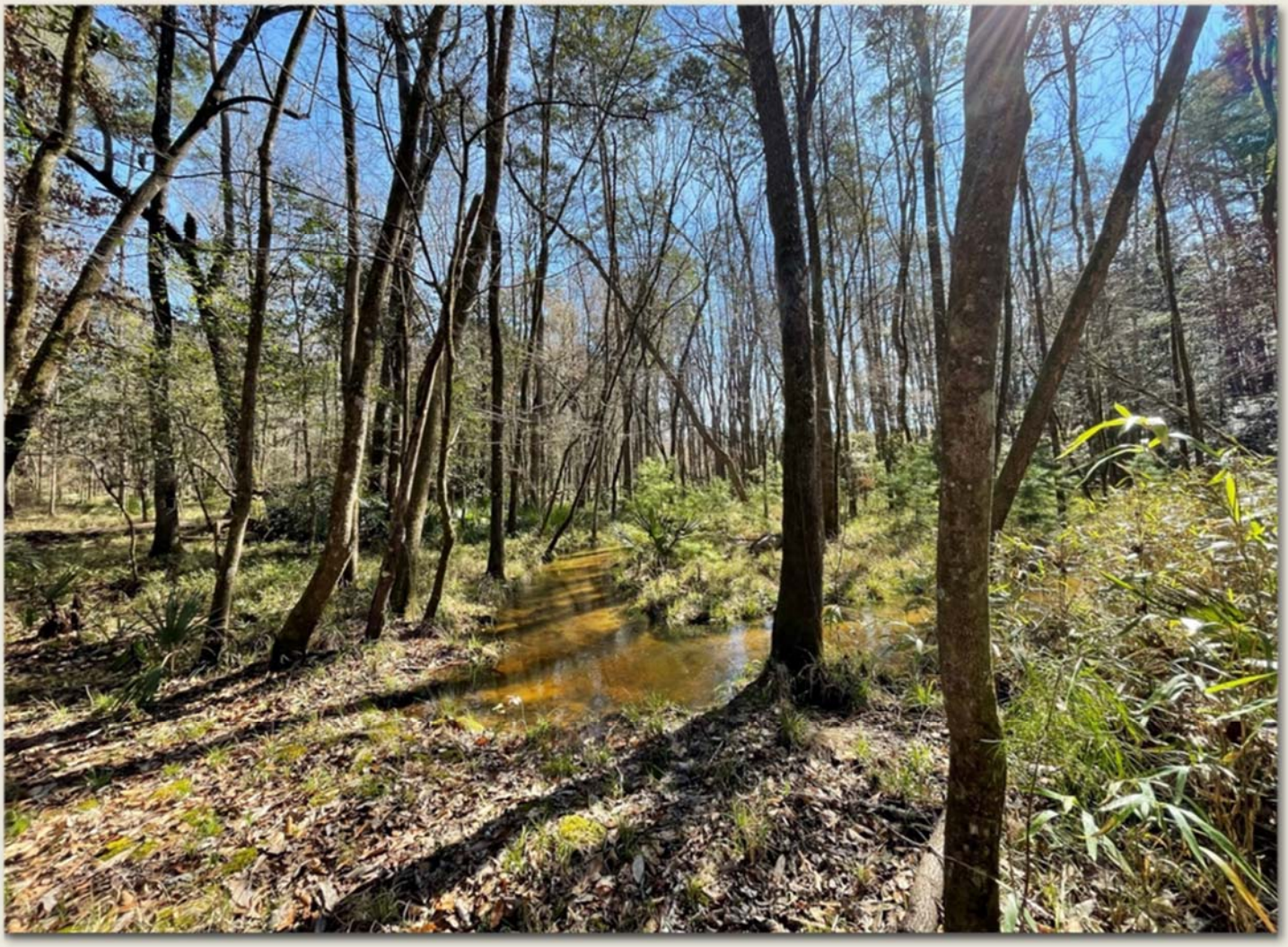
2024-2034

JOE BUDD WILDLIFE MANAGEMENT AREA

TEN-YEAR MANAGEMENT PLAN
GADSDEN COUNTY, FLORIDA



FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
620 SOUTH MERIDIAN STREET
TALLAHASSEE, FL 32399-1600

