



FLORIDA DEPARTMENT OF Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Alexis A. Lambert
Secretary

April 14, 2025

Mr. Brian Camposano
Florida Forest Service
Department of Agriculture and Consumer Services
3125 Conner Boulevard, Room 236
Tallahassee, Florida 32399-1650

RE: Okaloacoochee Slough State Forest – Lease No. 4246/4247

Dear Mr. Camposano:

On **April 11, 2025**, the Acquisition and Restoration Council (ARC) recommended approval of the **Okaloacoochee Slough State Forest** management plan. Therefore, Division of State Lands, Office of Environmental Services (OES), acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the **Okaloacoochee Slough State Forest** management plan. The next management plan update is due April 11, 2035.

Pursuant to s. 253.034(5)(a), F.S., each management plan is required to describe both short-term and long-term management goals and include measurable objectives to achieve those goals. Short-term goals shall be achievable within a 2-year planning period, and long-term goals shall be achievable within a 10-year planning period. Upon completion of short-term goals, please submit a signed letter identifying categories, goals, and results with attached methodology to the Division of State Lands, Office of Environmental Services.

Pursuant to s. 259.032(8)(g), F.S., by July 1 of each year, each governmental agency and each private entity designated to manage lands shall report to the Secretary of Environmental Protection, via the Division of State Lands, on the progress of funding, staffing, and resource management of every project for which the agency or entity is responsible.

Pursuant to s. 259.036(2), F.S., management areas that exceed 1,000 acres in size, shall be scheduled for a land management review at least every 5 years.

Pursuant to s. 259.032, F.S., and Chapter 18-2.021, F.A.C., management plans for areas less than 160 acres may be handled in accordance with the negative response process. This process requires small management plans and management plan amendments be submitted to the Division of State Lands for review, and the Acquisition and Restoration

Mr. Brian Camposano

Page 2

April 14, 2025

Council (ARC) for public notification. The Division of State Lands will approve these plans or plan amendments submitted for review through delegated authority unless three or more ARC members request the division place the item on a future council meeting agenda for review. To create better efficiency, improve customer service, and assist members of the ARC, the Division of State Lands will notice negative response items on Thursdays except for weeks that have State or Federal holidays that fall on Thursday or Friday. The Division of State Lands will contact you on the appropriate Friday to inform you if the item is approved via delegated authority or if it will be placed on a future ARC agenda by request of the ARC members.

Conditional approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities. Pursuant to the conditions of your lease, please forward copies of all permits to this office upon issuance.

Sincerely,

Sine Murray
Office of Environmental Services
Division of State Lands

TEN-YEAR LAND MANAGEMENT PLAN
FOR THE
OKALOACOOCHEE SLOUGH STATE FOREST
HENDRY AND COLLIER COUNTIES



Okaloacoochee Slough State Forest

PREPARED BY THE
FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES
FLORIDA FOREST SERVICE

APPROVED ON
APRIL 14, 2025

TEN-YEAR LAND MANAGEMENT PLAN
FOR THE
OKALOACOOCHEE SLOUGH STATE FOREST



Approved by:

Richard Dolan, Director
Florida Forest Service

4/17/2025

Date

James Roberts, Chief
Forest Management Bureau

4/15/25

Date

**TEN-YEAR LAND MANAGEMENT PLAN
OKALOACOOCHEE SLOUGH STATE FOREST
TABLE OF CONTENTS**

Land Management Plan Executive Summary	1
I. Introduction	3
A. General Mission and Management Plan Direction	3
B. Past Accomplishments	4
C. Goals / Objectives for the Next Ten-Year Period	5
II. Administration Section.....	10
A. Descriptive Information	10
1. Common Name of Property	10
2. Legal Description and Acreage.....	10
3. Proximity to Other Public Resource	10
4. Property Acquisition and Land Use Considerations	11
B. Management Authority, Purpose, and Constraints	11
1. Purpose for Acquisition / Management Prospectus	11
2. Degree of Title Interest Held by the Board.....	12
3. Designated Single or Multiple-Use Management.....	12
4. Revenue Producing Activities.....	13
5. Conformation to State Lands Management Plan	13
6. Legislative or Executive Constraints	13
7. Aquatic Preserve / Area of Critical State Concern	13
C. Capital Facilities and Infrastructure	14
1. Property Boundaries Establishment and Preservation	14
2. Improvements	14
3. On-Site Housing.....	15
4. Operations Infrastructure	15
D. Additional Acquisitions and Land Use Considerations	16
1. Alternate Uses Considered.....	16
2. Additional Land Needs	16
3. Surplus Land Assessment	17
4. Adjacent Conflicting Uses	17
5. Compliance with Local Comprehensive Plan.....	17
6. Utility Corridors and Easements.....	17
E. Agency and Public Involvement	18
1. Responsibilities of Managing Agencies.....	18
2. Law Enforcement.....	18
3. Wildland Fire	18
4. Public and Local Government Involvement	19
5. Volunteers	19
6. Friends of Florida State Forests	19

III. Archaeological / Cultural Resources and Protection	19
A. Past Uses	19
B. Archaeological and Historical Resources	20
C. Ground Disturbing Activities	20
D. Survey and Monitoring	20
IV. Natural Resources and Protection.....	21
A. Soils and Geologic Resources.....	21
1. Resources	21
2. Soil Protection.....	21
B. Water Resources.....	22
1. Resources	22
2. Water Classification.....	22
3. Water Protection	22
4. Swamps, Marshes, and Other Wetlands	23
5. Wetlands Restoration	23
6. FDEP Basin Management Action Plan.....	23
C. Flora and Fauna Resources	24
1. Rare, Threatened, and Endangered Species.....	24
2. Florida Natural Areas Inventory	26
3. Florida Fish and Wildlife Conservation Commission	27
4. Game Species and Other Wildlife.....	27
5. Survey and Monitoring	28
6. Gopher Tortoise Recipient Site Feasibility Assessment.....	29
D. Sustainable Forest Resources	29
E. Beaches and Dune Resources	29
F. Mineral Resources	29
G. Unique Natural Features and Outstanding Native Landscapes.....	29
H. Research Projects / Specimen Collection.....	30
I. Ground Disturbing Activities	31
V. Public Access and Recreation	31
A. Existing Recreation Opportunities	31
B. Planned Recreation Opportunities.....	35
C. Hunter Access	38
D. Education	38
VI. Forest Management Practices	38
A. Prescribed Fire	38
B. Wildfire Prevention and Mitigation Strategies.....	40
1. Suppression Strategies	41
2. Smoke Management.....	41
3. Firebreaks and Firelines.....	41
4. Sensitive Areas.....	42
5. Firewise Communities	42

6. Adjacent Neighbor Contacts	42
7. Post-Burn Evaluations	42
C. Sustainable Forestry and Silviculture.....	42
1. Strategies.....	42
2. Silvicultural Operations	42
3. Forest Inventory	43
4. Timber Sales	43
5. Cattle Grazing	43
D. Invasive Species Control.....	44
E. Insects, Disease, and Forest Health	46
F. Use of Private Land Contractors.....	47
VII. Proposed Management Activities for Natural Communities	47
A. Basin Marsh	49
B. Depression Marsh	51
C. Dome Swamp.....	52
D. Mesic Flatwoods	54
E. Mesic Hammock	56
F. Slough Marsh	57
G. Strand Swamp	59
H. Wet Flatwoods	60
I. Wet Prairie	62
J. Managed Landcover Type	63
K. Other Altered Landcover Types.....	64
VIII. References	67
IX. Glossary of Abbreviations	67

TABLES

Table 1. OSSF Acreage by Funding Source	Page 10
Table 2. Nearby Public Conservation Land and Easements	Page 11
Table 3. Parcel Acquisition.....	Page 11
Table 4. Archaeological and Historical Sites on OSSF	Page 20
Table 5. Rare, Threatened, and Endangered Species Documented on OSSF	Page 24
Table 6. Invasive Plant Species Occurring on OSSF	Page 44
Table 7. Natural Community Types.....	Page 47
Table 8. Managed Landcover Type	Page 48
Table 9. Other Altered Landcover Types	Page 48
Table 10. Prescribed Fire Interval Guide on OSSF	Page 48

**TEN-YEAR LAND MANAGEMENT PLAN
OKALOACOOCHEE SLOUGH STATE FOREST
EXHIBITS**

Ten-Year Management Accomplishment Summary	Exhibit A
Boundary and Road Map	Exhibit B
Optimal Management Boundary Map	Exhibit C
Facilities, Recreation, and Improvements Map	Exhibit D
Tract and Acreage Map.....	Exhibit E
Proximity to Significant Managed Lands Map.....	Exhibit F
DHR Report on Archaeological and Cultural Sites	Exhibit G
Management Procedures for Archaeological and Historical Sites and Properties on State Owned or Controlled Lands	Exhibit H
Soil Types Map and Descriptions	Exhibit I
DEP Outstanding Florida Waters.....	Exhibit J
Water Resources and BMAP Maps	Exhibit K
FNAI Managed Area Data Report	Exhibit L
FWC Listed Species Occurrence Records	Exhibit M
Ten-Year Fire History	Exhibit N
Invasive Species Map	Exhibit O
Current FNAI Natural Communities Map	Exhibit P
Historic FNAI Natural Communities Map	Exhibit Q
Land Management Reviews (2016 & 2021).....	Exhibit R
Compliance with Local Comprehensive Plans (Collier & Hendry Counties)	Exhibit S
State Forest Management Plan Advisory Group Summary	Exhibit T
State Forest Summary Budget	Exhibit U
Arthropod Control Plans (Collier & Hendry Counties).....	Exhibit V
Ground Water Monitoring Wells Map.....	Exhibit W
Florida Forever Projects.....	Exhibit X

LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

LEAD AGENCY: Florida Department of Agriculture and Consumer Services (FDACS), Florida Forest Service
COMMON NAME: Okaloacoochee Slough State Forest (OSSF)
LOCATION: Hendry and Collier Counties
ACREAGE TOTAL: 32,370.04 acres

Historic Natural Communities	Approximate Acreage
Slough Marsh	16,998
Mesic Flatwoods	7,111
Wet Flatwoods	2,134
Depression Marsh	1,718
Basin Marsh	1,464

Historic Natural Communities	Approximate Acreage
Wet Prairie	1,399
Mesic Hammock	1,191
Strand Swamp	229
Dome Swamp	102

TIITF LEASE AGREEMENT NUMBERS: 4246 and 4247

USE: Single ☐ Multiple ☒

MANAGEMENT AGENCY

Florida DACS, Florida Forest Service
Florida Fish and Wildlife Conservation Commission
South Florida Water Management District
Hendry County
Collier County
Department of State, Division of Historical Resources

RESPONSIBILITY

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

DESIGNATED LAND USE: Multiple-Use State Forest
SUBLEASES: None
ENCUMBRANCES: None
TYPE OF ACQUISITION: Conservation and Recreation Lands, Preservation 2000 and Save Our Rivers Funds, and Mitigation

UNIQUE FEATURES:

ARCHAEOLOGICAL / HISTORICAL: Six (6) known sites

MANAGEMENT NEEDS: Restoration and maintenance of native ecosystems and disturbed site restoration

ACQUISITION NEEDS: 24,291 acres of Optimal Management Boundary

SURPLUS ACREAGE: None

PUBLIC INVOLVEMENT: OSSF Liaison Committee, Hendry County Commission, Collier County Commission, Management Plan Advisory Group and Public Hearing, Acquisition and Restoration Council - - - - -
- - - - -
- - - - -

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

ARC Approval Date: _____ TIITF Approval Date: _____

Comments: _____

I. Introduction

The Okaloacoochee Slough State Forest (OSSF) is comprised of 32,370.04 acres located on a single, contiguous tract approximately 30 miles east of Fort Myers. Most of the acreage is located in Hendry County, with 4,900 acres located in Collier County. OSSF was purchased with Conservation and Recreation Lands (CARL), Save Our Rivers (SOR), and Preservation 2000 acquisition funds.

The Okaloacoochee Slough, the forest's namesake, is a 16,998-acre pristine slough that is oriented north-south through the forest. The natural systems of the Fakahatchee Strand and Big Cypress Preserve are dependent on the water supplied by the Okaloacoochee Slough. The Okaloacoochee Slough is one of the few places in southern Florida, but north of the Everglades, where the pre-Columbian landscape can still be observed.

Many of the natural communities located in southern Florida can be found on the forest. Eight distinct natural communities are currently identified on OSSF, with mesic flatwoods and slough marsh making up roughly 24,109 acres or approximately 75 percent of the habitat.

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 OSSF center on the multiple-use concept, as defined in sections 589.04(3) and 253.034(2)(a) F.S. Implementation of this concept will utilize and conserve state forest resources in a harmonious and coordinated combination that will best serve the people of the state of Florida, and that is consistent with the purpose for which the forest was acquired. Multiple-use management for OSSF 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 non-game wildlife, and plants;
- Protect known archaeological, historical, and cultural resources;
- Restore, maintain, and protect hydrological functions, related water resources, and the health of associated wetlands and aquatic communities; and
- Provide research and educational opportunities related to natural resource management.

This management plan is provided according to requirements of Sections 253.034, 259.032, and 373, Florida Statutes (F.S.), and was prepared utilizing guidelines outlined in Section 18-2.021 of the Florida Administrative Code (F.A.C.). It is not an annual work plan or detailed operational plan but provides general guidance for the management of OSSF for the next ten-year period and outlines the major concepts that will guide management activities on the forest. Though not part of this plan, each state forest also updates and maintains five-year

action plans for silviculture, ecology, prescribed fire, roads and bridges, boundary maintenance, and recreation. These internal plans are updated annually with the current year serving as the annual operations plan for the forest.

B. Past Accomplishments

Data regarding past management activities and public use on OSSF have been compiled monthly and are available from the forest manager. A table has been prepared for this plan that summarizes the accomplishments made over the past ten years. See Exhibit A. The table does not attempt to account for all activities on the forest but summarizes major activities. It does not list the multitude of daily activities and public interactions involved in managing the forest. Since the approval of the previous management plan in 2012, there have been numerous events, developments, and accomplishments. Among the most notable have been the following:

- Forest Management
 - Roller chopped 1,425 acres
 - Forestry mowed 555 acres
 - Planted 4,000 cypress trees on 10 acres (2013-14)
 - Planted 325,000 south Florida slash containerized pine trees on 525 acres (2015)
 - Conducted 535 acres of planting survival checks
 - Conducted forest inventory on 13,765 acres
 - Cruised 236 acres for an upcoming pine thinning in planted areas
 - Worked cooperatively with SFWMD to place a new rainfall weather station (2022)
 - Obtained new LIDAR data for the forest (2017)
 - Survey of hammocks for subtropical species (2010-17)
- Fire Management
 - Conducted prescribed fires on 27,130 acres
 - Suppressed 10 wildfires that impacted 285 acres
 - Maintained disc lines totaling 870.5 miles
 - Awarded 1,200-acre National Wild Turkey Federation Grant for burning (2015-2016)
 - Awarded 4,313-acre Florida's Wildlife Legacy Initiative Grant Project for fuel reduction (2016-2017)
- Road/Boundary Management
 - Graded 581 miles of roads
 - Improved 9 miles of road to an improved level of service (Sic Island, North Loop North, Keri Tower, Keri-Patterson Crossover, Wildcow Patterson Crossover)
 - Rebuilt/repaired 43.3 miles of road
 - Installed 11 culverts
 - Installed 15 low-water crossings
- Recreation Management
 - Provided recreational opportunities for 596,787 users
 - Hosted 15,860 campers at primitive campsites
 - Created a self-guided Learning Adventure on the boardwalk trail in 2020

- Interpretive signs added to Twin Mills trail near historic saw dust pile
- Interpretive signs added to Tram Loop trail to discuss old railroad corridor
- Conducted major repairs on the boardwalk off of Sic Island Road (2016)
- Installed the planned 3.2-mile bike trail on Dog Island south
- Constructed 4 small, covered paddocks at horse trailhead
- Rebuilt 2 larger kiosks and installed 5 new kiosks at recreational areas
- Completed a 40-acre dog training area on Patterson Road
- Constructed small pavilion at Tram Loop trailhead
- Biological Research and Management
 - Supported 13 research projects on the forest
 - Supported F-Stop Foundation wildlife photography project (Ongoing)
 - Supported ongoing efforts to trap invasive pythons and manage feral hogs
- Education / Public Outreach
 - Authored 39 articles about the forest for publication
 - Conducted 40 visitor programs
- Archeological Resource Management
 - Archeological sites – conducted ongoing monitoring at 5 archeological sites
 - Created 1 new archeological interpretation sign for the old saw dust pile site

C. Goals / Objectives for the Next Ten-Year Period

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

The management activities listed below will be addressed within the ten-year management period and are defined as short-term goals, long-term goals, or ongoing goals. Short-term goals are goals that are achievable within a two-year planning period, and long-term goals are achievable within a ten-year planning period. Objectives are listed in priority order for each goal. Other activities will be completed with minimal overhead expense and existing staff.

➤ GOAL 1: Sustainable Forest Management

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

Performance Measures:

- Annual updates of the Five-Year Silviculture Action Plan completed

- Continued implementation of the Five-Year Silviculture Action Plan (acres treated)

Objective 2: Continue to implement the FFS process for developing stand descriptions and conducting forest inventory, including maintaining a GIS database containing forest stands, roads, and other attributes (including, but not limited to: rare, threatened, and endangered species, archaeological and historical resources, and invasive species locations). (Ongoing objective)

Performance Measures:

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

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

Objective 1: Maintain public access and recreation activities that are compatible with multiple-use management. (Ongoing objective)

Performance Measure: Number of visitor opportunities per day

Objective 2: Evaluate the potential for additional public access and recreation areas on OSSF that are compatible with multiple-use management. Recreation opportunities will fall under the scope of multi-use management in accordance with watershed protection, conservation, and ecosystem restoration; and as detailed in the purpose for acquisition. (Short-term objective)

Performance Measures:

- List of viable access points and visitor opportunities for consideration
- Number of interpretive display materials, programs, and outside vendor partnerships to promote forest recreation and education.

