

TEN-YEAR LAND MANAGEMENT PLAN

FOR THE

RALPH E. SIMMONS MEMORIAL STATE FOREST

NASSAU COUNTY



PREPARED BY

FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

FLORIDA FOREST SERVICE

APPROVED ON

March 8, 2016

By the St. Johns River Water Management District

TEN-YEAR LAND MANAGEMENT PLAN
FOR THE
RALPH E. SIMMONS MEMORIAL STATE FOREST



Approved by:

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Jim Karels, Director
Florida Forest Service

2.5.16

Date

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Brad Ellis, Chief
Forest Management Bureau

2/4/16

Date

**TEN-YEAR LAND MANAGEMENT PLAN
RALPH E. SIMMONS MEMORIAL 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: Ralph E. Simmons Memorial State Forest
 LOCATION: Nassau County, Florida
 ACREAGE TOTAL: 3,638 acres

<i>Historical Natural Communities</i>	<i>Approximate Acreage</i>	<i>Historical Natural Communities</i>	<i>Approximate Acreage</i>
Sandhill	998	Upland Hardwood Forest	162
Wet Flatwoods	693	Seepage Slopes	134
Upland Pine Forest	481	Mesic Flatwoods	55
Floodplain Swamp	422	River Floodplain Lake	3
Bottomland Forest	414	Dome Swamp	1
Baygall	275		

LEASE / MANAGEMENT AGREEMENT NUMBER: 1105

USE: Single ___ Multiple X

MANAGEMENT AGENCY

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

RESPONSIBILITY

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

DESIGNATED LAND USE: Multiple-use State Forest

SUBLEASES: None

ENCUMBRANCES: None

TYPE ACQUISITION: Save Our Rivers

UNIQUE FEATURES: St. Marys River, upland hardwood forests with significant slope, sandhills, seepage slopes

ARCHAEOLOGICAL / HISTORICAL: None

MANAGEMENT NEEDS: Thinning, reforestation, continued aggressive fire regime

ACQUISITION NEEDS: Exhibit D

SURPLUS LANDS / ACREAGE: None

PUBLIC INVOLVEMENT: Management Plan Advisory Group and Public Hearing, St. Johns River Water Management District.

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

ARC Approval Date: _____ BTIITF Approval Date: _____

Comments: _____

I. Introduction

Ralph E. Simmons Memorial State Forest (RSSF) is comprised of 3,638 acres located in northern Nassau County (Exhibit A). The property was acquired by the St. Johns River Water Management District (SJRWMD) utilizing Save Our Rivers funds. It was leased to the Florida Forest Service (FFS) for management in September 1992 as the St. Marys State Forest. In 1996, the forest was renamed for Ralph E. Simmons, a former chairman of the Board of Directors of SJRWMD, who was instrumental in the purchase of the property.

This property has approximately seven (7) miles of river frontage along the St. Marys River. The twelve major natural communities found on the forest include sandhills, wet flatwoods, upland pine forest, floodplain swamp, bottomland forest, baygall, seepage slopes, upland hardwood forest, mesic flatwoods, river floodplain lake, dome swamp, xeric hammock.

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 RSSF 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, which is consistent with the purpose for which the forest was acquired. Multiple-use management for RSSF 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 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 RSSF 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 RSSF has been completed monthly and are available from the forest manager. A table has been prepared for this plan that summarizes, in numerical format, the accomplishments for each of the past ten years (Exhibit B). The table does not attempt to account for all activities on the forest,

but summarizes major activities that are more readily quantifiable. 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 2001, there have been many events, developments and accomplishments. Among the most noteworthy have been the following:

- Timber stands were delineated for the entire forest. A complete forest inventory occurred in 2004. A second inventory cycle was completed in 2009.
- An aggressive prescribed burning program was initiated upon assignment of management duties. Of the 2,360 acres of fire dependent communities, all are currently within their desired fire return interval.
- In cooperation with the SJRWMD, an abandoned cabin was restored and outfitted as a camping shelter. It is now available as a primitive camping site.
- Recreation improvements include installation of fire rings and trail benches, a foot bridge, picnic tables, and three informational kiosks.
- A Florida Natural Areas Inventory (FNAI) Historical and Current Natural Community survey was completed on approximately 3,638 acres in 2007.
- With the assistance of FNAI volunteers, several threatened and endangered butterfly species have been documented on the forest.
- In 2008, FNAI began a three year study to develop better understanding of the Frosted elfin habitat at RSSF through the use of trained FNAI volunteers.
- A University of Florida research project centered on the Frosted Elfin (*Callopyryrus irus*) took place between 2010 and 2012 utilizing RSSF as a study site.
- A non-native, invasive plant survey was completed by the Forest Management Bureau's Forest Health Section in 2006.
- Approximately 350 acres of cutover sandhill have been reforested with longleaf pine.
- Hardwood reduction has been accomplished on approximately 50 acres.

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 wildfire conditions during the planning period will determine the degree to which these objectives can be met. Management activities on RSSF during this management period must serve to conserve, protect, 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. All activities will 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 shall be achievable within a two year planning period, and long-term goals shall be 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

such 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 annually update and implement the Five-Year Silviculture Management Plan that includes reforestation, harvesting, prescribed burning, restoration, and timber stand improvement activities and goals. (On-going Goal)

Performance Measures:

- Continued implementation of the Silviculture Management Plan (acres treated).
- Update of the Five-Year Silviculture Management Plan completed annually.

Objective 2: Implementation of the silviculture plan through treatments such as thinning and reforestation. Estimated costs per year average \$2,000; however, timber harvesting will generate income. (On-going Goal)

Performance Measure: Number of treatment acres (various practices).

Objective 3: Continue to implement and update the RSSF GIS database as outlined in the State Forest Handbook. Information gathered and monitored includes stand descriptions, roads, and other attributes including, but not limited to: threatened and endangered species, archaeological resources, non-native, invasive species locations, and historical areas. (On-going Goal)

Performance Measures:

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

Objective 4: Conduct forest inventory updates each year according to criteria established in the State Forest Handbook. (On-going Goal)

Performance Measure: Number of acres inventoried annually.

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

Objective 1: Maintain public access and recreational opportunities to allow for a recreational carrying capacity of approximately 158 visitors per day during non-hunting periods and 218 people per day during hunting periods. (On-going Goal)

Performance Measure: Number of visitor opportunities per day.

Objective 2: In order to continue to safely integrate human use into RSSF, follow the Five-Year Outdoor Recreation Plan and update annually. (On-going Goal)

Performance Measures:

- Continued implementation of the Outdoor Recreation Plan.
- Update of the Five-Year Outdoor Recreation Plan completed annually, in coordination with SJRWMD.
- Number of sites maintained.
- Number of additional recreation projects completed as defined by plan.

Objective 3: Continue the public information program that includes the RSSF brochure, maintaining two informational kiosks, and performing one informative program per year

for local schools, groups, and communities. Average costs per year is currently \$500. (On-going Goal)

Performance Measures:

- Completion of needed brochure updates.
- Number of kiosks maintained.
- Number of informative programs completed annually.

Objective 4: Within one year of adoption of this Resource Management Plan, develop a liaison panel composed of representatives from various user groups to establish communication and seek constructive feedback regarding the management of RSSF. (Short Term Goal)

Performance Measures:

- Formation of liaison group.
- First meeting held.

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

Objective 1: Continue sandhill ecosystem improvements through the reduction of hardwoods on at least 75 acres. Improvements should focus on the reduction of turkey oak basal area using fire, fuel wood sales, and herbicides. Estimated costs per year will depend upon treatment but are expected to average \$2,000 per year. (On-going Goal)

Performance Measure: Number of acres with restoration improvements that focus on oak reduction underway.

Objective 2: Develop a comprehensive plan to achieve restoration of the seepage slopes. Plan should include a prioritized list of sites for treatment broken down into percentage of total acreage to restore, an assessment of previous restoration tactics, and management actions to achieve desired future condition. (Short Term Goal)

Performance Measure: Completion of restoration plan.

Objective 3: Implement seepage slope restoration plan. The acreage is to be determined as part of the assessment identified in Objective 7. Areas identified in the plan as being most likely to be restored or maintained with prescribed fire alone will be given highest priority. Due to potential costs, total acreage treated for areas identified as needing more intensive restoration efforts may be limited by amount of available funding. Estimated costs per year average \$1,500; does not include costs for prescribed fire. (Long Term Goal)

Performance Measures:

- Total number of acres with restoration underway.
- Total number of acres treated with prescribed fire.

➤ **GOAL 4: Fire Management**

Objective 1: The RSSF contains approximately 2,587 acres of fire dependent natural communities. In order to maintain a historic average fire return interval of two to four years across the forest, approximately 590 to 1,180 acres will be prescribed burned annually. The average estimated annual cost (including fuel and maintenance) based

upon previous years' average expenditures, using FFS rates is currently \$6,500 per year. (On-going Goal)

Performance Measure: Number of acres burned annually, during the dormant and growing seasons. Preference will be given to completing and maintaining growing season burn rotations.

Objective 2: Maintain 2,587 acres within target fire return interval. (On-going Goal)

Performance Measure: Number of acres within fire return interval target.

Objective 3: Continue to annually update and implement the Five-Year Prescribed Burning Management Plan including reforestation, harvesting, prescribed burning, restoration, and timber stand improvement activities and goals. (On-going Goal)

Performance Measures:

- Continued implementation of the Prescribed Burning Management Plan.
- Updates of the Prescribed Burning Management Plan completed annually.

Objective 4: In conjunction with RSSF Prescribed Burning Management Plan, complete a forest-wide fireline assessment. Assessment should focus on identifying firelines located within sensitive areas, such as seepage slopes, mapping the fireline network, and outlining steps for fireline rehabilitation. (Short Term Goal)

Performance Measure: Assessment completed.

Objective 5: Implementation of the recommendations from the pre-suppression fireline assessment. (Long Term Goal)

Performance Measure: Miles of firelines rehabilitated.

Objective 6: Reduce the threat of wildfire within the Wildland/Urban interface on RSSF and the surrounding community through a comprehensive mitigation strategy that includes evaluating vegetative fuels near residential areas and identifying potential fuel reduction projects.