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PENDING APPROVAL LETTER

A Management Plan
for the
Joe Budd Wildlife Management Area

Gadsden County

Owned by the Board of Trustees of the Internal Improvement Trust Fund and
the Florida Fish and Wildlife Conservation Commission
Managed by the Florida Fish and Wildlife Conservation Commission and
the Florida Forest Service

July 2024

Approved Melissa Tucker Digitally signed by Melissa Tucker Date: 2024.07.12 10:41:38 -04'00'

Melissa Tucker, Director
Division of Habitat and Species Conservation

LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

Lead Agency: Florida Fish and Wildlife Conservation Commission (FWC)
Common Name of Property: Joe Budd Wildlife Management Area (JBWMA)
Location: Gadsden County, Florida
Acreage Total: 4,964.74 acres
Acreage Breakdown:

Land Cover Classification	Acres	Percent of Total Area
Artificial Pond	15.36	0.30%
Baygall	1.73	0.03%
Blackwater Stream	10.18	0.20%
Bottomland Forest	1,118.45	22.15%
Clearing/Regeneration	67.66	1.34%
Depression Marsh	21.11	0.42%
Developed	19.31	0.38%
Dome Swamp	6.26	0.12%
Firebreak	4.73	0.09%
Floodplain Marsh	4.18	0.08%
Floodplain Swamp	455.17	9.02%
Linear Feature	3.05	0.06%
Mesic Flatwoods	166.97	3.31%
Pine Plantation	45.59	0.90%
Restoration Upland Pine	291.98	5.78%
Road	103.90	2.06%
Sandhill	36.60	0.72%
Successional Hardwood Forest	28.13	0.56%
Upland Hardwood Forest	887.90	17.59%
Upland Pine	1,550.02	30.70%
Utility Corridor	22.35	0.44%
Wet Flatwoods	36.08	0.71%
Wildlife Food Plot	152.26	3.02%

*GIS-calculated acreage for land cover classification varies slightly from actual total acreage.
Lease/Management Agreement Nos.: 3949 and 4211 (Appendices 11.1.1 - 11.1.11)
Use: Single ___ Multiple X Management Agency: FWC and FFS Co-Leads

Management Responsibilities: FWC and FFS; Wildlife Management Area, resource protection, law enforcement
Designated Land Use: Wildlife Management Area
Sublease (s): None
Encumbrances List: Easement No. 29168, Easement No. 29169, MOA with the USDA-Animal and Plant Health Inspection Services, and Contract No. 23078 (Appendices 11.2.1 - 11.2.4)
Type Acquisition: Federal Aid in Wildlife Restoration Act, Preservation 2000, Title Transfer, and Land Exchange
Unique Features: Natural: Natural communities include baygall, blackwater stream, bottomland forest, depression marsh, dome swamp, floodplain marsh, floodplain swamp, mesic flatwoods, sandhill, upland hardwood forest, upland pine, and wet flatwoods
Archaeological/Historical: 17 Archeological Sites and one Historical Site are found on the JBWMA
Management Needs: Habitat restoration and improvement; public access and recreational opportunities; hydrological preservation and restoration; invasive species maintenance and control; imperiled species habitat maintenance, enhancement, and restoration
Acquisition Needs/Acreage: 2,680 acres on the FWC Additions and Inholdings Acquisition List
Surplus Lands/Acreage: None
Public Involvement: Management Advisory Group consensus building meeting and Public Hearing (Appendices 11.3 and 11.4)