Objective 3: Continue to safely integrate human use into OSSF, following the Five-Year Outdoor Recreation Plan, and update annually. (Ongoing objective)

Performance Measures:

- Continued implementation of the Five-Year Outdoor Recreation Plan
- Annual updates of the Five-Year Outdoor Recreation Plan completed

Objective 4: Continue to involve and meet with the Liaison Committee. The purpose of Liaison Committee meetings is to facilitate communication between the FFS and committee members (and the groups they represent) about state forest management and to obtain feedback from these entities. The Liaison Committee consists of local residents, community leaders, special interest group representatives (vendors, hunters, and other recreation users, etc.), environmental group representatives, and other public / private entities. (Ongoing objective)

Performance Measures:

- Liaison Committee remains organized
- Annual meetings continue

Objective 5: Maintain cooperation with Florida Fish and Wildlife Conservation Commission (FWC) to develop specific hunting season quotas and bag limits, and to address hunting issues

which are to be agreed upon at an annual cooperator meeting between FFS and FWC. (Ongoing objective)

Performance Measures:

- Annual letter/email on agreed-upon hunting issues and opportunities
- Updated rules posted and WMA brochures available online at MyFWC.com
- Provide input and attend FWC public hunt meetings for annual hunting management of the WMA
- Assist FWC in managing access and recreation facilities for hunters

Objective 7: Recruit volunteers and volunteer organizations to assist with recreation and / or resource management. (Ongoing objective)

Performance Measures:

- Number of volunteers and organizations that assist with projects
- Number of hours provided by volunteers

Objective 8: Develop additional community partnerships and outreach to strengthen land management and public use of OSSF. (Ongoing objective)

Performance Measures:

- Meet with key user groups at least twice a year to implement volunteer upkeep of forest resources and amenities
- Hold annual public awareness and education events on the forest
- Hold volunteer workdays on the forest

➤ **GOAL 3: Habitat Restoration, Improvement, and Fire Management**

Objective 1: The OSSF currently contains approximately 31,000 acres of fire-dependent communities. OSSF staff will plan and conduct prescribed burns in a manner that benefits these fire-dependent natural communities within the forest. To achieve an average fire-return interval of three (3) to ten (10) years for most fire-dependent communities, FFS will attempt to conduct prescribed burns on an average of approximately 3,700 to 7,500 acres per year. Currently, FFS staff estimates 26,473 acres at OSSF are within the desired fire-return interval. (Ongoing objective)

Performance Measures:

- Annual number of acres burned
- Number of acres burned within target fire-return interval

Objective 2: Continue to annually update and implement the Five-Year Prescribed Burning Management Plan and the prescribed burning goals. (Ongoing objective)

Performance Measures:

- Annual updates of the Five-Year Prescribed Burning Management Plan completed
- Continued implementation of the Five-Year Prescribed Burning Management Plan (acres treated)

Objective 3: Reduce the threat of wildfire within the wildland urban interface on OSSF and the surrounding community through a comprehensive mitigation strategy that includes

evaluating vegetative fuels near residential areas and identifying potential fuel reduction projects. (Ongoing objective)

Performance Measures:

- Evaluations complete
- Should the evaluations determine that fuel reduction is necessary, number of acres treated for fuel reduction

Objective 4: Utilize prescribed fire to enhance restoration of native groundcover. Evaluate areas where native groundcover has been eliminated or heavily impacted from historical land use on a case-by-case basis for alternative methods to address reestablishment of native groundcover. Restore native groundcover where practical or heavily impacted from historical land use. (Long-term objective)

Performance Measure: Number of acres restored

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

Objective 1: In cooperation with FWC, develop a Wildlife Management Strategy addressing wildlife species for OSSF, with emphasis on imperiled species and associated management prescriptions for their habitats. (Ongoing objective)

Performance Measures:

- Imperiled species management strategy completed
- Baseline listed and rare species list updated for OSSF

Objective 2: In consultation with FWC, implement survey and monitoring protocols, where feasible, for listed and rare species. (Ongoing objective)

Performance Measure: Number of species for which monitoring is ongoing

➤ **GOAL 5: Invasive Species Management and Control**

Objective 1: Continue to follow and annually update the Five-Year Ecological Plan for OSSF, to locate, identify, and control invasive species. (Ongoing objective)

Performance Measures:

- Total number of acres identified and successfully treated
- Annual updates of the Five-Year Ecological Plan completed

➤ **GOAL 6: Cultural and Historical Resource Management**

Objective 1: Ensure all known cultural and historical sites are recorded in the Department of State, Division of Historical Resources (DHR) Florida Master Site File. (Ongoing objective)

Performance Measure: Documentation of known sites

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

Performance Measures:

- Number of sites monitored
- Reports submitted to DHR

Objective 3: Maintain at least one (1) qualified staff member as an Archaeological Resource Management (ARM) Monitor. (Ongoing objective)

Performance Measure: Number of local staff trained as ARM monitors

Objective 4: Create and display interpretive educational materials referencing archeological resources of the area.

Performance Measure: Number of educational items created

➤ **GOAL 7: Hydrological Preservation and Restoration**

Objective 1: Protect water resources during management activities through the implementation of all applicable Silviculture Best Management Practices (BMPs). (Ongoing objective)

Performance Measure: Percent compliance with Silviculture BMPs

Objective 2: Conduct or obtain a site assessment / study to identify potential hydrological restoration needs. (Short-term Objective)

Performance Measure: Assessment conducted

Objective 3: Close, rehabilitate, or restore roads, firelines, and trails that are causing hydrologic alterations or negatively impacting water quality. (Ongoing objective)

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

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

Objective 1: OSSF staff, along with help from volunteers and / or user groups, will continue maintenance of the visitor center, kiosks, picnic pavilions and areas, primitive camping sites, parking areas, trailheads, trails, and roads. (Ongoing objective)

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

Objective 2: Continue to follow the Five-Year Roads and Bridges Management Plan and update annually. (Ongoing objective)

Performance Measures:

- Continued implementation of the Five-Year Roads and Bridges Management Plan
- Annual updates of the Five-Year Roads and Bridges Management Plan completed
- Examine road network for access/road relocation needs on an annual basis

Objective 3: Continue to implement the Five-Year Boundary Survey and Maintenance Management Plan and update annually. Approximately 20 percent of the forest boundary will be remarked annually as necessary, which includes harrowing (where feasible), reposting signage, and repainting boundary trees. (Ongoing objective)

Performance Measures:

- Continued implementation of the Five-Year Boundary Survey and Maintenance Management Plan
- Percentage of forest boundary maintained each year

- Annual updates of the Five-Year Boundary Survey and Maintenance Management Plan completed

II. Administration Section

A. Descriptive Information

1. Common Name of Property

The common name of the property is Okaloacoochee Slough State Forest (OSSF).

2. Legal Description and Acreage

Okaloacoochee Slough State Forest is comprised of a single tract. All major parcels acquired are displayed and identified in Exhibit B as well as in the table below. The property is located in all or part of Sections:

Hendry County:

Sections 1, 24, 25, 36 of Township 44 South, Range 29 East; Sections 19, 20, 28, 29, and 30 through 34 of Township 44 South Range 30 East; Sections 4 through 11, Sections 14 through 23, and Sections 26 through 36 of Township 45 South Range 30 East; Sections 12, 13, 24, and 25 of Township 45 South Range 29 East; Section 31 of Township 45 South Range 31 East; and Sections 6 through 8 of Township 46 South Range 31 East.

Collier County:

Sections 1 through 5 and 10 through 12 of Township 46 South Range 30 East. See Exhibit E.

Acreage acquired by funding source is identified in Table 1.

Table 1. OSSF Acreage by Funding Source

Funding Source	Acres*
CARL / SOR	19,454.23
Preservation 2000	9,804.09
SOR	2,800.92
Mitigation	310.80

A complete legal description of lands owned by the Board of Trustees of the Internal Improvement Trust Fund (TIITF) and the South Florida Water Management District (SFWMD) is on record at the OSSF Forestry Station Office, Florida Department of Environmental Protection (DEP), and the FFS State Office in Tallahassee.

3. Proximity to Other Public Resources

Lands managed by state, federal, or local governments for conservation of natural or cultural resources that are located within approximately 15 miles of the OSSF are included in Exhibit F and Table 2.

Table 2. Nearby Public Conservation Land and Easements

Tract	Managing Agency	Distance
Okaloacoochee Slough WMA	FWC	Adjacent E
Dinner Island Ranch WMA	FWC	Adjacent E
Spirit of the Wild WMA	FWC	Adjacent W
Corkscrew Regional Ecosystem Watershed	SFWMD	8 miles SW
Corkscrew Swamp Sanctuary	NAS	13 miles SW
Babcock Ranch Preserve	FFS	15 miles NW

FFS – Florida Forest Service

NAS – National Audubon Society

FWC – Florida Fish and Wildlife Conservation Commission

SFWMD – South Florida Water Management District

4. Property Acquisition and Land Use Considerations

Most of OSSF (22,255.15 acres) was purchased in 1996 from Atlantic Land and Improvement Company, Inc. (ALICO) by the SFWMD under an acquisition agreement with the State. This project was both a Conservation and Recreation Lands (CARL) project and SOR project. The State and SFWMD contributed an undivided one-half interest to the original purchase. As such, SFWMD was reimbursed by the BOT for half interest in 19,454.23 acres of this purchase. An additional 9,764.09 acres was acquired utilizing Preservation 2000 Inholding and Addition Program funds. All TIITF parcel acquisitions are identified in Table 3.

Table 3. Parcel Acquisition

Parcel Name	Lease Date	TIITF Lease No.	County	Acres
ALICO*	7/14/2000	4247	Collier	3,635.06
ALICO*	7/14/2000	4247	Hendry	15,819.17
ALICO	3/4/2000	4246	Hendry	8,719.09
ALICO	3/4/2000	4246	Collier	1,065.00
ALICO**	7/16/2002	C-1368	Hendry	2,800.92
ALICO	11/5/2008	4246	Collier	20.00
Twelve Mile Slough Panther Mitigation	7/24/2013	4246	Hendry	310.80

* Joint lease held by TIITF and SFWMD

** Lease solely held by SFWMD

B. Management Authority, Purpose, and Constraints**1. Purpose for Acquisition / Management Prospectus**

The OSSF was acquired as part of the SOR and CARL programs. The goals of the SOR program include: “Protecting areas that are critical to maintaining southern Florida’s ecological integrity, and acquiring lands that are necessary for water management, water supply, and the conservation and protection of water resources.”

The primary goals of the CARL program include:

- Conservation and protection of environmentally unique and irreplaceable lands;
- Conservation and protection of significant habitat for native species or endangered and threatened species;

- Conservation, protection, management and restoration of important ecosystems, landscapes, and forests, in order to enhance or protect significant surface water, recreation, timber, fish or wildlife resources;
- Providing areas for nature-based recreation; and
- Preserving archaeological or historical sites.

2. Degree of Title Interest Held by the Board

The South Florida Water Management District (SFWMD) purchased 22,255.15 acres from ALICO and took title to the property under a deed dated December 3, 1996, and an additional 20 acres were acquired from ALICO for offices / housing; which was amended into Lease Agreement 4246 on November 5, 2008. The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (TIITF) subsequently reimbursed the SFWMD for half of the acquisition costs for 19,454.23 acres of the above-mentioned area. The TIITF now hold joint, fee simple title (50% undivided interest) in this area under a deed dated February 2, 1999. This property is assigned to the FFS for management under Lease Agreement 4247.

The SFWMD retained full, fee simple ownership of 2,800.92 acres of the original ALICO purchase. This property was previously managed as part of the OSSF under a Memorandum of Understanding but was assigned to the FFS under SFWMD Lease Number C-1368, dated July 16, 2002. Copies of this document are on file at FFS and SFWMD headquarters.

The Twelve Mile Slough – Panther Mitigation parcel contains 310.80 acres in Hendry County and was acquired on July 24, 2013. This property was assigned to FFS for management under Lease Agreement 4246.

The TIITF also holds fee simple title to 9,784.09 acres that were purchased by the FFS Inholding and Additions Program using Preservation 2000 funds. This property is assigned to the FFS for management under Lease Agreement 4246.

3. Designated Single or Multiple-Use Management

OSSF is managed under a multiple-use concept by the FFS, under the authority of Chapters 253 and 589, F.S. The FFS is the lead managing agency as stated in TIITF Management Lease Agreement numbers 4246 and 4247.

Multiple-use management 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 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 these resources and considering 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 OSSF 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. Current and potential revenue producing activities for the OSSF include, but are not limited to:

- *Timber Harvests* – Timber harvests on OSSF will be conducted to improve forest health, promote wildlife habitat, restore plant communities, and provide additional benefits.
- *Whole Tree Sabal Palm Harvests* – this can be considered for future sales given the growth of sabal palms on the forest and the demand in the area.
- *Native Seed Harvests* – a nearly 200-acre wet flatwoods site is maintained through frequent prescribed burning and is offered annually to local ecological companies to harvest native plant seeds for restoration purposes.
- *Cattle Grazing Leases* – Currently there are no FFS cattle leases on OSSF.
- *Recreation Fees* – Fees are currently collected for all day-use areas, all campgrounds, annual passes, and vendor / special use permits.
- *Apiary Leases* – There is currently one (1) apiary lease on OSSF.
- *Miscellaneous Forest Product Sales* – Other miscellaneous forest product sales, including but not limited to, heart of palm, palm fronds and berries, pine cones, pine straw and firewood, may be considered.

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 253, 259, and 589 F.S.

6. Legislative or Executive Constraints

FFS makes every effort to comply with applicable statutes, rules, and ordinances when managing the forest. For example, when public facilities are developed on state forests, every effort is made to comply with Public Law 101-336, the Americans with Disabilities Act. As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions (e.g., where handicap access is structurally impractical or where providing such access would change the fundamental character of the facility being provided).

There are no known legislative or executive constraints specifically directed toward OSSF.

7. Aquatic Preserve / Area of Critical State Concern

Within Collier County, sections 10, 11 and 12, of Township 46 South, Range 30 East are within the Big Cypress Area of Critical State Concern, Chapter 28-25.001 FAC.

C. Capital Facilities and Infrastructure

1. Property Boundaries Establishment and Preservation

OSSF boundaries, 41 miles in total, are managed by state forest personnel in accordance with the guidelines of the State Forest Handbook. There are 30 gates throughout OSSF that require periodic maintenance. State forest boundaries are maintained by periodic clearing, repainting, and reposting, and placement of state forest boundary signs by FFS personnel.

2. Improvements

Throughout the forest, there are existing recreation improvements, which are:

- Four (4) primitive campgrounds:
 - Wildcow Island Primitive Group Camp with 2 sites
 - Panther Pond Campground with fifteen (15) sites
 - Overflow Camp with six (6) primitive RV camp sites
 - Hunt Camp with five (5) primitive RV camp sites and one (1) tent camp site
- There are six (6) trailheads:
 - Twin Mills Trail Trailhead (2.3-mile trail)
 - Roney Island Trailhead (1.9-mile trail)
 - Mountain Bike Trailhead (3.2-mile trail)
 - Equestrian Trailhead with 4 covered horse paddocks (17-mile trail)
 - Tram Loop Trailhead (3.6-mile trail).
 - Boardwalk Trailhead (1/8th mile trail) with picnic area
- A 40-acre dog training area is located off of Patterson Road

All remaining facilities and improvements are located on the 12-acre forest headquarters site. See Exhibit D for a map of the buildings and improvements at OSSF. A review of facilities and improvements on the forest that provide infrastructure support for staff and equipment include:

Buildings / Recreation infrastructure present on the OSSF include:

- 2,500 sq ft. FFS Forest Headquarters (converted residence)
- 1,500 sq ft. residence
- 1,000 sq ft. residence
- 1,000 sq ft. residence
- 2,000 sq ft. trailer pad with 2,000 sq ft. federal excess trailer for a residence.
- 5,400 sq ft. metal pole barn for equipment storage
- (3) 100 sq ft. pump houses
- 200 sq ft. woodworking shed
- 2,400 sq ft. Quonset hut
- 2,848 sq ft. pole barn
- 2,304 sq ft. pole barn
- 864 sq ft. pole barn
- 972 sq ft. pole barn

- 210 sq. foot pole barn
- 120 sq ft. check station (operated by FWC)

In the ten-year period contemplated by this plan, FFS will consider additional structures as necessary.

3. On-Site Housing

There are three (3) residences on OSSF for Florida Forest Service personnel and two (2) trailer pads with federal excess trailers. All are equipped with septic and hooked up to a potable water system serviced by two (2) pump houses. Housing is prioritized based on FFS policy.

FFS may establish additional on-site housing (mobile / manufactured home) on OSSF if deemed necessary to alleviate security and management issues. The continued need and feasibility for OSSF will be evaluated and established if considered appropriate by the Center Manager and approved by the FFS Director. Prior to the occurrence of any ground disturbing activity for establishing on-site housing, a notification will be sent to the DHR and Florida Natural Areas Inventory (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 Center Manager and approved by the Director.

4. Operations Infrastructure

a. Operations Budget

For Fiscal Year 2023-2024 the total annual budget for OSSF was \$131,029.06. This amount includes expenses, contractual services, OPS, etc. A summary budget for OSSF is contained in Exhibit U. Implementation of any of the activities within this management plan is contingent on availability of funding, other resources, and other statewide priorities.

b. Equipment

To carry out the mission of the FFS, equipment assigned to the OSSF includes: three (3) type II tractor plow/transport units, two (2) type VI engines, six (6) pickup trucks, one (1) ATV, one (1) UTV, three (3) farm tractors, one (1) front-end loader, one (1) motor grader, one (1) lawn mower, and eight (8) attachments for the farm tractors.

c. Staffing

Nine (9) individuals are assigned to OSSF: one (1) Forest Area Supervisor, two (2) Senior Forest Rangers, four (4) Forest Rangers, one (1) OPS Park Ranger – Spray Tech, and one (1) Part time OPS Park Ranger - Recreation. Other personnel from the Caloosahatchee Forestry Center are used extensively to assist with management activities at OSSF.

The Center's resource staff will work to achieve the goals outlined in this management plan. Recreation planning and management activities as well as resource management and planning activities, such as trail flagging / identification, recreation facility placement,

timber cruising, and sale administration, etc., are the responsibility of the resource staff in cooperation with the operations section of the district under the guidance of the Forestry Resource Administrator and Center Manager. Forest operations, such as road maintenance, operations / recreation facility maintenance, prescribed burning, etc., are the responsibility of the Forest Area Supervisor under the direction of the Operations Administrator.

To supplement the staff assigned to OSSF, the Recreation Forester position is responsible for recruiting interested volunteers who can bring needed experience and skills to assist with the management of the forest recreation program, as well as resource management activities.

Additionally, a State Forest Liaison Committee comprised of private citizens and representatives of forest user groups meets bi-annually to provide input on forest management activities and share ideas with FFS staff to improve the state forest.

D. Additional Acquisitions and Land Use Considerations

1. Alternate Uses Considered

No alternate uses are being considered at this time. Alternate 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. Uses determined as incompatible include but are not limited to: water resource development projects, water supply projects, storm-water management projects, sewage treatment facilities, linear facilities, off highway vehicle use, dumping, mining, and oil well stimulation (e.g. hydraulic fracturing / fracking), or as determined by law, regulation, or other incompatible uses as described elsewhere in the management plan. Deadhead logging is not compatible with nor considered an appropriate use within or adjacent to the state forest boundaries. Although no water resource projects are being considered at this time on SFWMD-owned lands within OSSF, they should not be precluded.

2. Additional Land Needs

There are 118 parcels of land comprised of 24,291 acres adjacent to the property which should receive priority for acquisition because they would benefit the management of the property. The FFS will work with these property owners, on a willing seller basis, to acquire these parcels.

Purchasing of additional land within the optimal management boundary would facilitate restoration, protection, maintenance, and management of the resources on OSSF. These parcels would serve to enhance management of OSSF and resolve particular management issues, provide additional areas for natural resource based outdoor recreation opportunities, protect the slough from potential impact, and provide habitat for protected species. Primary examples are any parcels to the south and west providing access to the property from the abandoned railroad bed and any parcel to the west in order to protect the water quality of the slough. See Exhibit C.

3. Surplus Land Assessment

On conservation lands where FFS is the lead manager, FFS assesses and identifies areas for potential surplus land. This assessment consists of an examination of resource and operational management needs, public access and recreation use, and GIS modeling and analysis.

The evaluation of OSSF by FFS has determined that all portions of the area are being managed and operated for the original purposes of acquisition, as well as 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. Therefore, no portion of the OSSF is recommended for potential surplus.

4. Adjacent Conflicting Uses

State Road 29 and County Road 832 are paved roads and serve as impediments to prescribed burning. Water control structures on the north end of the forest are managed by the Barron Water Control District and regulate water flows on the forest. Management activities will be impacted by the amounts of water held back or released onto the forest during various times of the year. The rural community of Felde is located on the southwestern border of the forest and future development would require additional coordination for smoke management.

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 Local Comprehensive Plan

This plan was submitted to the Board of County Commissioners in Hendry and Collier counties for review and compliance with their local comprehensive plans. See Exhibit S.

6. Utility Corridors and Easements

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 OSSF 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), minimize habitat fragmentation, limit disruption of management activities, including prescribed burns, and limit disruption of resource-based multiple use activities such as recreation.