Performance Measures:

- Evaluation complete.
- Should the evaluation determine that fuel reduction is necessary, number of projects underway.

➤ **GOAL 5: Listed and Rare Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration**

Objective 1: Protect environmentally sensitive communities such as wetlands and ecotones when implementing forest management activities. (On-going Goal)

Performance Measures:

- Map environmentally sensitive areas.
- Number of staff trained in protection of sensitive areas.

Objective 2: In cooperation with the Florida Fish and Wildlife Conservation Commission (FWC), develop and maintain a baseline listed and rare species occurrence inventory list. Inventory should include species likely to or presently occur in the natural

communities of RSSF such as, but not limited to: Gopher tortoise (*Gopherus polyphemus*), Eastern indigo snake (*Drymarchon couperi*), Frosted elfin (*Callophrys irus*) Florida toothache grass (*Ctenium floridanum*), Purple baldwinia (*Balduina atropurpurea*) and hartwrightia (*Hartwrightia floridana*). (On-going Goal)

Performance Measure: Completion of baseline listed and rare species occurrence inventory list.

Objective 3: In cooperation with FWC, develop monitoring protocols for selected listed and rare species to evaluate population status, where protocols do not already exist. (Short Term Goal)

Performance Measure: The number of listed and rare species for which monitoring protocols are developed.

Objective 4: Implementation of the monitoring protocols for listed and rare species. (Long Term Goal)

Performance Measure: The number of species for which monitoring is on-going.

Objective 5: Revise the current map of ecosystems to include information on rare species diversity, such as habitat, rookeries, nests, etc., using data from the 2007 FNAI survey. (Long Term Goal)

Performance Measure: Completion of the revised map.

Objective 6: In cooperation with FWC and the State Forest Ecologist, develop a Wildlife Management Plan that addresses all appropriate game and non-game wildlife species (including imperiled species), their habitat, and their sustainability based on site-specific population data. In conjunction with this plan, establish a continuous monitoring program to ensure the perpetual viability of these populations. (Long Term Goal)

Performance Measure: Completion of RSSF Wildlife Management Plan

➤ **GOAL 6: Non-Native, Invasive Species Maintenance and Control**

Objective 1: Continue to work with SJRWMD to treat and monitor existing areas of Japanese climbing fern (*Lygodium japonicum*) annually. Estimated costs per year are currently \$1,000. (On-going Goal)

Performance Measure: Number of acres treated.

Objective 2: Develop a plan to locate, identify, control and monitor non-native, invasive plant species. (Short Term Goal)

Performance Measures:

- Completion of the plan.
- Total number of acres identified and mapped.

Objective 3: In coordination with SJRWMD, implement the comprehensive non-native, invasive species plan. Costs will vary depending on species, but should currently average approximately \$1,500 per year. (On-going Goal)

Performance Measures:

- Number of target species treated.

- Percentage of area infested by invasives reduced by treatment.
- Number of target species successfully controlled and/or eradicated.

Objective 4: Continue to follow and annually update the Five-Year Ecological Plan for RSSF. (On-going Goal)

Performance Measure:

- Update of the Five-Year Ecological Plan completed annually.

➤ **GOAL 7: Cultural and Historical Resources**

Objective 1: Ensure all known archaeological and historical sites are recorded in the Florida Division of Historical Resources (DHR) Master Site Files. (Short Term Goal)

Performance Measure: Number of recorded sites.

Objective 2: Monitor recorded sites and send updates to DHR Master Site File as needed. (On-going Goal)

Performance Measure: Number of sites monitored. Reports submitted to DHR.

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

Performance Measure: Number of local staff trained.

Objective 4: Conduct a historical and cultural survey in cooperation with the DHR during this planning period. Estimated cost is to be determined. (Long Term Goal)

Performance Measures:

- Completion of surveys.
- Update site maps to include identified cultural and historical sites.

➤ **GOAL 8: Hydrological Preservation and Restoration**

Objective 1: Protect water resources during management activities through implementation of Silviculture Best Management Practices (BMPs) for public lands. (On-going Goal)

Performance Measure: Compliance with BMPs.

Objective 2: Continue to monitor roads, firelines, and trails annually for evidence of erosion into surrounding water bodies that cause alterations to the natural hydrology. If identified, rehabilitate or restore these areas. (On-going Goal)

Performance Measure: Total number and percentage of roads and trails rehabilitated or restored where erosion exists.

Objective 3: Conduct or obtain a site assessment / study to identify potential hydrology restoration needs. (Long Term Goal)

Performance Measure: Completion of assessment.

➤ **GOAL 9: Capital Facilities and Infrastructure**

Objective 1: In conjunction with SJRWMD, continue maintenance of one cabin facility, two primitive camp sites, one primitive group camp site, one picnic area, three parking

areas, sixteen miles of trails / secondary and tertiary roads. Maintenance activities should focus on campgrounds, cabin and trails. Estimated costs per year currently average \$1,500. (On-going Goal)

Performance Measures:

- Cabin facility maintained.
- Number of campsites maintained.
- Miles of trails maintained.

Objective 2: Maintain, improve, or repair approximately twelve miles of roads. Implementation, maintenance and improvement costs currently average \$3,500 per year. (On-going Goal)

Performance Measures:

- Number of miles of roads maintained annually.
- Number of miles improved or repaired.

Objective 3: Continue annual maintenance of state forest boundary. The entire boundary will be reworked every five years including harrowing, reposting signage and repainting boundary trees. Average estimated costs are currently \$1,000 per year. (On-going Goal)

Performance Measure: Percentage of forest boundary maintained.

Objective 4: Update the Five-Year Roads and Bridges Management Plan. This plan should include road assessments, improvement projects, culvert locations, stabilization projects, and other road management needs. (On-going Goal)

Performance Measures:

- Continued implementation of the Five-Year Roads and Bridges Management Plan.
- Update of the Five-Year Roads and Bridges Management Plan completed annually.

Objective 5: Continue to follow the Five-Year Boundary Survey and Maintenance Management Plan and update annually. (On-going Goal)

Performance Measures:

- Continued implementation of the Five-Year Boundary Survey and Maintenance Management Plan.
- Update of the Five-Year Boundary Survey and Maintenance Management Plan completed annually.

Objective 6: Develop and designate road names for all forest roads. Estimated cost for road sign installation is currently \$1,500. (Long Term Goal)

Performance Measures:

- Number of roads with designated road names.
- Number of installed road signs.

Objective 7: Assess the cost vs. benefit and need for improvements to the recreation program specifically the addition of a wildlife viewing tower and/or a boardwalk. (Short Term Goal)

Performance Measure: Assessment completed.

Objective 8: If found to be a favorable addition to RSSF, construct one wildlife viewing tower and/or boardwalk. Location and specifications should be determined with input from SJRWMD. Costs are to be determined. (Long Term Goal)

Performance Measure: Construction of wildlife viewing tower and/or boardwalk complete.

Objective 9: Construct one permanent restroom facility. Location and specifications should be determined with input from SJRWMD. Costs are to be determined. (Long Term Goal)

Performance Measure: Construction of restroom complete.

Objective 10: The well that supplies non-potable water to the group camp area is currently owned by the privately held fish camp, located adjacent to the campground. Should the current agreement ever cease, determine the ability and feasibility to drill a well at the group camp area. If found to be favorable, the well may be drilled. (Long Term Goal)

Performance Measures:

- Assessment made.
- Well drilled.

II. Administration Section

A. Descriptive Information

1. Common Name of Property

The common name of the property is the Ralph E. Simmons Memorial State Forest (RSSF).

2. Legal Description and Acreage

The RSSF is located in the northwestern portion of Nassau County, Florida, approximately 6 miles north of Hilliard. The boundaries and the major parcels are identified in Exhibit A. The legal description is found in the Intergovernmental Management Agreement Number 1105. The property is located in all or part of: Section 41, Township 4 North, Range 23 East; Sections 5, 6, 7, 41 Township 4 North, Range 24 East; Sections 29, 31, 32, 37, 38 Township 5 North, Range 24 East; and Sections 37, 38 Township 5 North, Range 23 East, Nassau County Florida. Total area for the forest is approximately 3,638 acres.

A complete legal description of lands owned by the SJRWMD as part of RSSF is on record at the Hilliard Forestry Station office, at the Florida Department of Environmental Protection (DEP) in Tallahassee, and at the FFS state office in Tallahassee.

3. Proximity to Other Public Resources

Lands managed by state, federal, or local government for conservation of natural or cultural resources that are located within approximately 25 miles of the RSSF are included in Exhibit C as well as the table below:

Table 1. Nearby Public Conservation Land and Easements

TRACT	AGENCY	DISTANCE
Okefenokee National Wildlife Refuge	USFWS	10 Miles
Four Creeks State Forest	FFS	18 Miles
Thomas Creek Preserve	COJ	24 Miles
Thomas Creek Conservation Area	SJRWMD	22 Miles
Cary State Forest	FFS	24 Miles
Timucuan Ecological and Historic Preserve	NPS	25 Miles

COJ = City of Jacksonville

FFS = Florida Forest Service

NPS = National Park Service

SJRWMD = St. Johns River Water Management District

USFWS = U.S. Fish and Wildlife Service

4. Property Acquisition and Land Use Considerations

RSSF was acquired using the Save Our Rivers bond funds.

B. Management Authority, Purpose and Constraints

1. Purpose for Acquisition / Management Prospectus

The main objectives for the acquisition of this property and the primary goals of the SJRWMD and the FFS in managing the tract are:

- To conserve and protect, through sustainable forest management practices, environmentally unique and irreplaceable lands that contain native flora and fauna that represent 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 and endangered and/or threatened species.
- To conserve, protect, manage, and 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 amenities, including recreational trails, supporting natural resource-based recreation.
- To preserve archaeological or historical sites.

2. Degree of Title Interest Held

The SJRWMD holds fee simple title to RSSF. On September 23, 1992, the management authority was assigned to the FFS under Intergovernmental Management Agreement FDACS Contract Number 1105.

3. Designated Single or Multiple-Use Management

The RSSF 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 Intergovernmental Management Agreement FDACS Contract Number 1105.

