn began the meeting and gave a general overview of the purpose of the public hearing.
- Mr. Lamborn welcomed the group and gave a PowerPoint presentation which provided an overview of the Draft Ten-Year Land Management Plan Update for John Bethea State Forest. Mr. Lamborn's presentation covered: the history of the forest, the general points of interest on the state forest, management changes set forth in the draft plan update, and the basic goals and objectives for the management of JMBSF that are presented in the draft plan update.
- Mr. Moore inquired about potential areas on JMBSF that are flat-planted (not bedded). Mr. Lamborn commented that this activity does occur on JMBSF. Associated discussion ensued regarding the difference in management practices on state land versus forest industry property.
- Mr. Bowyer inquired about road widening, turn around areas for equipment and any associated foodplots. Mr. Lamborn responded that foodplots were being added to the forest, and that the public can suggest to FFS where they would like the locations of foodplots to be located on the forest. Also discussed was the fact that over time, the roads on JMBSF would be widened over the next several years for fire suppression purposes.

- Mr. Rischar inquired about the number of acres of foodplots FFS desires to have on the forest. Mr. Lamborn responded that probably about 8-10 acres total would be planted.
- Mr. Talley mentioned the benefits that foodplots can provide.
- Mr. Bowyer mentioned he thought foodplots bring a sense of artificiality to forests.
- Mr. Korn reminded the group that tomorrow's MPAG meeting would be the appropriate time and place to hash out the ins and outs of foodplots.
- Mr. Lamborn continued with the presentation on the draft plan, including the topic of non-native, invasive species.
- Mr. Moore asked if cogon grass was present on the forest. Mr. Lamborn responded that a small amount does exist. Mr. Bowyer inquired about how FFS is dealing with it. Mr. Lamborn answered that it would take approximately 3-4 treatments to eradicate the species from the forest.
- Mr. Bowyer asked if the longleaf pine trees on JMBSF are genetically the same as the historical longleaf pines that were there many years ago. Mr. Lamborn responded that they are the same.
- Mr. Lamborn concluded his presentation.
- At this juncture in the meeting, the public would normally be asked to speak. However, since no members of the general public were present, Mr. Korn stated that the group would wait a few more minutes until 7:00 p.m. to close the meeting in case anyone else showed up late to the meeting and wanted a chance to speak.
- Mr. Talley and Mr. Lamborn discussed fishing opportunities, hatcheries and the genetics of bass and its subspecies.
- Mr. Rischar inquired whether or not any RCWs have been documented on JMBSF. Mr. Lamborn responded that there was documentation that RCWs occurred on the forest in the early 1900s. Mr. Rischar asked if JMBSF could ever be an appropriate habitat RCWs. Mr. Lamborn responded that in 30-40 years, JMBSF could be appropriate habitat for the birds.
- Mr. Walls, Mr. Lamborn and Mr. LeNeave discussed flat-planting, the associated timeframes and the associated ability to use containerized longleaf seedlings to allow the earlier introduction of fire.
- Mr. Talley discussed the scientific, Latin name of the longleaf pine tree and its association with its historic presence in marshes.
- Mr. Korn inquired about whether or not FWC is contemplating changes to hunting regulations at JMBSF. Mr. Talley discussed recent new regulations in place for black bear hunts, as well as a recent change to FWC's breakdown of deer management units across the state. Discussion ensued regarding new hunting rules versus old hunting rules, antlers and measurements.
- Mr. Rischar and Mr. Talley discussed what the accepted determined age is of a bear cub that can fend for itself, as well as what activities the collected bear hunt fees will go toward in the future.
- Mr. Moore and Mr. Talley discussed the purpose of FWC opening up the black bear hunt opportunity in the state.
- Mr. Korn stated that as no other public has arrived at this point, it was time to wrap up the meeting.

Ending Time: 7:03 p.m.

Management Plan Advisory Group Meeting

John M. Bethea State Forest

July 29, 2015

9:30 a.m.