Collocation of new linear facilities with existing corridors will be considered but will be used only where expansion of existing corridors does not increase the level of habitat fragmentation and disruption of management and multiple-use activities. FFS will further

encourage the use of underground cable where scenic considerations are desirable as well as encourage the development and use of wildlife crossings for unavoidable roadway development projects. Easements for such utilities are subject to the review and approval of the TIITF and the SFWMD. Requests for linear facility uses will be handled according to the Governor and the Cabinet's linear facilities policy.

E. Agency and Public Involvement

1. Responsibilities of Managing Agencies

FFS is the lead managing agency, responsible for overall forest management and public recreation activities, as stated in TIITF Management Lease Agreement numbers 4246 and 4247. Pursuant to the management lease, the lead managing agency may enter into further agreements or to subleases on any part of the forest.

FFS will cooperate with the DHR regarding appropriate management practices on historical or archaeological sites on the property as stated in Section 267.061, F.S. FFS will consult DHR prior to the initiation of ground disturbing activities as required per DHR guidelines.

FWC assumes law enforcement responsibilities, enforces hunting regulations, cooperatively sets hunting season dates with FFS, and conducts other wildlife management activities with input from FFS.

The SFWMD will be consulted and involved in matters relating to water management and hydrological restoration, as appropriate.

2. Law Enforcement

Primary law enforcement responsibilities will be handled by FWC law enforcement officers. Rules governing the use of OSSF are stated in Chapter 5I-4, F.A.C. FWC will enforce fish and wildlife regulations and aid in enforcing state forest rules. FWC does not currently have an officer dedicated to patrolling and enforcement on OSSF. This task is shared among multiple FWC officers who also patrol and enforce laws on properties and waterways outside of OSSF.

The FDACS Office of Agricultural Law Enforcement (OALE) will assist with open burning and wildfire investigations as needed. The Hendry County and Collier County Sheriff's Offices provides additional assistance as needed.

Special rules under Chapter 5I-4, F.A.C. were promulgated for FDACS-FFS to manage the use of state lands and better control traffic, and to oversee camping and other uses on OSSF.

3. Wildland Fire

The FFS has the primary responsibility for prevention, detection, and suppression of wildfires wherever they may occur. The FFS shall provide leadership and direction in the evaluation, coordination, allocation of resources, and monitoring of wildfire management and protection (Chapter 590.01, F.S.). The FFS also has the responsibility of authorizing prescribed burns (Chapter 590.02 [1][i], F.S.).

4. Public and Local Government Involvement

This plan has been prepared by FFS and will be carried out primarily by the FFS. FFS responds to public involvement through liaison committees, management plan advisory groups, public hearings, and through ongoing direct contact with user groups. Land Management Review Teams, as coordinated by the Division of State Lands, have conducted reviews of management plan implementation in 2016 and 2021. See Exhibit R. The review team's recommendations were addressed in this plan, as appropriate.

The plan was developed with input from the OSSF Management Plan Advisory Group and was reviewed at a public hearing on November 19, 2024. A summary of the advisory group's meetings and discussions, as well as written comments received on the plan, are included in Exhibit T. The Acquisition and Restoration Council (ARC) public hearing and meeting serve as an additional forum for public input and review of the plan.

5. Volunteers

Volunteers are important assets to OSSF. Volunteer activities may occur as one-time events or in association with recurring projects and routine maintenance. Additional volunteer recruitment will continue to assist furthering the FFS's mission focused around assisting with recreation and resource management on the forest. Organizations that currently volunteer or work with recreation activities in the county are a part of the liaison committee and serve as a good point of contact for volunteer needs and requests. The forest is located in a rural area of southwestern Florida with many of the visitors coming from out of town.

6. Friends of Florida State Forests

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

The FFSF program is referenced in Chapter 589.012, F.S. For more information visit: www.floridastateforests.org.

III. Archaeological / Cultural Resources and Protection

A. Past Uses

ALICO, Inc. acquired the property through the Atlantic Coastline Railroad. The property was originally logged for railroad crossties, and sawmills were built for lumber production. During the 1920s, Sears, a town started by John Sears' widow and two sons, operated a large modern sawmill. After a fire destroyed the mill, the town of Sears went into decline and essentially disappeared. During the same time period, ALICO, Inc. continued logging operations utilizing two portable sawmills, which were referred to as the Twin Mills. There are still remnants of the sawdust piles off of Twin Mills Road, which also serves as a forest boundary. During the mid-1930s, the property was cleared of most of its marketable timber and an extensive cattle operation was established. Additionally, limited hunting leases were

sold with the understanding that ALICO, Inc. could exclude access if roads became too rutted. This practice, along with security patrols, helped to limit damage over much of the property. Other past uses included apiary activity, palmetto drupe harvesting, sabal palm harvesting, limited row crop fields, and trial eucalyptus plantations.

B. Archaeological and Historical Resources

A review of information contained in the Florida Department of State, DHR, Florida Master Site File has determined there are four (4) recorded archaeological sites and two (2) resource groups found within the designated area for OSSF. Additionally, one site discovered by staff members at OSSF has potential historical importance. Due to OSSF's proximity to Big Cypress National Preserve, the possibility exists for additional sites to be discovered. See Exhibit G and Table 4 for the cultural resource roster.

Table 4. Archaeological and Historical Sites on OSSF

Site ID	Site Name	Site Type
CR00885	Corduroy Road, Okaloacoochee Slough	Resource Group
HN00112	Gumbo Limbo Hammock	Archaeological
HN00113	Lambers Mound	Archaeological
HN00152	Dipping Trough, Okaloacoochee Slough	Archaeological
HN00264	OK Saw Mill	Archaeological
HN00361	Goodno Drainage Canal	Resource Group

As the Archeological Resource Management Monitor training is offered, Caloosahatchee Forestry Center personnel are selected to be trained as monitors to facilitate protection of cultural resources. Sensitive Areas maps are provided to personnel to help identify locations where protection is critical. Periodic monitoring by staff and law enforcement is also important to protection efforts. Where cultural sites are part of current or future public use areas and DHR approves, interpretation may be utilized to inform and educate the public.

C. Ground Disturbing Activities

Representatives of DHR and FNAI will be consulted prior to the initiation of proposed ground disturbing activity as required per DHR guidelines. FFS will make every effort to protect known archaeological and historical resources. FFS will follow the "Management Procedures for Archaeological and Historical Sites and Properties on State Owned or Controlled Lands" and will comply with all appropriate provisions of Section 267.061(2)(a,b), F.S. See Exhibit H. Any significant ground disturbing activity proposal will be submitted to DHR's Compliance and Review office for review prior to undertakings and allow the Division a reasonable opportunity to comment. Ground disturbing activities not specifically covered by this plan will be conducted under the parameters of the Interim Management Guidelines.

D. Survey and Monitoring

Currently, four (4) district FFS staff are trained by DHR as Archaeological Resource Management (ARM) monitors. FFS will pursue opportunities for additional personnel to receive ARM Monitor training. FFS will consult with public lands archaeologists at DHR as necessary to determine an appropriate priority and frequency of monitoring at each of the listed sites, and any protection measures that might be required. Unless required on a more

frequent basis, all 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.

Any known archaeological and historical sites will be identified on maps to aid state forest personnel, and if necessary, law enforcement personnel in patrolling and protecting sites. Applicable surveys will be conducted by ARM monitors or contracted archaeologists 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 limited types of ground disturbing activities in which DHR recommends monitoring. 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

The primary purpose for FFS management of OSSF is to protect areas that are critical to maintaining southern Florida's ecological integrity and acquiring lands that are necessary for water management, water supply, and the conservation and protection of water resources. Management activities will be executed in a manner to minimize soil erosion and maintain and protect / enhance the hydrological resources on OSSF. If problems arise, corrective action will be implemented by FFS staff under the direction of FFS's Forest Hydrology Section. Efforts will be made to monitor and protect OSSF's waterbodies and their associated water quality and native plants and animals.

OSSF falls within the jurisdiction of the SFWMD. FFS will coordinate with SFWMD and / or DEP, as necessary, on activities pertaining to water resource protection and management. Any activities requiring water management district permits will be handled accordingly. FFS will work with SFWMD to ensure that levels and quality of ground and surface water resources are appropriately monitored.

A. Soils and Geologic Resources

1. Resources

Soil information for OSSF was obtained from the United States Department of Agriculture Natural Resources Conservation Service (NRCS). The major soils listed by the NRCS include: Winder fine sand; Tuscawilla fine sand; Wabasso sand, limestone substratum; Oldsmar sand; Gator muck and Riviera sand. Detailed information on all soils present on the forest may be found in Exhibit I.

2. Soil Protection

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

Currently there are no major or significant soil erosion problems on OSSF.

B. Water Resources

OSSF performs essential roles in the protection of water quality, groundwater recharge, flood control and aquatic habitat preservation. This is due to the forest's position in the landscape, unique natural features, and the number and types of water resources present (isolated wetlands, cypress swamps, basin wetlands, etc.). In the interest of maintaining these valuable resource functions, state forest management personnel will work with the FFS Hydrology Section to incorporate wetlands restoration into the overall resource management program as opportunities arise, particularly where wetlands systems have been impaired or negatively impacted by previous management activities or natural disasters. See Exhibits K and W for map of the water resources on OSSF.

1. Resources

The Okaloacoochee Slough serves as a headwater source for the Fakahatchee Strand Preserve State Park and Big Cypress National Preserve, as identified in 1998 by the SOR program. During the rainy season, waters from the slough will also flow north to the Caloosahatchee River. Flow during this time of the year will depend upon where rain has fallen on the forest, local winds, and the activities of the Barron Water Control District. During the dry season, the slough serves to store wet season runoff from western Hendry County through an extensive network of swales, sloughs, depressions, and other wetlands.

Cypress strands, hydric hammocks, depression marshes and wet flatwoods all occur on OSSF. Maintenance of naturally occurring wetland communities is a high priority and will be accomplished through prescribed fire, when necessary, and the assurance of proper planning and mitigation of activities that would threaten natural hydrology.

2. Water Classification

The Florida Department of Environmental Protection, Standards Development Section reports that there are no waters on or near OSSF as exceptions to Class III in subparagraph 62-302.400(17)(b)64, F.A.C.; therefore, all of the surface waters on or adjacent to the site are classified as Class III waters (Fish Consumption, Recreation, Propagation and Maintenance of a healthy, Well-Balanced Population of Fish and Wildlife), which is the statewide default classification under subsection 62-302.400(15), F.A.C.

According to subsection 62-302.400(15), F.A.C., there are no OFWs on, adjacent to, or near OSSF. See Exhibit J.

3. Water Protection

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.

OSSF falls within the water resource jurisdiction of the SFWMD and serves as the headwaters of the Big Cypress Basin. The FFS will coordinate with SFWMD, as necessary, on activities pertaining to water resource protection and management. This will apply most directly to road construction activities, culvert installations, and low water

crossings. FFS and SFWMD will work with FWC on hydrologic evaluation on the effects of major canals north of County Road 832 and development of restoration plan if one is necessary. If problems do arise, corrective action will be implemented by FFS staff under the direction of FFS Forest Hydrology Section, and in accordance with accepted standards.

4. Swamps, Marshes, and Other Wetlands

In addition to the waterways, OSSF contains approximately 20,495 acres in six (6) hydric communities: basin marsh, depression marsh, dome swamp, slough marsh, strand swamp, and wet prairie. Maintenance of naturally occurring wetland communities is a high priority and will be accomplished through appropriate management activities, including prescribed fire and adherence to Silviculture BMPs.

5. Wetland Restoration

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

Where applicable, OSSF, with assistance from the FFS Forest Management Bureau, may pursue funding to develop and implement wetlands restoration projects. Additionally, cooperative research among FFS, other state agencies, and the federal government will provide valuable information in determining future management objectives of wetland restoration.

Consideration will be given to eliminating ditches if it can be accomplished without flooding necessary roads, structures, or adjacent landowners. Wetland restoration will be coordinated with the FFS Hydrology Section and with SFWMD and DEP involvement/approval as appropriate. Any activities requiring SFWMD or DEP permits will be handled accordingly.

Wetland restoration will be coordinated with the SFWMD. Any activities requiring permits from the water management district will be handled accordingly and will follow the latest edition of the FFS Silviculture Best Management Practices Manual.

6. Florida Department of Environmental Protection Basin Management Action Plan (BMAP)

A Basin Management Action Plan is a "blueprint" for restoring impaired waters by reducing pollutant loadings to meet the allowable loadings established in a Total Maximum Daily Load (TMDL). It represents a comprehensive set of strategies, including, but not limited to: permit limits on wastewater facilities, urban and agricultural best management practices, conservation programs, financial assistance, and revenue generating activities, all designed to implement the pollutant reductions established by the

TMDL. These broad-based plans are developed with local stakeholders, as they rely on local input and local commitment, and are adopted by Secretarial Order to be enforceable.

The BMAP provides for phased implementation under Subparagraph 403.067(7)(a)1, F.S. The phased BMAP approach allows for the implementation of projects designed to achieve incremental reductions, while simultaneously monitoring and conducting studies to better understand the water quality dynamics (sources and response variables) in the watershed.

OSSF is a part of the Caloosahatchee Basin Management Action Plan (BMAP). This BMAP was first adopted in November 2012 and a revised version of the BMAP was adopted in 2020. Generally, the portion of the forest that is located north of CR 832 is located within this plan. More information for this plan can be found at www.floridadep.gov.

C. Flora and Fauna Resources

1. Rare, Threatened, and Endangered Species

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

There are twenty-four (24) animal and twenty (20) plant species with either state or federal listed status that occur on OSSF. The species in Table 5 have been verified to be present now or in the past on the forest. See Table 5.

Table 5. Rare, Threatened, and Endangered Species Documented on OSSF

Common Name	Scientific Name	FNAI Global Rank*	FNAI State Rank*	Federal Status*	State Status*
<i>Amphibians & Reptiles</i>					
American alligator	<i>Alligator mississippiensis</i>	G5	S4	SAT	FT (S/A)
Eastern diamondback rattlesnake	<i>Crotalus adamanteus</i>	G3	S3	UR	N
Eastern indigo snake	<i>Drymarchon couperi</i>	G3	S2?	LT	FT
Gopher tortoise	<i>Gopherus polyphemus</i>	G3	S3	N	ST
<i>Birds</i>					
Florida grasshopper sparrow	<i>Ammodramus savannarum floridanus</i>	G5T1	S1	LE	FE
Florida sandhill crane	<i>Antigone canadensis pratensis</i>	G5T2	S2	N	ST
Limpkin	<i>Aramus guarauna</i>	G5	S3	N	N
Florida burrowing owl	<i>Athene cunicularia floridana</i>	G4T3	S3	N	ST

Birds					
Audubon's crested caracara	<i>Caracara plancus</i>	G5	S2	FT	FT
Hairy woodpecker	<i>Dryobates villosus</i>	G5	S3	N	N
Little blue heron	<i>Egretta caerulea</i>	G5	S4	N	ST
Snowy egret	<i>Egretta thula</i>	G5	S3	N	N
Tricolored heron	<i>Egretta tricolor</i>	G5	S4	N	ST
Swallow-tailed kite	<i>Elanoides forficatus</i>	G5	S2	N	N
Eastern black Rail	<i>Laterallus jamaicensis jamaicensis</i>	G3	S2	FT	T
Wood stork	<i>Mycteria americana</i>	G4	S2	FT	FT
Bachman's sparrow	<i>Peucaea aestivalis</i>	G3	S3	N	N
Roseate spoonbill	<i>Platalea ajaja</i>	G5	S2	N	ST
Glossy ibis	<i>Plegadis falcinellus</i>	G5	S3	N	N
Snail kite	<i>Rostrhamus sociabilis plumbeus</i>	G4G5	S2	LE	FE
Mammals					
Florida mouse (Gopher mouse)	<i>Podomys floridanus</i>	G3	S3	N	N
Florida panther	<i>Puma concolor coryi</i>	G5T1	S1	LE	FE
Big Cypress fox squirrel	<i>Sciurus niger avicennia</i>	G5T2	S2	N	ST
Florida black bear	<i>Ursus americanus floridanus</i>	G5T4	S4	N	N
Plants					
Hand fern	<i>Cheiroglossa palmata</i>	G4	S3	N	LE
Satinleaf	<i>Chrysophyllum oliviforme</i>	G5T5	S3	N	LT
Florida jointtailgrass	<i>Coelorachis tuberculosa</i>	G3	S3	N	LT
Cutthroatgrass	<i>Coleataenia abscissa</i>	G3	S3	N	LE
Small's flax	<i>Linum carteri</i> var. <i>smallii</i>	G2T2	S2	N	LE
Pine lily	<i>Lilium catesbaei</i>	G4	S4	N	LT
Florida spiny-pod	<i>Matelea floridana</i>	G2	S2	N	LE
Simpson's stopper	<i>Myrcianthes fragrans</i>	G4	S4	N	LT
Greater yellow spike orchid	<i>Polystachya concreta</i>	G3G5	S3	N	LE
Giant orchid	<i>Pteroglossaspis ecristata</i>	G4S4	S2	N	LT
Leafless beaked ladiestresses	<i>Sacoila lanceolata</i> var. <i>lanceolata</i>	G4S3	SNR	N	LT
Cardinal airplant	<i>Tillandsia fasciculata</i>	G5S4?	SNR	N	LE
Stiff-leaved wild pine	<i>Tillandsia fasciculata</i> var. <i>densispica</i>	G5T4T5	SNR	N	LE
Twisted airplant	<i>Tillandsia flexuosa</i>	G5	S3	N	LT
Giant wild pine	<i>Tillandsia utriculata</i>	G5	S3	N	LE
Leatherleaf airplant	<i>Tillandsia valenzuelana</i>	G5	S2	N	LT
Chiggery grapes	<i>Tournefortia hirsutissima</i>	G5	SNR	N	LE
Redmargin zephyrlily	<i>Zephyranthes simpsonii</i>	G2G3	S2S3	N	LT

* STATUS / RANK KEY

Federal Status (USFWS): LE= Listed Endangered, LT= Listed Threatened, N= Not currently listed, C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened. SAT, T(S/A) = threatened due to similarity of appearance. A species that is threatened due to similarity of appearance with another listed species and is listed for its protection. Species listed as T(S/A) are not biologically endangered or threatened and are not subject to Section 7 consultation

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

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

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

FNAI State Rank: S1= Critically Imperiled, S2= Imperiled, S3= Very Rare, S4= Apparently Secure, S5 = Demonstrably secure in Florida, S#?= Tentative Rank., SNR = Element Not Yet Ranked.

2. Florida Natural Areas Inventory

The Florida Natural Areas Inventory (FNAI) is the single most comprehensive source of information available on the locations of rare species and significant ecological resources throughout Florida.

FNAI has reported the following:

a. Element Occurrences

FNAI element occurrences data layer includes occurrences of rare species and natural communities. For animals and plants, element occurrences usually indicate a viable population of the species. The FNAI Natural Heritage Database contains documentation of 13 rare plant and animal species on or likely on OSSF, including Florida panther (*Puma concolor coryi*). All of these species are included in the Rare Species Table (Table 5), above.

Documented habitat includes: basin marsh, depression marsh, dome swamp, mesic flatwoods, mesic hammock, slough marsh, strand swamp, pine plantation, wet flatwoods, and wet prairie.

b. Likely and Potential Habitat for Rare Species

In addition to documented occurrences, other rare or threatened species may occur near OSSF. Rare species and communities that have not been documented but that are likely or potential at the site are listed in Exhibit L.

c. Land Acquisition Projects

The site is within the Devil's Garden, Half Circle Ranch, and Twelvemile Slough Forever Project. These are part of the State of Florida's Conservation and Recreation Lands Acquisition Program. See Exhibit X.

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

3. Florida Fish and Wildlife Conservation Commission

The FWC Fish and Wildlife Research Institute (FWRI) reports numerous records of listed species occurrences or critical habitats within the confines of the property. This includes state and federally listed endangered or threatened species.

