



FLORIDA DEPARTMENT OF Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

June 12, 2023

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

RE: Myakka State Forest – Lease No. 4102 and 4327

Dear Mr. Camposano:

On **June 9, 2023**, the Acquisition and Restoration Council (ARC) recommended approval of the **Myakka 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 **Myakka State Forest** management plan. The next management plan update is due June 9, 2033.

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 Council (ARC) for public notification. The Division of State Lands will approve these

Mr. Brian Camposano
Page 2
June 12, 2023

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,

Deborah Burr

Digitally signed by
Deborah Burr
Date: 2023.06.13
12:56:21 -04'00'

Deborah Burr
Office of Environmental Services
Division of State Lands

TEN-YEAR LAND MANAGEMENT PLAN

FOR THE

MYAKKA STATE FOREST

SARASOTA COUNTY



PREPARED BY THE

FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

FLORIDA FOREST SERVICE

APPROVED ON

JUNE 9, 2023

TEN-YEAR LAND MANAGEMENT PLAN

FOR THE

MYAKKA STATE FOREST



Approved by:

A handwritten signature in black ink, appearing to read "Richard Dolan", is written over a horizontal line.

Richard Dolan, Director
Florida Forest Service

6/22/23
Date

A handwritten signature in blue ink, appearing to read "James Roberts", is written over a horizontal line.

James Roberts, Chief
Forest Management Bureau

6-19-23
Date

TEN-YEAR LAND MANAGEMENT PLAN

MYAKKA STATE FOREST

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**TEN-YEAR LAND MANAGEMENT PLAN
MYAKKA STATE FOREST
EXHIBITS**

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LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

LEAD AGENCY: Florida Department of Agriculture and Consumer Services (FDACS), Florida Forest Service
COMMON NAME: Myakka State Forest
LOCATION: Sarasota County
ACREAGE TOTAL: 8,593 acres

Historic Natural Communities	Approximate Acreage
Mesic flatwoods	5,385
Wet flatwoods	1,176
Depression marsh	1,122
Dry prairie	259
Wet prairie	127
Hydric hammock	54

Historic Natural Communities	Approximate Acreage
Scrubby flatwoods	29
Salt marsh	24
Mesic hammock	22
Mangrove swamp	18
Tidal creek	7

*Note – roughly 370 acres of MSF are not mapped in the northern portion of the property, generally east of the Myakka River

TIITF LEASE AGREEMENT NUMBERS: 4102, 4327

USE: Single ☐ Multiple ☒

MANAGEMENT AGENCY

Florida DACS, Florida Forest Service
Florida Fish and Wildlife Conservation Commission
Southwest Florida Water Management District
Department of State, Division of Historical Resources

RESPONSIBILITY

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

DESIGNATED LAND USE: Multiple-Use State Forest
SUBLEASES: None
ENCUMBRANCES: None
TYPE ACQUISITION: Conservation and Recreation Lands, Save Our Rivers, and Preservation 2000
UNIQUE FEATURES: Four waterways flow through Myakka State Forest. These waterways form a diverse network of aquatic and wetland habitats.
ARCHAEOLOGICAL / HISTORICAL: Four (4) recorded.
MANAGEMENT NEEDS: Non-native species control, public access to parcel east of Myakka River, upgraded recreation facilities
ACQUISITION NEEDS: Approximately 736 acres located in the Optimal Management Boundary
SURPLUS ACREAGE: None
PUBLIC INVOLVEMENT: 2013 and 2018 Land Management Reviews, Management Plan Advisory Group and Public Hearing, Liaison Committee Meetings, and FDEP Acquisition and Restoration Council Public Hearing - - - - -
- - - - -

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

ARC Approval Date: _____ TIITF Approval Date: _____

Comments: _____

I. Introduction

The Myakka State Forest (MSF) is comprised of 8,593 acres located in the southwestern portion of Sarasota County and is almost entirely within the North Port city limits. MSF is made up primarily of mesic flatwoods with a mixture of longleaf pine and south Florida slash pine overstory with a palmetto understory. Numerous depression marshes are scattered throughout the flatwoods, providing many opportunities for viewing wading birds and other wildlife. MSF includes approximately 2.5 miles of frontage on the Myakka River, which is designated as an Outstanding Florida Water and a Wild and Scenic River and flows through the northeastern portion of MSF. The Myakkahatchee Creek flows through MSF for 1.5 miles and provides an additional water resource.

Significant wildlife species that can be found on MSF include the gopher tortoise, eastern indigo snake, bald eagle, Florida sandhill crane, and wood stork. Outdoor recreation activities available on MSF include hiking, camping, off-road biking, and horseback riding, as well as small game hunting opportunities and fishing on the Myakka River.

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 MSF resources through a stewardship ethic to assure they are available for future generations.”

Management strategies for MSF center on the multiple-use concept, as defined in sections 589.04(3) and 253.034(2)(a) Florida Statutes. 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 MSF was acquired. Multiple-use management for MSF 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 recreational 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 to water resources, and health of associated wetland 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 (FAC). It is not an annual work plan or detailed operational plan but provides general guidance for the management of MSF for the next ten-year period and outlines the major concepts that will guide management activities on MSF.

B. Past Accomplishments

Data regarding past management activities and public use on MSF has been compiled monthly and are available from the forest manager. A table has been prepared for this plan that summarizes the accomplishments for each of the past ten years. See Exhibit A. The table does not attempt to account for all activities on MSF but summarizes major activities.

There have been numerous events, developments, and activities since the 2010 Ten-Year Land Management Plan was approved. Some noteworthy accomplishments include:

- Forest Management
 - Planted 401,625 containerized South Florida slash pines on 562 acres
 - Harvested 1622 tons of timber from approximately 159 acres
 - Conducted timber inventory on more than 10,046 acres
- Fire Management
 - Conducted prescribed burning on 16,230 acres
- Road / Boundary Management
 - Improved or rebuilt 6 miles of forest roads
 - Graded 169 miles of roads
 - Maintained 130 miles of forest boundary
- Recreation Management
 - Conducted 3 Operation Outdoor Freedom (OOF) hunt events
 - Hosted more than 271,000 day-use forest visits and 44,400 overnight camping visits
 - Thirteen BSA Eagle Scout candidates have installed 7 shelters at 5 different locations, 2 bridges at 2 different locations, a self-guided nature tour on an existing trail, a nature trail, a radial hammock garden at the group site, and a fire pit at the group site
- Biological Management
 - Actively treated 17 invasive plant species on 2,154 acres
 - Removed 1,027 feral hogs
- Education / Public Outreach
 - Hosted more than 52 forest-related program events (local school programs, clubs, and professional groups)
 - Produced 24 radio, television, and / or print articles featuring forest activities

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

The following goals and objectives provide direction and focus management resources for the next ten-year planning period. Funding, agency program priorities, and the potential for wildfire or other natural disasters during the planning period will determine the degree to which these objectives can be met. Management activities on MSF during this period must 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 recreation value.

The management activities listed below will be addressed within the ten-year management period and are defined as goals, with each goal containing short-term objectives, long-term objectives, or ongoing objectives. Short-term objectives are those that are achievable within a two-year planning period, and long-term objectives 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 non-native 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 opportunities that are compatible with multiple-use management. (Ongoing objective)

Performance Measure: Number of visitor opportunities per day

Objective 2: Continue to safely integrate visitor use into MSF, follow 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 3: 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 4: Evaluate the potential for additional public access and recreation areas on MSF 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 Measure: Annual evaluation of additional visitor opportunities

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 on agreed-upon hunting issues
- Updated rules posted and public small game hunting area brochures available online at MyFWC.com

Objective 6: 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

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

Objective 1: The MSF currently contains approximately 6,860 acres of fire-dependent communities. MSF staff will plan and conduct prescribed burns in a manner that benefits these fire-dependent natural communities within MSF. To achieve an average fire-return interval of two (2) to five (5) years for most fire-dependent communities, FFS will attempt to conduct prescribed burns on an average of approximately 1,400 to 3,400 acres per year. Currently FFS staff estimates 4,814 acres at MSF are within the desired fire management 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 MSF 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:

- Evaluation complete
- Should fuel reduction be 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 plants. Restore native groundcover from historical land use where practical or heavily impacted.

(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 the wildlife species for MSF, 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 completed for MSF

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: Non-Native Invasive Species Management and Control**

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

Performance Measures:

- Total number of acres identified and successfully treated
- Annual updates of the Five-Year Ecological Plan completed
- Continue to maintain MSF non-native invasive species database information annually

➤ **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 recorded sites

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

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

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

Performance Measure: Number of local staff trained as ARM Monitors

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

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

Performance Measure: Percent compliance with Silviculture BMP

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, fire lines, 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: MSF staff, along with help from volunteers, and / or user groups, will continue maintenance of four parking areas and four trailheads, 31.6 miles of trails, one boat/canoe/kayak launch, and 40.6 miles of primary, secondary, and tertiary roads. (Ongoing objective)

Performance Measure: Number of existing 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

Objective 3: Continue to implement the Five-Year Boundary Survey and Maintenance Management Plan and update annually. Approximately 20 percent of MSF's boundary will be evaluated and remarked annually as necessary which includes harrowing, 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 the Myakka State Forest.

2. Legal Description and Acreage

The MSF is comprised of 8,593 acres, more or less.

MSF is located in southwest Sarasota County and falls within the city limits of North Port. The property occupies all or part of Sections 1, 11-14, 22-28, 33-36 Township 40 South, Range 20 East. Acreage acquired is identified in Table 1.

Table 1. MSF Acreage by Funding Source

Funding Source	Acres
Conservation and Recreation Lands	8,532.39
Preservation 2000	60.40

A complete legal description of lands owned by the Board of Trustees of the Internal Improvement Trust Fund (TIITF) and the Southwest Florida Water Management District (SWFWMD) is on record at the MSF Headquarters, Florida Department of Environmental Protection (FDEP), and the FFS State Office in Tallahassee.

3. Proximity to Other Public Resources

Lands managed by state, federal, or local government for conservation of natural or cultural resources that are located within approximately 25 miles of the MSF are mapped in Exhibit F and listed in Table 2.