Meeting Minutes

MPAG Members Present:

- Pete Bowyer, Hunter
- Doug Moore, Private Landowner
- David Walls, Private Landowner
- Candice Leek, Hiker
- Scotland Talley, FWC
- Chad Rischar, SJRWMD
- Sam LeNeave, FFS
- Michael Davis, substituting for Mr. James Croft, Baker County Commissioner

MPAG Members Not Present:

- James Croft, Baker County Commissioner

Public Guests: None

Staff:

- Sam LeNeave, Center Manager, FFS
- John Raulerson, FFS
- Andy Lamborn, FFS
- Jennifer Reed, FFS
- Bill Korn, FFS
- Cat Ingram, FFS

Starting Time: 9:30a.m.

- Mr. Korn started the meeting by going over which members were missing, the meeting structure that would take place and specifics regarding staff and member responsibilities regarding the meeting minutes in the coming days/weeks.
- The MPAG reviewed the two sets of meeting minutes from the MPAG Introductory Meeting and Public Hearing that occurred on 7/28/2015. The following are the recommended changes:
 - Mr. Talley asked for a correction in the spelling of his name. Staff made the change.
 - Changes were also made to tighten up some of the acronyms listed on the minutes.
 - Mr. Walls asked for two of the statements that indicated that he had made them, be changed to indicate that Mr. Bowyer made them, who concurred that these changes would be accurate. Staff made the changes.
 - Ms. Leek asked about the meaning of “flat-planted” and Mr. LeNeave explained the meaning of the terminology.

- Mr. Moore moved to accept both sets of minutes.
- Ms. Leek seconded the motion.
- Mr. Korn proceeded to call on each member one by one and go over each member's questions and recommended changes.

Pete Bowyer

- Mr. Bowyer noted that he thinks the plan is great.
- Mr. Bowyer had questions regarding Eddy Road maintenance and the corresponding section in the plan. Mr. Lamborn responded to his questions regarding road maintenance, the budget, and how the county and FFS cooperates in providing equipment, personnel and supplies for such road projects.
- Mr. Talley shared an anecdote from a recent LMR that he had participated on and questioned if a similar circumstance was valid for the JMBSF. The situation was in regard to the ROW corridor and fire protection and how they relate to the subject draft plan's pertinent objective. Mr. Lamborn responded and he and Mr. Korn further discussed the collaboration of resources the county and FFS employ. Mr. LeNeave stated that Eddy Road is much more improved now than the condition it was in the past.
- Mr. Bowyer stated that no changes to the plan were necessary regarding this topic.

Doug Moore

- Mr. Moore inquired whether or not FFS rakes following clearcuts. Mr. Lamborn responded that this method is employed only after catastrophic fires for salvage harvests. Mr. Moore talked about how raking can create piles of dirt, which later can become mounds that coyotes may inhabit. Mr. Lamborn stated that FFS does scatter the mound tops during thinning. Mr. Moore, Mr. Lamborn and Mr. Bowyer discussed rake piles and burn potential.
- Mr. Moore inquired about the timing of planting as it relates to FFS methods for herbiciding. Mr. Lamborn responded and discussed seasonal timing and which herbicides are used. Mr. Korn stated that the current discussion was more operational in nature and that the draft plan does not go into the details of operations to the extent at which the conversation was presently occurring. Mr. Moore stated that the current conversation relates to timber money and how well wildlife will do on the forest. Mr. Lamborn discussed stocking levels. Mr. Korn stated that FFS is more aggressive with prep work. Mr. Lamborn stated that FFS manages for multiple-use, not just timber, but also groundcover, etc.
- Mr. Moore stated that he believed that all available management tools should be employed on JMBSF to result in more revenue. More revenue would mean more money to manage the forest with. He stated that he wants prescribed fire and herbicide to be utilized. Mr. Lamborn stated that FFS does use all the tools available, except bedding. Mr. Moore stated that herbicide is an important forest management tool.

At this time, the group took a quick break. The meeting resumed after a few minutes.

- Mr. Moore stated that feral hogs are invasive and can be quite detrimental to forests. When the feral hog populations are high, he would like to see all available tools employed for hog control. He stated that he wants no restrictions, including hunting.
- Mr. Talley stated that outside of youth and specialized hunts, feral hogs are legal game. He further mentioned that if FFS would like to add more hog hunts, FWC would be fine with

that. He further discussed the fact that FWC issues annual permits to FFS to trap and remove feral hogs from all state forests. Each forest manager on a case-by case basis may decide if they want to employ contractors for hog removal. The forest is not necessarily open for hog hunts all year long because there is not enough enforcement staff available to provide oversight for such hunt activities.