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, and 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 the state forest 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 income producing activities is quite varied and several are listed below:

- Timber Harvests - RSSF has the potential for one or more timber sales averaging 2,000 to 4,000 tons in size to be sold during this planning period.
- Miscellaneous Forest Products - There is the potential for minor income from the sale of miscellaneous forest products such as palmetto fronds and drupes, pine cones, and firewood.

Per the management agreement, no recreation fees are collected at this time. However, fees may be collected in the future if both parties find this favorable and the agreement was altered to allow for such fee collection.

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 RSSF.

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 RSSF boundary lines are managed by state forest personnel in accordance with the guidelines stated in the State Forest Handbook. The SJRWMD installed a four foot field fence on the south and east boundaries of the forest and assists with maintenance of this structure. There are currently four gates to the property that are maintained.

2. Improvements

Structures on the forest include a small cabin, a security mobile home site, a boat ramp, and a game check station. The game check station is no longer utilized. Due to issues with vandalism, FFS is currently working with SJRWMD towards either the removal of the game check station or a transfer of the building to FFS so it may be moved and utilized elsewhere. There are also three primitive campsites, one small outdoor shower, three trailheads, and one picnic area. (See Exhibit J)

3. On-Site Housing

SJRWMD currently provides one security residence site. This site provides space and septic for a mobile-home and is available only to an individual who is approved by the SJRWMD. Additional structures on this site must be approved by SJRWMD. As of the writing of this plan, there is currently one individual living on the security residence site in a mobile home that is owned by the individual.

FFS, in coordination with SJRWMD, may establish on-site housing (mobile / manufactured home) on RSSF 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 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 District Manager and approved by the Director and SJRWMD.

4. Operations Infrastructure

a. Budget

Funding for the management of RSSF comes from two sources. The SJRWMD provides the bulk of the funding, with the Incidental Trust Fund (ITF) of the State of Florida providing additional management dollars. The amount allocated from SJRWMD is fixed and currently does not vary from year to year. Funding from SJRWMD is provided on a reimbursement basis. The FFS submits an annual invoice for services provided for the previous fiscal year. SJRWMD then reimburses the FFS that amount by September 30th, the end of their fiscal year. See Exhibit N for a Budget Summary.

b. Equipment

The following equipment has been assigned to RSSF to carry out resource management work and maintain forest improvements:

- 2006 Ford F-250 Super Duty 4x4 Pick-Up

c. Staff

A forester has been assigned to RSSF. The Nassau County Forest Area Supervisor and RSSF Forester will work in coordination to achieve the goals outlined in this management plan. Day to day resource management (timber cruising, planning, etc.) will be the responsibility of the RSSF Forester, under the direction of the Jacksonville Resource Administrator. Day to day forest operations (road maintenance, prescribed burning, etc) will be the responsibility of the Nassau County Florida Forest Service fire control personnel, under the direction of the Forest Area Supervisor. Additional assistance will be provided by staff of the Jacksonville District as needed.

D. Additional Acquisitions and Land Use Considerations

1. Alternate Uses Considered

During this management period, the following uses were considered and determined to be not compatible: water resource development projects, water supply development projects, storm-water management projects, additional linear facilities, communication towers and antennas, except as otherwise outlined in this plan. 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 D) would facilitate restoration, protection, maintenance, and management of the resources on RSSF.

In addition to the land parcels, there is an abandoned building on the southern portion of the property. The property is currently within the RSSF boundary; however, the title to the building did not transfer with the property upon acquisition. A title search should be performed and legal title to this building should be acquired. The building is in a dilapidated state and needs to be removed.

3. Surplus Land Assessment

All of the property within RSSF is suitable and necessary for the management of RSSF, 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, in making the determination that there are currently no known conflicting adjacent land uses. Additionally, FFS staff maintain liaison with adjacent landowners 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 Nassau County for review and compliance with their local comprehensive plan (Exhibit E).

6. Utility Corridors and Easements

Currently there is one established utility corridor on RSSF. A Florida Power and Light Company (FP&L) 300-foot-wide power line and right-of-way traverse the southwest corner of the forest. In addition, an underground gas line is located within the footprint of this easement.

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 RSSF 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., listed species and archaeological sites), to minimize habitat fragmentation, and to limit disruption of management activities and 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 SRWMD. Requests for linear facility uses will be handled following the protocol established by the Governor and the Cabinet's linear facilities policy, although SJRWMD would have to approve of any linear facilities.

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 Intergovernmental Management Lease Number 1105. 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 (FWC) has law enforcement responsibilities, enforces hunting regulations, cooperatively sets hunting season dates

with FFS, and conducts other wildlife management activities with input from FFS and SJRWMD.

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

The SJRWMD will be consulted and involved in matters relating to water resources and the outdoor recreation program as appropriate.

2. Law Enforcement

Primary law enforcement responsibilities will be handled by law enforcement officers from the FWC. Additional assistance is provided by the Nassau County Sheriff's Offices as needed. SJRWMD has periodically contracted with off-duty law enforcement officers to patrol the property. This contract is coordinated entirely by SJRWMD. SJRWMD also provides a security residence onsite.

Special rules under Chapter 5I-4 of the Florida Administrative Code were promulgated for the Florida Department of Agriculture and Consumer Services, Florida Forest Service, to manage the use of State Lands and to 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, public hearings, and through direct contact with user groups. A Management Review Tour was conducted by SJRWMD in November 2007 to review management plan implementation for RSSF. The District has requested a Management Review Tour for this year. No documentation was received from SJRWMD regarding any specific recommendations resulting from that review.

The plan was reviewed at a public hearing on February 2, 2016 at the Jacksonville District Office. A summary of the meeting and discussions, as well as written comments received on the plan, are included in Exhibit F. This plan was also presented to the SJRWMD Governing Board thereby providing additional opportunity for comment.

4. Volunteers

Volunteers are important assets to RSSF. Depending upon the type of volunteer service needed, volunteer activities may be one-time events or long-term projects. As available, volunteers have assisted RSSF staff with trail maintenance, mowing, trash cleanup, and rare plant and animal monitoring. Additional volunteer recruitment will be encouraged to assist with other activities.

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 forest was owned by the timberland brokerage firm Strothers Timberlands, Ltd., for many years. Prior to acquisition, hunting for game species was the most common recreation activity. The previous owners focused their silvicultural activities on logging in the uplands, with little to no prescribed burning occurring.

B. Archaeological and Historical Resources

A review of information contained in the Florida Department of State, Division of Historical Resources' (DHR) Florida Master Site file has determined that there is one recorded archaeological site on RSSF. Florida Master Site File #8NA903 documents aboriginal ceramic shards found during a 2000 shovel test related to a proposed gas pipeline project. This site is located within the footprint of the gas line easement and was discovered during an archaeological survey required for construction of the gas line. The site is periodically evaluated by the archaeological monitor as conditions warrant. However, the forest as a whole has never been subjected to a systematic professional survey to locate additional archaeological or historical sites. There are a number of sites recorded within close proximity to the state forest. A request for an Assessment of Cultural Resources on RSSF will be made within this planning period.

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 G) and will comply with all appropriate provisions of Section 267.061(2) 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 is one local FFS personnel trained by DHR as an archaeological site monitor. FFS will pursue opportunities for getting additional personnel trained. FFS will consult with public lands archaeologists at DHR to determine any protection measures

that might be required. Any 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 RSSF was obtained from the Nassau County Soil Survey. For detailed information on soils see Exhibit H.

2. Soil Protection

Currently there are no major soil or erosion problems present on RSSF. Management activities will be executed in a manner to minimize soil erosion. If problems arise, corrective action will be implemented by FFS staff under the direction of the FFS Forest Hydrology section in conjunction with the recommendations as contained in the most current version of the Florida Silviculture Best Management Practices Manual.

B. Water Resources

The water resources on RSSF 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.

1. Resources

RSSF is bordered on the north and west by the St. Marys River with 6.7 miles of river frontage. The forest contains five intermittent drains that flow into the river, several seepage slopes, and one river floodplain lake.

2. Water Classification

All water bodies on RSSF are classified as Class III Surface Waters – Recreation, Propagation, and Maintenance of a Healthy Well Balanced Population of Fish and Wildlife, in accordance with Rule 62-302.400, Florida Administrative Code. No water bodies on RSSF are designated as “Outstanding Florida Waters”. The majority of wetlands on RSSF are associated with the large floodplains and drainages that flow into the St. Marys River.

3. Previous Restoration Activities

The majority of the roads on RSSF were constructed prior to state ownership in 1992. Since 2003, the RSSF management team has worked with the FFS Road Crew repairing and improving road structure and drainage on the forest. These efforts have greatly enhanced the hydrology and reduced the risk to water quality of freshwater resources.

4. Water Protection

One of the objectives of the SJRWMD in acquiring this property is the protection of the St. Marys River watershed. Water resource protection measures, at a minimum, will be accomplished through the use of Best Management Practices (BMPs) as described in the most current version of Silviculture Best Management Practices Manual.

Wetland restoration objectives on the forest include erosion control, restoration of hydrology and/or hydro-period, 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 will be conducted in conjunction with other restoration activities indicated elsewhere in this plan.

To the extent necessary, FFS 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.

C. Wildlife and Botanical Resources

1. Rare, Threatened, and Endangered Species

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

2. Listed Species

Table #2 below lists the endangered/rare/species of special concern that have been documented to occur on RSSF. The below list is based on information compiled from FNAI tracking records as well as field observations by FWC, SJRWMD, FFS, and trained volunteers.

Most of these observations were recorded in the field during a 2007 FNAI natural communities survey (Exhibit I). Butterfly observations were made by trained FNAI volunteers during the years 2007-2010. A rare species survey should be conducted within this ten-year period to determine population data for species previously observed and evaluate if other rare or threatened species may occur as well.