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

ARC Approval Date _____ BTIITF Approval Date: _____
Comments: _____

Land Management Plan Compliance Checklist

Required for State-owned conservation lands over 160 acres

Section A: Acquisition Information Items

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
1	The common name of the property.	18-2.018 & 18-2.021	ii, 1
2	The land acquisition program, if any, under which the property was acquired.	18-2.018 & 18-2.021	8
3	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18-2.021	8, 9
4	The legal description and acreage of the property.	18-2.018 & 18-2.021	1, 2, 8, 9
5	A map showing the approximate location and boundaries of the property, and the location of any structures or improvements to the property.	18-2.018 & 18-2.021	12
6	An assessment as to whether the property, or any portion, should be declared surplus. *Provide Information regarding assessment and analysis in the plan, and provide corresponding map.*	18-2.021	40
7	Identification of other parcels of land within or immediately adjacent to the property that should be purchased because they are essential to management of the property. *Please clearly indicate parcels on a map.*	18-2.021	59 - 62
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	38
9	A statement of the purpose for which the lands were acquired, the projected use or uses as defined in 253.034 and the statutory authority for such use or uses.	259.032(10)	8
10	Proximity of property to other significant State, local or federal land or water resources.	18-2.021	1 - 3, 7, 32 - 36

Section B: Use Items

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
11	The designated single use or multiple use management for the property, including use by other managing entities.	18-2.018 & 18-2.021	8 - 12, 39, 63, 64
12	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	34, 35
13	A description of alternative or multiple uses of the property considered by the lessee and a statement detailing why such uses were not adopted.	18-2.018	39, Appendices 11.1 and 11.2
14	A description of the management responsibilities of each entity involved in the property's management and how such responsibilities will be coordinated.	18-2.018	1, 8 – 10, Appendices 11.1 and 11.2
15	Include a provision that requires that the managing agency consult with the Division of Historical Resources, Department of State before taking actions that may adversely affect archeological or historical resources.	18-2.021	33, 34, 55, 56, 69
16	Analysis/description of other managing agencies and private land managers, if any, which could facilitate the restoration or management of the land.	18-2.021	1, 8 – 10, Appendices 11.1 and 11.2

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
17	A determination of the public uses and public access that would be consistent with the purposes for which the lands were acquired.	259.032(10)	1, 35, 39, 40
18	A finding regarding whether each planned use complies with the 1981 State Lands Management Plan, particularly whether such uses represent "balanced public utilization," specific agency statutory authority and any other legislative or executive directives that constrain the use of such property.	18-2.021	78,79
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	Appendix 11.20
20	An assessment of the impact of planned uses on the renewable and non-renewable resources of the property, including soil and water resources, and a detailed description of the specific actions that will be taken to protect, enhance and conserve these resources and to compensate/mitigate damage caused by such uses, including a description of how the manager plans to control and prevent soil erosion and soil or water contamination.	18-2.018 & 18-2.021	40 - 74
21	*For managed areas larger than 1,000 acres, an analysis of the multiple-use potential of the property which shall include the potential of the property to generate revenues to enhance the management of the property provided that no lease, easement, or license for such revenue-generating use shall be entered into if the granting of such lease, easement or license would adversely affect the tax exemption of the interest on any revenue bonds issued to fund the acquisition of the affected lands from gross income for federal income tax purposes, pursuant to Internal Revenue Service regulations.	18-2.021 & 253.036	38, 39
22	If the lead managing agency determines that timber resource management is not in conflict with the primary management objectives of the managed area, a component or section, prepared by a qualified professional forester, that assesses the feasibility of managing timber resources pursuant to section 253.036, F.S.	18-021	33
23	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	40

*The following taken from 253.034(10) is not a land management plan requirement; however, it should be considered when developing a land management plan: The following additional uses of conservation lands acquired pursuant to the Florida Forever program and other state-funded conservation land purchase programs shall be authorized, upon a finding by the Board of Trustees, if they meet the criteria specified in paragraphs (a)-(e): water resource development projects, water supply development projects, storm-water management projects, linear facilities and sustainable agriculture and forestry. Such additional uses are authorized where: (a) Not inconsistent with the management plan for such lands; (b) Compatible with the natural ecosystem and resource values of such lands; (c) The proposed use is appropriately located on such lands and where due consideration is given to the use of other available lands; (d) The using entity reasonably compensates the titleholder for such use based upon an appropriate measure of value; and (e) The use is consistent with the public interest.