- Mr. Moore stated that youth hunts were a great opportunity to utilize the forest. He further discussed that one cannot control hogs with guns or traps because the hogs are too smart. He stated that the hogs could be controlled with dogs though. He encouraged that opportunity to be available on JMBSF.
- Mr. Korn stated that the mission of the meeting is to incorporate changes to the draft plan. He asked whether this discussion revolved around any suggested change to the draft plan.
- Mr. Moore declared that he would like the plan to state that FFS would allow all means available to control feral hogs, including off-season hunting, trapping and hog hunting.
- Mr. Talley stated that there is no "off-season" hunts for hogs. Mr. Lamborn and Mr. Moore discussed hunt seasons.
- Mr. Rischer inquired whether the plan currently reads as if all means for getting hogs from tearing up the forest are available the way it is worded currently. Mr. Moore asked if the language includes utilizing dogs.
- Ms. Leek stated that feral hogs are included in the species listed for hunts on the document that lists hunt dates. She inquired as to whether Mr. Moore's request conflict with the hunt date rules on the website.
- Mr. Talley stated that this situation would be an instance of FWC and FFS cooperating together. He further mentioned that this type of issue gets vetted in FWC's rulemaking process and further, this is an operational issue. The language that is currently in the draft plan provides for FFS being able to host hunts as they wish, and FWC works with FFS in this type of endeavor.
- Mr. Moore declared that this issue is in reference to a ten-year plan.
- Mr. Bowyer talked about specific hunt season dates as they relate to hogs, dogs and turkeys.
- Mr. Talley brought up the fact that a manager can run into a lot of conflicts due to other issues.
- Mr. Lamborn stated that the hogs on JMBSF are not a horrible issue currently, though he would of course like to see the population decrease. However, managing the people that would be involved in such a hunt would be hard for the land management staff on JMBSF. Mr. Moore stated that he did not want the tools that could be used for hog management be limited. Mr. Korn stated that the draft plan's language is non-limiting the way it reads currently. He added that no one wants to see hog damage to the forest. Mr. Talley stated that the cooperating land managers do have youth hunts that may incorporate such activities. Ms. Reed pointed out that such hunts are advertised for appropriately. Mr. Talley discussed the topic further.

At this juncture in the meeting, Mr. Croft entered the meeting.

At this juncture in the meeting, Mr. Davis left the meeting.

- Mr. Talley discussed hunting and the potential use of contractors. Mr. Moore stated that at Pumpkin Hill, the land has been devastated by hogs. The managers do not allow hunts on the

property, and as a result, spend a lot of money on getting hogs, as opposed to getting other activities accomplished.

- Mr. Lamborn stated that hunting is a huge recreational activity on JMBSF.
- Mr. Korn asked if there was consensus among the group to change the pertinent section in the draft plan. He stated that the agency was comfortable with the language as it is currently. At that time all members of the Advisory Group nodded in the affirmative that they were in agreement that they did not support the proposal to have year-around out-of-season hunting for feral hogs in JM Bethea SF.
- Mr. Moore stated that the county was one of 16 counties in the U.S.A. that are “firewise.” He stated that we want to help the public understand that fact, and they would be happy to take advantage of any financial help to that end. Mr. Lamborn stated that FFS cooperates with all of our partners, many of which are state and federal agencies.

David Walls

- Mr. Walls had a specific suggestion regarding the section of the plan entitled, “Use of Private Land Contractors.” He inquired whether or not it would be beneficial to have a pre-screened list of foresters for timber sales to get more revenue from bidders. Mr. Lamborn responded that FFS only utilizes loggers that have gone through master-logger training. Mr. Korn referenced the guidelines within the State Forest Handbook. Mr. Lamborn referenced the most recent time a bid package went out and approximately how many loggers bid on the project. Mr. Lamborn stated that FFS gets top dollar when ascertaining work from contractors. Mr. Korn further discussed timber sales and the minimum bid process for state forests.