Table 2. Endangered or Threatened Species on RSSF

Common Name	Scientific Name	Federal Status *	State Status *	FNAI Global Rank *	FNAI State Rank *
Reptiles					
American Alligator	<i>Alligator mississippiensis</i>	SAT	FT(S/A)	G5	S4
Eastern Indigo Snake	<i>Drymarchon couperi</i>	LT	FT	G3	S3
Gopher Tortoise	<i>Gopherus polyphemus</i>	C	ST	G3	S3
Southern Hognose Snake	<i>Heterodon simus</i>	N	N	G2	S2
Florida Pine Snake	<i>Pituophis melanoleucus mugitus</i>	N	SSC	G4 T3	S3
Invertebrates					
Dusky Roadside-Skipper	<i>Amblyscirtes alternata</i>	N	N	G2 G4	S1 S2
Henry's Elfin	<i>Callophrys henrici</i>	N	N	G5	S3 S4
Frosted Elfin	<i>Callophrys irus</i>	N	N	G3	S1
Eastern Tailed Blue	<i>Cupido comyntas</i>	N	N	G5	S2
Seminole Skipper	<i>Hesperia attalus slossonae</i>	N	N	G3G4T3	S3
Surprising Pocket Gopher Aphodius Beetle	<i>Aphodius dyspistus</i>	N	N	G3G4	S3
Small Pocket Gopher Aphodius Beetle	<i>Aphodius aegrotus</i>	N	N	G3G4	S3
Hubbell's Pocket Gopher Aphodius Beetle	<i>Aphodius hubbelli</i>	N	N	GNR	S3
Large Pocket Gopher Aphodius Beetle	<i>Aphodius laevigatus</i>	N	N	G3G4	S3
Schwarz' Pocket Gopher Ptomaphagus Beetle	<i>Ptomaphagus schwarzi</i>	N	N	G3	S3
Eastern Meske's Skipper	<i>Hesperia meskei straton</i>	N	N	G3G4T3	S2 S3
Plants					

Common Name	Scientific Name	Federal Status *	State Status *	FNAI Global Rank *	FNAI State Rank *
Purple Honeycomb-head	<i>Balduina atropurpurea</i>	N	LE	G2	S1
Florida Toothache Grass	<i>Ctenium floridanum</i>	N	LE	G2	S2
Hartwrightia	<i>Hartwrightia floridana</i>	N	LT	G2	S2
Giant Orchid	<i>Pteroglossaspis ecristata</i>	N	LT	G2 G3	S2
Yellow Sunnysbell	<i>Schoenolirion croceum</i>	N	LE	G4	S2
Silver Buckthorn	<i>Sideroxylon alachuense</i>	N	LE	G1	S1
Parrot Pitcherplant	<i>Sarracenia psittacina</i> ±	N	LT	G4	S4
Hooded Pitcherplant	<i>Sarracenia minor</i> ±	N	LT	G4	S4
Heartleaf	<i>Hexastylis artifolia</i>	N	LT	G5	S3
Florida Merrybells	<i>Uvularia floridana</i>	N	LE	G3	S1
Blue-flowered Butterwort	<i>Pinguicula caerulea</i> ±	N	LT	G4	S3S4
Rose Pogonia	<i>Pogonia ophioglossoides</i> ±	N	LT	G5	S3S4

*** STATUS / RANK KEY**

- Federal Status (USFWS): 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= Listed Endangered, LT= Listed Threatened, SAT = Listed Threatened due to similarity of appearance.
 - State Status (FWC) Plants: LE= Listed Endangered, LT=Listed Threatened, LS= Listed Species of Special Concern, N= Not currently listed, nor currently being considered for listing.
 - 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 USFWS, 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.
 - FNAI Global Rank: G1= Critically Imperiled, G2 = Imperiled, G3= Very Rare, G4= Apparently Secure, G5= Demonstrably Secure, T#= Taxonomic Subgroup; numbers have same definition as G#'s.FNAI State Rank: S1= Critically Imperiled, S2= Imperiled, S3= Very Rare, S4= Apparently Secure.
- ± = Not tracked by FNAI

The restoration priority is to ensure that species vital to ecosystem processes are thriving in RSSF. By maintaining a frequent prescribed fire return interval with emphasis on growing season fire, management should maintain and enhance a fire tolerant vegetative community including: longleaf pine (*Pinus palustris*), wiregrass (*Aristida stricta*) and broomsedge species (*Andropogon* spp.).

Monitoring for sensitive species, such as the eastern indigo snake and hartwrightia, will be conducted as restoration progresses. Areas on RSSF that contain potential habitat for these species will be managed as though these species are present or managed to improve habitat so that it may support these species. As restoration progresses and habitat improves, it is possible that existing populations of these species may expand or migrate to the forest.

No current plans exist during this ten-year period to reintroduce any species likely extirpated from RSSF. Habitat conditions for key species will be monitored over

time and reintroductions may be attempted if it is in the best interest of overall species recovery efforts.

3. Game Species and Other Wildlife

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

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.

Due to the diversity of habitats on RSSF, there are an array of fish and wildlife species present. Examples of wildlife currently found on RSSF include, but are not limited to, wild turkey (*Meleagris gallopavo*), bobwhite quail (*Colinus virginianus*), white-tailed deer (*Odocoileus virginianus*), bobcat (*Felis rufus*), eastern diamondback rattlesnake (*Crotalus adamanteus*), pinewoods tree frog (*Hyla femoralis*), and numerous songbirds. To ensure long-term viability of these populations, management of RSSF is focused on improving habitat. Through the use of sound land management techniques, such as prescribed fire and pine thinnings, the majority of habitats are in fair to excellent condition.

4. Native Groundcover

Site-preparation recommendations are developed, and depending on the quality of the existing groundcover, modifications to site-preparation treatments are made accordingly. This assists in reducing soil disturbances and 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.

While prescribed fire continues to be the preferred management tool, herbicide has been effective in controlling encroaching and undesired woody vegetation on sandhill habitat where prescribed fire is impractical or ineffective.

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. Prior to developing these plans, biological surveys will be conducted to determine locations and extent of these species.

In 2011, FNAI conducted a survey for gopher tortoises across the property. This survey evaluated approximately 820 acres of suitable habitat. It divided the habitat

into three different types: sandhill, pine plantation and ruderal. The study found multiple size classes of burrows, suggesting multiple age classes present within the forest and evidence of recent reproduction. The study concluded with an estimate of 1,360 active and 607 inactive burrows.

While no species-specific monitoring plans have been developed, the information gathered from the gopher tortoise survey has been used to prioritize stands for habitat improvement projects. Future species-specific management plans and monitoring protocols will be developed by the FFS Forest Management Bureau and/or State Forest Ecologist, with input from the SJRWMD and FWC, as needed.

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 reforestation, managing, growing, 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.

Approximately 53 percent (1,922 acres) of RSSF is considered a pine dominated community. The remaining forest acreage exists as either hardwood or cypress dominated communities. Approximately 439 acres of the forest are pine plantations. Of this, 83 acres are slash pine (*Pinus elliottii*) established in 1980-82 and 356 acres are in longleaf pine (*Pinus palustris*) plantations established since 1999. Stands of natural pine comprise approximately 1,450 acres.

For management purposes, the forest is divided into 29 timber stands. A complete forest inventory cycle was completed in 2004 and again in 2009. Based on the data, the forest has approximately 111,190 tons of pine and 184,606 tons of hardwood. This includes both merchantable and pre-merchantable timber.

E. Beaches and Dune Resources

No beaches or dunes occur on the RSSF.

F. Mineral Resources

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

G. Unique Natural Features and Outstanding Native Landscapes

Numerous natural features occur on RSSF. These include the St. Marys River, upland hardwood forest with significant slope (previously delineated as slope forest in past management plans), high quality sandhill communities and the floodplain lake. A key attribute to this land is its pronounced topography. Notable elevation changes occur throughout the property, resulting in a mosaic of unique habitats. The landscape

transitions from upland sandhill to wet flatwoods and bottomlands in a relatively short distance.

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 RSSF 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. 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 RSSF 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 research project on the Frosted Elfin sponsored by the University of Florida took place between 2010 and 2012.

I. Ground Disturbing Activities

Although the FFS's approach to handling ground disturbing activities is identified in various 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 archaeological, fossil, and historical sites, ecotones, wetlands, and sensitive species.

When new pre-suppression firelines, 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 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. Hunting and equestrian use are currently the main recreation uses. Other recreation activities include hiking, fishing, boating, kayaking,

canoeing, birding, picnicking, geocaching and primitive camping. The brochure “Recreation Guide to District Lands”, published by the SJRWMD, outlines recreational opportunities on RSSF and is available at the SJRWMD office.

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, in conjunction with SJRWMD, determines their compatibility with other forest uses and forest resources.

As previously mentioned in the plan, FFS, in cooperation with SJRWMD, has added several improvements to the forest to support recreational activities, including installing trail benches, replacing fire rings, and rehabilitating and opening the cabin for public use. See Exhibit J for existing facilities.

A. Existing

1. Roads

RSSF is bordered on the east by Penny Haddock Road and on the south by Lake Hampton Road, both county maintained roads. There is public access along both these roads (Exhibit J). Scott’s Landing Road bisects the southwestern edge of the forest and provides access to the group campsite and boat ramp. The interior portions of RSSF are accessed by approximately ten miles of forest roads and trails that are in fair to good condition. Interior roads are composed of a predominantly sand and/or clay. Motorized vehicle traffic is only allowed during hunting season and only a portion of the interior road network is available for use during that time. All road maintenance is conducted by the FFS. A Five-Year Road and Bridges Management Plan has been developed and is updated annually. This plan outlines major road projects, conditions, and needs. The previous ten years has focused on stabilizing areas of erosion along the main loop road and the powerline road. There are currently no major erosion issues or major road repairs required with any of the roads in RSSF. Plans for the establishment of new roads will be reviewed by the FFS and SJRWMD, with input optioned from DHR, FNAI, and ARC, as necessary.

A borrow pit is located on the forest and has been used by the FFS as a source of road material. The borrow pit is approximately 1.5 acres in size and is no longer used for material. This borrow pit is to be monitored as some stabilizations of the banks adjacent to the access road may be necessary during this planning period. No additional borrow pits are planned for RSSF.

2. Public Access and Parking

There are currently three designated entrances to RSSF, with a parking area available for multiple vehicles. Two entrances include grass parking areas with a kiosk. These areas can accommodate several cars and/or horse trailers at one time. A third parking area is located at the end of Scott’s Landing Road. This area provides parking for the RSSF picnic area as well as for the cooperatively managed boat ramp. A walk-in

entrance is also available, but does not have a designated parking area. Vehicles must park by the side of the road.