Table 2. Nearby Significant Public Conservation Lands

Tract	Lead Managing Agency	Distance
Ainger Creek Trails	Sarasota County	Adjacent W
Oyster Creek Regional Park	Charlotte County	1 mile SW
Cedar Point Environmental Park	Charlotte County	2 miles SW
Charlotte Harbor Preserve State Park	DRP	2 miles SW
Gasparilla Sound Charlotte Harbor Aquatic Preserve	DRP	2 miles SW
Lemon Bay Aquatic Preserve	DRP	2 miles SW
Deer Prairie Creek Preserve	SWFWMD	3 miles N
James E. Cook Memorial Preserve	TNC	3 miles SW
Stump Pass Beach State Park	DRP	3 miles SW
Port Charlotte Beach Recreation Area	DRP	3 miles SW
Thornton Key Preserve	Charlotte County	4 miles S
Tippecanoe Environmental Park	Charlotte County	4 miles E
Buck Creek Preserve	Charlotte County	4 miles S
Amberjack Environmental Park	Charlotte County	5 miles S
Don Pedro Island State Park	DRP	6 miles S
Orange Hammock Wildlife Management Area	FWC	6 miles NE
T. Mabry Carlton, Jr. Memorial Reserve	Sarasota County	6 miles N
Alligator Creek Conservation Area	Sarasota County	6 miles NW
Myakkahatchee Creek Conservation Easement	SWFWMD	9 miles NE
Island Bay National Wildlife Refuge	NFWS	10 miles S
Myakka River State Park	DRP	10 miles N
Lewis Longino Preserve	SWFWMD	11 miles NE
RV Griffin Reserve	SWFWMD	13 miles NE
Gasparilla Island State Park	DRP	14 miles S

Tract	Lead Managing Agency	Distance
Fred C. Babcock / Cecil M. Webb Wildlife Management Area	FWC	15 miles S
Peace River State Forest	FFS	16 miles E
Cayo Costa State Park	DRP	17 miles S
Bocilla Preserve	Lee County	17 miles SE
Matlacha Pass National Wildlife Refuge	NFWS	20 miles SE
Babcock Ranch Preserve	FFS	25 miles SE
Prairie Pines Preserve	Lee County	25 miles SE

DRP – Division of Recreation and Parks

FWC – Florida Fish and Wildlife Conservation Commission

NFWS – National Fish and Wildlife Service

SWFWMD – Southwest Florida Water Management District

FFS – Florida Forest Service

NPS – National Park Service

TNC – The Nature Conservancy

4. **Property Acquisition and Land Use Considerations**

TIITF and the SWFWMD purchased this property on October 13, 1995, from Atlantic Gulf Communities Corporation (AGCC) as part of the Myakka Estuary Conservation and Recreation Lands (CARL) project. See Exhibit R. It was acquired using Preservation 2000 bond funds from the CARL program and from the Save Our Rivers (SOR) conservation program. The western portions of the AGCC property, Tracts 21-708-101A, 21-708-101B and 21-708-106, are managed by the FFS as the MSF. These are the only portions of the purchase covered under this management plan.

The remainder of the AGCC property was assigned to the FDEP, Office of Resilience and Coastal Protection (RCP) for management as part of the Charlotte Harbor State Buffer Preserve.

In August 2001, an additional 60-acre parcel to the north of the present Winchester Tract was acquired and is now under management by the FFS in cooperation with FDEP. The Michael J. Peery parcel was funded through the Preservation 2000 conservation program. All TIITF-acquired parcels are identified in Table 3.

Table 3. Parcel Acquisition

Parcel Name	Lease No.	Lease Date	Acres
Atlantic Gulf	4102	3/10/1997	8,532.39
Michael J. Peery	4327	8/30/2001	60.40

B. **Management Authority, Purpose, and Constraints**

1. **Purpose for Acquisition / Management Prospectus**

The main objectives identified by the CARL program for purchasing the property were to:

- Conserve and protect environmentally unique and irreplaceable lands that contain native, relatively unaltered flora and fauna representing a natural area unique to, or scarce within, a region of this state or a larger geographical area;
- Conserve and protect native species habitat or endangered or threatened species;

- Conserve, protect, manage, or restore important ecosystems, landscapes, and forest, if the protection and conservation of such lands is necessary to enhance or protect significant surface water, ground water, coastal, recreation, and timber resources, or to protect fish and wildlife resources which cannot otherwise be accomplished through local and state regulatory programs;
- Provide areas, including recreation trails, for natural resource-based recreation;
- Preserve archaeological or historical sites; and
- Protect, preserve, and restore natural ecosystems, while maintaining timber management areas and provide recreation opportunities which are compatible with these purposes.

The objectives identified by the SOR program were to:

- Conserve and protect the water, natural resources, and natural areas along the Myakka River and Charlotte Harbor; and
- Protect, preserve, and restore natural ecosystems, while maintaining a working commercial forest and providing recreation opportunities.

2. Degree of Title Interest Held by the Board

The TIITF and the SWFWMD hold joint fee simple title to the 8,532.39 acres of MSF. Intergovernmental Lease Agreement Number 4102, between TIITF and SWFWMD, provides authority for the FFS to manage MSF.

The TIITF Lease Agreement Number 4327 for the Michael J. Peery parcel (60.4 acres) was executed on August 30, 2001

3. Designated Single or Multiple-Use Management

MSF 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 Numbers 4102 and 4327.

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 MSF. 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 MSF 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 MSF.

Current and potential revenue producing activities for the MSF include, but are not limited to:

- Timber Harvests – Timber harvests on MSF will be conducted on a periodic basis to improve forest health, promote wildlife habitat, restore plant communities, and provide other benefits.
- Recreation Fees – Fees are collected through an online reservation system for day-use areas, campgrounds, annual passes, and vendor / special use permits. Vendor permits or special-use permits are collected in the office via check or money order.
- Apiaries – MSF currently has two apiary leases providing six sites for an average annual income of \$661 per year. There are additional tracts of land that have potential to support apiary sites.
- Other miscellaneous – The sale of other miscellaneous forest products including, but not limited to, palm fronds and palmetto berries, pinecones, pine straw, and firewood may be considered.

5. Conformation to State Lands Management Plan

Management of MSF 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 MSF. 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 MSF.

7. Aquatic Preserve / Area of Critical State Concern

MSF is not within an aquatic preserve, is not a designated area of critical state concern, and is not under study for such designation. However, MSF is within two miles of the Charlotte Harbor State Buffer Preserve and the Gasparilla Sound-Charlotte Harbor Aquatic Preserve.

C. Capital Facilities and Infrastructure

1. Property Boundaries Establishment and Preservation

MSF boundary lines, 21.7 miles total, are managed by State Forest personnel in accordance with the guidelines of the State Forest Handbook. There are 18 gates throughout MSF that require periodic maintenance. The MSF boundary lines are to be maintained by periodic clearing, repainting and reposting of State Forest boundary signs by FFS personnel. The boundaries are identified in Exhibit B.

2. Improvements

Current structures supporting operations consist of an administrative office, modular ranger room, pump house, two pole barns, and several storage sheds. An additional pole barn is under construction as of the writing of this plan update. Improvements supporting the recreation program include two vault restrooms and a recreation pavilion. See Exhibit D for a map of the recreation infrastructure at MSF.

3. On-Site Housing

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

There are currently two mobile home sites on MSF for employee residences. One site contains a FFS owned mobile home and the other is currently occupied by an employee owned travel trailer.

4. Operations Infrastructure

a. Operations Budget

For Fiscal Year 2021-2022, the annual operational budget for MSF was \$36,686.56. This amount includes expenses, contractual services, and Other Personal Services Employment (OPS), etc. A summary budget for MSF is contained in Exhibit V. 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, MSF maintains a diverse range of equipment including:

- 2 Tractor/Plows with transport units
- 1 Type 6 engine
- 1 Dump truck
- 2 Farm tractors with various implements
- 1 Soft track
- 4 Pickup trucks
- 3 Zero-turn mowers
- 1 ATV
- 1 UTV
- 3 Utility trailers

Additional equipment can be used from other resources throughout the Myakka River District, when needed, for management activities on MSF.

c. Staffing

Staffing at MSF consists of a Forest Area Supervisor, Forester, Senior Forest Ranger, two Forest Rangers, OPS Park Ranger, and OPS Staff Assistant. In addition, an Invasive Species Strike Team consisting of an OPS Forestry Supervisor and OPS Agricultural Technician are stationed at MSF and conduct invasive species treatments on MSF, Peace River State Forest, and Babcock Ranch Preserve.

The forester 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 forester under the direction of the Resource Administrator and District 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 District Manager.

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 MSF. 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, communication towers and antennas, 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 this management plan. Deadhead logging is not compatible and is not considered an appropriate use within or adjacent to MSF's boundaries. Although no water resource projects are being considered at this time on SWFWMD-owned lands within MSF, they should not be precluded.

2. Additional Land Needs

The purchasing of additional land, within the optimal management boundary would facilitate restoration, protection, maintenance, and management of the natural resources on MSF.

There are three parcels of land comprised of 736 acres adjacent to the property which should receive priority for acquisition, as they would benefit the management of the property. FFS will work with the property owners, on a willing seller basis, to acquire these parcels. 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 consists of an examination of resource and operational management needs, public access and recreation use, and GIS modeling and analysis.

The evaluation of MSF by FFS has determined that all portions of MSF are being managed and operated for the original purpose of acquisition, as well as emphasize 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 MSF is recommended for potential surplus.

4. Adjacent Conflicting Uses

During the development of this management plan, FFS staff identified and evaluated adjacent land uses; reviewed current local comprehensive plans and future land use maps in making the determination that there are currently no known conflicting adjacent land uses. Additionally, FFS staff maintains liaison with adjacent landowners to ensure that any conflicting future land uses may be readily identified and addressed.

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

Nearby developed areas, both existing and planned, and adjoining road systems may hinder prescribed burning due to smoke management concerns. Populations of non-native invasive plant species found on adjacent properties threaten to spread onto MSF.

5. Compliance with Local Comprehensive Plan

This plan was submitted to the Board of County Commissioners in Sarasota County for review and compliance with their local comprehensive plans. See Exhibit T.

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. 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 SWFWMD. Requests for linear facility uses will be handled according to the Governor and the Cabinet's linear facilities policy.

Currently there is one established utility corridor on MSF, a Florida Power and Light powerline.

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 Numbers 4102 and 4327. Pursuant to the management lease, the lead managing agency may enter into further agreements or to subleases on any part of MSF.

FFS will cooperate with 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 SWFWMD will be consulted and involved in matters relating to water resources 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 MSF are stated in Chapter 5I-4 of the 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 MSF. This task is shared among multiple FWC officers who also patrol and enforce laws on properties and waterways outside of MSF.

The FDACS Office of Agricultural Law Enforcement (OALE) will assist with open burning and wildfire investigations as needed. The City of North Port Police Department provides additional assistance as needed.

Special rules under Chapter 5I-4 of the 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 MSF.

3. Wildland Fire

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

4. Public and Local Government Involvement

This plan has been prepared by FFS and will be implemented by 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 two reviews of management plan implementation in 2013 and 2018. See Exhibit S. The review team's recommendations were addressed in this plan, as appropriate.

A State Forest liaison committee of private citizens and representatives of forest user groups meet semi-annually to provide input on forest management activities and share their ideas with FFS staff to improve the State Forest.

This plan was developed with input from the MSF Management Plan Advisory Group and was reviewed at a public hearing on February 2, 2023. A summary of the advisory group's meetings and discussions, as well as written comments received on the plan, are included in Exhibit U. 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 MSF. Volunteer activities may occur as one-time events or in association with long-term recurring projects and routine maintenance. Additional volunteer recruitment will continue to assist furthering the FFS's mission.

6. Friends of Florida State Forest

Friends of Florida State Forests Inc. (FFSF) is a Direct Support Organization of the FFS. FFSF supports management activities and projects on Florida's State Forests. FFSF is an organization established by Florida statute that supports programs within Florida's State Forests and is governed by a board of directors representing all areas of the state. Through community support, 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

Portions of the property have been used for agricultural purposes in the past. Cattle grazing, turpentine (naval stores) operations, and timber harvesting were the major factors to influence the property's appearance as it is today. On the larger Myakka Tract west of the Myakka River, many areas were cleared to develop pastures for grazing. Most of these areas were leased for cattle grazing until the property was purchased by the State and SWFWMD. In 1956, General Development Corporation purchased the property, and the area was soon rezoned for low density residential housing. A system of roads designed for this type of housing were developed and installed, but never paved. Many of these roads are still visible today and make excellent access roads and trails throughout MSF. The Myakkahatchee Tract east of the Myakka River is more remote and less accessible than the larger Myakka Tract. A large barrow pit on the south end of the Myakkahatchee Tract was developed in the late 1960's to provide fill material for development activities in North Port.

B. Archaeological and Historical Resources

A review of information contained in the DHR Florida Master Site file has determined there are four (4) recorded archaeological resource group on MSF. None are listed in the National Register of Historic Places. See Exhibit G.