Candice Leek

- Ms. Leek thanked FFS for the opportunity to serve as a member on the MPAG. She complimented the draft plan creators and stated that the color maps are good. She stated that she is a hiker and former hunter, and she uses the forest recreationally. She declared that she had three main points she wanted to talk about.
- She wondered if there could be a sign-in log at the Maple Set Trailhead Kiosk. Mr. Lamborn stated that there was not one, but that if a visitor wanted to communicate with state forest staff, they could fill out a general comment card and mail it in to the state office. Ms. Leek stated that there may be primitive campers and day users that may not be utilizing the Trailwalker Program. She asked how those types of forest users are being kept track of. Mr. Lamborn stated that as much as he would love to document all those who visit the forest, a sign-in log would just not be feasible to maintain at the trailhead. He discussed the relevant hardships.
- Mr. Raulerson agreed with Ms. Leek and Mr. Lamborn and stated that he, too, would like to see this information captured, however, the personnel to manage such a task does not exist. He stated that placement of the general comment cards at the kiosk for feedback is a good idea.
- Mr. Talley asked whether FFS has considered a traffic counter. Mr. Lamborn stated that they would have to hide it. Mr. Talley stated that FWC has had success disguising them as blue bird boxes. The issue was discussed further.
- Mr. Korn stated that FFS only has three to four actual recreational positions and that the issues the group was discussing was operational in nature. He remarked that FWC had

received a substantial amount of money they were able to use in such a way that has been effective in utilizing the counters for good and credible information.

- Mr. LeNeave stated that one of the recreational coordinators at the state office has been able to ascertain good information for FFS that has been used to build credibility for visitor numbers. He stated that FFS works with FWC in this type of endeavor on occasion. He further stated that FFS had considered putting a counter on Eddy Road, but the issue of accuracy came up. As in, it would additionally be counting people that were just driving through on the road and not necessarily using the forest.
- The second issue Ms. Leek wanted to speak about was in regard to volunteerism. She inquired how volunteers could help FFS JMBSF staff, including trail blazing, equipment, tools etc. She stated that she herself was going to give Mr. Lamborn her FFS Volunteer Application paperwork so that the manager can utilize her service when they need her. She also mentioned that perhaps volunteers can help FFS with particular species counts on the forest. Mr. Lamborn stated that if he had qualified volunteers to help with such an activity, then yes, he would consider using them. He further mentioned trail maintenance and picking up litter as activities volunteers may be helpful in accomplishing.
- Mr. Korn referenced that in the past, volunteers with botanical credentials had actually identified plants on Cary State Forest that FFS had not been aware of existed on the property. Ms. Leek stated that volunteers are teachable, and with the appropriate trust in place between the manager and volunteer, more could be accomplished.
- The third issue Ms. Leek talked about was the surveying and monitoring of archeological and historical resources. She discussed how in the past, she had spent years volunteering at Mammoth Cave National Park. After receiving training, she was able to mobilize into the backcountry and identify areas where unauthorized digging had occurred. Mr. Lamborn referenced the Sunshine Law and stated that the locations of many historical and archeological resources are sensitive. He stated that activities such as these that could potentially be performed by volunteers would depend on the trust between the manager and the volunteer as an individual.
- Ms. Leek discussed that bits and pieces containing verbiage regarding volunteerism are scattered throughout the plan. She wondered how volunteer work on the forest could be captured and documented perhaps via exhibit or appendix. Mr. Lamborn stated that for this ten year update, there is no volunteer information available to add to the plan. He stated that if there is volunteer information available for the next ten year update plan, he would consider putting that information in at that time.
- Mr. Rischar stated that the Friends of Florida State Forests could be the best avenue for volunteerism.
- Mr. Croft mentioned that a similar situation existed at Olustee Battlefield.
- Mr. Rischar stated that funding received from FFSF has the ability to accomplish projects on the state forests that the FFS may not be able to fund itself.
- Mr. LeNeave stated that FFS is growing these types of direct support organizations and that FFS will continue to be interested in pursuing and addressing these issues.
- Mr. Korn discussed the liaison group objective in the draft plan and mentioned that the department will put a renewed focus on liaison groups so that their interaction becomes more routine.