3. Recreational Trails

There are currently ten miles of established trails on RSSF. These trails are maintained as three distinct trail systems known as the red, white and yellow trails. The FFS, SJRWMD, and volunteers maintain the trail network.

In addition to the three marked trails, RSSF is also a part of the Great Florida Birding trail. This program is administered through FWC.

4. Primitive Camping Sites

There are three primitive campsites on RSSF; two river sites and a group camp site. The two river sites are first-come, first serve. These sites contain a fire ring and bench. The river sites are hike-in or paddle / boat in. The group camp site is on a reservation system and in addition to a fire ring and picnic tables has a small shower facility. Campers can drive-up to their site at the group camp site.

In addition to the camp sites, there is a cabin shelter available by reservation. The cabin site is considered a primitive site as it has no running water or other facilities. It is drive up or accessible from the river. It provides shelter for eight to twelve people.

5. Boat Ramp

There is a paved boat ramp in the southwest corner of the forest that provides public access to the St. Marys River. This boat ramp and adjacent parking are maintained by the FWC. FFS and SJRWMD assist with management of the lands surrounding the boat ramp. Nassau County is responsible for the maintenance and upkeep of the road (Scott's Landing Road) leading to the boat ramp. Adjacent to the boat ramp is a small, drive-up picnic area containing several picnic tables, benches and a kiosk maintained by the FFS. Adjacent to the RSSF boat ramp and parking area is additional parking that is privately owned, as well as a privately owned and operated campground and general store.

B. Planned

1. Public Access and Parking

Current public access and parking is deemed sufficient for this property. There are no plans within this planning period to add additional access points or parking areas. During this planning period, existing entrances will be maintained. The addition of an informative kiosk at the northern Penny Haddock entrance will be evaluated.

2. Recreational Trails

The availability of additional trails and/or connector routes to tie existing trails together will be evaluated during this planning period. If a new trail is deemed beneficial, it may be installed prior to the end of this ten year period utilizing the guidelines provided in the FFS State Forest Handbook.

3. Primitive Campgrounds

Improvements such as picnic tables should be installed where appropriate as funding allows. During this planning period, improvements such as the installation of benches and signage should be made to the cabin shelter. Minor road improvements may be necessary to improve access to the cabin site.

4. Wildlife Viewing Tower and Boardwalk

In conjunction with SJRWMD, the benefits of a wildlife viewing tower and/or a boardwalk will be evaluated during this planning period. Location, schematics, and construction of the facilities will be developed in accordance with SJRWMD and FFS Guidelines.

5. Bathroom Facility

In conjunction with SJRWMD, FFS will determine the feasibility of installing a permanent restroom facility on RSSF. The location and construction of the restroom should be determined in this planning period. If funding allows, the restroom should be constructed prior to the end of this ten year period in accordance with SJRWMD and FFS Guidelines.

C. Hunter Access

Hunting season dates, limits, and methods are established annually by FWC in consultation with FFS and SJRWMD. RSSF is designated as a Wildlife Management Area. SJRWMD has installed a game check station to enforce hunting regulations and collect wildlife harvest data. However, the funding provided by SJRWMD to man that station is no longer available and the game check station is no longer utilized. Due to issues with vandalism, FFS is currently working with SJRWMD towards either the removal of the game check station or a transfer of the building to FFS so it may be moved and utilized elsewhere.

VI. Habitat Restoration & Management Practices

A. Prescribed Fire

Timber management practices on Ralph Simmons 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 RSSF 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 total fire management program on state forests that includes wildfire prevention, detection, suppression, and prescribed burning. The prescribed fire program for RSSF is the responsibility of the FFS's Jacksonville District. Nassau County has four tractor-plow units; two stationed at Hilliard Work Center, and one each at the Yulee and Tisonia sites. 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 RSSF is available in Exhibit N.

1. Prescribed Burning Plan

The annual forest prescribed burning program produces multiple benefits. The purposes of prescribed burning on RSSF 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 RSSF, which will consist of growing and dormant season burns. Burns are planned by the state forest staff with input from cooperating agencies as appropriate. A RSSF 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 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.

2. Fire Return Intervals

Historic, fire dependent natural communities on RSSF are estimated to have occupied approximately 2,360 acres and to have burned at approximately two to four year intervals. Past land uses have left some of these historically fire dependent communities in a condition unable to carry prescribed fire. Restoration of these areas by removal of the off-site species and reforestation will increase prescribed burn acreage goals over time.

Based on current conditions and management objectives, staff considers approximately 2,587 acres to be burnable. As of the writing of this plan, current burnable acreage is higher than historic fire dependant community acreages due to FFS attempts to restore fire excluded communities to their original fire dependant type and maintained condition.

In order to achieve an average fire return interval of two to four years across the forest, RSSF will plan to conduct prescribed burns on 590 to 1,180 acres, on average, each year. Burn units that have had at least two prescribed fire within the desired return interval are considered in the maintenance phase. Almost all burn units in RSSF are in this phase. Meeting prescribed fire goals will be largely dependent on weather conditions, available personnel, and statewide emergency situations such as wildfires, hurricanes, and other natural disaster response and relief requiring RSSF staff involvement to respond and provide needed relief.

Table 3. Burnable Acres by Community Type

Burnable FNAI Community Type	Acres
Mesic Flatwoods	192

Burnable FNAI Community Type	Acres
Ruderal Clearcut/Early Regeneration	45
Ruderal Utility Corridor	42
Sandhill	703
Upland Pine Forest	441
Baygall	480
Wet Flatwoods	539
Xeric Hammock	144
Total	2587

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 Jacksonville District Office. 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 RSSF Fire Management Plan.

1. Suppression Strategies

If a wildfire occurs on RSSF 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 has been developed and maintained around and within the boundaries of RSSF 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 RSSF 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 RSSF. When possible, fire staff will avoid line construction in wetland ecotones throughout the forest.

5. Adjacent Neighbor Contacts

The staff at RSSF 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.

6. 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 biological 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 RSSF:

- 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 RSSF will be directed toward improving forest health, wildlife habitat, biological and economical sustainability. Stands of off-site species with merchantable volume will be scheduled for harvest, followed by a subsequent reforestation with the appropriate 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 will include prescribed fire, mechanical vegetation control, herbicide applications, or some combination of these methods.

Prescribed fire is the most desirable method of vegetation control for 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 and 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 plant communities through timber harvesting may include a combination of thinning for maintenance, group or single tree selection, shelter wood and/or clear-cut harvests for regeneration.

All silvicultural activities, including timber harvesting and reforestation, will meet or exceed the standards in the FFS's Silviculture Best Management Practices (BMPs), Wildlife BMPs, when applicable, 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 RSSF will be re-inventoried annually to provide an accurate estimation of the standing timber and to ensure that stands will be managed sustainably.

Additional timber / forestry resources available on the property may include pine straw, crooked wood, biomass, and other forest resources. At this time, none of these are taking place, but may be considered in the future.

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 and SJRWMD employees continuously monitor the forest for non-native, invasive species while conducting management activities. The practice of the FFS is to 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 and SJRWMD as needed. The plan will be implemented based upon the severity of the infestation and the availability of personnel and funding.

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 pests from state forest property. These occurrences are recorded in the GIS database and updated as new locations 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.

Guidelines are already in place for private contractors doing work on the state forests, as the manager may insert language in the contract to accommodate for cleaning of equipment prior to ingress and egress, and other protocols as appropriate to prevent the introduction and spread of invasive plants.

The FFS will enlist support from the FWC in the effort to control non-native, invasive animals. The FWC has issued a feral hog control trapping permit to FFS for all state forests and the FFS will encourage hog removal on RSSF through trapping and hunting should feral hogs become a management issue on RSSF.

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 plants will be target specific and use a variety of methods including appropriately labeled and efficacious herbicides.

A survey for non-native invasive plant species, conducted by the FFS in 2006, revealed the presence of several invasive species, including Japanese climbing fern, Chinese privet (*Ligustrum sinense*), camphor tree (*Cinnamomum camphora*), Chinese Tallow (*sapium*

sebiferum), and mimosa (*Albizia julibrissin*). Of these, only Japanese climbing fern was determined to be a threat to the surrounding habitat. The current infestation is estimated to occupy approximately one to two acres along Scott's Landing Road. An additional infestation, consisting of small plants, has been found within the main body of the forest. Field staff are currently working with SJRWMD to apply control efforts to the Japanese climbing fern populations. This infestation has been treated several times and is surveyed annually to determine retreatment needs.

E. Insects, Disease and Forest Health

The only known outbreak on RSSF at this time is Laurel Wilt (formerly known as Redbay Wilt). The disease is caused by a fungus (*Raffaelea lauricola*) that is introduced into host trees by a non-native insect, the redbay ambrosia beetle (*Xyleborus glabratus*). This disease primarily effects redbay (*Persea borbonia*). Other trees in the laurel family (Lauraceae) are also susceptible, including sassafras (*Sassafras albidum*), pondspice (*Litsea aestivalis*), and avocado (*Persea americana*). Numerous red bays on RSSF exhibit the symptoms of Laurel Wilt. At this time, there are no applicable control methods for the forest setting. An informational campaign has begun utilizing brochures at the kiosks to aid in limiting the spread of red bay firewood. Should other unexpected insect / disease outbreaks occur, 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 Sec. 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. With the approval of this plan documenting this designation, the local arthropod control agency in Nassau County will be notified of this designation.

As a result, prior to conducting any arthropod control activities on RSSF, 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 RSSF. This public lands control plan must be in compliance with FDACS guidelines and use the appropriate FDACS 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. More information is included in Exhibit O.

F. Use of Private 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:

1. Restoration Activities – Mechanical and/or chemical treatments used for restoration of groundcover (including seeding / re-vegetation), non-native, invasive species removal, hardwood control, and other treatments as necessary will be considered for contractual services. Mechanical fuel reduction and pre-merchantable thinning within naturally regenerating stands will also be considered. As pine plantations are harvested and/or where wildfire / natural disaster damage may occur, contractual site preparation will be considered. All timber harvests will utilize private contractors.
2. Reforestation– RSSF has the potential for one or more tree planting projects in which private contractors would be employed.
3. Biological Assessments – FNAI and other organizations will be considered for contracting natural community assessments and mapping, rare plant and animal surveys, and other projects as necessary.
4. Road Repair / Hydrology – Road material delivery may be contracted as needed.