Section C: Public Involvement Items

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
24	A statement concerning the extent of public involvement and local government participation in the development of the plan, if any.	18-2.021	13
25	The management prospectus required pursuant to paragraph (9)(d) shall be available to the public for a period of 30 days prior to the public hearing.	259.032(10)	13, Appendix 11.3
26	LMPs and LMP updates for parcels over 160 acres shall be developed with input from an advisory group who must conduct at least one public hearing within the county in which the parcel or project is located. *Include the advisory group members and*	259.032(10)	13, Appendix 11.4.1

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
	their affiliations, as well as the date and location of the advisory group meeting.		
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	Appendix 11.4.1
28	During plan development, at least one public hearing shall be held in each affected county. Notice of such public hearing shall be posted on the parcel or project designated for management, advertised in a paper of general circulation, and announced at a scheduled meeting of the local governing body before the actual public hearing. *Include a copy of each County's advertisements and announcements (meeting minutes will suffice to indicate an announcement) in the management plan.*	253.034(5) & 259.032(10)	13, Appendix 11.3
29	The manager shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan. *Include manager's replies to the team's findings and recommendations.*	259.036	41 - 44, Appendix 11.4
30	Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.	18-2.021	Appendix 11.4
31	If manager is not in agreement with the management review team's findings and recommendations in finalizing the required 10-year update of its management plan, the managing agency should explain why they disagree with the findings or recommendations.	259.036	41 - 44, Appendix 11.4

Section D: Natural Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
32	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding soil types. *Use brief descriptions and include USDA maps when available.*	18-2.021	15 – 17, Appendix 11.6
33	Insert FNAI based natural community maps when available.	ARC consensus	19, 20
34	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding outstanding native landscapes containing relatively unaltered flora, fauna and geological conditions.	18-2.021	14 – 37, Appendices 11.5 and 11.6
35	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding unique natural features and/or resources including but not limited to virgin timber stands, scenic vistas, natural rivers and streams, coral reefs, natural springs, caverns and large sinkholes.	18-2.018 & 18-2.021	14 – 37, Appendices 11.5 and 11.6
36	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.	18-2.021	33
37	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding mineral resources, such as oil, gas and phosphate, etc.	18-2.018 & 18-2.021	9, 33
38	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding fish and wildlife, both game and non-game, and their habitat.	18-2.018 & 18-2.021	14 – 37, Appendix 11.5
39	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding State and Federally listed Endangered or threatened species and their habitat.	18-2.021	14 – 37, Appendix 11.5
40	The identification or resources on the property that are listed in the Natural Areas Inventory. *Include letter from FNAI or consultant where appropriate.*	18-2.021	18 – 20, Appendix 11.6