Scotland Talley

- Mr. Talley mentioned a few housekeeping issues in the plan. These were mostly grammatical errors that were changed by staff accordingly.
- Mr. Talley mentioned the fact that the black bear is listed in the FNAI list in the draft plan and that it was delisted species in 2012. Mr. Reed stated that it is still on the FNAI list. Mr. Talley remarked that he was not sure if FNAI has updated their list since FWC delisted the species. He pointed out that this issue could potentially cause “heartache,” in that the draft plan lists the species as rare/threatened, and yet FWC just opened up hunts specific to the species in Florida.
- Further discussion amongst the group ensued regarding the issue of whether or not to take the species out or to leave it in. Mr. Korn asked the group if there was a consensus to remove it from the list in the plan. More discussion ensued. Mr. Korn asked if there was group consensus to remove black bear from the plan. Mr. Talley mentioned that it is now a game species and it could be added to the “game species and other wildlife” section of the plan. The group agreed as a consensus.
- Mr. Moore talked about whether or not to use the term, “Florida” before “black bear.” Mr. LeNeave and Mr. Talley discussed terminology and legal reasoning behind different ways to mention the bear in documents. Mr. Talley stated that FWC is comfortable with the way it is worded in the draft plan. Mr. Korn asked Mr. Talley if the name the draft plan gives the Black Bear management plan that is referenced uses the correct title. Mr. Talley stated that it did. Mr. Bowyer, Mr. Talley, Ms. Leek and Mr. Rischar discussed verbiage technicalities as they relate to the draft plan.
- Mr. Talley talked about the natural community section and inquired how the section is broken up into topics. He asked if there was no longer a desired future condition being listed in the FFS management plans. Mr. Korn stated that the desired future condition is captured within the description section of those areas. Mr. Talley commented that the section is not as detailed as it was in the past. Mr. Korn stated that the draft plan is not operational in nature.
- Mr. Talley, Mr. Korn and Mr. LeNeave discussed the descriptions offered in the draft plan and how they relate to the State Forest Handbook.
- Mr. Talley referred to a place in the draft plan that mentions “tater patching.” The group came to a consensus to remove the verbiage.
- Mr. Talley stated that overall, he thought that FFS did a good job on the draft plan, as well as on managing the forest. He stated that he is glad to continue to work with FFS.

At this juncture, Mr. Moore left the meeting.

The group then took a five-minute break.

Chad Rischar

- Mr. Rischar asked how it came to be that mesic flatwoods were identified as the primary uplands on the property. He mentioned that it seemed to him that greater than half of the property looks like industrial pine plantation. He asked whether this discrepancy is due to the difference in the natural community definitions. Mr. Lamborn stated that the draft plan includes how FFS plans to manage that portion of the property, and that FFS plans to bring it into the stated desired condition of mesic flatwoods.

- Mr. Rischar discussed the natural community maps (Q and R) in the exhibit portion of the draft plan. He stated he felt that pine plantation does not fall into the natural community category, but also that it could be listed that way due to the different ways the individual agencies define certain land use types.
- Mr. Rischar discussed the opportunity FFS has to show how particular management strategies can bring an industrial pine plantation area into the FFS desired condition. Mr. Rischar, Mr. LeNeave, Mr. Korn and Mr. Talley discussed historic and current natural land types, the way FNAI categorizes land types, and at what point can one determine a changeover in community type. Discussion centered on how community types are depicted in exhibits. Mr. Korn stated that this issue would be revisited by FFS planning staff with the State Forest Ecologist.
- Mr. Rischar restated that FFS can use data to show how particular FFS strategies can be integral in changing community types. Ms. Reed stated that the State Forest Ecologist is currently gathering related information from state forests.
- Mr. Rischar referenced a specific exhibit in the draft plan and asked how the map was created since many sections of JMBSF were not surveyed by FNAI. Mr. Lamborn responded that an FFS staff member most likely completed the map utilizing photographs of the property from the 1940's. He informed the group that the reason why sections were not surveyed was because FFS was going to have the feds complete the natural community survey work. Mr. Rischar stated that there is a potential for disparity. Mr. Korn stated that FFS staff would revisit the issue with the State Forest Ecologist.
- Mr. Rischar stated that he supports any initiative of the manager to maintain a species inventory, though this is a hard feat to accomplish. However, doing this would show how increases in species populations do occur. Mr. Korn stated that such a program had been in place, and Mr. Lamborn maintains the info. Mr. Rischar discussed how information that depicts how the mitigation of, for instance, DOT's impacts to the land, gets used by the feds, including the Army Corps of Engineers. Mr. Rischar specifically mentioned the hydrology section and corresponding exhibit in the draft plan, specifically in reference to the FDOT mitigation program. He commended the forest supervisor for implementing and executing what the WMD indicated would be beneficial on the forest. He stated that he would like to see more financial help go toward state forest projects such as that one. He stated that he would like to continue to help facilitate a relationship between the WMD and FFS for more successful partnerships in the future.
- Mr. LeNeave mentioned the hydrological assessment on JMBSF. Mr. Rischar talked more about what could be accomplished with even more cooperation between the WMD and FFS. He spoke specifically about how the WMD can help FFS out with the addition of culverts, many of which are also mentioned in the 2007 hydrological report.
- Mr. Rischar commended FFS on the draft plan.