VII. Proposed Management Activities for Natural Communities

In 2007, FNAI completed an inventory and natural community mapping project on 3,638 acres of RSSF and a historic natural community type map (Exhibit K) was created. Current natural communities and cover types can be found in Exhibit L.

For the purposes of this plan, restoration is defined as the process of returning ecosystems or habitats to the appropriate structure and species composition, based on soil type. Restoration 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 and frequency that will attain the desired habitat goals. Fire frequency is generally increased or decreased depending upon the conditions of the specific area.

Table 4. Natural Communities and Cover Types Found on RSSF

Natural Communities	Acres Mapped (Historic)	Acres Mapped (Current)	Burn Interval (Years)
Sandhill	998	805	1-3
Wet Flatwoods	693	576	1-5
Upland Pine	481	486	1-3
Floodplain Swamp	422	422	Rare
Bottomland Forest	414	434	Rare

Natural Communities	Acres Mapped (Historic)	Acres Mapped (Current)	Burn Interval (Years)
Baygall	275	480	50-100
Upland Hardwood Forest	162	161	Rare
Seepage Slopes	134*	0(Included in baygall)	1-3
Mesic Flatwoods	55	55	1-4
River Floodplain Lake	3	3	NA
Dome Swamp	1	1	1-3 (edge)
Xeric Hammock	0	145	Rare
Ruderal**	N/A	70	N/A

* Difficult to delineate from historic aerial photography. Acreage likely greater than reported.

** Ruderal refers to all roads, developed areas, and utility corridors on RSSF.

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

The following natural community descriptions, current condition descriptions, and management recommendations are taken from the 2007 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 RSSF.

A. Sandhill

Description

Sandhill is characterized by an overstory of pine trees dominated by longleaf pine with a sparse midstory of deciduous oaks and pine regeneration and a moderate to dense groundcover of grasses, herbs, and low shrubs. Sandhills occur on the tops and slopes of well-drained rolling hills. They are adapted to frequent fires that usually occur during the growing season. Fire is a dominant environmental factor in sandhill ecology. The historic frequency of fire in sandhill is every 1-3 years. The midstory consists of scattered turkey oaks (*Quercus laevis*) and longleaf regeneration. The shrub layer is variable and generally short in height due to frequent fires. Common species found in this layer are dwarf hawthorn (*Crataegus uniflora*), dwarf huckleberry (*Gaylussacia dumosa*), gallberry (*Ilex* spp.), rusty staggerbush (*Lyonia ferruginea*), turkey oak, saw palmetto (*Serenoa repens*), and sparkleberry (*Vaccinium arboretum*). The herbaceous layer typically is very diverse and dominated by wiregrass. Other species may include Florida toothache-grass, bracken fern (*Pteridium aquilinum*), and lopsided indiagrass (*Sorghastrum secundum*).

Current Condition

The sandhill communities at RSSF are generally in fair to excellent condition. With the exception of a few areas with a high density of oaks, the majority of the RSSF sandhills

have an extremely diverse, dense, high quality herbaceous layer that is dominated by wiregrass and an overstory dominated by longleaf pine. Age classes range from even-aged young longleaf pine plantations to mature stands of longleaf pine and scattered slash pines with natural regeneration of longleaf pine present. Scattered, remnant loblolly pine (*Pinus taeda*) remains a small component of the overstory in several stands. In addition, the majority of sandhill communities on RSSF are currently within the desired fire frequency (one to three years) and are being burned predominately in the growing season.

Approximately 350 acres of sandhill are in longleaf pine plantation, the majority which were planted between 2000 and 2002, with 33 acres planted in 2007-2008. Prior to state acquisition, much of the property was cutover, leaving stands of scattered slash, loblolly and longleaf pine throughout the sandhills. Natural regeneration of longleaf pine was impeded due to lack of sufficient longleaf pine seed source and severe hardwood competition. In order to re-establish longleaf pine on these sites, it was necessary to artificially reforest these stands. Herbicide treatments, either ground or aerially, were applied prior to planting. Following a site prep burn, these sites were machine planted with longleaf pine tubelings at approximately 726 trees to the acre. All the plantations are currently within the desired fire return interval of one to three years and have an herbaceous layer that is considered continuous and diverse. However, they are considered in fair quality due to the artificially high stocking of the overstory.

Management Actions

The main tool in restoring and maintaining the sandhills is prescribed fire. The current prescribed fire rotation of one to three years, with an emphasis on growing season fire, will continue. In order to maintain fire frequency, dormant season fire may be utilized when conditions prevent growing season fire. Dormant season fire may also be utilized after good seed crops of longleaf pine to foster natural regeneration. During this planning period, areas that are currently overstocked with oaks will be prioritized for growing season fire. Fire will also be allowed to burn into transition areas to reduce hardwood encroachment when weather conditions permit. Firelines located within or adjacent to sandhills should be restored and abandoned to encourage burning across transition zones.

While prescribed fire will continue to be used in these stands to maintain low fuel loads and stimulate groundcover, in areas where oak density is suppressing groundcover, a combination of prescribed fire, fuel wood sales, and herbicides may be used to reduce the oak density. In the more xeric areas where there is not enough fine fuel to carry fire, herbicides and mechanical treatments will be the preferred management tool. Periodic timber harvests will be necessary to reduce stocking and open the canopy. Upon releasing the canopy and allowing sunlight to stimulate ground cover growth, prescribed fire will then become the primary management tool in that area.

As oak densities are reduced, artificial regeneration of longleaf pine will continue in areas without a sufficient seed source of longleaf pine. The preferred method of site preparation in these areas will continue to be prescribed fire used in combination with the appropriate herbicides and mechanical planting. Hand planting of longleaf pine seedlings, which has also been utilized, will continue to be an option.

All activities will be conducted in compliance with silviculture BMPs. Herbicide and prescribed fire will be the dominant site preparation techniques in areas where artificial regeneration is deemed necessary.

B. Wet Flatwoods

Description

Wet flatwoods are pine forests with a sparse midstory and a dense groundcover of hydrophytic grasses, herbs, and low shrubs. The canopy typically consists of one or a combination of longleaf pine, slash pine, and loblolly pine. Pond pine (*Pinus serotina*) may also be found in the wetter areas. The mid-story is very sparse and consists predominantly of pine regeneration. The shrub layer is composed of hawthorn (*Crataegus* spp.), titi (*Cyrilla racemiflora*), peelbark St. John's wort (*Hypericum fasciculatum*), gallberry and saw palmetto. The herbaceous layer consists of wiregrass, Florida dropseed (*Sporobolus floridanus*), whitehead bogbutton (*Lachnocaulon anceps*), beaked panicum (*Panicum anceps*), hooded pitcherplant, and lizards tail (*Saururus cernuus*).

The variations of vegetation structure and composition of wet flatwoods in Florida likely reflect variations in soil characteristics, hydrology and fire. The general historic fire frequency in pinelands across the southeastern U.S. coastal plain is estimated to be every 1-3 years. This interval is frequent enough to maintain grassy wet flatwoods and inhibit invasion by shrubs and is consistent with management of longleaf pine systems. Wet flatwoods that are naturally shrubbier and dominated by slash pine or pond pine may have had longer fire return intervals, or perhaps a few periods of longer intervals, on the order of 5-7 years, or up to 5-10 years, in order to allow the pines to establish and shrubs to proliferate.

Current Condition

Currently, 117 acres of historic wet flatwoods have been lost to the expansion of baygall and bottomland hardwood forest, conversion to pine plantation, and ruderal areas. The remaining wet flatwoods on RSSF are in good to excellent condition, with no known non-native, invasive plant infestations and within the desired fire regime. The canopy is currently dominated by slash, longleaf and loblolly pines. The mid-story consists of red maple (*Acer rubrum*), sweetbay (*Magnolia virginiana*), water oak (*Quercus nigra*), and pine regeneration. The herbaceous layer ranges from dense and of high quality to scattered and nonexistent. Herbaceous species present include wiregrass, Florida dropseed, pineland daisy (*Chaptalia tomentosa*), sawgrass (*Cladium jamaicense*), whitehead bogbutton, beaked panicum, hooded pitcherplant and lizards tail.

Wet flatwoods on RSSF contain two unique features. First, they are intermixed with upland pine forests. This is uncommon and is attributed to RSSF's extreme northeastern location within Florida. Second, Florida dropseed is the dominant groundcover species in areas of high quality habitat. This is most likely due to the unique micro-topography of this site and the amount of clay present in the soils.

The wet flatwoods community on RSSF is currently within its desired fire return interval with an average return interval of two to four years. Both growing and dormant season prescribed fire has been used to reduce regeneration of more prolific species such as loblolly pine, maintain lower stocking rates, and decrease hardwood competition.

There is an 88 acre slash pine plantation of which 60 acres is considered historic wet flatwoods. This site was planted in 1985 and received an initial thinning in 2010. It was a fifth row thinning with selection in the leave rows to remove diseased, dying and suppressed trees, which reduced stocking and improved overall health of the stand. Current stocking in this stand is approximately 185 trees per acre.

Management Actions

Management activities will focus on maintaining a mixed pine dominated canopy. Priority will be on maintaining fire frequency and reducing stand density. Prescribed fire will remain on a two to four year rotation, with priority given to growing season fire. Fire will continue to be allowed to burn across transition zones. Prescribed fire may also be used to reduce regeneration of the more prolific species, such as loblolly pine. In areas where remnant groundcover is lacking and fire will not carry, chemical or mechanical treatments may be used to control hardwoods and stimulate more native pyrogenic species.

As with the other pine dominated communities, periodic timber harvesting will be necessary to facilitate even and uneven aged management and open the canopy. Opening up the over-story should promote ground cover growth. A variety of harvesting techniques may be utilized, including clearcuts, group selection, and thinnings to reduce stocking rates. Extremely overstocked stands may require several thinnings before reaching the maintenance phase, but should be thinned to promote stand health and increase biodiversity. High density areas of wet flatwoods will be targeted for harvest first. During this planning phase, the slash pine plantation should be monitored for overall forest health to aid in determining the timing for the next harvest. In areas deemed understocked, natural regeneration will be the preferred reforestation method. In areas with a sparse canopy or poor seed source artificial reforestation may be necessary.