Table 4. Historical Sites on MSF

Site ID	Site Name	Site Type
SO06958	Water's Edge Lithic Scatter	Archaeological site
SO06959	La Casa Clam Midden	Archaeological site
SO06960	Four Eyes Midden	Archaeological site
SO06961	Old Slough Herty Cup Scatter	Archaeological site

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, one MSF staff member has been trained by FDHR as Archaeological Resource Management (ARM) monitor. However, other district staff trained as ARM monitors provide oversight as required for any ground disturbing and management activities that occur. FFS will pursue opportunities for additional personnel to receive ARM Monitor training. FFS will consult with public lands archaeologists at FDHR 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 MSF 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 resource discoveries 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 may 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 MSF is to protect the water, natural resources, and natural areas along the Myakka River and Charlotte Harbor through a stewardship ethic to assure these resources will be available for future generations. Management activities will be executed in a manner to minimize soil erosion and maintain and protect / enhance the hydrological resources on MSF. 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 MSF's waterbodies and their associated water quality and native plants and animals.

MSF falls within the jurisdiction of the SWFWMD. FFS will coordinate with SWFWMD and / or FDEP, 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 SWFWMD 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 MSF was obtained from the United States Department of Agriculture's Natural Resources Conservation Service (NRCS). The predominant soils listed by the NRCS are: EauGallie and Myakka fine sands, Holopaw fine sand, and Pineda-Pineda wet, fine sand. See Exhibit I for detailed soils information from the NRCS Soil Survey Area: Sarasota County; Survey Area Data: Version 18, June 2020.

2. Soil Protection

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

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

B. Water Resources

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

1. Resources

The Myakka River runs through the northeastern section of MSF, separating the Myakkahatchee Tract from the rest of MSF. The Myakka River is designated as an OFW as well as a Wild and Scenic River under the "Myakka River Wild and Scenic Designation and

Preservation Act”, 258.501, F.S. All of the Myakka River south of the western line of Section 35, Township 39 South, Range 20 East, to Charlotte Harbor is designated as Class II waters.

Big Slough (also known as Myakkahatchee Creek) enters the MSF at the northeastern corner of the smaller Myakkahatchee Tract, flows for 1.5 miles, and drains into the Myakka River. The larger Myakka Tract contains the headwaters of Rock Creek, also known as Ainger Creek, a tributary to Lemon Bay and a part of the Charlotte Harbor estuarine system. Some freshwater wetlands on MSF have been ditched to improve drainage and several restoration projects have been completed to restore the natural hydrology. Scattered depression marshes are found throughout the flatwoods of MSF. Small, tidal salt marsh creeks drain into the river on both the Myakka and Myakkahatchee Tracts where they border the river.

The Myakkahatchee Tract contains a small lake that was once a barrow pit that is used for recreation activities such as fishing and canoeing.

2. Water Classification

The Florida Department of Environmental Protection (FDEP) Standards Development Section reports the surface waters of the Myakka River from north of the site near US-41 to Charlotte Harbor are classified as Class II waters (Shellfish Propagation or Harvesting) according to subparagraphs 62-302.400(17)(b)58., F.A.C.; therefore, all of the remaining 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 subparagraph 62-302.700(9) F.A.C., the Myakka River has been designated as an OFW under subparagraph 62-302.700(9), F.A.C. The waters upstream (northwest) of the Sarasota-Charlotte County line across the river are within the Myakka Florida Wild and Scenic River OFW under subparagraph 62-302.700(9)(j)2., F.A.C., and the portion downstream of the county line is part of the Myakka River OFW under subparagraph 62-302.700(9)(i)22., F.A.C. See Exhibit J.

3. Water Protection

To restore hydrologic function to degraded wetlands in the southeastern portion of MSF, the SWFWMD has developed a hydrologic restoration plan for MSF. The plan uses data generated from a predictive hydrologic model to assure that the restoration will not increase flood risk to adjacent lands. The objectives of the plan, titled “Myakka State Forest Water Quality and Bank Stabilization Project”, include repairing a washout that has resulted in significant erosion, installing control structures to prevent future erosion, and providing sufficient drainage along the southernmost property boundary. See Exhibit Y. Water resource protection measures, at a minimum, will be accomplished using BMP guidelines as described in the most current version of Silviculture Best Management Practices Manual.

4. Swamps, Marshes, and Other Wetlands

In addition to the waterways, MSF contains approximately 1,235 acres in five hydric

communities: depression marsh, hydric hammock, salt marsh, mangrove swamp, and tidal creek. Maintenance of naturally occurring wetland communities is a high priority and will be accomplished through appropriate management activities, including prescribed fire when necessary, and adherence to Silviculture BMPs.

5. Wetlands Restoration

Wetland restoration objectives on MSF include erosion control, restoration of water levels, and restoration of wetland plant and animal communities. To achieve these objectives, restoration activities may involve road and soil stabilization, water level control structure removal or installation, non-native invasive species control, site preparation and re-vegetation with native 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, MSF, 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 wetlands restoration.

Wetlands restoration will be coordinated with the SWFWMD. Any activities requiring permits from the Water Management District will be handled accordingly and will follow the latest edition of the FFS Silviculture BMP Manual.

In the ten-year period contemplated by this plan, FFS and SWFWMD will evaluate a potential restoration project of a barrow pit on MSF, by creating some islands of vegetation and reshaping the bottom of the pit to a more natural form. The barrow pit is located near the end of Campbell Street on the Myakkahatchee Tract of MSF. See Exhibit X. The barrow pit was established in the late 1960's, presumably to support residential development in the North Port area. Before this, the property was used for ranchland. The project will be planned and administered by SWFWMD personnel with the cooperation of the FFS. In addition to the hydrological benefits provided, the restoration project will improve wildlife habitat, enhance aesthetics, and increase recreation opportunities.

6. Florida Department of Environmental Protection Basin Management Action Plans

A Basin Management Action Plan (BMAP) 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.

Currently MSF does not reside in an active or pending BMAP zone.

7. **Hydrologic Restoration Activities**

Several hydrologic restoration projects have been completed by SWFWMD since acquisition. The Talon Bay Mitigation Project in 2003 included the installation of an 80-foot concrete weir near the eastern end of a drainage ditch to begin the process of rehydrating several depression marshes. The drainage ditch runs east to west through the Myakka Tract and was the subject of later projects.

A small project in 2005 included removal of a salinity barrier in Ainger Creek near the western boundary of the Winchester Tract. The barrier had been in place since the late 1960's and was installed to prevent salt water tidal movement into the upper reaches of Ainger Creek.

The Oyster Creek Project in 2015 included installation of earthen ditch plugs further west in the same drainage ditch that was partially addressed in the 2003 project. The primary focus of the Oyster Creek Project was the installation of a 250-foot geoweb weir near the southern boundary of the Myakka Tract where Oyster Creek exits the property. The purpose of these projects was to rehydrate wetlands forming the headwaters of Oyster Creek. See Exhibit Y.

C. **Floral and Faunal Resources**

1. **Rare, Threatened, and Endangered Species**

The intent of FFS is to manage MSF in a fashion that will minimize the potential for wildlife species to become imperiled. FFS employees continually monitor MSF 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. See Table 5.

Table 5. Rare, Threatened, or Endangered Species Documented on MSF

Common Name	Scientific Name	FNAI Global Rank*	FNAI State Rank*	Federal Status*	State Status*
Bachman's Sparrow	<i>Peucaea aestivalis</i>	G3	S3	N	N
Bald Eagle	<i>Haliaeetus leucocephalus</i>	G5	S3	N	N
Golden Leather Fern	<i>Acrostichum aureum</i>	G5	S3	N	T
Gopher Tortoise	<i>Gopherus polyphemus</i>	G3	S3	C	ST
Osprey	<i>Pandion haliaetus</i>	G5	S3S4	N	N
Florida Sandhill Crane	<i>Grus canadensis pratensis</i>	G5T2	S2	N	ST
Wood Stork	<i>Mycteria americana</i>	G4	S2	T	FT
Roseate Spoonbill	<i>Platalea ajaja</i>	G5	S2	N	ST
Black-crowned Night-heron	<i>Nycticorax nycticorax</i>	G5	S3	N	N

Common Name	Scientific Name	FNAI Global Rank*	FNAI State Rank*	Federal Status*	State Status*
Little Blue Heron	<i>Egretta caerulea</i>	G5	S4	N	ST
Tricolored Heron	<i>Egretta tricolor</i>	G5	S4	N	ST
Snowy Egret	<i>Egretta thula</i>	G5	S3	N	N
Eastern Indigo Snake	<i>Drymarchon couperi</i>	G3	S3	T	FT
Florida Scrub-Jay	<i>Aphelocoma coerulescens</i>	G2	S2	T	FT
Florida Loosestrife	<i>Lythrum flagellare</i>	G2	S2	E	FE

* STATUS/RANK KEY

FNAI Global Rank: G1= Critically Imperiled, G2= Imperiled, G3= Rare, G4= Secure, G5= Demonstrably Secure, G#Q= Rare but questionable whether it is species or subspecies

FNAI State Rank: S1= Critically Imperiled in Florida, S2= Imperiled in Florida, S3= Rare in Florida, S4= Secure in Florida, S5= Demonstrably secure in Florida, SU= Not under review in Florida

Federal Status (USFWS): C= Candidate species for which Federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened, E= Endangered, N= Not currently listed, T= Threatened, SAT= Treated as Threatened due to similarity of appearance.

State Status (FWC): C= Candidate for listing, FE= Listed as Endangered Species at the Federal level by the USFWS, FT= Listed as Threatened Species at the Federal level by the USFWS, FT(S/A)= Federal Threatened due to similarity of appearance, N= Not currently listed, nor currently being considered for listing, ST= State population listed as Threatened by the FFWCC.

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, although they may also reflect historically documented observations which may no longer be extant. FNAI reports several documented Element Occurrences of rare or endangered species within the vicinity of the property. See Exhibit L.

Documented historic habitat includes: Depression marsh, dry prairie, hydric hammock, mangrove swamp, mesic flatwoods, mesic hammock, salt marsh, scrubby flatwoods, tidal creek, 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 MSF. 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 Charlotte Harbor Estuary project was formed by combining the boundaries of three projects: the Myakka Estuary, the Cape Haze / Charlotte Harbor project, and the Charlotte Harbor project. The Charlotte Harbor Estuary is one of the largest and most productive estuaries in Florida and protects the water quality of the Charlotte Harbor and its recreation and commercial fisheries. This project provides an essential addition to lands

previously acquired through the Environmentally Endangered Lands (EEL) program.

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. No Strategic Habitat Conservation Areas (SHCA) occur within the property boundaries, although the property itself is adjacent to a high priority SHCA.
- b. MSF is located within an area of high Species Richness which indicates the total number of species within potential habitat identified in a specific location.
- c. MSF is adjacent to Priority Wetlands, which are wetlands significant to listed wetland-dependent vertebrates.
- d. FWC's response includes a map indicating multiple species locations.

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.

The FWC recommends the review of management guidelines in the published FWC Gopher Tortoise Species Management Plan to guide management actions for the gopher tortoise (*Gopherus polyphemus*) on the area. The FWC Gopher Tortoise Species 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 MyFWC.com.

The FWC recommends the review of management guidelines in FWC's published Species Action Plans for the management of imperiled, rare, and focal 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 MyFWC.com.