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
41	Specific description of how the managing agency plans to identify, locate, protect and preserve or otherwise use fragile, nonrenewable natural and cultural resources.	259.032(10)	40 - 73
42	**Habitat Restoration and Improvement**	259.032(10) & 253.034(5)	
42-A.	Describe management needs, problems and a desired outcome and the key management activities necessary to achieve the enhancement, protection and preservation of restored habitats and enhance the natural, historical, and archeological resources and their values for which the lands were acquired.	↓	66 - 73
42-B.	Provide a detailed description of both short (2-year planning period) and long-term (10-year planning period) management goals, and a priority schedule based on the purposes for which the lands were acquired and include a timeline for completion.	↓	66 - 73
42-C.	The associated measurable objectives to achieve the goals.	↓	66 - 73
42-D.	The related activities that are to be performed to meet the land management objectives and their associated measures. *Include fire management plans - they can be in plan body or an appendix.*	↓	66 – 73, Appendices 11.11, and 11.13 – 11.17
42-E.	A detailed expense and manpower budget in order to provide a management tool that facilitates development of performance measures, including recommendations for cost-effective methods of accomplishing those activities.		76, 77, Appendix 11.19
43	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. *See footnote.*	253.034(5)	66 – 73, Appendices 11.11, and 11.13 – 11.17
44	**Sustainable Forest Management, including implementation of prescribed fire management**	18-2.021, 253.034(5) & 259.032(10) ↓	
44-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	66 – 73, Appendices 11.13 and 11.14
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	66 - 73
44-C.	Measurable objectives (see requirement for #42-C).	↓	66 - 73
44-D.	Related activities (see requirement for #42-D).	↓	66 - 73
44-E.	Budgets (see requirement for #42-E).		76, 77, Appendix 11.19
45	**Imperiled species, habitat maintenance, enhancement, restoration, or population restoration**	259.032(10) & 253.034(5)	
45-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	66 - 73
45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	66 - 73
45-C.	Measurable objectives (see requirement for #42-C).	↓	66 - 73
45-D.	Related activities (see requirement for #42-D).	↓	66 - 73
45-E.	Budgets (see requirement for #42-E).		76, 77, Appendix 11.19
45-F	Assess the feasibility of managing the lands > 40 contiguous acres as a recipient site for gopher tortoises consistent with rules of the Fish and Wildlife Conservation Commission, as	259.105	29, 30

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
	prepared by the agency or cooperatively with a Fish and Wildlife Conservation Commission wildlife biologist.		
45-G	Economic feasibility of establishing a gopher tortoise recipient site, including the initial cost, recurring management costs and the revenue projections.	259.105	29, 30
46	***Quantitative data description of the land regarding an inventory of nonnative and invasive plants and associated acreage. *See footnote.*	253.034(5)	28, 29
47	Place the Arthropod Control Plan in an appendix. If one does not exist, provide a statement as to what arrangement exists between the local mosquito control district and the management unit.	BOT requirement via lease language	Appendix 11.20
48	**Nonnative and invasive species maintenance and control**	259.032(10) & 253.034(5)	
48-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	66 - 73
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	66 - 73
48-C.	Measurable objectives (see requirement for #42-C).	↓	66 – 73
48-D.	Related activities (see requirement for #42-D).	↓	66 – 73
48-E.	Budgets (see requirement for #42-E).		76, 77, Appendix 11.19

Section E: Water Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
49	A statement as to whether the property is within and/or adjacent to an aquatic preserve or a designated area of critical state concern or an area under study for such designation. *If yes, provide a list of the appropriate managing agencies that have been notified of the proposed plan.*	18-2.018 & 18-2.021	2, 31, 32, 69
50	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding water resources, including water classification for each water body and the identification of any such water body that is designated as an Outstanding Florida Water under Rule 62-302.700, F.A.C.	18-2.021	2, 31, 32, 69
51	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding swamps, marshes and other wetlands.	18-2.021	2, 31, 32, 69
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. *See footnote.*	253.034(5)	2, 31, 32, 69
53	**Hydrological Preservation and Restoration**	259.032(10) & 253.034(5)	
53-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	66 – 73
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	66 – 73
53-C.	Measurable objectives (see requirement for #42-C).	↓	66 – 73
53-D.	Related activities (see requirement for #42-D).	↓	66 – 73
53-E.	Budgets (see requirement for #42-E).		76, 77, Appendix 11.19

Section F: Historical, Archeological and Cultural Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
54	**Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding archeological and historical resources. *Include maps of all cultural resources except Native American sites, unless such sites are major points of interest that are open to public visitation.*	18-2.018, 18-2.021 & per DHR's request	33, 34
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	33, 34
56	A description of actions the agency plans to take to locate and identify unknown resources such as surveys of unknown archeological and historical resources.	18-2.021	33, 55, 56, 69
57	**Cultural and Historical Resources**	259.032(10) & 253.034(5)	
57-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	66 – 73
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	66 – 73
57-C.	Measurable objectives (see requirement for #42-C).	↓	66 – 73
57-D.	Related activities (see requirement for #42-D).	↓	66 – 73
57-E.	Budgets (see requirement for #42-E).		76. 77, Appendix 11.19

**While maps of Native American sites should not be included in the body of the management plan, the DSL urges each managing agency to provide such information to the Division of Historical Resources for inclusion in their proprietary database. This information should be available for access to new managers to assist them in developing, implementing and coordinating their management activities.