Other findings by the FWC include:

- a. The property is located adjacent to a Strategic Habitat Conservation Area, which may be suitable for the Eastern indigo snake (*Drymarchon couperi*), gopher tortoise (*Gopherus polyphemus*) and Florida panther (*Puma concolor coryi*).
- b. OSSF is located within an area of moderate Species Richness which indicates the total number of species within potential habitat identified in a specific location.
- c. OSSF is within Priority Wetlands, which are wetlands significant to listed wetland-dependent vertebrates.

These data represent only those occurrences recorded by FWC staff and other affiliated researchers. The database does not necessarily contain records of all listed species that may occur in a given area. Also, data on certain species are not entered into the database on a site-specific basis. Therefore, one should not assume that an absence of occurrences in their database indicates that species of significance do not occur in the area. See Exhibit M.

FWC recommends the review of management guidelines in the published FWC Gopher Tortoise Management Plan to guide management actions for the gopher tortoise (*Gopherus polyphemus*) on the forest. The FWC Gopher Tortoise Management Plan provides beneficial resource guidelines for habitat management and monitoring of the gopher tortoise. For reference, the FWC Gopher Tortoise Species Management Plan can be accessed at www.MyFWC.com.

FWC recommends the review of management guidelines in FWC's published Species Action Plans for the management of imperiled, rare, and focal bird species. The FWC Species Action Plans provide beneficial resource guidelines for habitat management and monitoring of the respective species. For reference, the FWC Species Action Plans can be accessed at www.MyFWC.com.

4. Game Species and Other Wildlife

Wildlife management plays an important role in the management of resources on the forest. FWC provides cooperative technical assistance in managing the wildlife and fish populations, determining hunting seasons, establishing bag and season limits, and overall law enforcement on the forest.

OSSF currently makes up a portion of the 58,880-acre Okaloacoochee Slough Wildlife Management Area (OSWMA). Management of this area will be directed to the production of biological diversity and species composition consistent with existing natural community types. Such communities will be restored and / or maintained through habitat management. All biological resources will be managed to maintain diversity.

Notable wildlife species inhabiting the forest include eastern diamondback rattlesnake (*Crotalus adamanteus*), Florida panther (*Puma concolor coryi*), gopher tortoise (*Gopherus polyphemus*), and wood stork (*Mycteria americana*). Hunting for white-tailed deer, turkey, and small game is permitted during designated seasons. OSSF also supports a moderate population of wild hogs (*Sus scrofa*). Hunter harvest pressure on wild hogs and nuisance trapping helps to control this population.

Presently, there are no permanently maintained wildlife openings or planted food plots on OSSF. Wildlife openings and food plots are established and maintained in accordance with the FFS State Forest Handbook.

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

5. Survey and Monitoring

FFS may implement species-specific management plans developed by FWC and other agencies as applicable. FFS will cooperate with FWC and other agencies in the development of new wildlife management plans and monitoring protocols, as necessary. Such plans will be consistent with rule and statute promulgated for the management of such species.

a. Gopher Tortoises

Belt transect surveys for gopher tortoise burrows have been conducted by FFS and FWC staff opportunistically, as needed, but generally in advance of land management activities that may impact tortoises (e.g., timber harvest). All surveys are done in cooperation with FWC.

The FFS follows and utilizes the Best Management Practices for gopher tortoises to assist in meeting management objectives for both the species and the communities in which it is found.

b. Florida Black Bear

FFS will continue to cooperate with FWC to implement FWC's Florida Black Bear Management Plan, with emphasis on maintaining sustainable black bear populations in suitable habitats throughout Florida for the benefit of the species and people.

c. Listed Plant Species

All known locations of listed or rare flora are GIS mapped and location data are shared with FNAI.

d. Other Rare Biota Surveys

Surveys are done as time and staffing allow. High quality plant communities continue to incur ad hoc surveys for both invasive plants and animals.

Most of the isolated OSSF wetlands have received a cursory biological survey, with rare and significant plant and animal species observed and documented. Assistance will be offered to FWC for gopher tortoise burrow commensals monitoring, as well as monitoring for other rare species, as appropriate.

During routine management activities, incidental sightings of rare animals and plants are GIS mapped by FFS staff. All rare species data is collected and sent to FNAI annually.

6. Gopher Tortoise Recipient Site Feasibility Assessment

The FFS has assessed the feasibility of establishing a gopher tortoise recipient site on OSSF. Soil drainage classes present across the forest range from poorly drained to very poorly drained; often either frequently flooded or with a degree of surficial saturation during the wetter months of the year (see Exhibit I). Therefore, despite the property totaling just over 32,370 acres in size, the FFS has determined there are no suitable soils for gopher tortoise recipient site establishment on OSSF.

D. Sustainable Forest Resources

FFS practices sustainable multiple-use forestry to meet the forest resource needs and values of the present without compromising the similar capability of the future. Sustainable forestry involves practicing a land stewardship ethic that integrates the reforestation, managing, growing, nurturing, and harvesting of trees for useful products with the conservation of soil, air and water quality, wildlife and fish habitat, and aesthetics. This is accomplished by maintaining and updating accurate estimates of standing timber in order to assure that the timber resources retain their sustainability. Forest inventories will be updated on a continual basis according to guidelines established by the FFS Forest Management Bureau.

E. Beaches and Dune Resources

No beaches or dunes occur on the OSSF.

F. Mineral Resources

Oil exploration was active on OSSF prior to state purchase and there are two (2) abandoned oil pads with limestone road accesses located on the forest. There is currently no known interest in conducting oil exploration on the forest.

G. Unique Natural Features and Outstanding Native Landscapes

OSSF is a 16,998-acre slough marsh that runs north to south through the forest. According to USGS quadrangles, the elevation ranges only about 10 feet (between 25 feet to 35 feet above sea level) across the entire forest, providing a large area of contiguous, uniform habitat for a variety of species. The natural systems of the Fakahatchee Strand Preserve State Park and Big Cypress National Preserve depend on the water stored and moved by the slough.

H. Research Projects / Specimen Collection

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

All research to be considered on OSSF must be considered in 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 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 any research to the FFS and the OSSF 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:

- Royal Alberta Museum (Dr. Buck). September 5, 2014. Conduct research on the taxonomy of aculeate Hymenoptera (bees, wasps, ants, and allies) and other insects of southern Florida.
- FWC Fish & Wildlife Research Institute (Scheick, McCown, Doran-Myers, and Shiver). 2014 & 2021. Estimate Florida black bear population size and density for South Florida Bear Management Unit.
- US Geological Survey (Dr. Bedrosian). November 18, 2014. Conduct geophysical surveys to collect magnetotelluric data in peninsular Florida.
- University of Florida (Dr. Wisely). January 22, 2015. Conduct research on pseudorabies virus in feral swine (*sus scrofa*) populations in south-central Florida.
- University of Florida (Dr. Kaplan). May 9, 2016. Renewal to conduct wetland sampling as part of the U.S. Environmental Protection Agency's (EPA) National Wetland Condition Assessment of three state forests.
- South Florida Water Management District (Hopper and Allman). 2016, 2017, 2018 & 2022. Wetland seed plant collection for Hendry County restoration project.
- University of Arizona (Koprowski). March 23, 2017. Close the data gaps and increase the knowledge level for Big Cypress fox squirrels on two state forests.
- University of Central Florida (Dr. Smith). November 9, 2017. Assess the importance of local habitat corridors used by the Florida panthers (*Puma concolor coryi*), specifically the impacts of roads and safe crossing needs in Collier, Hendry, and Lee Counties.
- University of Florida (Dr. Warren). 2019, 2020, 2021, 2022 & 2023. Renewal to collect insect voucher specimens of Lepidoptera, Coleoptera, Diptera and Hymenoptera.
- Louisiana State University (Dr. Taylor and Stein). February 1, 2021. Investigate habitat management and prey availability for Common Nighthawks.
- University of Florida (Dr. Hulcr and LeMay). August 2, 2021. Collect Ambrosia beetle (*Xyleborus ferrugineus*) specimens for taxonomic research.
- FWC Fish & Wildlife Research Institute (Carpenter). 2022 & 2023. Investigate Osceola wild turkey gobbling and nesting chronology in south Florida.

- FWC Fish & Wildlife Research Institute (Sheick and Shiver). November 7, 2022. Document general bear presence in the Big Cypress – Glades / Highlands (BC-G/H) corridor for a demographics and dispersal study.
- North Carolina State University (Dr. Kings). July 6, 2023. Habitat characterization of *Ludwigia* sect. *Isnardia* (Onagraceae) and hybridization within the genus.

I. Ground Disturbing Activities

Although the FFS's approach to handling ground disturbing activities is identified in other sections of this plan, the FFS's overall approach to this issue is summarized here. 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. Sensitive resources include areas such as known sensitive species locations; archaeological, fossil, and historical sites; ecotones, wetlands, and water resources. The process for evaluating and obtaining approval for ground disturbing activities is outlined in Appendix 2.A.6. of the State Forest Handbook.

When new pre-suppression firelines, recreation trails, or other low-impact recreation 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 FNAI, DHR, WMD, and ARC, as appropriate.

V. Public Access and Recreation

The primary recreation objective is to provide the public with passive outdoor recreation activities that are dependent on the natural environment. FFS will continue to promote and encourage public access and recreation use by the public while protecting resources and practicing multiple-use management.

Periodic evaluations will be conducted by FFS staff to monitor recreation impacts on resources. Modifications to recreation 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 FFS determines their compatibility with other forest uses and forest resources. Assessment of visitor impacts, outdoor recreation opportunities and facilities, and proposed changes will all be addressed in the Five-Year Outdoor Recreation Plan updates.

A. Existing Recreation Opportunities

A variety of recreation opportunities are available on the forest. Visitors can enjoy hunting, fishing, hiking, primitive camping, horseback riding, bicycle riding, birding, picnicking, nature study, and sightseeing. Recreation activities will be balanced with the hydrological restoration and other resource management priorities. Recreation activities on OSSF are limited to day-use only, except for permitted primitive camping. See Exhibit D for a map of the recreation, facilities, and improvements.

1. Public Access and Parking

Access to OSSF is available to recreation users through 7 gates that originate off of the paved County Road 832. All gates have informational kiosks co-located with the gate along with a small area for parking. The kiosks are utilized to display wayfinding information on trails and roads along with interpretive and safety materials, and state forest condition updates.

There is currently a large parking area at the forest office for visitors to park. Outside of trailheads, there are an additional four (4) areas of parking:

- one off of Sic Island Road
- one on Wildcow Grade
- one off of Wildcow Group Camp road
- one on 4-sections road

The sides of the roads can also be used for parking.

2. Facilities

OSSF contains more than 27 miles of marked trails that are open to hiking, trail biking, and equestrian activities. OSSF trails are included in the Florida Forest Service's Trailwalker Program for hikers, as well as horse trails in the Trailtrotter Program for equestrian use. See Exhibit D for a map of the facilities and improvements.

Existing Facilities and improvements include:

- Four (4) primitive campgrounds:
 - Wildcow Island Primitive Group Camp with two (2) sites on raised camp platforms and non-potable water
 - Panther Pond Campground with 15 sites
 - Overflow Camp with six (6) primitive RV camp sites
 - Hunt Camp with five (5) primitive RV camp sites and one (1) tent camp site
- Six (6) trailheads:
 - Twin Mills Trail Trailhead (2.3-mile trail)
 - Roney Island Trailhead (1.9-mile trail)
 - Mountain Bike Trailhead (3.2-mile trail) with picnic table
 - Equestrian Trailhead with 4 covered horse paddocks (17-mile trail) and non-potable well; two (2) picnic sites are along the trail on spur sections
 - Tram Loop Trailhead (3.6-mile trail) with 140 sq ft. picnic pavilion
 - Boardwalk Trailhead (1/8th mile trail) with picnic area
- A 40-acre dog training area is located off of Patterson Road, which provides a mix of old pasture, oak hammock, and pine flatwoods with low scrubby palmetto to allow for bird dog hunting training
- A check station is maintained by FWC off of Wildcow Grade with a pull-through, lime rock road and cleaning station

- FWC leases a space to the north of the forest headquarters for an equipment shop and storage area

3. Trails

Currently, OSSF provides trail access for hiking, equestrian use, and biking:

Boardwalk Trail – 1/8th-mile trail leads to a 600-ft. long boardwalk overlooking the Okaloacoochee Slough. A small trailhead is located off Sic Island Road with room to park eight (8) vehicles. Interpretive signage and benches have been incorporated into this trail.

Equestrian Trail – 17 miles of horse trail beginning on Wild Cow Grade that passes through much of the southeastern portion of the forest. The trail has road sections included to allow the connection of this trail. Additional recreation amenities include two (2) picnic areas, three (3) side trails, and a parking area with horse stalls and a non-potable well.

Mountain Bike Trail – 3.2 miles of interconnected bicycle trail offering riders multiple routes of passage through the area known as Dog Island South. The trail may be entered only through the access point on the south side of Keri Road (CR 832), about halfway between Sic Island Road and the state forest office. There is a large grass parking area located here with a picnic table and bike trail kiosk.

Roney Island Trail – 1.9 miles of hiking trail located off Wild Cow Grade just north of the Equestrian Trail. This route is a linear trail running west-southwest from the entrance at Wild Cow Grade. There is a small trailhead for vehicles to park. This is the trail that is closest to the existing campgrounds.

Tram Loop Trail – 3.6 miles of hiking trail on the southwestern side of the forest. The trail follows the former railroad grade for the Atlantic Coast Line Railroad along the western boundary of the property and connects back to the point of origin via Sic Island Road and Sic Island Loop offering a wide-open view of emerging pine forests and former pasture areas. A large northern trailhead provides parking for 20 vehicles with a small picnic area, grill, and pavilion. A southern trailhead provides parking for two (2) vehicles or a pick-up point for hikers that want to avoid walking back on the forest road.

Twin Mills Trail – 3.2 miles of hiking trail through the northern side of the forest. The trail takes hikers past a historic sawdust pile started by ALICO when the land was logged in the earlier part of the 20th century, and then continues onto the Okaloacoochee Slough Wildlife Management Area with a partial on-road walk back to the trailhead. This trail is part of the Trailwalker network.

OSSF is part of the Great Florida Birding and Wildlife Trail with the best birding experienced via the Boardwalk Trail. Signs are along CR 832 to direct visitors to the birding locations.

4. Camping

Currently, OSSF manages four primitive camping areas:

Hunt Camp – There are five (5) RV sites and one (1) tent site at the Hunt Camp, located on the east side of Wild Cow Grade. The sites are constructed of crushed stone with wooden borders.

Overflow Camp – There are six (6) RV sites at the Overflow Camp, located about a mile north of the Hunt Camp on Wild Cow Grade. The sites are constructed of crushed stone with wooden borders and three (3) of the sites have a small tent pad with a base of pea gravel.

Panther Pond Camp – There are 15 sites at Panther Pond Camp, located about a half mile north of the Overflow Camp on Wild Cow Grade. There is an additional site for a camp host. The sites are made up of compacted limerock with natural vegetative barriers in between most of the campsites. There is a dumpster and two (2) portable toilets for campers to utilize.

Wild Cow Group Camp – There are two (2) sites at Wild Cow Group Camp at the southern end of Wild Cow Grade. These sites have raised wooden platforms and one of the sites has a non-potable water pump.

5. Hunting and Fishing

OSSF is managed cooperatively with FWC as the Okaloacoochee Slough WMA. Wildlife hunted on OSSF include deer, quail, dove, wild hogs, and turkeys. Fishing is popular at Panther Pond and from the Tram Loop Trail where largemouth bass, sunfish, and non-native fish such as Tilapia are frequently caught.

The 40-acre dog training area is located off of Patterson Road. The area is mowed during the dry season with several small trails to allow hunters that utilize dogs to train their dogs off leash.

FWC maintains a check station at the corner of County Road 832 and Wildcow Grade for hunter information and for hunters to check in game when required. The check station is staffed by FWC.

6. Environmental Education and Outreach

Within this ten-year planning cycle, FFS will continue communicating our needs and concerns with our user groups, cooperators, and visitors. FFS will evaluate the best methods for communicating concerns and solutions to these user groups.

The main effort for outreach is to utilize materials posted in the kiosks that are located at the entrance to the forest. Small kiosks with maps and other pertinent seasonal information are located at each campground. There is interpretive information located at the old saw dust pile on Twin Mills Trail, near the old railroad grade on Tram Loop, and an interpretive trail that is a part of the Boardwalk Trail.

Periodic in-person events are hosted on the forest by FFS personnel, but more often, outreach is conducted outside of the forest at outreach events at schools, fairs, and other recreation events. One example is the annual Hendry Earth week that is hosted in Labelle for elementary school children in the area. The forest maintains partnerships with the school district and other recreation groups to allow for recreation information sharing.

A growing part of the forest's environmental education is providing information to visitors by phone and social media. As part of customer service efforts, OSSF staff will continue to pursue creating a Voice Operated Network for the forest's phone system to provide short narratives on what can be expected along trails or current forest conditions that will enhance the customer service experience of the forest. As social media becomes more widely accepted, the use of it will become more necessary to communicate forest conditions, wildlife sightings, and what visitors can expect when they visit different areas of the forest.

B. Planned Recreation Opportunities

FFS will continue to assess plans for additional recreation opportunities based on demand, carrying capacity, demographics, and impact to the resources on the forest. All planned improvements may be completed as staff and funding permits. Any plans will be incorporated into the Five-Year Outdoor Recreational Plan on file at OSSF.

1. Public Access and Parking

The relocation of the entrance gates 30-50 feet off of County Road 832 further into the forest would create needed separation between the gates, areas to park, and the paved road. This would reduce the risk of vehicular accidents at the forest. A minimum of four (4) parking spots will be established in front of each gate with ample room for larger vehicles to park safely off of County Road 832.

The locations of these modified gate entrances will be:

- North Loop West
- Sic Island Road
- Oil Pad Road
- Dog Island North
- Twin Mills Road
- Patterson Road
- Wild Cow Grade

We will also create a 2-spot parking area at the Dog Training area on Patterson Road for visitors to pull off of the narrow road.

Additional parking areas and public access points will be considered as the need arises. Work continues with the FWC lead portion of the Okaloacoochee Slough Wildlife Management Area to facilitate access to remote areas utilizing roads managed by FFS.

2. Facilities

Oil Well Pad Road Day Use Area – Construct a Wildlife Observation Tower and Pavilion at this day use area. There is currently only a picnic table that is placed in the dry season at this shadeless location. The construction of an elevated observation tower or structure to around 10' - 20' above the ground, with sufficient railings, would allow visitors to see over surrounding vegetation to view wildlife in this area. Interpretive signage could also be added. A 12' x 20' pavilion would provide needed shade in this location and would create an additional recreation opportunity on the forest.

Horse Trail Trailhead – Construct an additional four (4) covered paddocks at the horse trailhead for equestrian groups to stow and care for their horses and a limestone stone parking area and driveway into the site. The area is currently native soil and becomes very muddy after any type of rainfall, which causes vehicles to get stuck.

A CXT restroom or similar design that utilizes solar power will be selected and established at the entrance of the equestrian trails. Other restroom designs may also be considered. The restroom could be shared with the nearby Hunt Camp Campground. Any solution would have to be without power or utilize solar as the site is miles from the nearest electricity source.

Mountain Bike Trailhead at South Dog Island – No structures currently exist at this biking send-off point. There is parking for 20 vehicles at the site and the area allows bikers their own area to operate next to the 3.2-mile bike trail with good access to other areas of the forest. Construct at least one (1) 20' x 30' pavilion for this day use area to allow users to have a breakout of the sun and enjoy picnics and gatherings.

Welcome/Environmental Center Upgrades – The current office serves as a welcome and education center but needs improvement. There is currently one display cabinet that is an old china cabinet along with posters on the wall inside the office to tell the story of the forest and its management. No outdoor displays exist except for a new kiosk. The goal is to create indoor/outdoor interpretive information and a jump off-site for tours and visitors into the forest. The area already allows for the parking of 20 cars. Interpretive materials outside would be weather-proof displays to help immerse visitors in the inner workings of the forest. Interior displays would allow for dioramas and other static displays.