The Myakka River Critical Wildlife Management Area, located on an approximately 0.4-acre mangrove island on the Myakka River, which is approximately 0.3 miles to the west of the northern portion of the Myakkahatchee Tract, was re-established by the FWC. See Exhibit Z. In summary, the original FDEP proposal was modified to a 50-foot buffer on the east side of the island and 75-foot buffers on the north, south, and west sides. Additionally, the island's closure will seasonally protect the federally threatened wood stork throughout

the breeding season, from courtship until young are flight capable. This allows for posting of access restrictions above the mean high-water level between January 1 to August 31. Other species of water birds that will benefit from this protective measure are great egret (*Ardea alba*), great blue heron (*Ardea herodias*), anhinga (*Anhinga anhinga*), and snowy egret (*Egretta thula*).

4. Game Species and Other Wildlife

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

MSF is managed for fishing and small-game hunting as the Myakka Public Small Game Hunting Area (PSGHA) and is regulated by FWC. 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.

Wildlife commonly seen in the PSGHA includes: gopher tortoise (*Gopherus polyphemus*), , bald eagle (*Haliaeetus leucocephalus*), Florida sandhill crane (*Antigone canadensis*), wood stork (*Mycteria americana*), pileated woodpecker (*Dryocopus pileatus*), northern bobwhite (*Colinus virginianus*), great egret (*Ardea alba*), eastern cottontail (*Sylvilagus floridanus*), bobcat (*Lynx rufus*), mourning dove (*Zenaida macroura*), and red-tailed hawk (*Buteo jamaicensis*). Other known inhabitants include Florida scrub-jay (*Aphelocoma coerulescens*), eastern diamondback rattlesnake (*Crotalus adamanteus*), American alligator (*Alligator mississippiensis*), eastern indigo snake (*Drymarchon couperi*), and a relatively small population of white-tailed deer (*Odocoileus virginianus*).

Non-game species will be managed and protected through the restoration and maintenance of native ecosystems found on MSF. The current State Forest Handbook gives additional details for such topics 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

Surveys for gopher tortoise burrows have been conducted by FFS and FWC staff intermittently, as needed. All surveys are done in cooperation with FWC. Prior to implementing any management activities that may require heavy equipment or ground disturbance, the area is surveyed for any new tortoise burrows. Should new burrows be located, they are mapped with a GPS-enabled data collector, flagged and a buffer zone of at least 25 feet is established to keep heavy equipment away from the burrow apron and prevent

the collapse of the tunnel. All collected data are stored in an ArcMap geodatabase.

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 state-wide Florida Black Bear Management Plan, with an emphasis on maintaining sustainable black bear populations in suitable habitats throughout Florida for the benefit of the species and people.

c. Wood Stork

The wood stork (*Mycteria americana*) is known to forage within suitable wetland habitats throughout the MSF. Suitable wood stork foraging habitat consists of shallow wetlands with water depths of 2 to 15 inches. There is one active wood stork nesting colony on the Myakka River within the MSF boundary. This rookery was initially established as a CWA by FDEP in coordination with the Wild and Scenic River Program. It was more recently re-designated as a CWA by FWC and has protected buffer zone of at least 75 feet on three sides and 50 feet on the east side from early January through the end of August in order to protect wood storks for the full period of nesting, from courtship until the young gain the ability to fly. This reduction in buffer from the recommended 300 feet is necessary due to allowing safe navigation in between the narrower river width in this area. The ability of wood storks to forage successfully affects their decision to nest at historic rookeries and determines whether nest failure or fledgling survival will occur. On average, the southern Florida sub-population represents 53 percent of the Florida population and 34 percent of the southeastern United States population. In response to deteriorating habitat conditions in southern Florida, wood storks in this region delayed the initiation of nesting until February or March, or about two months, in most years since the 1970s. This shift in the timing of nesting is believed to be responsible for the increased frequencies of nest failures and colony abandonment in this region over the last 20 years. Colonies that start after January in southern Florida risk having young in the nests when May to June rains flood marshes and disperse forage fish. The primary factors affecting wood stork habitat surrounding the MSF are the loss and alteration of wetlands due to development and agriculture. Secondary factors such as weather (freezes and hurricanes), parasites, disease, and chemical contamination may affect wood storks, but there is insufficient information available to discuss the effects of these factors on this species.

d. Bald Eagle

Bald eagles (*Haliaeetus leucocephalus*) are considered a water-dependent species typically found near estuaries, large lakes, reservoirs, major rivers, and some seacoast habitats (USFWS 1999). Their distribution is influenced by the availability of suitable nest and perch sites near large, open water bodies, typically with high amounts of water-to-land edge. The bald eagle is an opportunistic feeder, but in southern Florida the bulk of its diet is fish. Bald eagles currently use MSF for nesting and foraging, although numbers are low. There are two known bald eagle nests located on MSF. One is active and near Shell Road. The second nest

has been inactive since 2016 and is located near the south loop off of Foresman Road. Bald eagles in Sarasota County typically nest in pine trees but are also known to nest in cypress. Bald eagle nests are protected consistent with the National Bald Eagle Management Guidelines (USFWS 2007).

e. Florida Scrub-Jay:

During the early stages of the original ten-year plan, MSF staff conducted annual surveys for presence of Florida scrub-jays (FSJ) in the abandoned pasture habitat on the Winchester Tract, where a small population was found. However, since additional surveys failed to detect FSJs, it was concluded that the FSJs had moved out of the area and into nearby suitable habitat. Surveys were discontinued by MSF staff, though volunteer birders continue to conduct annual scrub-jay surveys for the Sarasota County FSJ group. With recent renewed interest in FSJ habitat in Sarasota County, MSF staff has decided to re-establish the survey program for the upcoming plan duration. Audio surveys will be conducted in June-July where FSJs have been detected in the past; FFS will cooperate with FWC staff to conduct these surveys. Currently, most FSJ activity is along the eastern boundary of the main forest where they can be seen flying across the boundary to collect acorns, which are foraged in more suitable habitat in the open landscape of abandoned lots just off of the MSF property. There was one alleged sighting of a juvenile FSJ on the Winchester Tract in 2020. For this reason, the surveys will mostly concentrate on these areas.

f. Listed Plant Species

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

g. Other Rare Biota Surveys

Surveys are done as time and staffing allow. High quality plant communities continue to incur ad hoc surveys for both listed plants and animals. The FFS will utilize FWC Species Action Plans for guidance both monitoring populations and for habitat management recommendations for rare and imperiled species, where appropriate.

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

Surveys conducted by university researchers, students, and knowledgeable naturalists on MSF augment information provided by formal surveys conducted by FWC and other cooperating agencies. The FFS will seek assistance from citizen scientists, colleges, universities, and other agencies to gather data on plant and animal species.

6. Gopher Tortoise Recipient Site Feasibility Assessment

The FFS has assessed the feasibility of establishing a gopher tortoise recipient site on MSF. Soil drainage classes present across the forest range from somewhat 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

under 8,600 acres in size, the FFS has determined there are no suitable soils for gopher tortoise recipient site establishment on MSF.

D. Sustainable Forest Resources

FFS practices sustainable multiple-use forestry to meet the MSF resource needs and values of the present without compromising future capabilities. 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 MSF.

F. Mineral Resources

No mineral resources of commercial value are known to exist on this property.

G. Unique Natural Features and Outstanding Native Landscapes

The MSF contains numerous natural communities including mesic flatwoods, depression marshes, scrub, tidal swamps, mesic hammock, and hydric hammock. The Myakka River, portions of which border MSF, is designated as an OFW.

H. Research Projects / Specimen Collection

Research projects may be performed on MSF 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 conducted on MSF must be 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 MSF 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:

- Taxonomy of Aculeate Hymenoptera (bees, wasps, ants, and allies) and Other Insects of Southern Florida, Dr. Matthias Buck, Invertebrate Zoology, Royal Alberta Museum, September 2014

- Fire adaptations of South Florida slash pine (*Pinus elliotii* var. *densa*) and longleaf pine (*Pinus palustris*), Dr. Geoff Wang, Professor of Silviculture and Ecology, Clemson University, December 2014
- Genetic Traits Within the Genus *Callisia*, Drs. Pamela and Douglas Soltis, Laboratory of Molecular Systematics and Evolutionary Genetics Florida Forest Service, Florida Museum of Natural History, University of Florida, July 2015
- Ecology and Evolutionary Distinctness of the Marsh Rice Rat (*Oryzomys palustris*) and the Hispid Cotton Rat (*Sigmodon hispidus*), Dr. Robert McCleery, Associate Professor Wildlife Ecology and Conservation, University of Florida, January 2017

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 areas, and new roads, the FFS will consult with FNAI, DHR, SWFWMD and ARC, as appropriate.

V. Public Access and Recreation

The primary recreation objective is to provide the public with dispersed outdoor recreation activities that are dependent on the natural environment and to provide outdoor recreation opportunities to wounded veterans through Operation Outdoor Freedom (OOF). 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

Recreation opportunities on MSF include camping, hiking, off-road bicycling, horseback riding, wildlife viewing, and small-game hunting. MSF contains a primitive campground and hike-in or paddle-in primitive campsites dispersed around the waterways.

MSF contains more than 30 miles of marked trails that are open to hiking, trail biking, and equestrian activities. MSF trails are included in the Florida Forest Service's Trailwalker Program for hikers, as well as horse trails in the Trailtrotter Program for equestrians. See Exhibit D for a map of the facilities and improvements.

Existing facilities and improvements include:

- 1 landing for canoe and kayak entry
- 1 picnic pavilion
- 2 vault style restroom facilities
- 5 self-contained RV or tent drive-up campsites
- 5 tent-only, hike-to campsites
- 1 drive-up group campsite (25-person maximum)
- 5 hike-in primitive campsites, one with Myakka River access
- Hunting area of more than 7,200 acres

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 MSF. All planned improvements may be completed as staff and funding permits. Both terrestrial and aquatic resources and related activities will be evaluated. Any specific plans will be incorporated into the Five-Year Outdoor Recreation Plan on file at MSF.

1. Public Access and Parking

Within this ten-year planning cycle, the addition of new parking and forest access points will be evaluated and constructed based on management-determined needs. FFS and Sarasota County are developing plans for a small parking area on the eastern boundary of the Winchester Tract that will provide public access to trails on MSF and adjacent county-owned properties. This project will involve surface improvement of an access road on county-owned property ending at a small, fenced parking area on MSF that will accommodate approximately 4 to 6 vehicles. Existing parking, forest access points, and recreation areas will continue to be evaluated for updates and improvements.

2. Recreation Trails

Installation of picnic shelters on the Palmetto Trail and Gordon Smith Memorial Trail are planned and will be undertaken by an Eagle Scout troop. Additional suitable locations are being evaluated for new hiking, bicycle, horse and/or multiple use trails. The construction and maintenance of these trails will be on-going.

3. Camping

Completion of ongoing improvements to the Flying A Campground is anticipated during the early years of this planning period. This will include completion of a bath house facility and dump station that will allow for drive-up utilization of all 20 designated sites for self-contained recreation vehicles or tents. Site plans are being developed for an equestrian camp near the main parking area that will accommodate four sites with electric and water hookups and a vault-style restroom facility. This equestrian camp will utilize an area of abandoned

pasture. Additional suitable locations are being evaluated for additional camping opportunities. Camping areas/campgrounds may be drive-up, hike-to, primitive, or may have electric and/or water facilities, and be recreation vehicle capable.

4. Recreation Vehicle (RV) Camping

Locations in the Flying A Campground are being evaluated for future full-service camping. A full-service campground may include sites with electric and water hookups, concrete pads, a bathhouse facility, and a central septic dump station.