Section G: Facilities (Infrastructure, Access, Recreation)

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
58	***Quantitative data description of the land regarding an inventory of infrastructure and associated acreage. *See footnote.*	253.034(5)	35 – 37, 54, 56, 68 – 70, Appendix 11.16
59	**Capital Facilities and Infrastructure**	259.032(10) & 253.034(5)	
59-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	66 – 73, Appendix 11.16
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	66 – 73, Appendix 11.16
59-C.	Measurable objectives (see requirement for #42-C).	↓	66 – 73, Appendix 11.16
59-D.	Related activities (see requirement for #42-D).	↓	66 – 73, Appendix 11.16
59-E.	Budgets (see requirement for #42-E).		76, 77, Appendix 11.19
60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034(5)	66 – 73, Appendix 11.16
61	**Public Access and Recreational Opportunities**	259.032(10) & 253.034(5)	
61-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	66 – 73, Appendix 11.16

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	66 – 73, Appendix 11.16
61-C.	Measurable objectives (see requirement for #42-C).	↓	66 – 73, Appendix 11.16
61-D.	Related activities (see requirement for #42-D).	↓	66 – 73, Appendix 11.16
61-E.	Budgets (see requirement for #42-E).		76, 77, Appendix 11.19

Section H: Other/ Managing Agency Tools

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
62	Place this LMP Compliance Checklist at the front of the plan.	ARC and managing agency consensus	ii - viii
63	Place the Executive Summary at the front of the LMP. Include a physical description of the land.	ARC and 253.034(5)	i
64	If this LMP is a 10-year update, note the accomplishments since the drafting of the last LMP set forth in an organized (categories or bullets) format.	ARC consensus	40 - 66
65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	66 - 73
66	Summary budget for the scheduled land management activities of the LMP including any potential fees anticipated from public or private entities for projects to offset adverse impacts to imperiled species or such habitat, which fees shall be used to restore, manage, enhance, repopulate, or acquire imperiled species habitat for lands that have or are anticipated to have imperiled species or such habitat onsite. The summary budget shall be prepared in such a manner that it facilitates computing an aggregate of land management costs for all state-managed lands using the categories described in s. 259.037(3) which are resource management, administration, support, capital improvements, recreation visitor services, law enforcement activities.	253.034(5)	76, 77, Appendix 11.19
67	Cost estimate for conducting other management activities which would enhance the natural resource value or public recreation value for which the lands were acquired, include recommendations for cost-effective methods in accomplishing those activities.	259.032(10)	76, 77, Appendix 11.19
68	A statement of gross income generated, net income and expenses.	18-2.018	Appendix 11.19

*** = The referenced inventories shall be of such detail that objective measures and benchmarks can be established for each tract of land and monitored during the lifetime of the plan. All quantitative data collected shall be aggregated, standardized, collected, and presented in an electronic format to allow for uniform management reporting and analysis. The information collected by the DEP pursuant to s. 253.0325(2) shall be available to the land manager and his or her assignee.