Wet flatwoods are extremely vulnerable to alterations of hydrological regimes. All management activities will strictly adhere to guidelines as described in the Silviculture BMP manual.

C. Upland Pine Forest

Description

Upland pine forest consists of pines with a sparse to moderate shrub layer and a dense, species-rich groundcover of grasses and herbs, occurring on gently rolling terrain. The canopy is dominated by longleaf pine. Longleaf pine will be present in all levels of the canopy, resulting in an uneven age class. Scattered throughout the midstory will be sweetgum (*Liquidambar styraciflua*), loblolly pine, post oak (*Quercus stellata*), southern red oak (*Quercus falcata*) and gallberry. The diverse herbaceous layer is composed primarily of wiregrass. Other species present include slender wood oats (*Chasmanthium*

laxum), ferns, and beaked panicum. Fire is the dominant factor in the ecology of upland pine forest. The historic fire frequency ranged from one to three years.

Current Condition

The upland pine forest community on RSSF is in fair to good condition. It is found intermixed with wet flatwoods. It is differentiated from the wet flatwoods by the presence of post oak. The canopy is dominated by a variable density of loblolly and longleaf pines. Also present is sweetgum, water oak and post oak. The herbaceous layer varies from sparse in areas of fire exclusion to lush and diverse in areas of frequent fire. The herbaceous layer includes wiregrass, bluestem (*Andropogon* spp.), slender wood oats, beaked panicum and bracken fern.

Management Actions

Upland pine forest requires frequent low-intensity fire to maintain a diverse herbaceous layer. Management activities should focus on restoring this pattern in areas of fire exclusion and maintaining this pattern in areas already under this rotation. Prescribed fire will continue to be utilized to reduce woody encroachment. Chemical or mechanical methods may be used in conjunction with fire in areas with an increased hardwood component. Dormant season fire may be used initially to reduce fuel loading in areas of long term fire exclusion. Fires will continue to be allowed to burn across ecotones.

As in the surrounding flatwoods communities, periodic timber harvests will be necessary to reduce stocking rates to mimic a more natural distribution. Thinning, group selection, and/or clearcut harvests will be necessary to maintain forest health and facilitate uneven aged management. All activities will be conducted in compliance with silviculture BMPs. Herbicide and prescribed fire will be the dominant site preparation techniques.

D. Floodplain Swamp

Description

Floodplain swamp is a closed-canopy forest of hydrophytic trees occurring on frequently or permanently flooded hydric soils adjacent to stream and river channels and in depressions and oxbows within floodplains. The overstory is dominated by ogeechee tupelo (*Nyssa ogeche*), swamp tupelo (*Nyssa sylvatica* var. *biflora*), and pond cypress (*Taxodium ascendans*). The sub-canopy consists of red maple, American elm (*Ulmus americana*), loblolly pine and laurel oak (*Quercus laurifolia*). The herbaceous layer is generally sparse and consists of patches of sedges, ferns, creeping primrose-willow (*Ludwigia repens*), and string lily (*Crinum americanum*). Floodplain swamp is usually too wet to support fire.

Current Condition

Based on historic aerial photos, there appears to be little change to this community on RSSF, and the community is currently in good condition. The overstory is currently dominated by ogeechee tupelo, swamp tupelo, and pond cypress. The mid story consists of sweetgum, American elm, and laurel oak. The herbaceous layer is dominated by sedges and ferns.

Management Actions

This community is already in its desired future condition. Management activities for this planning period will focus on monitoring for, and eradication of, non-native, invasive plants as they are discovered and maintaining hydrological function of the surrounding areas.

E. Bottomland Forest

Description

Bottomland forest is a deciduous, or mixed deciduous / evergreen, closed-canopy forest on terraces and levees within riverine floodplains and in shallow depressions. Bottomland forests may be inundated with water for a portion of the year, but usually dry out during the dry season. The diverse overstory is dominated by red maple, sweetgum, sweetbay and swamp tupelo, and loblolly pine. Other trees which may be found in this system include red cedar (*Juniperus virginiana*), live oak (*Quercus virginiana*), bald cypress (*Taxodium distichum*) and cabbage palm (*Sabal palmetto*). The mid-story consists of scattered trees and shrubs, such as titi, swamp doghobble (*Leucothoe racemosa*), dahoon holly (*Ilex cassine*), gallberry, and fetterbush (*Lyonia lucida*). Ground cover is variable and dependent upon canopy cover and soil saturation. Sedges, ferns, and various grass species can be found. The outside edges of this community are surrounded by herbaceous grasses. The composition of this forest is heavily influenced by the hydroperiod and the absence of frequent fire. Fire is not a significant factor in bottomland forest.

Current Condition

Bottomland forest at RSSF is considered to be fairly high quality in most areas with no known non-native, invasive plant infestations or erosion issues. The age class ranges from young to mature. The bottomland forest on RSSF is dominated by a diverse overstory of various hardwoods including red maple, loblolly bay (*Gordonia lasianthus*), yellow poplar (*Liriodendron tulipifera*), laurel oak, swamp tupelo, slash pine, loblolly pine and sweet bay. The midstory consists of many of the same species as in the canopy, as well as hawthorn, titi, St. Andrew's cross (*Hypericum hypericoides*), and American holly (*Ilex opaca*). The herbaceous layer ranges from open to dense, and generally consists of scattered sedges, cinnamon fern (*Osmundastrum cinnamomeum*), panic grasses, and various chain ferns (*Woodwardia* spp.).

Management Actions

This community is currently in its desired future condition. Therefore, little active management is necessary for this community. Management activities will focus on detection and eradication of non-native, invasive plants. No silvicultural activities are planned for this community.

Trails, firelines, and roads will continue to be monitored to ensure they have the proper sedimentation controls to avoid any erosion issues. All management activities will strictly adhere to silvicultural guidelines found in the BMP manual.

F. Baygall

Description

A baygall is a forested wetland consisting of a peat substrate and is typically found in low lying areas where water seepage from surrounding communities maintains a high water table. The dominant baygall species are fire-intolerant, and a mature canopy indicates the lack of destructive fire for many years. Saturated soils and humid conditions within baygalls typically inhibit fire. The overstory is made up of dense evergreen bay trees, including loblolly bay (*Gordonia lasianthus*), sweet bay and redbay. The midstory ranges from sparse to dense and consists of shrubs, such as fetterbush, wax myrtle (*Myrica cerifera*), and gallberry. The understory consists of a sparse herbaceous layer of cinnamon fern, beaksedges (*Rhynchospora* spp.), sphagnum moss, and Virginia chain fern (*Woodwardia virginica*).

Current Condition

As a result of fire exclusion, baygall has almost doubled from its historic acreage and displaced most of the surrounding historic seepage slope communities. In addition to seepage slopes, this community also currently occupies a substantial portion of the historic wet flatwoods. Currently, the overstory is dominated by loblolly bay, sweetbay, and loblolly pine. There is dense shrub layer consisting of titi, loblolly bay, sapling stage loblolly pine, and dahoon holly.

Management Actions

The primary goal for the baygall communities is to reduce fuel loading in these stands while returning them to their natural position in the landscape. In order to reduce the current baygall acreage and eliminate encroachment on the seepage slopes, fire will be allowed to burn into these systems from the surrounding uplands. Aerial ignition may be considered a viable tool for successfully and effectively getting fire into these areas.

No timber harvesting is planned for this community.

Swamp bay, a major component of baygall, is susceptible to Laurel Wilt Disease. Movement of wood or mulch from areas with infected trees will be avoided. In addition to the Laurel Wilt, Japanese climbing fern is also found in this community. There is currently a small population located adjacent to Scott's Landing Road, consisting of sporadic pockets of the plant over a two acre area. This area has been treated repeatedly with herbicide over the last five years. Priority will be given to continually reducing this infestation annually until it has been sufficiently controlled and/or eradicated.

G. Seepage Slope

Description

Seepage slope is an open, grass-sedge dominated community kept continuously moist by groundwater seepage. It occurs in areas with rolling topography, and is usually bordered by well-drained sandhill or upland pine communities. Seepage slopes are always moist, except during the extreme drought, but never flooded. They consist of a diverse and unique herbaceous layer. On the drier slopes, wiregrass is the dominant component. In wetter areas, the herbaceous layer is dominated by several species of beaksedge, switchcane, whitehead bogbutton, sphagnum moss, and netted chain fern. Also found in

this community at RSSF are the rare plant species hartwrightia, parrot pitcherplant, hooded pitcher plant, and purple honeycomb-head. Sweet bay, swamp tupelo, and longleaf pine may be found scattered throughout, but the density is not high enough for shading to affect the herbaceous layer. Fire enters seepage slopes from surrounding pinelands and burn through when they are dry enough to carry fire.

Current Condition

Historic fire exclusion has greatly reduced the extent of seepage slope at RSSF. In addition to fire exclusion by the previous landowner, several pre-suppression firelines are located within or near the ecotones between the wetlands and the uplands, further limiting fire in the seepage slopes. In areas where firelines do not exist, fire has been allowed to burn into the ecotones and as such, has maintained a more herbaceous dominated community. However, almost all areas of historic seepage slope are now dominated by baygall vegetation and are therefore considered baygall communities. There are several small pockets of artificial seepage slope communities along the power line easement. The herbaceous layer still contains species indicative of a seepage slope community, but these species are less abundant than what was historically present. Current areas of historic seepage slopes have a moderately dense to scattered canopy of loblolly bay, sweet bay, red maple and loblolly pine. The shrub layer consists of titi, loblolly bay, swamp bay, peelbark St. John's wort, and gallberry. The herbaceous layer consists of wiregrass, switchcane, hartwrightia, whitehead bogbutton, ferns, several species of beaksedge and pitcher plants.