5. Environmental, Cultural, and Historical Education

As the surrounding population continues to grow, environmental, cultural, and historical education opportunities will be supported by the FFS and local staff. Programs and/or projects with school groups, environmental organizations, private landowners, Boy/Girl Scouts, 4-H, local Future Farmers of America, and similar entities will be encouraged. Sarasota County, the City of North Port, and various Myakka River District staff will continue to deliver on-site and off-site environmental education programs as requested.

FFS currently provides visitors to MSF environmental, cultural, and historical education through interpretive displays in existing kiosks. The addition of new kiosks and other interpretive displays will be evaluated and installed based on management determined needs.

6. Operation Outdoor Freedom

OOF events are designed to provide nature based outdoor recreation activities for U.S. military veterans with service-connected disabilities may take place throughout Florida's State Forests. These events include, but are not limited to, guided game hunts, fishing, kayaking or other recreation activities.

7. Wildlife Viewing/Scenic Overlooks

Plans for a short boardwalk and viewing platform are being developed overlooking a depression marsh along the Foresman Trail. Other suitable locations may be evaluated for additional wildlife viewing or scenic overlook platforms.

C. Hunter Access

Regulated hunting and fishing on Florida's forests are managed cooperatively with FWC. Hunting season dates, limits, and methods are established annually by FWC, in cooperation with the FFS. Myakka PSGHA regulations are updated annually and are identified in the current online brochure provided by FWC at MyFWC.com. Non-hunting recreation users are encouraged to check the PSGHA regulations and season dates before visiting MSF.

OOF may host multiple events on MSF. These events will involve outdoor recreation activities including, but not limited to, hunting, fishing, hiking, camping, clay shooting and any other activity that is developed as an outdoor activity for wounded veterans. The supporting personnel will include state and private volunteers and any support personnel necessary for the operation, support, or funding of such events. Events can be recreation, fundraising, or planning in nature. The OOF program needs may include the upgrading of existing or construction of new facilities for lodging and recreation of participants, as well as logistical and operational needs of the

program. On-site and off-site fundraising for the benefit of OOF may occur to assist in these efforts and will be performed under the coordination of and be consistent with the guidelines of the Friends of Florida State Forests.

VI. Forest Management Practices

A. Prescribed Fire

Forest management practices on MSF are important in the restoration and maintenance of forest ecosystems and provide a variety of socio-economic benefits to Floridians. Management practices on MSF include a prescribed fire program, 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 Myakka River District 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 MSF.

A fire history graph detailing the recent history of prescribed burns and wildfires at MSF is available in Exhibit N.

FFS has use of two tractor-plow units located in Sarasota County. Additional support is available from neighboring counties. Personnel and equipment stationed at MSF 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 annual forest prescribed burning program produces multiple benefits. The purposes of prescribed burning on MSF are to facilitate forest management operations; enhance wildlife and listed species habitat; decrease fuel loading; enhance public safety; and restore, maintain, and protect all native ecosystems, ecotones, and their ecological processes. FFS personnel are responsible for planning and implementing the annual prescribed burn program for MSF, 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 MSF 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, approximately five (5) fire-dependent natural communities occur on MSF, encompassing 6,860 acres which will be burned on an average rotation of five years or less. Based on current conditions and management objectives, MSF will plan for 1,400 to 3,400 acres to be prescribed burned annually. 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.

1. Fire Management

The fire management plan serves as a working tool and an informational document for MSF. The plan provides guidelines in regard to wildfire suppression and prescribed fire

management. It will specify burn units, burn unit prescriptions, appropriate fire-return intervals, and fire suppression planning. The plan may be reviewed and amended as necessary.

The use of prescribed fire in the management of timber, wildlife, and ecological resources on MSF 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 for perpetuating existing wildlife populations in Florida. Forest operational records and staff experience should be combined with the 2019 FNAI inventory and assessment 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 (Rule 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 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 state their presence and any restrictions or requirements relative to prescribed burning in proximity to these species or habitats. 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 Myakka River District. 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 MSF Fire Management Plan.

1. **Suppression Strategies**

If a wildfire occurs on MSF there are two 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's 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 absolutely 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. **Fire Breaks and Firelines**

A system of permanent fire breaks has been developed and maintained around and within the boundaries of MSF to guard against fires escaping from and entering MSF. Such fire breaks will 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 BMPs implemented as soon as practical after the fire is suppressed.

4. Sensitive Areas

MSF 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 MSF. 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 MSF. When possible, fire staff will avoid line construction in wetland ecotones throughout MSF.

5. Firewise Communities

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

6. Adjacent Neighbor Contacts

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

7. Post-Burn Evaluations

A post-burn evaluation is required for each prescribed burn on MSF 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 through 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 MSF.

1. Strategies

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

- 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 MSF will be directed toward improving forest health, wildlife habitat, and ecological and economical sustainability, as well as toward recovery from past management practices that are not in accordance with the objectives of this plan. Stands of any 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 native 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, in 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, and reforestation.

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 and 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 MSF's forested acreage 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 commercially important pine species such as south Florida slash and longleaf.

4. Timber Sales

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

5. Cattle Grazing

Cattle grazing activities assist in maintaining pastures and controlling non-native plants, support the maintenance of fences and gates, and provide a source of revenue.

Currently there are no cattle leases on MSF.

D. Non-Native Invasive Species Control

FFS employees continually monitor MSF for non-native invasive species while conducting management activities. FFS will locate, identify, and apply control measures with the intent to eradicate or control non-native invasive species. Table 6 lists the general treatment strategy,

acres impacted, and population stability trend for non-native invasive plant species occurring on MSF. 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 non-native invasive plant species. Occurrences of non-native invasive species are recorded in the MSF 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 non-native 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 non-native invasive animals. Feral hogs (*Sus scrofa*) are present on MSF and occur in substantial numbers in the area. FFS will allow for feral hog removal on MSF through trapping and hunting as necessary.

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

Table 6. Non-Native Invasive Plant Species Occurring on MSF

Common Name	Scientific Name	Treatment Strategy	Acres Impacted	Treatment Status
Air potato	<i>Dioscorea bulbifera</i>	Chemical/Biological	100	Steady
Australian pine	<i>Casuarina equisetifolia</i>	Chemical/Mechanical	30	Decreasing
Balsampear	<i>Momordica charantia</i>	Chemical	30	Steady
Bishcofia tree	<i>Bishcofia javanica</i>	Chemical	10	Steady
Brazilian pepper	<i>Schinus terebinthifolius</i>	Chemical	1000	Decreasing
Caesar weed	<i>Urena lobata</i>	Chemical	3000	Increasing
Carrotwood	<i>Cupaniopsis anacardioides</i>	Chemical	100	Steady
Castor bean	<i>Ricinus communis</i>	Chemical	20	Decreasing
Cathedral bells	<i>Kalanchoe pinnata</i>	Chemical	10	Steady
Chinese tallow	<i>Triadica sebifera</i>	Chemical	50	Increasing
Cogongrass	<i>Imperata cylindrica</i>	Chemical	800	Steady
Earleaf acacia	<i>Acacia auraculiformis</i>	Chemical	50	Steady
Giant reed	<i>Arundo donax</i>	Chemical	20	Steady
Guinea grass	<i>Megathyrus maximum</i>	Chemical	100	Increasing
Java plum	<i>Syzygium cumini</i>	Chemical	100	Steady
Lead tree	<i>Leucaena leucocephala</i>	Chemical	30	Increasing
Melaleuca	<i>Melaleuca quinquenervia</i>	Chemical	200	Decreasing
Molasses grass	<i>Melinis minutiflora</i>	Chemical	10	Steady
Natal grass	<i>Melinis repens</i>	Chemical	10	Steady

Common Name	Scientific Name	Treatment Strategy	Acres Impacted	Treatment Status
Old World climbing fern	<i>Lygodium microphyllum</i>	Chemical	800	Decreasing
Para grass	<i>Brachiaria mutica</i>	Chemical	500	Steady
Peruvian primrose-willow	<i>Ludwigia peruviana</i>	Chemical	200	Increasing
Rattlebox	<i>Crotalaria pallida</i>	Chemical	10	Increasing
Rosary pea	<i>Abrus precatorius</i>	Chemical	100	Steady
Senegal date palm	<i>Phoenix reclinata</i>	Chemical	5	Steady
Torpedo grass	<i>Panicum repens</i>	Chemical	200	Increasing
Tropical soda apple	<i>Solanum viarum</i>	Chemical	0	Eradicated
Wedelia	<i>Wedelia trilobata</i>	Chemical	200	Increasing
West Indian marsh grass	<i>Hymenachne amplexicaulis</i>	Chemical	50	Steady
Woman's tongue	<i>Albisia lebbek</i>	Chemical	100	Steady

E. Insects, Disease, and Forest Health

Currently there are no significant insect or disease problems on MSF. State Forest staff monitors for incidental outbreaks of pine bark beetles (*Ips* spp.) throughout MSF. These outbreaks generally run their course without involving more than several acres. In the event of a forest pest or disease outbreak, MSF 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 agency in Sarasota County will be notified of the approval of this plan, documenting this designation.

As a result, prior to conducting any arthropod control activities on MSF, 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 MSF. This public land control plan must be in compliance with FDACS guidelines and use the appropriate FDACS form. The plan must then be approved and mutually adopted by the county, FFS, and FDACS, prior to initiation of any mosquito control work. Should the local mosquito control district not propose any mosquito control operations on the property, no arthropod control plan is required. See Exhibit W.

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 on MSF. The opportunities for outsourcing land management work include, or are anticipated to include:

1. Herbicide applications
2. Restoration
3. Site Preparation
4. Reforestation
5. Timber harvesting
6. Biological assessments and mapping
7. Fixed capital and infrastructure improvements

VII. Proposed Management Activities for Natural Communities

In 2019, FNAI completed an inventory and natural community mapping project on MSF. Current and historic natural community types can be found in Exhibits P and Q, and Table 7. This 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*
Depression marsh	1,122	1,110
Dry prairie	259	62
Hydric hammock	54	82
Mangrove swamp	27	27
Mesic flatwoods	5,385	4,049
Mesic hammock	22	22
Salt marsh	24	23
Scrubby flatwoods	29	28
Tidal creek	7	6
Wet flatwoods	1,177	995
Wet prairie	127	0
Managed and other altered landcover types**	0	1,830
TOTAL	8,233	8,234

* Rounding errors exist.

** See Tables 8 & 9

Table 8. Managed Community Types

Community Type*	Current Acres
Pine plantation	616

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

Table 9. Altered Landcover Types

Landcover Type**	Current Acres*
Abandoned field / abandoned pasture	1,041
Artificial pond	19
Canal / ditch	5
Clearing	4
Developed	19

Landcover Type**	Current Acres*
Road	113
Spoil area	13
TOTAL	1,214

* Rounding errors exist.