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Acronym Key

ADA	Americans with Disabilities Act
ARC	Acquisition and Restoration Council
BEBR	Bureau of Economic and Business Research
CARL	Conservation and Recreation Lands Program
DEP	Department of Environmental Protection
DSL	Division of State Lands
FAC	Florida Administrative Code
FISC	Florida Invasive Species Council
FFS	Florida Forest Service
FLAM	Florida Landscape Assessment Model
FNAI	Florida Natural Areas Inventory
FS	Florida Statute(s)
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Fish and Wildlife Research Institute
GIS	Geographic Information Systems
GPS	Geographic Positioning System
GRASI	Gulf Regional Airspace Initiative
IMPP	Internal Management Policies and Procedures
IPCC	Intergovernmental Panel on Climate Change
JBWMA	Joe Budd Wildlife Management Area
LAP	Landowner Assistance Program
LMR	Land Management Review
MAG	Management Advisory Group
NWFWMD	Northwest Florida Water Management District
NWR	National Wildlife Refuge
OBVM	Objective-Based Vegetation Management
OFW	Outstanding Florida Waters
USAF	United States Air Force
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WCPR	Wildlife Conservation Prioritization and Recovery
WMA	Wildlife Management Area

1 Introduction and General Information

A diverse mosaic of uplands and wetlands, the Joe Budd Wildlife Management Area (JBWMA) conserves approximately 4,965 acres of public land along the shores of Lake Talquin and the Ochlockonee River basin in Gadsden County. Public lands adjacent to the JBWMA include the Lake Talquin State Forest and the Apalachicola National Forest, making this area an essential part of a major conservation land corridor. Furthermore, the JBWMA protects the watershed and water quality of major rivers, tributaries, drainage basins, and Lake Talquin.

In addition to its water resources, the JBWMA contains a variety of forest communities, including those of old-growth longleaf pine and slope forests. This wide diversity of habitats provides food, water, and shelter to a range of locally-important species, as well as several rare plants. Some species found on the JBWMA include wood stork (*Mycteria americana*), gopher tortoise (*Gopherus polyphemus*), and swallow-tailed kite (*Elanoides forficatus*), as well as popular game species like white-tailed deer (*Odocoileus virginianus*) and wild turkey (*Meleagris gallopavo*). This abundance of wildlife makes the JBWMA not only a popular hunting destination, but a unique area to participate in other wildlife-based recreational opportunities including, but not limited to, fishing, wildlife viewing, hiking, bicycling, and paddling. In addition, the JBWMA has the Joe Budd Youth Conservation Center (JBYCC), which offers summer camps, school programs, and youth and family programs.

The JBWMA is owned by the Board of Trustees of the internal Improvement Find (Board of Trustees) and the Florida Fish and Wildlife Conservation Commission (FWC). The FWC has lead management authority for 2,946 acres and shares co-lead management responsibilities with the Florida Forest Service (FFS) on 2,018 acres.

This Management Plan serves as the basic statement of policy and direction for the management of the JBWMA and has been developed to guide each aspect of the JBWMA's resource and operational management for the ten-year planning period. It provides information including the past usage, conservation acquisition history, and descriptions of the natural and cultural resources found on the JBWMA. Furthermore, it identifies the FWC's management intent, goals, objectives, as well as identifying challenges and potential solutions.

This Management Plan is submitted for review to the Acquisition and Restoration Council (ARC) acting on behalf of the Board of Trustees of the State of Florida through the Florida Department of Environmental Protection's (DEP) - Division of State Lands (DSL), in compliance with Chapters 253 and 259, Florida Statutes (F.S.), and Chapters 18-2 and 18-4, Florida Administrative Code (F.A.C.). Format and content were drafted in accordance with ARC requirements for management plans and the model plan outline provided by the staff of the DSL. The terms (Appendix 11.9) used in the Management Plan describing management activities conform to those developed for the Land Management Uniform Accounting Council Biennial Land Management Operational Report.

The FWC is responsible for the operation of the JBWMA as a Wildlife Management Area (WMA) in addition to several other responsibilities. Management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 372, 373, 375, 378, 379, 403, 487, 597, and 870, F.S. These laws establish the authority of the FWC regarding protection and management of the State's fish and wildlife resources.