3. Trails

Mountain Bike Trail Extension – Extend the current Mountain Bike Trail an additional four (4) miles from the current 3.2 miles. The trail will be extended in a new area of the forest as the current bike area will not accommodate new trails due to wet conditions. The new four (4) mile section will connect Wildcow Grade to Patterson Road via an old causeway/fireline and extend into nearby pine flatwoods on existing fireline. The trail will be offset into the woods 10 feet from the fireline.

Roney Island Trail – Construct small bridges to assist hikers who wish to navigate the trail while sections are flooded, which is about nine (9) months of the year. The bridges would

be constructed of wood posts and wooden spans/boards. Interpretive signage will be introduced to familiarize visitors with local flora and fauna.

North Tram Trail – Turn the existing North Tram into a designated trail. There is already a gate and walk-in area with parking for four (4) cars that is utilized by hunters. The trail would be five (5) miles in one direction on the western side of the forest and would provide year-round dry trail access in the forest.

FFS staff will examine the feasibility of developing a trail or trail system that connects existing or future planned trails from neighboring FWC managed parcels. This may include additional designated access points.

4. Camping

Hunt Camp – Two (2) additional camp sites will be added to the Hunt Camp. These primitive RV sites will be established with minimal clearing of vegetation required as the area is already an open field. OSSF desires to establish an appropriate restroom that will reduce the need for the placement of a portable toilet.

Keri RV Campground – A new RV campground will be created directly across from the main office on the other side of CR 832 using preexisting cleared space. The sites will include electric hook-ups, and a dump station will be made accessible. Showers and restrooms will be provided with a new well that is drilled on-site. Power is available from powerlines on CR 832. We can establish up to 20 sites in the campground.

4 Sections Campground – Create a new campground with two (2) to four (4) campsites on 4-Sections Road down near the seed orchard. The location is desirable for more remote tent camping away from the crowds and the road network is sufficient for primitive camping. Tent pads will be made of compacted limerock with vegetative buffers in-between camp sites. This would offer an area for hunters to be closer to more remote parts of the forest.

Overflow Campground – Add in a restroom system to move away from portable toilets that need to be cleaned weekly. Any solution would have to be without power or utilizing solar as the site is miles from the nearest electricity source.

Panther Pond Campground – Evaluate adding in a restroom system to move away from portable toilets that need to be cleaned weekly. Any solution would have to be without power or utilizing solar as the site is miles from the nearest electricity. Alternatively, OSSF staff may look at reducing the number of sites in the campground to maximize utilization and improve visitor experience.

5. Hunting and Fishing

Within this ten-year planning cycle, FFS will continue communicating our needs and concerns with our user groups, cooperators, and visitors. FFS will evaluate the best methods for communicating concerns and solutions to these user groups.

The forest will continue to work closely with the FWC neighboring properties of Spirit of the Wild WMA, Okaloacoochee Slough WMA – FWC lead, and Dinner Island Ranch WMA. New access points will be considered, provided they can be managed with law enforcement. Access by hunters and law enforcement is an excellent deterrent to illegal activity that occurs on the forest. A new access point has been proposed for Dog Island North to open up a large area of hunting that was previously nearly impossible to access.

No additional plans are in place to augment fishing opportunities, but if any come up they will be considered. A map of existing fishing opportunities will be created to show visitors where good spots to fish are located. Fishing remains very limited on OSSF.

Wild hogs are a growing problem on the forest and efforts will continue to manage their numbers in partnership with FWC.

6. Wildlife Viewing

OSSF is a designated site on the FWC's Great Florida Birding and Wildlife Trail. This trail is composed of more than 500 premier wildlife viewing sites across the state of Florida. Internally, a birding checklist for OSSF has been developed and will be updated as needed.

C. Hunter Access

Hunting is a popular activity on OSSF as part of the OSWMA. Most hunts are conducted on a quota system and include archery, spring turkey, general gun, family hunt, and muzzle loading seasons. In addition, a small game hunting season, including hogs, takes place typically in late autumn/early winter. The OSWMA brochure is on file at the OSSF office and can be accessed online at www.MyFWC.com.

Work continues within the Okaloacoochee Slough WMA to provide adequate hunter access. New designated entrance points will be considered in areas that border the WMA.

Non-hunting recreation users are encouraged to check the WMA regulations and season dates before visiting OSSF.

D. Education

FFS may create partnerships with local K-12 schools and / or universities for the development and implementation of educational opportunities on OSSF. Once partnerships are developed, the Five-Year Outdoor Recreation Plan will provide more insight to management activities as they pertain to future educational opportunities OSSF may provide to the public.

VI. Forest Management Practices

A. Prescribed Fire

Forest management practices on OSSF are important in the restoration and maintenance of forest ecosystems and provide a variety of socio-economic benefits to Floridians. Management practices on OSSF include prescribed fire, which is an effective tool in controlling the encroachment of shrubs and off-site hardwoods, stimulating the recovery of native herbaceous groundcover, and promoting the regeneration of native pines.

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

A Fire History chart detailing the recent history of prescribed burns and wildfires at OSSF is available in Exhibit N.

FFS has one (1) fire tower, two (2) brush trucks, and four (4) medium tractor-plow units and one (1) heavy dozer located in Hendry County. Additional support is available from neighboring counties. Personnel and equipment stationed at OSSF will be used for pre-suppression practices, establishment of firebreaks, rehabilitation of existing firelines, construction of new firelines, maintenance of perimeter firebreaks, and prescribed burning.

The prescribed burning program developed for OSSF produces multiple benefits. The objectives of prescribed burning on OSSF include facilitating forest management operations, enhancing wildlife and listed species habitat; decreasing fuel loading, enhancing public safety, and restoring, maintaining, and protecting all native ecosystems, ecotones, and their ecological processes. FFS personnel are responsible for planning and implementing the annual prescribed burn program for OSSF, which will consist of dormant and growing season burns. An update to the Five-Year Prescribed Burning Management Plan is developed each year by FFS staff. All burns conducted on OSSF are executed by Florida Certified Prescribed Burn Managers in accordance with Chapters 590.125, F.S. and 5I-2 F.A.C.

According to FNAI, historic, fire-dependent natural communities on OSSF are estimated to have occupied 31,000 acres and to have burned at approximately one-to-ten-year intervals. Current fire-dependent communities encompass 31,000 acres. Some historically fire-dependent communities have been altered through past land use practices, which inhibits the ability to meet objectives with prescribed fire alone. Based on current conditions and management objectives, OSSF will plan for 3,700 to 7,500 acres to be prescribed burned annually. Priority ranking of burn units is used to keep fire-return intervals maintained while slowly adding additional acreage. 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. Currently it is estimated that approximately 26,000 acres of OSSF are within the desired fire-return interval.

1. Fire Management

The fire management plan serves as a working tool and an informational document for OSSF. The plan provides guidelines regarding wildfire suppression and prescribed fire management. It will specify burn units, burn unit prescriptions, appropriate fire return intervals, and fire pre-suppression planning. The plan may be reviewed and amended as necessary. Collaboration will continue to occur with cooperators on adjoining properties.

The use of prescribed fire in the management of timber, wildlife, and ecological resources on OSSF is necessary if the FFS is to fulfill the goals and objectives stated in this plan including: enhancing and restoring native plant communities, managing protected species,

managing timber, recreation, historical, and other resource values. The fire management plan and its objectives shall reflect and incorporate these multiple-resource objectives.

- a. Prescribed Fire:** Prescribed fire is the most important land management tool, both ecologically and economically, for managing vegetation and natural communities and perpetuating existing wildlife populations in Florida. Forest operations records and staff experience should be combined with the FNAI inventory and assessment (2022) to identify areas that may require mechanical or chemical treatments in conjunction with prescribed fire to restore a more natural vegetative structure.
- b. Burn Unit Plans:** Each prescribed fire will be conducted in accordance with FFS regulations and state law (Chapter 5I-2 F.A.C., Chapter 590, F.S.) and have a burn unit plan (or prescription). Each prescription will contain, at a minimum, the information, as required by Section 590.125(3), F.S., needed to complete the FFS Prescribed Burn Plan Form FDACS 11461.

Aerial ignition may be considered for large burn units where this tactic can be cost effective for larger acreages. Consideration should be given to rotating burn units between dormant and growing season burns over time. Fire return intervals for a burn unit are recommended to fall within the natural, historic range for the dominant natural community or communities within a given burn unit.

Based upon available species survey data, burn units within a prescription that have listed wildlife species shall explicitly be identified and any restrictions or requirements relative to prescribed burning in proximity to these species or habitats will also be stated. These may include time of year, pre-burn preparation, fire return intervals, and other burn parameters.

B. Wildfire Prevention and Mitigation Strategies

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

FFS has three paramount considerations regarding wildfires and are established in priority order:

- 1) Protection of human lives
- 2) Protection of improvements
- 3) Protection of natural resources

All procedures regarding wildfire will follow the State Forest Handbook and the OSSF Fire Management Plan.

1. Suppression Strategies

If a wildfire occurs on OSSF there are two (2) alternative suppression strategies as defined below:

- a. **Contain and Control** is defined as a suppression strategy where a fire is restricted to a certain area by using existing natural or constructed barriers that stop the fire spread under the prevailing and forecasted weather until it is out. This strategy allows the use of environmentally sensitive tactics based on fuels, fire behavior, and weather conditions that keep a wildfire from burning a large area or for a long duration.
- b. **Direct Suppression** 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 district fire load dictates that crews not be involved with individual fires for any longer than necessary.

Appropriate suppression action will be that which provides for the most reasonable probability of minimizing fire suppression cost and critical resource damage, consistent with probable fire behavior, total fire load, potential resource and environmental impacts, safety, and smoke management considerations. 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, then direct, immediate suppression action will be taken.

3. Firebreaks and Firelines

A system of permanent fire breaks has been developed and maintained around and within the boundaries of OSSF to guard against fires escaping from and entering the forest. Such fire breaks consist of natural barriers, roads, trails, permanent grass strips and where appropriate, well maintained harrowed lines. All pre-suppression fire breaks will meet the established Silvicultural 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 bladed lines will be used for initial installation of firelines in heavy fuels and in cases where it's considered necessary to protect life, property, or resources and / or to minimize threats to firefighters. Plowed and bladed lines will be rehabilitated and brought to BMP compliance as soon as practical after the fire is suppressed.

4. Sensitive Areas

OSSF retains 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. FFS personnel are aware of these areas in the event of a wildfire. Special precautions will be followed when prescribed burning in sensitive areas on OSSF. When possible, fire staff will avoid line construction in wetland ecotones and other areas throughout the forest.

5. Firewise Communities

FFS has implemented a Firewise community approach for prevention statewide. Specifically, in the area adjacent to or nearby OSSF, efforts in this regard will continue to identify communities at risk and to contact their representatives.

6. Adjacent Neighbor Contacts

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

7. Post-Burn Evaluations

A post-burn evaluation is required for each wildfire and prescribed burn on the state forest to assess impacts on timber and habitat. Based on the evaluations after prescribed fires in particular, decisions will be made on the effectiveness of the prescribed burn and improvements that can be made in the future. A historical fire record for all significant fires and prescribed burns will be maintained. This will be accomplished using completed burn plans and the maintenance of GIS data. These records are intended to provide data for future management decisions.

C. Sustainable Forestry and Silviculture

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

1. Strategies

The following strategies will apply to silvicultural practices on OSSF:

- 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 or artificial 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 OSSF will be directed toward improving forest health, wildlife habitat, ecological and economical sustainability, as well as toward recovery from past management practices prior to state acquisition that are not in accordance with the objectives of this plan. Stands of off-site species with merchantable volume will be

scheduled for harvest, followed by 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 groundcover. Site preparation methods may include prescribed fire, mechanical vegetation control, and / or herbicide applications. Herbicides used will be registered for forestry use by the U.S. Environmental Protection Agency (EPA) and will not adversely affect water resources.

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

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

All silvicultural activities, including timber harvesting and reforestation, will meet or exceed the standards in FFS's Silviculture BMP Manual and the State Forest Handbook, and will follow the Five-Year Silviculture Action Plan.

3. Forest Inventory

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 (10%) of OSSF's timber stands will be re-inventoried annually to provide an accurate estimation of the standing timber and to ensure that stands will be managed sustainably.

Timber / forestry resources available on the property include south Florida slash pine and eucalyptus. The eucalyptus trees, located on 25 acres, are to be eliminated after the next timber harvest to reforest with species that are native to the area. In addition, there are mixed hardwoods and cypress found throughout the forest.

4. Timber Sales

Timber sales are 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.

5. Cattle Grazing

There are currently no cattle leases on OSSF, but the forest has had cattle leases in the past on the 350-acre parcel that is west of the old railroad grade on the western part of the forest. Future opportunities to lease this parcel will be explored after fire is introduced to the parcel.

D. Invasive Species Control

FFS employees continually monitor the forest for invasive species while conducting management activities. FFS will locate, identify, and apply control measures with the intent to eradicate or control invasive species. Table 6 lists the general treatment strategy, acres impacted, and population stability trend for invasive plant species occurring on OSSF. Also see Exhibit O.

Ongoing maintenance and monitoring strategies are outlined in the Five-Year Ecological Management Plan which is developed to locate, identify, and control invasive plant species. Occurrences of invasive species are recorded in the OSSF GIS database and are monitored and treated annually as funding permits. The GIS database is updated as new infestations are discovered.

Adjacent landowners who are known to have these species on their property will be approached to cooperate on control measures. FFS works to control the spread of invasive species by decontaminating agency equipment and equipment used by private contractors according to the State Forest Handbook.

FFS will enlist support from FWC in efforts to control invasive animals. Feral hogs (*Sus scrofa*) are present on OSSF, and their numbers appear to be increasing as cattle grazing operations have ceased on surrounding parcels. FWC has issued a feral hog control permit to FFS for state forests within WMAs and FFS will allow for feral hog removal on OSSF through trapping and hunting as necessary. Burmese pythons (*Python bivittatus*) have been recently discovered at OSSF and their numbers are expected to increase. FFS works cooperatively with FWC and SFWMD to facilitate state forest access by licensed contract python hunters. Other invasive animals at OSSF include Cuban tree frogs (*Osteopilus septentrionalis*), armored catfish (*Hypostomus plecostomus*), and walking catfish (*Clarias batrachus*). Because these species are well established and are very difficult to manage, no control efforts by FWC are employed.

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

Table 6. Invasive Plant Species Occurring on OSSF

Common Name	Scientific Name	Treatment Strategy	Acres Impacted	Status
Rosary Pea	<i>Abrus precatorius</i>	Spot herbicide	200	Stable
Papaya	<i>Carica papaya</i>	Spot herbicide	<1	Decreasing
Sour Orange	<i>Citrus aurantium</i>	Spot herbicide	<1	Decreasing
Smooth Rattlebox	<i>Crotalaria pallida</i> var. <i>obovata</i>	Spot herbicide	<1	Stable
Showy Rattlebox	<i>Crotalaria spectabilis</i>	Spot herbicide	<1	Stable
Crowfoot Grass	<i>Dactyloctenium aegyptium</i>	Spot herbicide	200	Stable

Common Name	Scientific Name	Treatment Strategy	Acres Impacted	Status
Beggarweed	<i>Desmodium incanum</i>	Spot herbicide	200	Stable
Air-potato	<i>Dioscorea bulbifera</i>	Spot herbicide	<1	Decreasing
Eucalyptus	<i>Eucalyptus grandis</i>	Spot herbicide	16	Stable
Indian Laurel Fig	<i>Ficus microcarpa</i>	Spot herbicide	<1	Decreasing
West Indian Marsh Grass	<i>Hymenachne amplexicaulis</i>	Broadcast herbicide	200	Stable
Jaragua	<i>Hyparrhenia rufa</i>	Spot herbicide	1	Decreasing
Cogon Grass	<i>Imperata cylindrica</i>	Broadcast herbicide	200	Decreasing
Lantana; Shrub Verbena	<i>Lantana camara</i>	Spot herbicide	50	Increasing
Peruvian Primrose Willow	<i>Ludwigia peruviana</i>	Broadcast herbicide	3000	Increasing
Old-World Climbing Fern	<i>Lygodium spp.</i>	Spot herbicide	1600	Increasing
Melaleuca; Paperbark Tree	<i>Melaleuca quinquenervia</i>	Spot herbicide	100	Decreasing
Balsam Pear	<i>Momordica charantia</i>	Spot herbicide	10	Stable
Guinea Grass	<i>Panicum maximum</i>	Spot herbicide	<1	Stable
Torpedo Grass	<i>Panicum repens</i>	Broadcast herbicide	200	Stable
Bahia Grass	<i>Paspalum notatum</i>	Spot herbicide	100	Stable
Napier Grass; Elephant Grass	<i>Pennisetum purpureum</i>	Spot herbicide	<1	Decreasing
Water lettuce	<i>Pistia stratiotes</i>	Broadcast herbicide	5	Stable
Guava	<i>Psidium guajava</i>	Spot herbicide	<1	Decreasing
Brazilian Pepper	<i>Schinus terebinthifolius</i>	Spot herbicide/Mow	1600	Increasing
Bulrush	<i>Scirpus cubensis</i>	Broadcast herbicide	5	Decreasing
Egger's Nutrush	<i>Scleria eggersiana</i>	Spot herbicide	375	Stable
Wright's Nutrush	<i>Scleria lacustris</i>	Broadcast herbicide	2000	Increasing
Java Plum	<i>Syzygium cumini</i>	Spot herbicide	100	Stable
Caesar's Weed	<i>Urena lobata</i>	Spot herbicide	400	Stable

In addition to the known invasive plants (Table 6) that are managed on OSSF, the following species may be found occasionally during routine forest inventories. These species exist at very low density, if at all, and are eliminated when found:

Abutilon theophrasti
Achyranthes aspera
Arundo donax

Velvet leaf
Devil's horsewhip
Giant reed

<i>Commelina caroliniana</i>	Carolina dayflower
<i>Commelina gambiae</i>	Gambian dayflower
<i>Cuphea carthagenensis</i>	Columbian waxweed
<i>Cynodon dactylon</i>	Bermudagrass
<i>Desmodium triflorum</i>	Three-flower tick trefoil
<i>Echinochloa crus-galli</i> var. <i>frumentacea</i>	Japanese millet
<i>Eichhornia crassipes</i>	Water-hyacinth
<i>Emilia fosbergii</i>	Florida tassel flower
<i>Eragrostis atrovirens</i>	Thalia lovegrass
<i>Fimbristylis schoenoides</i>	Ditch fimbry
<i>Indigofera hirsuta</i>	Hairy indigo
<i>Kyllinga brevifolia</i>	Shortleaf spike sedge
<i>Lindernia crustacea</i>	Malaysian false pimpernel
<i>Melochia corchorifolia</i>	Chocolateweed
<i>Murdannia nudiflora</i>	Nakedstem dewflower
<i>Oeceoclades maculata</i>	African spotted orchid
<i>Paspalum acuminatum</i>	Canoe grass
<i>Paspalum urvillei</i>	Vaseygrass
<i>Pteris vittata</i>	Chinese brake fern
<i>Rhynchelytrum repens</i>	Natal grass
<i>Rottboellia cochinchinensis</i>	Itchgrass
<i>Sacciolepis indica</i>	Glenwood grass
<i>Salvinia minima</i>	Water spangles
<i>Setaria viridis</i>	Green foxtail
<i>Solanum viarum</i>	Tropical soda apple
<i>Sporobolus indicus</i>	Smut grass
<i>Urocloa mutica</i>	Para grass
<i>Xyris jupicai</i>	Richard's yellow-eyed grass
<i>Zeuxine strateumatica</i>	Lawn orchid

E. Insects, Disease, and Forest Health

Currently there are no significant insect or disease problems on OSSF. In the event of a forest pest outbreak, OSSF resource managers will consult with the Forest Management Bureau's Forest Health Section to formulate an appropriate and effective response.