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

For the purposes of this management plan, restoration is defined as the process of returning ecosystems to the appropriate structure and species composition, based on soil type. Management during this ten-year period will begin with a forest-wide assessment of the fuel loading, timber densities, reforestation needs, and groundcover in order to develop a five-year comprehensive operational plan for prescribed burning and other management activities across MSF. Strategies may include thinning of pine plantations, mowing, or chopping in areas of heavy fuel buildup, application of both dormant and growing season fires, reforestation, the use of site preparation methods, both mechanically 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 MSF

Community Type	Historic Fire-Return Intervals*	MSF Fire Frequency Goal (Local)	Comments
Depression marsh	1-8 years	1-8 years	Edges typically burn with surrounding flatwoods
Dry prairie	1-2 years	1-4 years	Burned with surrounding flatwoods
Hydric hammock	N / A	N / A	Not fire maintained
Mangrove swamp	N / A	N / A	Not fire maintained
Mesic flatwoods	2-4 years	2-4 years	
Mesic hammock	N / A	N / A	Not fire maintained
Pine plantation	2-4 years	2-4 years	
Salt marsh	5-50 years	N / A	Not included in Rx fire planning
Scrubby flatwoods	3-15 years	4-10 years	Burned with surrounding mesic flatwoods
Tidal creek	N / A	N / A	Water
Wet flatwoods	2-5 years	2-4 years	
Wet prairie	2-3 years	N / A	No wet prairie currently mapped

* As determined by FNAI

The following community descriptions, existing condition descriptions, and management recommendations are taken from the 2019 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 MSF.

To achieve the objectives outlined in this plan, the following management activities will be performed in the natural and managed communities at MSF 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. Depression Marsh

Description:

Depression marshes are isolated, non-forested wetland basins that are imbedded in a pyrogenic matrix community such as pine flatwoods or sandhill. These marshes typically have concentric zones of vegetation related to the length of hydroperiod and depth of flooding. Depression marshes are distinguished from basin marshes principally by their landscape position which subjects them to more frequent fires.

Current Conditions:

Depression marshes at MSF range in condition from undisturbed to highly altered (areas that had been converted to pasture or clearings). Several depression marshes have been ditched (visible on historic photos as well as current imagery) which has substantially shortened their hydrology. Undisturbed depression marshes typically have two or three zones of vegetation along the hydrologic gradient.

Grasses, rushes, and sedges found within the depression marshes include longleaf threeawn (*Aristida palustris*), sawgrass (*Cladium jamaicense*), jointgrass (*Coelorachis* sp.), Gulf Coast spikerush (*Eleocharis cellulosa*), rush (*Juncus* sp.), maidencane (*Panicum hemitomon*), torpedo grass (*Panicum repens*), narrowfruit horned beaksedge (*Rhynchospora inundata*), beaksedge (*Rhynchospora* sp.), Tracy's beaksedge (*Rhynchospora tracyi*), woolgrass (*Scirpus cyperinus*), and sand cordgrass (*Spartina bakeri*). The herbaceous layer also includes tenangle pipewort (*Eriocaulon decangulare*), white waterlily (*Nymphaea odorata*), little floatingheart (*Nymphoides cordata*), mild waterpepper (*Persicaria hydropiperoides*), rosy camphorweed (*Pluchea baccharis*), pickerelweed (*Pontederia cordata*), threadleaf arrowhead (*Sagittaria filiformis*), bulltongue arrowhead (*Sagittaria lancifolia*), bladderpod (*Sesbania vesicaria*), foxtail (*Setaria* sp.), toothed midsorus fern (*Telmatoblechnum serrulatum*), water cowbane (*Tiedemannia filiformis* ssp. *filiformis*), and southern cattail (*Typha domingensis*). Shrubs and trees found within depression marshes include groundsel tree (*Baccharis halimifolia*), common buttonbush (*Cephalanthus occidentalis*), white twinevine (*Funastrum clausum*), swamp rosemallow (*Hibiscus grandiflorus*), peelbark St. John's wort (*Hypericum fasciculatum*), myrtleleaf St. John's wort (*Hypericum myrtifolium*), clustered bushmint (*Hyptis alata*), dahoon (*Ilex cassine*), primrosewillow (*Ludwigia* sp.), melaleuca (*Melaleuca quinquenervia*), climbing hempvine (*Mikania scandens*), southern bayberry (*Morella cerifera*), slash pine (*Pinus elliottii*), coastalplain willow (*Salix caroliniana*), Brazilian pepper (*Schinus terebinthifolia*), and Caesar weed (*Urena lobata*).

Altered marshes have irregular vegetation zones with more broadleaf plants, higher shrub cover, and generally more open water habitat.

Fire Regimes:

Depression marshes likely burned irregularly every 1 to 8 years depending on water levels at the time of fires on the landscape. Fires generally occurred early (April-June) in the lightning season when water was low and surrounding communities were dry.

Management Needs:

Marshes should generally be allowed to burn with the surrounding communities. Ideally fire should be prescribed at a time when water is low or absent in the marshes. Marshes with substantial shrub cover (either within the marsh or surrounding edges) should be targeted for repeated lightning season fires on a short return interval where possible. Mechanical treatments that minimize ground disturbance, such as mowing or mastication, may be appropriate for reducing shrub cover around the edges of depression marshes where lightning season fires are not feasible.

B. Dry Prairie**Description:**

Dry prairie is a community of low shrubs and grasses occupying vast, level expanses in three major areas north and west of Lake Okeechobee in south-central Florida. Common shrubs are saw palmetto (*Serenoa repens*), which is often stunted, dwarf live oak (*Quercus minima*), gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), shiny blueberry (*Vaccinium myrsinites*), netted pawpaw (*Asimina reticulata*), Atlantic St. John's wort (*Hypericum reductum*), dwarf wax myrtle (*Myrica cerifera* var. *pumila*), and dwarf huckleberry (*Gaylussacia dumosa*). These are mixed with about an equal proportion of herbs, predominantly wiregrass (*Aristida stricta* var. *beyrichiana*), along with bottlebrush threeawn (*Aristida spiciformis*), hemlock witchgrass (*Dichanthelium portoricense*), broomsedge bluestem (*Andropogon virginicus*), lopsided indiagrass (*Sorghastrum secundum*), and cypress witchgrass (*Dichanthelium ensifolium*), plus numerous forbs including narrowleaf silkgrass (*Pityopsis graminifolia*), milkworts (*Polygala* spp.), meadowbeauties (*Rhexia* spp.), yellow-eyed grasses (*Xyris* spp.), and wild pennyroyal (*Piloblephis rigida*).

Current Conditions:

The dry prairie community at MSF is made up of a herbaceous layer and a short shrub layer. The herbaceous layer includes bluestem (*Andropogon* sp.), bottlebrush threeawn, wiregrass (*Aristida stricta*), coastalplain chaffhead (*Carphephorus corymbosus*), slender flattop goldenrod (*Euthamia caroliniana*), blackroot (*Pterocaulon pycnostachyum*), and lopsided indiagrass. The short shrub layer includes roundpod St. John's wort (*Hypericum cistifolium*), fourpetal St. John's wort (*Hypericum tetrapetalum*), coastalplain staggerbush (*Lyonia fruticosa*), dwarf bayberry (*Morella pumila*), saw palmetto, and shiny blueberry.

Fire Regimes:

The natural fire-return interval is every 1 to 2 years, which is slightly more frequent than mesic flatwoods. These fires naturally occurred during the late spring/early summer lightning season. The slightly higher fire-return interval is thought to be the primary factor in limiting pine recruitment, thus creating dry prairie

Management Needs:

Management goals for the dry prairie at MSF should focus on maintaining the existing high-quality areas through frequent dormant and growing season prescribed fires. Prescribed fires should also be applied to disturbed areas to reduce the dense shrub cover and encourage native species recruitment and colonization. Seeding or planting of wiregrass and other native, pyrogenic species will allow these areas to burn more readily which will help reduce weedy and exotic species. Roller chopping may be effective in reducing dense shrub cover but should be implemented with careful consideration to wiregrass and other native species.

C. Hydric Hammock**Description:**

Hydric hammock occurs on low, flat, wet sites where limestone or shell deposits may be near the surface and soil moisture is kept high. This is an evergreen oak/palm forest with a variable understory typically dominated by palms and ferns. The closed canopy is dominated by swamp laurel oak (*Quercus laurifolia*), although some live oak (*Quercus virginiana*) may be present. Cabbage palm is a common to dominant component. Other canopy species include red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), and water oak (*Quercus nigra*). In addition to saplings of canopy species, the understory may contain a moderate to dense cover of small trees and shrubs such as American beautyberry (*Callicarpa americana*), common buttonbush, common persimmon (*Diospyros virginiana*), dahoon, southern bayberry, myrsine (*Myrsine cubana*), swamp bay (*Persea palustris*), wild coffee (*Psychotria nervosa*), shortleaf wild coffee (*Psychotria sulzneri*), and occasionally saw palmetto. Eastern poison ivy (*Toxicodendron radicans*) is a common vine.

Herb cover is usually depauperate and may include bracken fern (*Pteridium aquilinum*), millet beaksedge (*Rhynchospora miliacea*), semaphore thoroughwort (*Eupatorium mikanioides*), and Virginia chain fern (*Woodwardia virginica*). Epiphytes are frequent on oak branches and cabbage palm trunks – golden polypody (*Phlebodium aureum*) and shoestring fern (*Vittaria lineata*) are commonly found. These hammocks also provide good habitat for the state listed endangered epiphytic hand fern (*Ophioglossum palmatum*).

Current Conditions:

Hydric hammocks at MSF are in fair to good condition. The closed canopy is dominated by cabbage palm (*Sabal palmetto*) with some slash pine, and live oak. In addition to saplings of canopy species, the understory may contain additional shrubs such as common persimmon, coralbean (*Erythrina herbacea*), sweetbay (*Magnolia virginiana*), southern bayberry, myrsine, and saw palmetto. Vines include saw greenbrier (*Smilax bona-nox*) and eastern poison ivy. Epiphytes are found on oak branches and cabbage palm trunks, including golden polypody, resurrection fern (*Pleopeltis michauxiana*), southern needleleaf (*Tillandsia setacea*), and Spanish moss (*Tillandsia usneoides*). Herb cover is usually depauperate and includes giant leather fern (*Acrostichum danaeifolium*), false nettle (*Boehmeria cylindrica*), toothpetal false rein orchid (*Habenaria floribunda*), and Caesar weed.

Fire Regimes:

Fires in hydric hammocks are believed to be occasional events. Prairie hammocks, small hammocks surrounded by open pyrogenic communities, tolerate occasional fires that burn in from surrounding habitats. Cabbage palm is highly tolerant of ground fires, but these fires may damage tropical species.

Management Needs:

Management of hydric hammocks at MSF should focus on removal of invasive plants. If hydrology has been altered (i.e. ditches/canals), normal hydroperiods should be restored if possible. A lowering of the water table will result in succession to mesic hammock, while more frequent inundation will result in the transition to a more swamp-like habitat. Feral hogs should also be controlled.

D. Mangrove Swamp**Description:**

Mangrove swamp is a dense forest occurring along relatively flat, low wave energy, marine and estuarine shorelines. The dominant plants of mangrove swamp are red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and buttonwood (*Conocarpus erectus*). These four species can occur either in mixed stands or often in differentiated, monospecific zones that reflect varying degrees of tidal influence, levels of salinity, and types of substrates. Red mangrove often dominates the lowest (or deep-water) zone, followed by black mangrove in the intermediate zone, and white mangrove and buttonwood in the highest, least tidally influenced zone. Buttonwood often occupies an ecotone, or transition zone, to the adjacent upland community.

The density and height of mangroves and the diversity of associated herbaceous species can vary considerably within a mangrove swamp. Mangroves typically occur in dense stands but may be sparse, particularly in upper tidal reaches where salt marsh species predominate. Mangroves may range from trees more than 80 feet tall to dwarf shrubs growing on solid limestone rock, but most commonly exist at intermediate heights of 10 to 20 feet tall. Mangrove swamps often exist with no understory, although shrubs such as seaside oxeye (*Borrchia arborescens*, *Borrchia frutescens*) and vines including gray nicker (*Caesalpinia bonduc*), coinvine (*Dalbergia ecastaphyllum*), and rubbervine (*Rhabdadenia biflora*), as well as herbaceous species such as saltwort (*Batis maritima*), shoregrass (*Monanthochloe littoralis*), perennial glasswort (*Sarcocornia perennis*), and giant leather fern, where present, occur most commonly in openings and along swamp edges.