Sam LeNeave

- Mr. LeNeave stated that he thought the plan looked good. He did not have any recommendations for change other than what was being discussed during this meeting.

James Croft

- Mr. Croft stated that he did not have any recommendations for change. He added that he, in fact, did not receive a copy of the draft plan until the night before, since he was filling in for another county commissioner at the last minute.
 - Mr. Korn thanked Mr. Croft for his attendance.
-
- Ms. Reed stated that she would be sending these meeting minutes to the MPAG members as an attachment to an email.
 - Mr. Korn stated that FFS would revisit the natural community portion with the appropriate staff.
 - Mr. Rischar, Mr. LeNeave, Mr. Raulerson and Mr. Korn discussed the timing of natural community map generation. Mr. Rischar referenced “departure” maps that were utilized on Four Creeks. The maps were used to indicate changes over time.
 - Mr. Korn discussed the FFS forest inventory process.
 - Mr. LeNeave motioned for the meeting to adjourn.
 - Mr. Walls seconded the motion.

Ending Time: 11:32 a.m.

Exhibit Y

Arthropod Control Plan – County Response



STACIE D. HARVEY
CLERK TO BOARD

Baker County
Board of Commissioners

55 NORTH THIRD STREET
MACCLENNY, FLORIDA 32063
(904) 259-3613 • (904) 259-7610
www.bakercountyfl.org



CJ THOMPSON
COUNTY MANAGER

May 20, 2015

Andy Lamborn, Forestry Supervisor II
Florida Forestry Service
John M. Bethea State Forest
11656 SR 2
Sanderson, Florida 32087

RE: John M. Bethea State Forest Arthropod (mosquito) Control Plan

Mr. Lamborn,

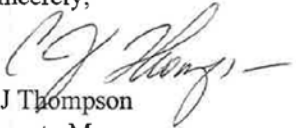
I am in receipt of your letter regarding mosquito control in the John M. Bethea State Forest. Please consider this correspondence as official notification that Baker County does not have any plans for mosquito control in the forest.

In the past, Baker County has partnered with FEMA in the aftermath of tropical storms and hurricanes to bring mosquito control to specific areas of concern due to flooding. These instances are not routine or on a continued basis.

Unfortunately, due to budget limitations Baker County has no future plans to offer mosquito control in any area of the County. Should this information ever change notification will be sent to the Florida Forestry Service.

If you have any questions regarding this or any other matter please contact my office.

Sincerely,


CJ Thompson
County Manager

JAMES CROFT
DISTRICT 1

JIMMY ANDERSON
DISTRICT 2

GORDON CREWS
DISTRICT 3

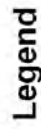
JAMES G. BENNETT
DISTRICT 4

MARK HARTLEY
DISTRICT 5

"AN EQUAL OPPORTUNITY EMPLOYER"

Exhibit Z

Acres Planted to Longleaf Pine



JBSF Boundary

Stands

Longleaf Pine

— Primary

— Secondary

--- Service

— Tertiary

DISCLAIMER

DISCLAIMER
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Created by: Andy Lamborn
Date: August 4, 2015