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

As a result, prior to conducting any arthropod control activities on OSSF, 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 OSSF. This public lands control plan must comply 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. See Exhibit V.

F. Use of Private Land Contractors

The forest manager makes ongoing evaluations of the use of private contractors and consultants to facilitate the total resource management activities of this state forest. The opportunities for outsourcing land management work includes but is not limited to:

1. Inventory
2. Herbicide applications
3. Restoration activities
4. Site preparation activities
5. Reforestation
6. Timber harvesting
7. Biological assessments and mapping
8. Contractors for fixed capital and infrastructure improvements

VII. Proposed Management Activities for Natural Communities

In 2022, FNAI completed an inventory and natural community mapping project on OSSF. Current and historic natural community cover types can be found in Exhibits P and Q, and Table 7. The inventory included managed and altered community types which are habitats that have been impacted by humans and do not fit into FNAI's Natural Community Classification. See Tables 8 and 9.

Table 7. Natural Community Types

Community Type	Historic Acres*	Current Acres*
Basin marsh	1,464	1,346
Depression marsh	1,718	1,632
Dome swamp	102	547
Mesic flatwoods	7,111	5,116
Mesic hammock	1,191	1,185
Slough marsh	16,998	15,414
Strand swamp	229	662
Wet flatwoods	2,134	1,696
Wet prairie	1,399	894
Managed and other altered landcover types**	N/A	3,854
TOTAL	32,346	32,346

* Rounding errors exist

** See Tables 8 & 9

Table 8. Managed Landcover Type

Community Type	Current Acres*
Pine plantation	590
TOTAL	590

* Rounding errors exist

Table 9. Other Altered Landcover Types

Landcover Type*	Current Acres**
Abandoned field / abandoned pasture	236
Artificial pond	3
Canal / ditch	154
Clearing	36
Developed	49
Invasive exotic monoculture	129
Road	208
Successional hardwood forest	1,453
Successional hydric shrubland	996
TOTAL	3,264

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

** Rounding errors exist

For the purposes of this management plan, restoration is defined as the process of returning ecosystems to the appropriate structure and species composition, based on soil type, representative species present, and hydrology. Management during this ten-year period will begin with a forest-wide assessment of the fuel loading, timber densities, reforestation needs, and groundcover in order to develop a five-year comprehensive action plan for prescribed burning and other management activities across the forest. Strategies may include thinning pine plantations, mowing or chopping in areas of heavy fuel buildup, application of both dormant and growing season fires, and / or the use of herbicides to control hardwoods and / or hardwood regeneration. Site preparation and reforestation may be required to increase pine stocking in stands with very poor stocking or in restoration efforts. Fire-return intervals are included as a guide and may vary depending upon specific conditions and are intended to attain desired forest and resource management goals. See Table 10.

Table 10. Prescribed Fire Interval Guide on OSSF

Habitat Type	Historic Fire Return Intervals**	OSSF Fire Frequency Goal (Local)	Comments
Basin marsh	Varies	2-4	Frequency of fire varies depending on the hydrology of the marsh and its exposure to fire from surrounding areas.
Depression marsh	Varies	1-10	Ecotones burned per frequency of adjacent upland habitat type.
Dome swamp	5-100	3-5	Ecotones burned per frequency of adjacent upland habitat type.
Mesic flatwoods	2-4	2-4	Depends on pine species, density, age, and fuel conditions.
Mesic hammock	N/A	N/A	Edges burned only.

Habitat Type	Historic Fire Return Intervals**	OSSF Fire Frequency Goal (Local)	Comments
Slough marsh	1-10	1-10	Best done when driest time of year.
Strand swamp	20-60	5-10	Burn into edges only.
Wet flatwoods	3-10	2-4	Depends on pine species, density, age, and fuel conditions. 2-4 years for grassy wet flatwoods, 5-10 years for shrubby wet flatwoods.
Wet prairie	2-3	2-3	Require frequent, low intensity ground fires to maintain groundcover and minimize woody vegetation encroachment.

** As determined by FNAI

The following community descriptions, existing condition descriptions, and management recommendations are taken from a 2022 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 OSSF.

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

A. **Basin Marsh** **Description:**

Basin marshes are regularly inundated freshwater herbaceous wetlands that may occur in a variety of situations but, in contrast to depression marshes, are not small or shallow inclusions within a fire-maintained matrix community.

Species composition is heterogeneous both within and between marshes but can generally be divided into submersed, floating-leaved, emergent, and grassy zones from deepest to shallowest portions; shrub patches may be present within any of these zones. Basin marshes on OSSF have deeper areas vegetated by species able to withstand longer hydroperiods, such as pickerelweed (*Pontederia cordata*), bulltongue arrowhead (*Sagittaria lancifolia*), alligatorflag (*Thalia geniculata*), sawgrass (*Cladium jamaicense*), common buttonbush (*Cephalanthus occidentalis*) and pond apple (*Annona glabra*) with coastalplain willow (*Salix caroliniana*) abundance restricted to small islands. This deeper zone is surrounded by blue maidencane (*Panicum hemitomon*), Tracy's beaksedge (*Rhynchospora tracyi*), narrowfruit horned beaksedge (*Rhynchospora inundata*), peelbark St. John's wort (*Hypericum fasciculatum*), lemon bacopa (*Bacopa caroliniana*), and water toothleaf (*Stillingia aquatica*). Surrounding these species and up to the edge of the marsh, species such as longleaf threeawn (*Aristida palustris*), bluejoint panicum (*Coleataenia tenera*), water cowbane (*Tiedemannia filiformis* ssp. *filiformis*), yellow-eyed grass (*Xyris* spp.), tenangle pipewort (*Eriocaulon decangulare*), false foxglove (*Agalinis* spp.), rosy camphorweed (*Pluchea baccharis*), combleaf mermaidweed (*Proserpinaca pectinata*), and Virginia saltmarsh mallow (*Kosteletzkya pentacarpos*) are present.

Basin marshes on OSSF are common, often occurring as large, shallow basins within mesic and wet flatwoods and occasionally wet prairie. There may be multiple deep areas connected by shallower marsh, almost forming short slough marshes. On the 1940s aerial photographs, basin marshes appear as smooth dark, irregularly shaped signatures situated within the flatwoods and prairies.

Current Conditions:

Most basin marshes on OSSF are in good condition, with similar structure to the presumed historic conditions. The deepest areas within the marsh contain pickerelweed (*Pontederia cordata*), bulltongue arrowhead (*Sagittaria lancifolia*), alligatorflag (*Thalia geniculata*), and occasionally, pond apple (*Annona glabra*) and common buttonbush (*Cephalanthus occidentalis*). Many of the marshes have built up deep peat centers, indicated by a coastalplain willow (*Salix caroliniana*) dome. In some marshes these coastalplain willow domes have become the dominant cover. The zone surrounding the deeper areas is occupied by sawgrass (*Cladium jamaicense*), blue maidencane (*Panicum hemitomon*), Tracy's beaksedge (*Rhynchospora tracyi*), narrowfruit horned beaksedge (*Rhynchospora inundata*), peelbark St. John's wort (*Hypericum fasciculatum*), lemon bacopa (*Bacopa caroliniana*), and water toothleaf (*Stillingia aquatica*). Outer edges of the basin marshes often consist of longleaf threeawn (*Aristida palustris*), spadeleaf (*Centella asiatica*), bluejoint panicum (*Coleataenia tenera*), clustered bushmint (*Hyptis alata*), rosy camphorweed (*Pluchea baccharis*), combleaf mermaidweed (*Proserpinaca pectinata*), climbing hempvine (*Mikania scandens*), blue maidencane (*Amphicarpum muhlenbergianum*), chestnutleaf falsecroton (*Caperonia castaneifolia*), Virginia saltmarsh mallow (*Kosteletzkya pentacarpos*), and southern bayberry (*Morella cerifera*).

A few basin marshes have been heavily altered through hydrological changes, road construction, or ditches. Basin marshes with these heavy disturbances are prone to being invaded by exotic species, such as torpedo grass (*Panicum repens*), Wright's nutrush (*Scleria lacustris*), and Peruvian primrosewillow (*Ludwigia peruviana*).

Fire Regimes:

Prescribed burns should be allowed to burn into basin marshes when the surrounding flatwoods are burned. Depending on climatic conditions and fuel moistures during the burn, the fire may burn completely through the marsh or may just creep into the shallower areas. Prescribed burns between April and June and into the early wet season may have a better chance to encroach into the deep, peat-accumulated centers, controlling the buildup of peat and encroachment of coastalplain willow. The fire regime of these systems is 1-10 years, though the times of year when they can be burned generally coincides with the heart of wildfire activity in Florida.

Management Needs:

Management of basin marshes on OSSF should focus on removal of exotic species such as torpedo grass and Wright's nutrush, restoration of hydrological patterns where possible, and control/monitoring of coastalplain willow encroachment. Control and/or eradication of invasives such as torpedo grass and Wright's nutrush are crucial to maintaining native plant diversity and hydrology. Wherever possible, hydrological alterations should be reversed,

whether by ditch blocking, canal / ditch filling, or redesigning roads and ORV trails so as to not disrupt the natural hydrology. Coastalplain willow encroachment should be monitored, and efforts taken to reduce its growth. This can be accomplished by allowing prescribed burns from adjacent mesic flatwoods to burn into marshes. Herbicide control of coastal willow areas can also be undertaken if located near a culvert critical to maintaining flows. Burns during the early wet season would have a greater chance of reaching these deep, peat-accumulated areas.

B. Depression Marsh

Description:

Depression marshes are isolated, herbaceous wetlands situated in shallow, usually small and often rounded or oval shaped depressions in fire-maintained landscapes such as mesic or wet flatwoods. These marshes typically have concentric zones of vegetation related to the length of hydroperiod and depth of flooding.

Depression marshes on OSSF may have a deeper center vegetated by species able to withstand longer hydroperiods, such as pickerelweed (*Pontederia cordata*) and alligatorflag (*Thalia geniculata*). Depending on the depth and amount of peat accumulation of the marsh, these species may not be found and, instead, species that occupy intermediate depths will occupy the center of the marsh. These species include blue maidencane (*Panicum hemitomon*), Tracy's beaksedge (*Rhynchospora tracyi*) and lemon bacopa (*Bacopa caroliniana*). Surrounding these species and up to the edge of the marsh, species such as longleaf threeawn (*Aristida palustris*), bluejoint panicum (*Coleataenia tenera*), water cowbane (*Tiedemannia filiformis* ssp. *filiformis*), and combleaf mermaidweed (*Proserpinaca pectinata*) are found.

Depression marshes are common throughout OSSF within mesic and wet flatwoods and occasionally wet prairies. On the 1940s aerial photographs, depression marshes appear as smooth dark, circular signatures situated within the flatwoods and prairies.

Current Conditions:

Most depression marshes on OSSF are similar in structure to presumed historic conditions. Many of the marshes have a deeper center consisting of species such as pickerelweed (*Pontederia cordata*), bulltongue arrowhead (*Sagittaria lancifolia*), sawgrass (*Cladium jamaicense*), and alligatorflag (*Thalia geniculata*). Coastalplain willow (*Salix caroliniana*) is occasionally found in these deeper centers and is the dominant species in some depression marshes. Species that surround the deeper center or, in cases where a deeper center is not present, occupy the entire marsh include blue maidencane (*Panicum hemitomon*), Tracy's beaksedge (*Rhynchospora tracyi*), narrowfruit horned beaksedge (*Rhynchospora inundata*), peelbark St. John's wort (*Hypericum fasciculatum*), lemon bacopa (*Bacopa caroliniana*), and water toothleaf (*Stillingia aquatica*). The outer edges of depression marshes consist of longleaf threeawn (*Aristida palustris*), bluejoint panicum (*Coleataenia tenera*), piedmont marshelder (*Iva microcephala*), clustered bushmint (*Hyptis alata*), rosy camphorweed (*Pluchea baccharis*), combleaf mermaidweed (*Proserpinaca pectinata*), climbing hempvine (*Mikania scandens*), blue maidencane (*Amphicarpum muhlenbergianum*), chestnutleaf falsecroton (*Caperonia castaneifolia*), and southern bayberry (*Morella cerifera*).

Some depression marshes have been heavily altered through hydrological changes, road construction, or ditches. Depression marshes with these heavy disturbances are prone to being invaded by exotic species, such as torpedo grass (*Panicum repens*), Wright's nutrush (*Scleria lacustris*), and Peruvian primrosewillow (*Ludwigia peruviana*).

Fire Regimes:

Historically, fires would have swept across the depression marshes when the surrounding mesic flatwoods burned, approximately every 2 to 4 years. Presently, prescribed fires should be allowed to burn into depression marshes when the surrounding mesic flatwoods burn. Depending on climatic conditions and fuel moistures during the burn, the fire may burn completely through the marsh or may just creep into the shallower areas. Prescribed fires between April and June (the early wet season) may have a better chance to encroach into the deep, peat-accumulated centers thereby controlling the buildup of peat and the encroachment of coastalplain willow.

Management Needs:

Management of depression marshes on OSSF should focus on removal of exotic species, specifically torpedo grass though current control methods are not reliable to control this species. Restoration of hydrological conditions and control/monitoring of coastalplain willow encroachment are also important. The reason that the control and/or eradication of invasives such as torpedo grass and Wright's nutrush are important is that they can dramatically reduce native plant diversity. Wherever possible, hydrological alterations should be reversed through acceptable methods including ditch blocking, canal/ditch filling, or redesigning roads and ORV trails to not disrupt the natural hydrology. Coastalplain willow encroachment should be monitored, and efforts should be taken to reduce its growth in the depression marshes. This can be accomplished by allowing prescribed burns from adjacent mesic flatwoods to burn into marshes. Burns during the early wet season would have a greater chance of reaching these deep, central, peat-accumulated areas, but burns during any time of the year are acceptable.

C. Dome Swamp

Description:

Dome swamps are typically shallow, rounded, forested depressions dominated by cypress (*Taxodium* spp.) that have a dome-like appearance due to smaller trees growing along the shallower edges and larger trees growing in the deeper center. Dome swamps in south Florida have a higher component of tropical species but the dominant species (i.e., pond cypress) are mostly temperate.

The closed canopy is dominated by pond cypress (*Taxodium ascendens*). Shrubs are typically sparse to moderate, but often are absent in dome swamps with a high fire frequency. Typical shrubs include southern bayberry (*Morella cerifera*) and strangler fig (*Ficus aurea*). The herb layer is generally dominated by ferns and other herbaceous species, including toothed midsorus fern (*Telmatoblechnum serrulatum*), false nettle (*Boehmeria cylindrica*), royal fern (*Osmunda regalis* var. *spectabilis*), cinnamon fern (*Osmunda cinnamomea*), and wild Boston fern (*Nephrolepis exaltata*). Vines and epiphytes are common.

Dome swamps on OSSF historically occurred mostly in the southern half of the property as small islands within slough marsh or flatwoods. Most of these swamps are circular, but some are irregularly shaped. They also are occasional within basin marshes and depression marshes, forming an edge around the marsh or a dome at the center. In the 1940s aerials, dome swamps have a light grey, textured signature.

Current Conditions:

Dome swamps of OSSF typically have a closed canopy of pond cypress (*Taxodium ascendens*) with a subcanopy of cabbage palm (*Sabal palmetto*). At least one surveyed dome swamp on the property has a canopy entirely composed of Carolina ash (*Fraxinus caroliniana*). The shrub layer is sparse to dense and includes myrsine (*Myrsine cubana*), southern bayberry (*Morella cerifera*), and Brazilian pepper (*Schinus terebinthifolius*). The herb layer is generally dominated by fern species, namely toothed midsorus fern (*Telmatoblechnum serrulatum*). Other herb species include spadeleaf (*Centella asiatica*), sawgrass (*Cladium jamaicense*), bluejoint panicum (*Coleataenia tenera*), rosy camphorweed (*Pluchea baccharis*), pickerelweed (*Pontederia cordata*), and alligatorflag (*Thalia geniculata*). Vines are infrequent to common and include bristly greenbrier (*Smilax tamnoides*), peppervine (*Ampelopsis arborea*), and white twinevine (*Funastrum clausum*). Epiphytes are common and include Florida butterfly orchid (*Encyclia tampensis*), golden polypody (*Phlebodium aureum*), resurrection fern (*Pleopeltis michauxiana*), ballmoss (*Tillandsia recurvata*), Spanish moss (*Tillandsia usneoides*), and spreading air-plant (*Tillandsia utriculata*). Occasionally the dome swamps may contain a large, deep center dominated by coastalplain willow (*Salix caroliniana*), common buttonbush (*Cephalanthus occidentalis*), and pond apple (*Annona glabra*).

Several state-listed epiphytic species were noted in dome swamps, including needleroot airplant orchid (*Dendrophylax porrectus*), pale-flowered polystachya (*Polystachya concreta*), Balbis' airplant (*Tillandsia balbisiana*), common wild-pine (*Tillandsia fasciculata*), and spreading air-plant (*Tillandsia utriculata*). Invasive species were also noted in dome swamps including Egger's nutrush (*Scleria eggersiana*), Old-World climbing fern (*Lygodium microphyllum*), and Brazilian pepper (*Schinus terebinthifolia*).

Dome swamp coverage on OSSF has more than quadrupled since the 1940s, presumably from reduced fire frequency throughout the slough marsh. In addition to many historic dome swamps expanding in size, several new dome swamps have developed. Also, several historic depression marshes and basin marshes in the southern half of the property have developed substantial dome swamp inclusions or have been fully overtaken by dome swamp.

Fire Regimes:

Historically, the dome swamps on OSSF would have lightly burned when the surrounding slough marsh burned, every 1-5 years. These burns would usually affect just the outer edges of the dome swamps since they tend to have a central area that is deeper with open water that is likely burned only during droughts.

Management Needs:

Management goals for dome swamps on OSSF should focus on removal of exotic species as this poses the greatest threat to the community. Brazilian pepper and primrose willow can withstand long periods of inundation and Old-World climbing fern can eventually reach the canopy and shade out all native vegetation.

D. Mesic Flatwoods**Description:**

Mesic flatwoods are forests of southern pine species with little or no subcanopy and a dense ground cover of herbs and shrubs occurring on flat terrain. This structure was maintained historically by frequent, lightning-ignited fires.

In this part of Florida, the canopy is south Florida slash pine (*Pinus elliottii* var. *densa*), with a scattered subcanopy of younger pines. Cabbage palm (*Sabal palmetto*), dahoon holly (*Ilex cassine*), and live oak (*Quercus virginiana*) are rare subcanopy species. Saw palmetto is the dominant shrub species with a lesser frequency of other species such as coastalplain staggerbush (*Lyonia fruticosa*), gallberry (*Ilex glabra*), wild pennyroyal (*Piloblephis rigida*), and shiny blueberry (*Vaccinium myrsinites*), all forming a short shrub layer. The herb layer is predominantly wiregrass (*Aristida stricta*) and is accompanied by a high diversity of herbs, sedges, and other grasses. Vines and epiphytes are infrequent and include muscadine grape (*Vitis rotundifolia*), earleaf greenbrier (*Smilax auriculata*), and golden polypody (*Phlebodium aureum*).

Historically, mesic flatwoods occupied most of the uplands on OSSF. In addition, a few small islands within the slough marsh were mapped as historic mesic flatwoods, based on their signatures in the historic aerials. In the 1940s aerials, mesic flatwoods appear light to medium gray and slightly textured due to saw palmetto, with dark, widely spaced pines.