Mangrove swamp occurs in flat coastal areas along saline or brackish portions of rivers, the edges of low-energy estuarine, and the seaward fringes of salt marshes and rockland hammocks. Soils are generally anaerobic and are saturated with brackish water at all times, becoming inundated during high tides. Mangrove swamp occurs on a wide variety of soils, ranging from sands and mud to solid limestone rock. Soils in south Florida are primarily calcareous marl muds or calcareous sands and, along the central Florida coastline, siliceous sands. In older mangrove swamps containing red mangroves, a layer of peat can build up from decaying plant material (mostly red and black mangrove roots), covering the soil.

Current Conditions:

Mangrove swamps at MSF contained white mangrove and red mangrove. Other herbs and shrubs found in mangrove swamps include coinvine, marshelder (*Iva frutescens*), and the invasive Brazilian pepper. Needle rush (*Juncus roemerianus*) and the invasive wedelia (*Sphagneticola trilobata*) were observed in the sparse herb layer.

Fire Regimes:

Mangrove swamp is not a fire-maintained community type.

Management Needs:

Management of mangrove swamps at MSF should focus on removal of invasive plants. If hydrology has been altered (i.e. ditches/canals), normal hydroperiods should be restored if possible.

E. Mesic Flatwoods**Description:**

Mesic flatwoods are forests of predominately southern yellow pines, but also include longleaf pine, slash pine, and in the case of MSF, south Florida slash pine (*Pinus elliottii* var. *densa*), among others. Slash pine is present more frequently in transitions to adjacent wetlands or on more calcareous soils. There is little or no subcanopy and tall shrub layer other than pine recruitment. The shrub layer is moderately dense with an average height that does not generally exceed four feet. Typical species include saw palmetto, gallberry, tarflower (*Bejaria racemosa*), coastalplain staggerbush, wax myrtle, winged sumac (*Rhus copallinum*), netted pawpaw, running oak (*Quercus elliottii*), dwarf live oak, shiny blueberry, and a diversity of other low shrubs. Herb cover is also moderately dense and dominated by grasses which help to carry frequent fires, especially wiregrass. Herbaceous species diversity is high in good quality mesic flatwoods. Vines occur rarely. Community types embedded within mesic flatwoods include dome swamp, basin swamp, depression marshes, wet flatwoods, and hydric hammocks.

Current Conditions:

The mesic flatwoods currently at MSF vary from relatively undisturbed (resembling the presumed historic condition) to highly disturbed areas (previously converted to pasture and possibly row crops and then left fallow prior to State acquisition). They are frequently part of a mosaic with wet flatwoods or wet prairie with scattered depression marshes.

Undisturbed areas typically have a canopy of longleaf pine. South Florida slash pine may be present or dominate some areas. There is occasionally a subcanopy of young longleaf pines indicating a good age structure. Other species in the shrub layer include netted pawpaw, Elliott's milkpea (*Galactia elliottii*), roundpod St. John's wort, clustered bushmint, gallberry, coastalplain staggerbush, southern bayberry, swamp bay, live oak, winged sumac, cabbage palm, saw palmetto, and shiny blueberry. Vines include peppervine (*Ampelopsis arborea*), climbing hempvine, earleaf greenbrier (*Smilax auriculata*), and muscadine (*Vitis rotundifolia*).

The herbaceous layer includes shortspike bluestem (*Andropogon brachystachyus*), chalky bluestem, bottlebrush threeawn, wiregrass, partridge pea (*Chamaecrista fasciculata*), witchgrass

(*Dichanthelium* sp.), dogfennel (*Eupatorium capillifolium*), slender flattop goldenrod, Elliott's milkpea, sweet goldenrod (*Solidago odora*), and lopsided indiangrass.

Fire Regimes:

Historically, fires ignited by lightning during the early thunderstorm season (April - June) would have burned the mesic flatwoods/wet flatwoods complex. These fires are critical for preserving the structure of the flatwoods, for preventing woody encroachment, and for reducing weedy competition. Frequent, low-intensity fires help maintain a diverse herbaceous layer and provide mineral soils for longleaf pine regeneration. For management purposes, prescribed fires should be applied on a 2 to 4-year interval to keep fuel levels manageable and maintain maximum native biodiversity. When fuel loads have been reduced sufficiently through dormant season burning, prescribed fires will be encouraged during the growing season.

Management Needs:

Management goals for the mesic flatwoods of MSF should focus on maintaining the existing high-quality areas through frequent dormant and growing season prescribed fires. Prescribed fires should also be applied to disturbed areas (mostly old agriculture areas) to reduce the dense shrub cover and encourage native species recruitment and colonization. Chopping these areas may be an option, but exposed soil may encourage colonization by weedy and non-native species. Seeding or planting of wiregrass and other native, pyrogenic species will allow these areas to burn more readily which will help reduce weedy and non-native species. Re-establishment of longleaf and south Florida slash pine will provide additional fine fuels through needle cast. Roller chopping may be effective in reducing dense shrub cover but should be implemented with careful consideration to wiregrass and other native species.

F. Mesic Hammock

Description:

Mesic hammock is a well-developed evergreen hardwood and/or palm forest on soils that are rarely inundated. Mesic hammock typically has a closed canopy of live oak with cabbage palm generally common in the canopy and subcanopy. Southern magnolia (*Magnolia grandiflora*) and pignut hickory (*Carya glabra*) may be occasional in the subcanopy. The shrubby understory may be dense or open, tall or short, and is typically composed of a mix of saw palmetto, American beautyberry, American holly (*Ilex opaca*), gallberry, sparkleberry (*Vaccinium arboreum*), hog plum (*Ximenia americana*), common persimmon, highbush blueberry (*Vaccinium corymbosum*), wild olive (*Osmanthus americanus*), and Carolina laurelcherry (*Prunus caroliniana*). The groundcover is often sparse or patchy and includes a variety of herbaceous species.

The desired future condition should resemble the current condition, with the exception of the presence of non-native species.

Current Conditions:

Mesic hammock occurs on moderately to poorly drained soils in areas that receive infrequent fire. They are typically associated with wetland communities that inhibit the spread of fire on the landscape. At MSF mesic hammock occurs along small creeks and areas that receive little to no fire. These hammocks are typically small, linear communities with few plant species. The

canopy is dominated by swamp laurel oak, live oak, and/or cabbage palm. Occasionally Brazilian pepper is also found in the canopy. Additional shrubs and herbs found in mesic hammock include gallberry, southern bayberry, saw palmetto, and Caesar weed. Occasionally epiphytes and vines are found growing on the canopy species including earleaf greenbrier, and southern needleleaf.

Fire Regimes:

Fire is infrequent in mesic hammock. In most cases leaf litter and mesic conditions retard fires throughout the year.

Management Needs:

Management in mesic hammocks should be focused on removal of non-native species. Typical prescribed burns in the adjacent flatwoods should naturally extinguish along the hammock edge. Firebreaks should be discouraged to allow a development of a natural ecotone and to help minimize invasion by weedy or non-native species.

G. Salt Marsh

Description:

Salt marsh is a largely herbaceous community that occurs in the portion of the coastal zone affected by tides and seawater and protected from large waves, either by the broad, gently sloping topography of the shore, by a barrier island, or by location along a bay or estuary. Salt marsh may have distinct zones of vegetation, each dominated by a single species of grass or rush. Saltmarsh cordgrass (*Spartina alterniflora*) dominates the seaward edge and borders of tidal creeks, areas most frequently inundated by the tides. Needle rush dominates higher, less frequently flooded areas. A border of salt-tolerant shrubs, such as groundsel tree, saltwater falsewillow (*Baccharis angustifolia*), marshelder, and christmasberry (*Lycium carolinianum*), often marks the transition to upland vegetation or low berms along the seaward marsh edge. High salinity areas are dominated by species such as saltwort, perennial glasswort (*Sarcocornia ambigua*), annual glasswort (*Salicornia bigelovii*), and bushy seaside oxeye, or short grasses, such as saltgrass (*Distichlis spicata*), seashore paspalum (*Paspalum vaginatum*), and shoregrass. Salt marsh should remain an herb-dominated community with no non-native invasive species.

Current Conditions:

Salt marsh is present along the Myakka River and its tributaries. The upper edge typically has a variably dense shrub layer of one or more of the following species: marsh elder, red mangrove, Carolina willow, buttonwood, and the non-native invasive Brazilian pepper (*Schinus terebinthifolius*). Herbaceous cover is also variable in cover and composition, dominated by black needle rush but also consisting of patches of the following species: leather fern, and bulrush (*Scirpus* sp.).

Fire Regimes:

Salt marsh burns irregularly every 5 to 50 years depending on position on the landscape. The small marshes at MSF likely burned during fires that moved from the uplands into the marsh rather than fires that naturally started in the marsh.

Management Needs:

Prescribed burns have traditionally been used in salt marshes to provide tender shoots as food for waterfowl and other wildlife and to decrease the possibility of wildfires. Fire should be used with caution in marshes so as not to cause destructive peat fires or adversely affect rare bird or other species dependent on the marsh habitat for nesting and foraging. Allow prescribed fires to extinguish naturally within the marsh. Remove non-native invasive plants.

H. Scrubby Flatwoods**Description:**

Scrubby flatwoods are a well-drained, pine-dominated community intermediate between scrub and mesic flatwoods. These communities are characterized by an open canopy of widely scattered pine trees with a sparse shrubby understory and areas of open white sand. The vegetation consists of a combination of scrub and mesic flatwoods species.

Scrubby flatwoods have a tree canopy of widely spaced longleaf pine and / or slash pine growing over a shrub stratum dominated by sand live oak (*Quercus geminata*). Myrtle oak (*Quercus myrtifolia*) and Chapman's oak (*Quercus chapmanii*) are often present as well. Saw palmetto, coastalplain staggerbush, and dwarf shrubs such as shiny blueberry and gopher apple (*Licania michauxii*) form the patchy short shrub layer. The herbaceous groundcover is patchy and usually has some wiregrass.

Scrubby flatwoods communities appear as medium to light gray areas with a small amount of texture in the historic aerial photographs. This community occurs on slightly higher ground than the surrounding mesic flatwoods.

Current Conditions:

Scrubby flatwoods at MSF have a tree canopy of slash pine growing over a shrub stratum dominated by scrub species such as Chapman's oak, sand live oak, dwarf live oak, myrtle oak, mixed with typical mesic flatwoods species including dwarf huckleberry, gallberry, coastalplain staggerbush, slash pine, saw palmetto, shiny blueberry, and Florida arrowroot (*Zamia integrifolia*). The herbaceous groundcover is patchy and includes netted pawpaw, bottlebrush threeawn, wiregrass, coastalplain honeycomb-head (*Balduina angustifolia*), tarflower, Elliott's milkpea, blazing star (*Liatris* sp.), Feay's palafox (*Palafoxia feayi*), pinebarren goldenrod (*Solidago fistulosa*), and lopsided indiagrass.

Fire Regimes:

Scrubby flatwoods natural fire regime ranges from 3 to 15 years, and prescribed fire regimes generally range from 3 to 8 years. Sparse groundcover and incombustible scrub oak leaf litter may reduce the occurrence of fires leading to a slightly longer average fire-return interval than is the case for mesic flatwoods. Variability in season and frequency of prescribed fires should produce a mosaic of burned and unburned patches desirable for maintaining high biotic diversity in this community.