Management Actions

Future surveys of current baygall communities should be conducted to further delineate the seepage slope communities on RSSF from areas currently dominated by baygall. All management actions will focus on restoring this community by reducing hardwood encroachment and opening the canopy. This can best be accomplished through the use of fire. Seepage areas typically burn on a one to three year cycle, often simultaneously with the occurrence of the fire in the surrounding uplands. Focus during this planning period will be to prioritize these areas for growing season fires. Firelines located within the footprint of the historic ecotone will be rehabilitated to allow fire to burn across the transition zone. In areas of severe hardwood encroachment, chemical or mechanical treatments may be necessary before prescribed fire can be safely reintroduced to these areas.

In order to avoid soil disturbance, vehicular traffic should be kept out of these areas. Care should be taken to not alter hydrological functions in surrounding upland communities. All activities around seepage slopes will be conducted in compliance with silvicultural BMPs.

H. Upland Hardwood Forest

Description

Upland hardwood forest is a closed-canopy forest dominated by deciduous hardwood trees on mesic soils in areas sheltered from fire. In addition to a diverse overstory, there is a dense midstory as well as sparse groundcover. Stands have a closed canopy

dominated by white oak (*Quercus alba*), swamp chestnut oak (*Quercus michauxii*), loblolly pine, southern magnolia (*Magnolia grandiflora*), and live oak. There is a distinct sub-canopy that consists of younger individuals contained in the overstory. The herbaceous layer is sparse and consists of scattered grasses and forbs. Localized damage from low intensity, naturally occurring fires that creep into the forest edges from surrounding pyrogenic upland communities (e.g., upland pine, sandhill) appears to be a natural part of the forest dynamics of upland hardwood forest; however fires rarely burn completely through the understory.

Current Condition

This community is currently found along steep hillsides in the transition area between the upland sandhills and the river / floodplain community below, as well as along the higher ridges adjacent to the St. Marys River. This community type also encompasses an area adjacent to the cabin that was previously classified as slope forest in past plans due to the pronounced topography and unique species composition. Upland hardwood forest on RSSF has been minimally altered over time, and with the exception of the age of the canopy, is in its desired future condition. Fires from the surrounding uplands are currently allowed to burn into these areas and naturally extinguish. The well developed canopy is dominated by white oak, swamp chestnut oak, loblolly pine, southern magnolia and live oak. The midstory consists of mockernut hickory (*Carya alba*), live oak, water oak, and southern magnolia. The shrub layer is made up of wax myrtle, turkey oak, water oak, swamp azalea (*Rhododendron viscosum*) and saw palmetto. The herbaceous layer is sparse to nonexistent but does contain small patches of wiregrass, ferns and woodoats scattered throughout.

Management Actions

The composition and structure of this community already meets the desired future condition. Little active management is required for this community. This community should be allowed to continue to develop into old-growth habitat. The area should be monitored for non-native, invasive species. If invasive species are found, they should be treated timely and aggressively to better control and ultimately achieve eradication.

No timber sales are planned for this community type. Stands will be monitored for overall stand health. Should stand health begin to deteriorate, or in the event of a forest health outbreak, a timber harvest may be prescribed to restore stand vigor or prevent further destruction from the outbreak.

I. Mesic Flatwoods

Description

Mesic flatwoods are characterized by a canopy of tall pines and a dense, low ground layer of low shrubs, grasses, and forbs. The canopy includes longleaf, loblolly, and slash pines. The shrub layer is dominated by sporadic saw palmetto, gallberry, highbush blueberry (*Vaccinium corymbosom*) and shiny blueberry (*Vaccinium myrsinites*). The herbaceous layer is very diverse and dominated by wiregrass. Mesic flatwoods require frequent fire, and fires historically occurred from every two to four years.

Current Condition

The majority of RSSF mesic flatwoods are located in the southeastern portion of the forest. Due to successful fire management in these areas, the majority of the mesic flatwoods are in good condition. The community is relatively open with diverse groundcover. The canopy is dominated by loblolly pine, slash pine, laurel oak, and water oak. The midstory consists of scattered to dense pockets of red maple, titi, loblolly pine regeneration, gallberry, and live oak. This community is within its desired fire return interval of two to four years.

Management Actions

Management goals will focus on maintaining both the diverse groundcover and an open pine canopy. Maintaining a two to four year burn rotation will assist in achieving this goal. Small pockets of this community have been encroached upon by hardwoods. As in the wet flatwoods, both growing and dormant season prescribed fire has been used. A more aggressive fire regime may be utilized during the first half of this planning period, with focus on frequent dormant and growing season fires.

The mesic flatwoods are currently dominated by loblolly pines with scattered slash and longleaf pine present. These stands will be managed at the individual stand level and will focus on maintaining an even and uneven-aged mixture of pines. Harvesting will be utilized to reduce basal area, remove undesirable species, open the canopy, and improve overall stand health. Various thinning or clear-cut harvesting techniques may be applied to create a diverse pine landscape. In order to aid success of pine regeneration, chemical control of hardwood species may be necessary.

Existing roads, wetlands, and other natural barriers should be used for fire breaks. Existing firelines should be rehabilitated to allow fire to travel across transition areas. Chemical or mechanical applications may also be used to control hardwoods and stimulate more pyrogenic species. All management activities will strictly adhere to guidelines as described in the Silviculture BMP manual.

J. River Floodplain Lake

Description

River floodplain lakes are characterized as shallow, open water bodies. They may or may not contain floating or submerged aquatic vegetation. They are considered permanent bodies of water, but severe fluctuations occur and they may become completely dry during extreme droughts. They are generally found in confined basins or depressions.

Current Condition

The river floodplain lake at RSSF is currently in its desired future condition. There are no signs of disturbance to this lake and it is surrounded by high quality floodplain swamp. The canopy along the perimeter of the lake consists of hazel alder (*Alnus serrulata*), wax myrtle, Ogeechee tupelo, and bald cypress.

Management Actions

Management activities for this planning period will focus on monitoring and eradication of non-native, invasive plants and maintaining hydrological function of the surrounding areas.

K. Dome Swamp

Description

Dome swamp is characterized as an isolated, forested, wetland depression occurring within a fire maintained natural community. It typically has a dome profile which is a result of hydroperiod and fire frequency. Dome swamps derive much of their water from surrounding uplands. There is a sparse, open-canopy of mature trees consisting of swamp tupelo or pond cypress. The shrub layer is sparse and low in height due to frequent growing season fires, and species include fetterbush, wax myrtle, and highbush blueberry. The herbaceous layer is dominated by giant sedge (*Carex gigantea*) and southern waxy sedge (*Carex glaucescens*). Fire is essential for maintaining the structure and the species composition of a dome swamp community. The normal fire cycle may be as short as three to five years along the outer edge of this community and as long as 100 to 150 years towards the center.

Current Condition

Based upon the historic aerial photographs, dome swamp on RSSF has been minimally altered from its historical conditions. Species composition of the overstory consists of pond cypress, swamp tupelo, and red maple. In most areas, fire is allowed to burn from the uplands into the transition zone of this community and extinguish naturally, generally every two to four years.

Management Actions

The presence of red maple suggests that fire has not entered into the dome swamp as frequently or as effectively as would naturally occur. Fires historically burned the surrounding uplands between one and three years during the growing season. Typically, these fires would have burned into the swamp, reducing hardwood density and stimulating herbaceous growth. Prescribed fire from the surrounding communities will be allowed to burn along the periphery and into the dome swamp when weather conditions permit, focusing on increasing the frequency of growing season fires in the surrounding uplands.

L. Xeric Hammock

Description

Xeric hammock at RSSF is not present on the 1943 aerial photography. It is believed that this community is not a historic community on RSSF. This community has developed due to anthropogenic disturbances and fire exclusion and is not a desired future condition.

Current Condition

Scattered pines, including longleaf, loblolly and slash, are present. Oak species present include water oak, laurel oak, sand live oak (*Quercus geminata*) and turkey oak. The midstory consists of the various oak species as well as American holly, sweetgum, black

cherry (*Prunus serotina*), and southern magnolia. The sparse herbaceous layer includes bluestem, woodoats, and whip nutrush (*Scleria triglomerata*).

This community has little ground fuel to carry a fire, and given the location of certain stands within the landscape, there is little opportunity for fire to burn across transitions and enter these systems. These stands are essentially islands located on high sandy bluffs surrounded by nonpyrogenic communities.

Management Actions

Management activities in this community will focus on restoring the xeric hammock to sandhill intermixed with upland hardwood forests. Restoration will focus on reducing hardwoods to open the canopy, restoring the groundcover, and restoring the canopy to longleaf pine.

A combination of mechanical and chemical treatments will be necessary to remove the hardwood component. Fuelwood harvests may be considered a viable technique to achieve restoration goals. Upon successful reduction of the hardwood component, artificial regeneration will be utilized in areas with little longleaf pine overstory. Initial planting specifications, such as spacing and density, should be adjusted to foster continued establishment of groundcover.

Upon successful reduction of hardwoods, efforts will be made to restore the groundcover component. Areas will need to be evaluated to determine the quality and abundance of groundcover. Plantings of wiregrass may be considered, utilizing existing populations of wiregrass, to provide enough seed source to populate the restored areas.

As areas are able to carry fire, priority will be given to growing season fire. Prescribed fire will serve to control the hardwood populations while stimulating native herbaceous species. Dormant season fire may be utilized in areas of artificial longleaf regeneration when weather patterns prevent or make it unfavorable for the application of growing season fire. This will prevent any loss in fuel reduction accomplishments. Aerial ignition should be considered as a viable means for accessing these sites for prescribed burning.

VIII. References

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IX. Glossary of Abbreviations

ARCAcquisition and Restoration Council
BMPBest Management Practice
CARL.....Conservation and Acquisition Lands
COJCity of Jacksonville
DEPFlorida Department of Environmental Protection
DHRFlorida Department of State, Division of Historical Resources
FDACS.....Florida Department of Agricultural and Consumer Services
FNAIFlorida Natural Areas Inventory
FFSFlorida Forest Service
FP&L.....Florida Power & Light
FWC.....Florida Fish and Wildlife Conservation Commission
GISGeographic Information System
MPAG.....Management Plan Advisory Group
NPSNational Park Service
RSSFRalph E. Simmons Memorial State Forest
SJRWMD.....St. Johns River Water Management District
TIITF.....Board of Trustees of the Internal Improvement Trust Fund
USFWSUnited States Fish and Wildlife Service