Current Conditions:

Mesic flatwoods on OSSF have been disturbed by past logging practices, which reduced the abundance of south Florida slash pine (*Pinus elliottii* var. *densa*), and by agricultural uses, mainly cattle grazing, which has greatly altered the species makeup of the herbaceous layer. This is especially evident in the flatwoods along North Loop-West Road, approximately 1 mile north of Keri Road. Viewing current (2020) aerial photography in this area, the light green signature of saw palmetto is visible east of the road. West of the road, the saw palmetto appears to have been mostly removed, making the area appear unnaturally more like wet flatwoods west of the road and mesic flatwoods east of the road. In contrast, the area appears to be a homogenous stand of mesic flatwoods in the 1940s aerials.

Most of the surveyed mesic flatwoods on OSSF included some degree of wet flatwoods or appeared to be a mosaic of mesic and wet flatwoods that are difficult to tease apart. Currently, the pine canopy is sparse and composed of mature south Florida slash pine. The subcanopy, which is composed of young south Florida slash pine, cabbage palm (*Sabal palmetto*), and live oak (*Quercus virginiana*), is typically sparse but can be thicker in some areas. Tall shrubs are the dominant cover in the flatwoods and include an often-dense stand of saw palmetto (*Serenoa repens*), coastalplain staggerbush (*Lyonia fruticosa*), fetterbush (*Lyonia lucida*),

gallberry (*Ilex glabra*), southern bayberry (*Morella cerifera*), myrsine (*Myrsine cubana*), tarflower (*Bejaria racemosa*), and winged sumac (*Rhus copallinum*). The short shrub layer may be absent or very sparse due to lack of fire. Common short shrubs include shiny blueberry (*Vaccinium myrsinites*), wild pennyroyal (*Piloblephis rigida*), dwarf live oak (*Quercus minima*), fourpetal St. John's Wort (*Hypericum tetrapetalum*), roundpod St. John's wort (*Hypericum cistifolium*), and netted pawpaw (*Asimina reticulata*).

The herbaceous stratum is currently dominated by native, weedy species such as broomsedge bluestem (*Andropogon virginicus*), bushy bluestem (*Andropogon glomeratus*), spadeleaf (*Centella asiatica*), slender flattop goldenrod (*Euthamia caroliniana*), and Carolina redroot (*Lachnanthes caroliniana*). The invasive Caesar's weed (*Urena lobata*) is fairly common, especially in disturbed areas. Other herb species include blue mistflower (*Conoclinium coelestinum*), rabbitbells (*Crotalaria rotundifolia*), witchgrasses (*Dichanthelium spp.*), tall elephantsfoot (*Elephantopus elatus*), Mohr's thoroughwort (*Eupatorium mohrii*), roundleaf thoroughwort (*Eupatorium rotundifolium*), pineland heliotrope (*Euploca polyphylla*), Elliott's milkpea (*Galactia elliotii*), clustered bushmint (*Hyptis alata*), whitehead bogbutton (*Lachnocaulon anceps*), rosy camphorweed (*Pluchea baccharis*), orange milkwort (*Polygala lutea*), bracken fern (*Pteridium aquilinum*), blackroot (*Pterocaulon pycnostachyum*), beaksedges (*Rhynchospora spp.*), yellow hatpins (*Syngonanthus flavidulus*), Virginia chain fern (*Woodwardia virginica*) and yellow-eyed grasses (*Xyris spp.*). Wiregrass (*Aristida stricta*) is rare. Vines are common and include muscadine (*Vitis rotundifolia*), eastern poison ivy (*Toxicodendron radicans*), and earleaf greenbrier (*Smilax auriculata*). Golden polypody (*Phlebodium aureum*) is often found in cabbage palms and resurrection fern (*Pleopeltis michauxiana*) is often on live oaks in the subcanopy.

Some areas of historic mesic flatwoods areas that border or jut out into wetlands have developed a dense subcanopy of cabbage palm and live oak. These areas are currently mapped as successional hardwood forest, and they resemble mesic hammocks. These areas are dominated by a dense cabbage palm and live oak subcanopy with scattered, mature south Florida slash pine in the canopy. The understory vegetation is usually dominated by saw palmetto and southern bayberry with Caesar's weed and Brazilian pepper. In some of these areas, remnant mesic flatwoods vegetation, such as coastalplain staggerbush, shiny blueberry, wild pennyroyal, and wiregrass are found.

Fire Regimes:

Historically, fires ignited by lightning during the early thunderstorm season (May - July) would have spread across the landscape every 2 to 4 years and burned most of the large mesic flatwoods complex. Currently, annual, or biannual dormant season fires may aid in attaining a structure that more closely resembles historic conditions. Once the desired conditions have been met, a regime of prescribed burns every 2 to 4 years during late spring and early summer may be started if resources allow. The small islands within the slough marsh likely burned irregularly when the marsh burned, or when winds generated spot fires. These irregular fires created a cycle of succession to hardwood forest, followed by an intense fire resulting again in a typical mesic flatwoods community.

Management Needs:

Management goals for the mesic flatwoods of OSSF should focus on the establishment of wiregrass, restoration of fire suppressed areas, and removal of exotic species. Removal of exotic species is important to reduce competition with native species. Timber stand improvement work, including forestry mowing and roller chopping will be considered to control competing ground vegetation. Thinning operations and timber harvests will be considered as pines mature and begin to compete with the surrounding trees to achieve healthy forest conditions, limit pest and disease outbreaks, and promote additional natural regeneration.

E. Mesic Hammock**Description:**

Mesic hammocks are closed canopy forests, dominated by hardwood species, often occurring along wetlands or as islands within wetlands. Mesic hammocks burn infrequently due to their positioning along wetlands, which provide protection from fire. Mesic hammocks in southern Florida often contain subtropical species of shrubs, woody vines, and epiphytes.

The closed canopy consists of primarily live oak (*Quercus virginiana*) and cabbage palm (*Sabal palmetto*) and occasionally gumbo limbo (*Bursera simaruba*) and satinleaf (*Chrysophyllum oliviforme*). The shrubby understory may be dense or open, tall, or short, and is typically composed of a mix of saw palmetto (*Serenoa repens*), American beautyberry (*Callicarpa americana*), white stopper (*Eugenia axillaris*), and red mulberry (*Morus rubra*). Tropical shrubs such as myrsine (*Myrsine cubana*) twinberry (*Myrcianthes fragrans*), and wild coffee (*Psychotria nervosa*) are common. The herb layer is often sparse or patchy and consists of various graminoids. Abundant epiphytes on live oaks and cabbage palms are a characteristic feature of mesic hammocks. These include Spanish moss (*Tillandsia usneoides*) and other air-plants (*Tillandsia* spp.), epiphytic ferns such as resurrection fern (*Pleopeltis polypodioides* var. *michauxiana*), golden polypody (*Phlebodium aureum*), and shoestring fern (*Vittaria lineata*).

Mesic hammocks on OSSF historically occurred as islands within the slough marsh or at the edges of uplands that are surrounded by wetlands and naturally protected from fire. In the 1940s aeriels, mesic hammocks have a dark, heavily textured appearance.

Current Conditions:

All currently mapped mesic hammocks on OSSF were mapped as such in the historic conditions. Some areas of historic mesic/wet flatwoods have undergone prolonged fire suppression and have developed a similar oak / palm dominated structure to mesic hammocks. These areas are currently mapped as successional hardwood forest (see separate successional hardwood forest section of this report for those descriptions).

Mesic hammocks on OSSF have a closed canopy of live oak, cabbage palm, and rarely, gumbo-limbo. Some mesic hammocks have hydric hammock inclusions with more hydrophilic canopy species such as red maple (*Acer rubrum*) and swamp laurel oak (*Quercus laurifolia*). The subcanopy of mesic hammocks is dense and consists of cabbage palm, sugarberry (*Celtis laevigata*), pigeon plum (*Coccoloba diversifolia*), white stopper (*Eugenia*

axillaris), red mulberry (*Morus rubra*), strangler fig (*Ficus aurea*), and sour orange (*Citrus x aurantium*). The state listed satinleaf (*Chrysophyllum oliviforme*) and twinberry (*Myrcianthes fragrans*) are rare in the subcanopy. The invasive Brazilian pepper (*Schinus terebinthifolia*) was noted in the subcanopy and shrub layers in several hammocks throughout the property. Shrubs comprise most of the understory and include saw palmetto, myrsine, coralbean (*Erythrina herbacea*), southern bayberry (*Morella cerifera*), wild coffee (*Psychotria nervosa*), shortleaf wild coffee (*Psychotria sulzneri*), rougeplant (*Rivina humilis*), and hog plum (*Ximenia americana*).

Herbs are sparse and include broomsedge bluestem (*Andropogon virginicus*), false nettle (*Boehmeria cylindrica*), spadeleaf (*Centella asiatica*), witchgrasses (*Dichanthelium* spp.), dogfennel (*Eupatorium capillifolium*), manyflower marshpennywort (*Hydrocotyle umbellata*), wild Boston fern (*Nephrolepis exaltata*), monk orchid (*Oeceoclades maculata*), woodsgrass (*Oplismenus hirtellus*), toothed midsorus fern (*Telmatoblechnum serrulatum*), Caesar's weed (*Urena lobata*), and Virginia chain fern (*Woodwardia virginica*). Vines are common to abundant and include peppervine (*Ampelopsis arborea*), possum grape (*Cissus verticillata*), Virginia creeper (*Parthenocissus quinquefolia*), earleaf greenbrier (*Smilax auriculata*), laurel greenbrier (*Smilax laurifolia*), bristly greenbrier (*Smilax tamnoides*), eastern poison ivy (*Toxicodendron radicans*), summer grape (*Vitis aestivalis*), and muscadine (*Vitis rotundifolia*). The state-endangered woody vine, chiggery grapes (*Heliotropium verdcourtii*) was noted in mesic hammocks in the southeastern portion of the property. Epiphytes are common and include long strap fern (*Campyloneurum phyllitidis*), Florida butterfly orchid (*Encyclia tampensis*), golden polypody (*Phlebodium aureum*), resurrection fern (*Pleopeltis michauxiana*), common wild-pine (*Tillandsia fasciculata*), southern needleleaf (*Tillandsia setacea*), Spanish moss (*Tillandsia usneoides*), and shoestring fern (*Vittaria lineata*).

Fire Regimes:

Mesic hammocks burn infrequently due to their landscape position along wetlands, which provide protection from fire. The surrounding uplands likely burned every 2 to 4 years, with fires only occasionally spreading into mature hammocks. Hammock islands in the slough marsh were likely even more protected from fire.

Management Needs:

Management goals for historically mesic hammock areas will focus on exotic species removal and monitoring. Brazilian pepper and Caesar's weed are the most important exotic plants to control in the hammocks.

F. Slough Marsh

Description:

Slough marsh is a primarily herbaceous community growing in a narrow to broad shallow channel with intermittently flowing water in flat sandy landscapes. Grasses, sedges, and emergent herbs dominate the mainly treeless landscape. Vegetation is found in zones based on length of hydroperiod and depth of flooding. Frequently flooded areas of slough marsh are often dominated by species such as pond apple (*Annona glabra*), sawgrass (*Cladium jamaicense*), pickerelweed (*Pontederia cordata*), bulltongue arrowhead (*Sagittaria*

lanceolata), common buttonbush (*Cephalanthus occidentalis*), alligatorflag (*Thalia geniculata*), and cattail (*Typha domingensis*). Drier marsh zones with less peat accumulation are dominated by blue maidencane (*Panicum hemitomon*) and Tracy's beaksedge (*Rhynchospora tracyi*), narrowfruit horned beaksedge (*Rhynchospora inundata*), Baldwin's nutrush (*Scleria baldwinii*), lemon bacopa (*Bacopa caroliniana*), tenangle pipewort (*Eriocaulon decangulare*), bladderworts (*Utricularia* spp.), yellow-eyed grass (*Xyris* spp.), and water cowbane (*Tiedemannia filiformis* ssp. *filiformis*). Woody species are generally low in cover and include peelbark St. John's wort (*Hypericum fasciculatum*) and water toothleaf (*Stillingia aquatica*).

Slough marsh (also known as Okaloacoochee Slough) runs through the entire length of OSSF, dominating much of the central and southern landscape. On the 1940s aerials, slough marsh has a medium to dark gray, smooth signature.

Current Conditions:

Currently, the slough marsh bisecting OSSF is disturbed by artificial canals, ditches, roadways, and exotic species. Despite these disturbances, the slough marsh retains most of its natural appearance and function. The slough marsh is dominated by sawgrass with scattered, deep, peat-accumulated pockets of coastalplain willow (*Salix caroliniana*), pond apple (*Annona glabra*), pickerelweed (*Pontederia cordata*), bulltongue arrowhead (*Sagittaria lanceolata*), common buttonbush (*Cephalanthus occidentalis*), alligatorflag (*Thalia geniculata*), cattail (*Typha domingensis*), and the invasive Peruvian primrose willow (*Ludwigia peruviana*). In the shallower areas of the slough marsh where sawgrass is absent, a variety of intermediate to high marsh species occur, including blue maidencane (*Panicum hemitomon*), Tracy's beaksedge (*Rhynchospora tracyi*), chestnutleaf falsecrotton (*Caperonia castaneifolia*), bluejoint panicum (*Coleataenia tenera*), southern umbrellasedge (*Fuirena scirpoidea*), Virginia saltmarsh mallow (*Kosteletzkya pentacarpos*), rosy camphorweed (*Pluchea baccharis*), narrowfruit horned beaksedge (*Rhynchospora inundata*), water toothleaf (*Stillingia aquatica*), Baldwin's nutrush (*Scleria baldwinii*), lemon bacopa (*Bacopa caroliniana*), tenangle pipewort (*Eriocaulon decangulare*), bladderworts (*Utricularia* spp.), yellow-eyed grasses (*Xyris* spp.), clustered bushmint (*Hyptis alata*), water cowbane (*Tiedemannia filiformis* ssp. *filiformis*), and piedmont marshelder (*Iva microcephala*). Shrubs such as southern bayberry (*Morella cerifera*) and peelbark St. John's wort (*Hypericum fasciculatum*) are often present along the shallow marsh edges.

Exotic species such as Peruvian primrose willow (*Ludwigia peruviana*), Brazilian pepper (*Schinus terebinthifolius*), torpedo grass (*Panicum repens*), Old-World climbing fern (*Lygodium microphyllum*), and Wright's nutrush (*Scleria lacustris*) can be found in the slough marsh along edges or in heavily disturbed areas.

Fire Regimes:

As in other wetland communities, the frequency of fire in slough marshes is a function of the fire frequency in the surrounding matrix community, as well as the fire-carrying characteristics of the marsh vegetation itself. Fires in the early wet season will have a better chance of burning into the deep, peat-accumulated centers, controlling the buildup of peat and

encroachment of coastalplain willow. Fire should be introduced into sloughs as often as possible and on average every 1-10 years.

Management Needs:

Management goals should focus on the removal of invasive plant species, controlling coastalplain willow growth, and, where feasible, hydrological restoration. Removal of exotic species is critical to maintaining native species diversity, and managers should monitor exotic species occurrences to determine if eradication efforts are working. Limited control of willows can be accomplished using herbicides, but this work is expensive and difficult to do.

G. Strand Swamp

Description:

Strand swamp is a shallow, forested, usually elongated depression or channel situated in a trough within a flat limestone plain and dominated primarily by bald cypress (*Taxodium distichum*). Smaller strand swamps and shallow edges may instead contain pond cypress (*T. ascendens*).

The variable woody understory contains a mixture of temperate and tropical elements, mainly red maple (*Acer rubrum*), pond apple (*Annona glabra*), swamp laurel oak (*Quercus laurifolia*), cabbage palm (*Sabal palmetto*), strangler fig (*Ficus aurea*), swamp bay (*Persea palustris*), sweetbay (*Magnolia virginiana*), coastalplain willow (*Salix caroliniana*), wax myrtle (*Myrica cerifera*), myrsine (*Myrsine cubana*), and common buttonbush (*Cephalanthus occidentalis*). Herbs include string lily (*Crinum americanum*), giant leather fern (*Acrostichum danaeifolium*), toothed midsorus fern (*Telmatoblechnum serrulatum*), royal fern (*Osmunda regalis* var. *spectabilis*), and sawgrass (*Cladium jamaicense*). Vines such as eastern poison ivy (*Toxicodendron radicans*) and white twinevine (*Funastrum clausum*) may be common. The warm, humid climate in strand swamps make it ideal habitat for epiphytic orchids and bromeliads.

Historically strand swamp occurred in the southeastern portion of the property, mostly as long linear borders between uplands and the slough marsh. On the 1940s aerials, strand swamps have a light grey, textured signature.

Current Conditions:

The majority of strand swamp on OSSF is in remote parts of the forest. The limited areas that were surveyed have a closed canopy of pond cypress (*Taxodium ascendens*). Occasional subcanopy trees include dahoon (*Ilex cassine*), myrsine (*Myrsine cubana*), and cabbage palm (*Sabal palmetto*). The shrub layer is open with scattered dahoon, myrsine, and southern bayberry (*Morella cerifera*). Herbs are sparse and include spadeleaf (*Centella asiatica*), sawgrass (*Cladium jamaicense*), toothed midsorus fern (*Telmatoblechnum serrulatum*), and Virginia chain fern (*Woodwardia virginica*). The invasive Old-World climbing fern (*Lygodium microphyllum*) was noted in two areas of strand swamp. Epiphytes are common and include common wild-pine (*Tillandsia fasciculata*), southern needleleaf (*Tillandsia setacea*), and Spanish moss (*Tillandsia usneoides*).

Strand swamp on OSSF has nearly tripled in size since the 1940s, replacing several hundred acres of historic slough marsh on the property.

Fire Regimes:

Fire occurs rarely in strand swamps, with the largest trees on the deepest peat towards the center of the strand burning least frequently every 20-50 years. However, fires from bordering pine-dominated communities can frequently burn into the outer edges of strand swamps every 5-10 years.

Management Needs:

Management goals should focus on the removal of invasive species such as Old-World climbing fern and Brazilian pepper. Both of these species have the potential to crowd out native plants and form large monocultures. In order to maintain a natural ecotone between strand swamp and surrounding communities, fires should be allowed to extinguish naturally in the edge of the swamp when possible.

H. Wet Flatwoods**Description:**

Wet flatwoods in this area are characterized as southern pine forests consisting of a canopy of scattered to dense, mature pine trees with a fire-maintained, sparse understory and dense ground cover of hydrophytic herbs.

Wet flatwoods on OSSF historically occurred in areas near wetlands that were inundated more frequently than the surrounding mesic flatwoods but were not too wet to prevent pine establishment. Wet flatwoods have an open south Florida slash pine canopy with an open understory of younger pines. Shrubs are sparse and consist of southern bayberry (*Morella cerifera*), peelbark St. John's wort (*Hypericum fasciculatum*), and myrtle leaf St. John's Wort (*Hypericum myrtifolium*). Herbaceous species cover is relatively high and consists primarily of wiregrass (*Aristida stricta*), gulfdune paspalum (*Paspalum monostachyum*), and hairawn muhly (*Muhlenbergia capillaris*), and a diversity of other grasses, sedges, and forbs.

On the 1940s aerials, wet flatwoods have a smooth light to medium gray signature and are dotted with dark pine trees.

Current Conditions:

Most of the historic wet flatwoods found on OSSF show a history of fire exclusion. The canopy is open with south Florida slash pine (*Pinus elliottii* var. *densa*). The subcanopy is open to moderately dense with dahoon (*Ilex cassine*), live oak (*Quercus virginiana*), and cabbage palm (*Sabal palmetto*). The shrub layer is dominated southern bayberry (*Morella cerifera*). Other shrub species include groundsel tree (*Baccharis halimifolia*), roundpod St. John's wort (*Hypericum cistifolium*), peelbark St. John's wort (*Hypericum fasciculatum*), gallberry (*Ilex glabra*) Peruvian primrosewillow (*Ludwigia peruviana*), myrsine (*Myrsine cubana*), Brazilian pepper (*Schinus terebinthifolia*). Small mesic flatwoods islands, dominated by saw palmetto (*Serenoa repens*), are common inclusions in wet flatwoods throughout the property.