Management Needs:

Fire-return intervals should be frequent enough to maintain shrub heights (<6 feet) within the range required by the Florida scrub-jay, at a recommended 5 to 15-year interval. Avoiding additional ground disturbance is important to prevent elimination of the natural groundcover and the establishment of weedy species.

I. Tidal Creek**Description:**

Tidal creeks are saline creeks that are adjacent to the Gulf of Mexico either created by tidal fluctuations within the salt marsh community or are the lower, tidally influenced ends of blackwater streams. It should be noted that this is not a published natural community recognized by FNAI. This community did not contain any evident plant species. Tidal creek and the associated salt marsh/mangrove swamp contain minimal disturbances.

Current Conditions:

Existing conditions for tidal creek are similar to desired future conditions.

Fire Regimes:

Tidal creek is not a fire-maintained community type.

Management Needs:

Management of tidal creek at MSF should focus on removal of non-native plants. If hydrology has been altered (i.e. ditches/canals), normal hydroperiods should be restored if possible.

J. Wet Flatwoods**Description:**

Wet flatwoods are characterized as relatively open-canopy forests of pines with a thick shrubby understory and very sparse groundcover, or a fire maintained, sparse understory and a dense groundcover of hydrophytic herbs and shrubs. Vegetation may be very similar to mesic flatwoods, but often with little or no saw palmetto. The canopy is typically longleaf pine or slash pine.

Wet flatwoods often occur in the ecotones between mesic flatwoods and shrub bogs, wet prairies, dome swamps, or strand swamps. Wet flatwoods also occur in broad, low flatlands, often in a mosaic with these communities.

The relative density of shrubs and herbs varies greatly in wet flatwoods. Shrubs tend to dominate where fire has been absent for a long period or where cool season fires predominate; herbs are more abundant in locations that are frequently burned. Soils and hydrology also influence relative density of shrubs and herbs. Soils of shrubby wet flatwoods are generally poorly to very poorly drained sands and include such series as Rutledge/Osier; these soils generally have a mucky texture in the uppermost horizon.

Current Conditions:

Wet flatwoods at MSF occur as a mosaic with mesic flatwoods or in broad poorly drained areas.

This community is similar to wet prairie but is dry enough to allow the establishment of pines and some shrubs. There is a sparse canopy of longleaf pine or south Florida slash pine. Typically, there is no tall shrub layer, but wax myrtle may dominate in areas that have not burned regularly. The short shrub layer is sparse, usually represented by small patches of saw palmetto or scattered wax myrtle. Herb cover is typically dense and diverse. Dominant species are wiregrass, nut rush (*Scleria ciliata*), panic grass (*Panicum tenerum*), and various sedges. Other common species include rose-of-plymouth (*Sabatia stellaris*), tall pinebarren milkwort (*Polygala cymose*), Baldwin's milkwort (*Polygala baldwinii*), wooly sunbonnet (*Chaptalia tomentosa*), and myrtleleaf St. John's wort. Former wet flatwoods areas likely occurred along with mesic flatwoods in areas modified for pasture or row crops in the central portion of the main property. These areas are now dominated by wax myrtle and weedy grasses and forbs (*Andropogon glomeratus*, *Eupatorium compositifolium*, and slender flattop goldenrod).

Fire Regimes:

Historically, the fire-return interval in wet flatwoods is 2 to 4 years for grassy wet flatwoods and 5 to 10 years for shrubby wet flatwoods. However, in areas of heavy fire exclusion and / or densely planted slash pine, mechanical vegetation removal and / or a more frequent fire interval may need to be applied for initial restoration.

Management Needs:

As with the mesic flatwoods, management goals for the wet flatwoods of MSF should focus on maintaining the existing high-quality areas through frequent dormant and growing season prescribed fires. Prescribed fires should also be applied to disturbed areas (mostly old agriculture areas) to reduce the dense shrub cover and encourage native species recruitment and colonization. Chopping these areas may be an option, but exposed soil may encourage colonization by weedy and non-native species. Seeding or planting of wiregrass and other native, pyrogenic species will allow these areas to burn more readily which will help reduce weedy and non-native species. Roller chopping may be effective in reducing dense shrub cover but should be implemented with careful consideration to wiregrass and other native species.

K. 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 depression marshes, shrub bogs, or dome swamps and slightly higher wet or mesic flatwoods. Trees and shrubs are absent or very sparse. It is typically dominated by dense wiregrass in the drier portions, along with foxtail club-moss (*Lycopodiella alopecuroides*), cutover muhly (*Muhlenbergia expansa*), yellow butterwort (*Pinguicula lutea*), and savannah meadowbeauty (*Rhexia alifanus*). In the wetter portions, wiregrass may occur with, or be replaced by, species in the sedge family, such as plumed beaksedge (*Rhynchospora plumosa*), featherbristle beaksedge (*Rhynchospora oligantha*), Baldwin's nutrush (*Scleria baldwinii*), or slenderfruit nutrush (*Scleria georgiana*), plus longleaved threeawn. Also common in wetter areas are carnivorous species, such as pitcher plants (*Sarracenia* sp.), sundews (*Drosera* sp.), butterworts (*Pinguicula* sp.), and bladderworts (*Utricularia* sp.). Other characteristic species in this community include toothache grass (*Ctenium aromaticum*), pineland rayless goldenrod (*Bigelovia nudata*), flattened pipewort

(*Eriocaulon compressum*), water cowbane (*Oxypolis filifolia*), and coastalplain yellow-eyed grass (*Xyris ambigua*).

The desired future condition has the species composition described above for the undisturbed areas. There should be no trees or tall shrubs. Short shrubs should cover less than 20 percent of the community. Herb cover should be greater than 75 percent, with less than 5 percent weedy cover.

Current Conditions:

Wet prairies are herbaceous wetland communities that occur on topographically flat areas that are poorly drained. These situations may occur in low areas in wet flatwoods or between basin wetlands. There is typically no canopy or shrub layer. Fire suppression allows establishment of tall shrubs and eventually trees. There are currently no mapped wet prairies at MSF due to fire exclusion and shrub encroachment. This community now appears similar to existing wet flatwoods.

Fire Regimes:

Historically, the fire-return interval in wet prairie is 2 to 3 years. These frequent fires prevent the invasion of weedy shrubs and trees that shade out the herbaceous species

Management Needs:

Management goals for the wet prairies of MSF should focus on restoring historic wet prairies and use of frequent dormant and growing season prescribed fires. Prescribed fires should also be applied to disturbed areas (mostly old agriculture areas) to reduce the dense shrub cover and encourage native species recruitment and colonization. Chopping these areas may be an option, but exposed soil may encourage colonization by weedy and non-native species. Seeding or planting of wiregrass and other native, pyrogenic species will allow these areas to burn more readily which will help reduce weedy and non-native species. Roller chopping may be effective in reducing dense shrub cover but should be implemented with careful consideration to native species and potential impacts to hydrology of these sensitive communities.

L. Managed Community Types

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 to further ensure compatibility with other management goals and objectives.

1. Pine Plantation

Description:

Pine plantations mapped in MSF are located on historic wet prairie, mesic flatwoods and wet flatwoods and have desired future conditions matching those communities.

Current Conditions:

Pine plantations have a dense canopy of either south Florida slash pine or longleaf pine. Subcanopy species may include younger slash pine and cabbage palm. Other shrubs include groundsel tree, southern bayberry, and saw palmetto. The herbaceous layer may be sparse to moderate, depending on the history of thinning, burning and/or herbicide treatments. Bedded pine plantations with a dense pine canopy often have a thick layer of pine needles and contain very little herbs including bushy bluestem, broomsedge bluestem, and slender flattop goldenrod. Vines include earleaf greenbrier.

Fire Regimes:

Refer to the historic community. Historic pyrogenic communities may require more frequent fire in the beginning than is typical for the historic natural community.

Management Needs:

In historic pine flatwoods, thinning of the pine stand will promote more herbaceous cover in the understory, but planting of native species such as longleaf pine (in historic flatwoods) and wiregrass, as well as frequent prescribed burns, may be necessary in some areas to move the community towards a more natural structure and composition. However, most flatwoods should respond well to increased burning, especially growing season burns that will help to limit encroachment. Management activities that create further soil disturbances, particularly in historic wet prairies, should be avoided.

M. Other Altered Landcover Types**Description:**

Altered landcover types are mapped where the natural community has been overwhelmingly altered as a result of human activity. 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 ruderal habitat is dependent on the historic community. Refer to the appropriate community type for a more specific explanation of the desired future condition.

Current Conditions:

Altered landcover types on MSF comprise abandoned field / abandoned pasture, barrow areas, canals / ditches, developed areas, spoil areas, and utility corridors.

Abandoned field / abandoned pasture (1,041 acres) – old fields, fallow pastures, early successional areas formerly grazed or in agriculture without recent activity to maintain the area as pasture or planted field. These areas are often dominated by weedy native (e.g., *Rubus* spp., *Myrica cerifera*) and non-native species (e.g., *Indigofera hirsuta*). In old pastures, generally designated when weedy cover from woody species (*Rubus* spp., *Myrica cerifera*, etc.) is greater than 20 percent.

Artificial pond (19 acres) – water retention ponds, cattle ponds, etc.

Canal/ditch (5 acres) – artificial drainage way.

Clearing (4 acres) – dove fields, wildlife food plots, recent or historic clearings that have significantly altered the groundcover and/or overstory of the original natural community (old homesites, etc.).

Developed (19 acres) – check stations, ORV use areas, parking areas, buildings, maintained lawns (as part of recreation, business, or residential areas), botanical or ornamental gardens, campgrounds, recreation, industrial, and residential areas.

Road (113 acres) – paved and unpaved.

Spoil area (13 acres) – area where dredge or spoil material is deposited, may be re-colonized by plants.

Fire Regimes:

N/A

Management Needs:

How ruderal areas should be managed depends on the specific site under consideration. These areas may be useful for placement of support facilities or may be targeted for restoration of the historic natural community. Left alone, most of these areas are likely to remain in a ruderal state. It may not be practical or desirable to restore some of the altered landcover types (e.g., developed land, roads, etc.) to the historic natural community.

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IX. **Glossary of Abbreviations**

AGCC	Atlantic Gulf Communities Corporation
ARC	Acquisition and Restoration Council
ARM	Archaeological Resource Management
BMP	Best Management Practices
BSA.....	Boy Scouts of America
CARL.....	Conservation and Recreation Lands
CWA	Critical Wildlife Area
DHR.....	Division of Historical Resources
DRP.....	Division of Recreation and Parks
DSO	Direct Support Organization
F.A.C.....	Florida Administrative Code
FDACS	Florida Department of Agriculture and Consumer Services
FDEP.....	Florida Department of Environmental Protection
FFS.....	Florida Forest Service
FNAI.....	Florida Natural Areas Inventory
F.S.....	Florida Statutes
FWC.....	Florida Fish and Wildlife Conservation Commission
MSF	Myakka State Forest
NPS	National Park Service
NFWS	National Fish and Wildlife Service
NRCS	Natural Resources Conservation Service
OALE.....	FDACS Office of Agricultural Law Enforcement
OFW	Outstanding Florida Waters
OOF	Operation Outdoor Freedom
OPS	Other Personal Services Employment
PSGHA	Public Small Game Hunting Area

RCP.....Office of Resilience and Coastal Protection
SWFWMD.....Southwest Florida Water Management District
TIITF.....Trustees of the Internal Improvement Trust Fund, Board of