The herbaceous layer is often weedy but can be diverse. Typical herbs include blue maidencane (*Amphicarpum muehlenbergianum*), purple bluestem (*Andropogon glomeratus* var. *glaucopsis*), big carpetgrass (*Axonopus furcatus*), spadeleaf (*Centella asiatica*), sawgrass (*Cladium jamaicense*), swamp flatsedge (*Cyperus ligularis*), witchgrasses (*Dichanthelium* sp.), Virginia buttonweed (*Diodia virginiana*), pink sundew (*Drosera capillaris*), tenangle pipewort (*Eriocaulon decangulare*), semaphore thoroughwort (*Eupatorium mikanioides*), Mohr's thoroughwort (*Eupatorium mohrii*), pineland heliotrope (*Euploca polyphylla*), flattop goldenrod (*Euthamia caroliniana*), narrowleaf yellowtops (*Flaveria linearis*), skyflower (*Hydrolea corymbosa*), clustered bushmint (*Hyptis alata*), Piedmont marshelder (*Iva microcephala*), Virginia saltmarsh mallow (*Kosteletzkya pentacarpos*), axilflower (*Mecardonia acuminata*), rosy camphorweed (*Pluchea baccharis*), yellow milkwort (*Polygala rugelii*), starrush white-top (*Rhynchospora colorata*), fascicled beaksedge (*Rhynchospora fascicularis*), toothed midsorus fern (*Telmatoblechnum serrulatum*), chain fern (*Woodwardia virginica*), and yellow-eyed grasses (*Xyris* sp.). Torpedo grass (*Panicum repens*) can be abundant, especially along old roads running through the flatwoods.

Wet flatwoods that have been maintained by prescribed or natural fires can be found and consist of an open canopy of south Florida slash pine, with a subcanopy of younger pines. The shrub layer is typically sparse but can be abundant and dominated by southern bayberry in some areas. Herbs are the dominant component, and include wiregrass (*Aristida stricta*), bluejoint panicum (*Coleataenia tenera*), button rattlesnakemaster (*Eryngium yuccifolium*), falsefennel (*Eupatorium leptophyllum*), alligatorlily (*Hymenocallis palmeri*), Florida yellow flax (*Linum floridanum*), hairawn muhly (*Muhlenbergia capillaris*), largeflower rosegiant (*Sabatia grandiflora*), white sunnybell (*Schoenolirion albiflorum*), and beaksedges (*Rhynchospora* spp.).

Fire Regimes:

Historically, natural fires likely occurred every 3-10 years in wet flatwood communities. Many of the historic wet flatwoods that have been fire-suppressed may benefit from annual or biannual prescribed burns during late spring or early summer to reduce the shrubby component to desired levels.

Management Needs:

Management goals for wet flatwoods should focus on reintroduction of frequent fire to fire-suppressed areas, maintenance of areas that have been frequently burned, and exotic species removal and monitoring. Historic wet flatwood areas that have not been burned in the past 10 years will benefit from annual or biannual summer burns, as stated above, with burning during the winter/early spring much more likely and feasible. Wet flatwoods that have burned in the past 10 years should be placed on a 3–10-year fire-return interval to maintain desirable shrub and herb covers. Removal of exotic species, mainly torpedo grass, is important to restoring and preserving wet flatwood communities. Pine planting, timber stand improvement through forestry mowing and roller chopping, and timber thinning operations will be conducted to maintain forest health, limit the occurrence of forest pests and diseases, and to allow for additional natural regeneration.

I. Wet Prairie

Description:

Wet prairie is an herbaceous community found on continuously wet, but not inundated, soils on somewhat flat or gentle slopes between lower-lying marshes and slightly higher wet or mesic flatwoods. Trees and shrubs are absent or very sparse. The herbaceous layer is often dominated by wiregrass (*Aristida stricta*), gulfdune paspalum (*Paspalum monostachyum*), or hairawn muhly (*Muhlenbergia capillaris*), and a diversity of other grasses, sedges, and forbs.

Wet prairies on OSSF occur as transitional areas between wetlands or between a wetland and uplands (identified by a smooth grayish or whitish signature in the 1940s aerials).

Current Conditions:

Currently, wet prairies on OSSF are underrepresented since many have been converted in the past to agricultural fields. Most of these converted areas are currently mapped as abandoned field/abandoned pasture, successional hydric shrubland, or invasive exotic monoculture and are dominated by torpedo grass (*Panicum repens*).

There are some examples of intact wet prairie throughout the property. The intact wet prairies are open, treeless areas dominated by a diverse assemblage of herbs with scattered shrubs. south Florida slash pines (*Pinus elliottii* var. *densa*) are sparse. Shrubs are generally sparse as well and include common buttonbush (*Cephalanthus occidentalis*), peelbark St. John's wort (*Hypericum fasciculatum*), gallberry (*Ilex glabra*), southern bayberry (*Morella cerifera*), and water toothleaf (*Stillingia aquatica*). Small circular elevated islands dominated by saw palmetto (*Serenoa repens*) are common in these prairies.

The herb layer is dominated by grasses, sedges, and rushes including blue maidencane (*Amphicarpum muehlenbergianum*), longleaf threeawn (*Aristida palustris*), wiregrass (*Aristida stricta*), wrinkled jointgrass (*Coelorachis rugosa*), bluejoint panicum (*Coleataenia tenera*), erectleaf witchgrass (*Dichanthelium erectifolium*) hairawn muhly (*Muhlenbergia capillaris*), narrowfruit horned beaksedge (*Rhynchospora inundata*), white-top sedge (*Rhynchospora latifolia*), south Florida little bluestem (*Schizachyrium rhizomatum*), sand cordgrass (*Spartina bakeri*), and saltmeadow cordgrass (*Spartina patens*). Other herbs include longleaf milkweed (*Asclepias longifolia*), chestnutleaf falsecrotton (*Caperonia castaneifolia*), spadeleaf (*Centella asiatica*), southeastern sneezeweed (*Helenium pinnatifidum*), alligatorlily (*Hymenocallis palmeri*), clustered bushmint (*Hyptis alata*), rosy camphorweed (*Pluchea baccharis*), white sunnysbell (*Schoenolirion albiflorum*), and water cowbane (*Tiedmannia filiformis* ssp. *filiformis*).

Fire Regimes:

Historically, lightning ignited fires swept across wet prairies every 2-3 years. These fires likely burned completely through the community, with the high percentage of wiregrass and other wiry herbs facilitating spread of the fire. The converted wet prairies will need intense restoration efforts before prescribed fire can be used as a management tool as these areas are dominated by torpedo grass that does not readily burn.

Management Needs:

Management goals should focus on the restoration of converted wet prairies and the preservation of intact wet prairies. Restoration of converted wet prairies should begin by removing woody vegetation, mainly southern bayberry, followed by treatment of exotic species, mainly torpedo grass. The re-establishment of native species such as wiregrass and hairawn muhly will allow prescribed burns to be applied. Preservation of intact wet prairies should involve prescribed burns every 2 to 4 years and the monitoring/removal of exotic species.

J. Managed Landcover Type

Pine plantations and pastures represent vegetative communities that the FFS manages as integral components of the agency's multi-use management approach. These managed communities provide both ecological benefits, such as wildlife habitat and ground and surface water filtration, as well as opportunities for generating revenue that can be used to help offset management costs. Management of plantations and pastures within the state forests is conducted at a low level of intensity that further ensures compatibility with other management goals and objectives.

1. Pine Plantation**Desired Future Condition:**

Pine plantations mapped on OSSF are historic mesic and wet flatwoods and have desired future conditions matching those communities.

Current Conditions:

Pine plantations have a dense or thinned canopy of south Florida slash pine (*Pinus elliottii* var. *densa*). The subcanopy includes younger slash pines, cabbage palm (*Sabal palmetto*), and dahoon (*Ilex cassine*). The shrub layer is often tall and impenetrable, especially in long unburned historic mesic flatwoods. Typical shrubs include saw palmetto (*Serenoa repens*), peelbark St. John's wort (*Hypericum fasciculatum*), gallberry (*Ilex glabra*), coastalplain staggerbush (*Lyonia fruticosa*), southern bayberry (*Morella cerifera*), myrsine (*Myrsine cubana*), swamp bay (*Persea palustris*), and winged sumac (*Rhus copallinum*).

The herbaceous layer may be sparse to absent, depending on the density of the shrub layer. Herbs include big carpetgrass (*Axonopus furcatus*), witchgrasses (*Dichanthelium* spp.), Mohr's thoroughwort (*Eupatorium mohrii*), whitehead bogbutton (*Lachnocaulon anceps*), torpedo grass (*Panicum repens*), rosy camphorweed (*Pluchea baccharis*), orange milkwort (*Polygala lutea*), bracken fern (*Pteridium aquilinum*), blackroot (*Pterocaulon pycnostachyum*), yellow hatpins (*Syngonanthus flavidulus*), Caesar's weed (*Urena lobata*), and Virginia chain fern (*Woodwardia virginica*).

Fire Regimes:

Refer to the historic community – mainly mesic flatwoods. Historic pyrogenic communities may require more frequent fire in the beginning than is typical for the historic natural community in the range of every 3 to 5 years.

Management Needs:

In historic pine flatwoods, thinning of the pine stand will promote more herbaceous cover in the understory, and the planting of wiregrass, as well as frequent prescribed burns, may be necessary in some areas to move the community towards a more natural structure and composition. Pine planting, timber stand improvement through forestry mowing and roller chopping, and timber thinning operations will be conducted to maintain forest health, limit the occurrence of forest pests and diseases, and to allow for additional natural regeneration.

K. Other Altered Landcover Types**Desired Future Condition:**

Altered landcover types are areas where the natural community has been overwhelmingly altered as a result of human activity. Pine plantation is described above.

The altered landcover types described in this section are often not appropriate areas for restoration. If restoration is desired, the target future condition of the altered habitat is dependent on the historic community. Please refer to the appropriate community type for a more specific explanation of the desired future condition.

Current Conditions:

Altered landcover types on OSSF include abandoned fields/abandoned pastures, artificial, ponds, canals / ditches, clearings, developed areas, invasive exotic monocultures, roads, successional hardwood forest, and successional hydric shrubland.

Abandoned Field / Abandoned Pasture (236 acres) – Abandoned fields or pastures are defined as old fields, fallow pastures, early successional areas formerly grazed or in agriculture without recent activity to maintain the area as pasture or planted field. On OSSF, this community is mapped within areas of historic wet prairie, slough marsh, and flatwoods that had been converted for agricultural use in the past and are no longer maintained. The canopy is typically absent or with scattered live oak (*Quercus virginiana*) and cabbage palm (*Sabal palmetto*). Shrubs may be moderate to dense and include groundsel tree (*Baccharis halimifolia*), Peruvian primrosewillow (*Ludwigia peruviana*), and southern bayberry (*Morella cerifera*). The herb layer may be dominated by torpedo grass (*Panicum repens*) or contain a mix of invasive and/or weedy herbs, including broomsedge bluestem (*Andropogon virginicus*), dogfennel (*Eupatorium capillifolium*), slender flattop goldenrod (*Euthamia caroliniana*), limpograss (*Hemarthria altissima*), manyflower marshpennywort (*Hydrocotyle umbellata*), West Indian marsh grass (*Hymenachne amplexicaulis*), and foxtail (*Setaria sp.*).

Canal / Ditch (153 acres) – Canals and ditches are artificial linear drainage ways. Canals are mapped along the northwestern property boundary, along Keri Road, and through the slough marsh. The invasive Peruvian primrosewillow (*Ludwigia peruviana*) is commonly found in the deep canals and more recently, Old-World climbing fern has been spotted on a more frequent basis.

Clearing (36 acres) - These are cleared or otherwise unnatural openings. These will be managed with the surrounding stands and restoration may be undertaken as a plan is developed and funding comes available.

Developed (48 acres) – Office, Shop, Residential with associated lawn areas, Grass Helipad, Check station, parking areas, campgrounds, and other recreation areas.

Invasive Exotic Monoculture (129 acres) – Invasive exotic monocultures are stands of invasive exotic plant species that have eliminated the native vegetation, or nearly so. These areas are mapped in historic wet prairie and slough marsh that were previously converted to agricultural fields and are now nearly solid stands of torpedo grass (*Panicum repens*).

Road (208 acres) – Roads are areas that are maintained by FFS and used for vehicular traffic. This includes two-tracks used regularly by area staff to access and manage the state forest regardless of public accessibility.

Successional Hardwood Forest (1,453 acres) – Successional hardwood forests mapped on OSSF are historic mesic and wet flatwoods and have desired future conditions (DFC)s matching those communities.

Successional hardwood forests are closed-canopied forests, typically dominated by fast growing hardwoods such as laurel oak (*Quercus hemisphaerica*), water oak (*Quercus nigra*), and/or sweetgum (*Liquidambar styraciflua*), often with remnant pines. On OSSF, successional hardwood forests are very similar in appearance to mesic hammocks, due to live oak (*Quercus virginiana*) and/or cabbage palm (*Sabal palmetto*) being the dominant canopy species. These hardwood forests have developed in historic mesic or wet flatwoods that have undergone extensive fire exclusion. This transition has occurred throughout the property, particularly in areas of flatwoods that jut out into the slough marsh and are surrounded by wetlands or historic flatwoods islands completely surrounded by slough marsh. Some historic mesic hammocks that border flatwoods have since expanded into those flatwoods, due to fire suppression. Those expansions are also mapped as successional hardwood forests.

Successional hardwood forests on OSSF have a semi-closed to closed canopy of live oak and cabbage palm, with occasional remnant south Florida slash pine (*Pinus elliottii* var. *densa*). If the canopy is still partially open, understory shrubs are generally the same species as are found in mesic or wet flatwoods. If the canopy is closed, shrubs may be absent or nearly so. Typical shrubs include saw palmetto (*Serenoa repens*) and myrsine (*Myrsine cubana*). Herbs are not abundant due to shading cast by overstory oaks and shrubs. Epiphytes are common and include golden polypody (*Phlebodium aureum*), resurrection fern (*Pleopeltis michauxiana*), common wild-pine (*Tillandsia fasciculata*), southern needleleaf (*Tillandsia setacea*), and Spanish moss (*Tillandsia usneoides*).

Successional Hydric Shrubland (996 acres) – Successional hydric shrublands mapped in OSSF are historic slough marsh, wet prairies, or wet flatwoods and have DFCs matching those communities.

Successional hydric shrubland/forest are fire excluded or disturbed areas that are dominated by fast growing hydrophilic hardwoods such as southern bayberry (*Morella cerifera*) and

groundsel tree (*Baccharis halimifolia*). Weedy vines such as smilax (*Smilax* spp.) and muscadine (*Vitis rotundifolia*) are often common in the shrub layers. These shrubland/forests may invade herbaceous habitats (i.e., wet prairie, wet flatwoods, seepage slope, depression marsh, basin marsh, floodplain marsh, slough marsh) due to lengthy fire-suppression and/or hydrological alterations. Although some shifts in community type may be better described with a natural community designation, the use of “successional hydric shrubland” is suitable to label areas that are known to be highly disturbed and altered, and where restoration efforts of hydrology restoration and/or re-introduction of fire would be particularly beneficial.

Successional hydric shrublands on OSSF typically lack a canopy or have scattered live oak (*Quercus virginiana*) and cabbage palm (*Sabal palmetto*). The shrub layer is typically dense with invasives and/or hydrophilic hardwoods including groundsel tree, Peruvian primrosewillow (*Ludwigia peruviana*), southern bayberry, and Brazilian pepper (*Schinus terebinthifolia*). Typical herbs are invasive, weedy, or remnant natives from the historic community and include common ragweed (*Ambrosia artemisiifolia*), chestnutleaf falsecroton (*Caperonia castaneifolia*), spadeleaf (*Centella asiatica*), fireweed (*Erechtites hieraciifolius*), dogfennel (*Eupatorium capillifolium*), fingergrass (*Eustachys* sp.), clustered bushmint (*Hyptis alata*), climbing hempvine (*Mikania scandens*), torpedo grass (*Panicum repens*), rosy camphorweed (*Pluchea baccharis*), pickerelweed (*Pontederia cordata*), foxtail (*Setaria* sp.), toothed midsorus fern (*Telmatoblechnum serrulatum*), and Virginia chain fern (*Woodwardia virginica*).

Fire Regimes:

Fires would have historically crossed these altered landscapes when the surrounding natural communities burned.

Management Needs:

Roads and developed areas will remain as is. Patrolling for invasive plants is important to limit the spread of these along these corridors should fill be imported for road or building maintenance. The areas that are abandoned fields/pasture and invasive monoculture will be managed alongside surrounding natural communities. There has been some success in planting areas over-run by torpedo grass with bald cypress trees, but there are still no known control methods that will work for torpedo grass in south Florida, so full restoration may not be possible. Invasive plant treatments will continue along with the planting of appropriate trees, shrubs, and understory species on each site depending on water levels and hydroperiod. Canals and ditches will receive invasive plant treatments and control of willow growth as necessary, and funds allow.

VIII. References

Florida Department of State, Division of Historical Resources. Florida Master Site File. 2022. Tallahassee, Florida.

Florida Department of State, Division of Historical Resources. Revised 2013. Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Lands. Department of the State, Division of Historical Resources. Tallahassee, Florida.

Florida Department of Agriculture and Consumer Services. Revised 2008. Silviculture Best Management Practices (BMPs) for Florida. Florida Department of Agriculture and Consumer Services, Florida Forest Service.

Florida Department of Agriculture and Consumer Services. State Forest Handbook. Florida Department of Agriculture and Consumer Services, Florida Forest Service.

Florida Natural Areas Inventory (FNAI). 2017. Guide to the natural communities of Florida: 2010 Edition. Florida Natural Areas Inventory, Tallahassee, Florida.

Florida Natural Areas Inventory. 2022. FNAI inventory and assessment, “Current and Historic Natural Communities at the Okaloacoochee Slough State Forest”, Tallahassee, Florida.

United States Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey. Soil Survey Area: Volusia County, Florida; Survey Area Data: Version 20, Aug 27, 2021. Retrieved from <https://websoilsurvey.sc.egov.usda.gov>.

Florida Department of Environmental Protection. 2019. Water Quality Assessments, TMDLs, and BMAPs retrieved from <https://fdep.maps.arcgis.com>.

IX. Glossary of Abbreviations

ARC	Acquisition and Restoration Council
ALICO	Atlantic Land Improvement Company, Inc.
BIA.....	U.S. Bureau of Indian Affairs
BMP	Best Management Practice
CARL.....	Conservation and Recreation Lands Acquisition Program
CUP.....	Consumption Use Permit
DEP	Department of Environmental Protection
DHR.....	Division of Historical Resources
DRP.....	Division of Recreation and Parks
EPA.....	U.S. Environmental Protection Agency
FAA.....	Federal Aviation Administration
F.A.C.....	Florida Administrative Code
FDACS.....	Florida Department of Agriculture and Consumer Services
FFS.....	Florida Forest Service
FNAI	Florida Natural Areas Inventory
F.S.	Florida Statutes
FWC.....	Florida Fish and Wildlife Conservation Commission

NAS.....National Audubon Society
 NRCS.....Natural Resources Conservation Service
 SFWMDSouth Florida Water Management District
 SORSave Our Rivers Acquisition Program
 OALE.....DACS Office of Agricultural Law Enforcement
 OFW.....Outstanding Florida Waters
 OSSF.....Okaloacoochee Slough State Forest
 TIITF.....Board of Trustees of the Internal Improvement Trust Fund
 USFWSUnited States Fish and Wildlife Service
 WMAWildlife Management Area