1.1 Location

The JBWMA is in the Florida panhandle in southeastern Gadsden County and encompasses 4,964.74 acres (Figures 1 and 2). The JBWMA lies in all or parts of (Figure 3):

- Sections 16, 20-22, and 28 of Township 1 North, Range 2 West
- Sections 15, 22, 23, and 26 of Township 1 North, Range 3 West
- Sections 1, 2, 5, 6, 7, 9, 11, and 12 of Township 61 North, Range 61 East

The JBWMA is located approximately seven miles southeast of Quincy in Gadsden County and 15 miles northwest of Tallahassee in Leon County. Other municipalities near the JBWMA include Havana (10 miles northeast) in Columbia County; Blountstown (30 miles southwest) in Calhoun County; and Monticello (33 miles northeast) in Jefferson County. The JBWMA is not located within a designated Area of Critical State Concern.

1.1.1 Proximity to other Public Conservation Lands

The JBWMA is in the vicinity of an extensive network of conservation lands, including lands managed by the Northwest Florida Water Management District (NWFWMD), the U.S. Forest Service (USFS), DEP, FFS, and the FWC. Federally owned properties in the vicinity include the Apalachicola National Forest that are south of the JBWMA. Several Florida Forever projects are also located in the vicinity of the area (Figure 4, Table 1).

Tables 1 and 2 list the Florida Forever projects and conservation lands within a 10-mile radius of the JBWMA, including lands managed by public and private entities that conserve cultural and natural resources within this region of Florida.

Most of the conservation lands listed in Table 2 are owned by a public entity. However, some of these areas fall within a less-than-fee ownership classification where the land is owned and being managed by a private landowner while a public agency or not-for-profit organization holds a conservation easement on the land.

Table 1. Florida Forever Projects within a 10-mile Vicinity

Project Name	GIS Acres
Ayavalla Plantation	6,098
Florida's First Magnitude Springs – Church Sink	7,105
Hosford Chapman's Rhododendron Protection Zone	6,890
Little River Conservation Area	2,293
Strategic Managed Area Lands List (S.M.A.L.L.)	11,505

Table 2. Conservation Lands within a 10-mile Vicinity

Federal Government	Managing Agency
Apalachicola National Forest	USFS
State of Florida	**Managing Agency**
Alfred B. Maclay Gardens State Park	DEP-DRP
Lake Jackson Mounds Archaeological State Park	DEP-DRP
Lake Talquin State Forest	DACS-FFS
Lake Talquin State Park	DEP-DRP
Tallahassee Airport Conservation Easement	FWC
Water Management District	**Managing Agency**
Coastal Forest Resources Conservation Easement	NWFWMD
Jackson Conservation Easement	NWFWMD
Thompson/Gray Conservation Easement	NWFWMD
Local Government	**Managing Agency**
Barnette W. Allen Nature Preserve	City of Tallahassee
Dr. Charles Billings Greenway	City of Tallahassee
Elinor Klapp-Phipps Park	City of Tallahassee
Fred George Greenway	Leon County
Gil Waters Preserve at Lake Munson	Leon County
Golden Aster Preserve	City of Tallahassee
Governors Park	City of Tallahassee
Indian Head Acres Park	City of Tallahassee
Northwest Park	City of Tallahassee
Okeeheepkee Prairie	Leon County
San Luis Mission Park	City of Tallahassee
Tanyard Creek Preservation Park	City of Quincy
Timberlane Ravine	City of Tallahassee
Private/Public Conservation Organization	**Managing Agency**
Comfort Creek Conservation Easement	Tall Timbers Research, Inc.
Davidson-Riverview Conservation Easement	Tall Timbers Research, Inc.
Farm's Eden Conservation Easement	Tall Timbers Research, Inc.
RCM Farms Conservation Easement	Tall Timbers Research, Inc.
Shade Farm Conservation Easement	Tall Timbers Research, Inc.

Acronym Key	Agency Name
DACS-FFS	Florida Department of Agriculture and Consumer Services-Florida Forest Service
DEP-DRP	Florida Department of Environmental Protection, Division of Recreation and Parks
FWC	Florida Fish and Wildlife Conservation Commission
NWFWMD	Northwest Florida Water Management District
USFS	United States Forest Service

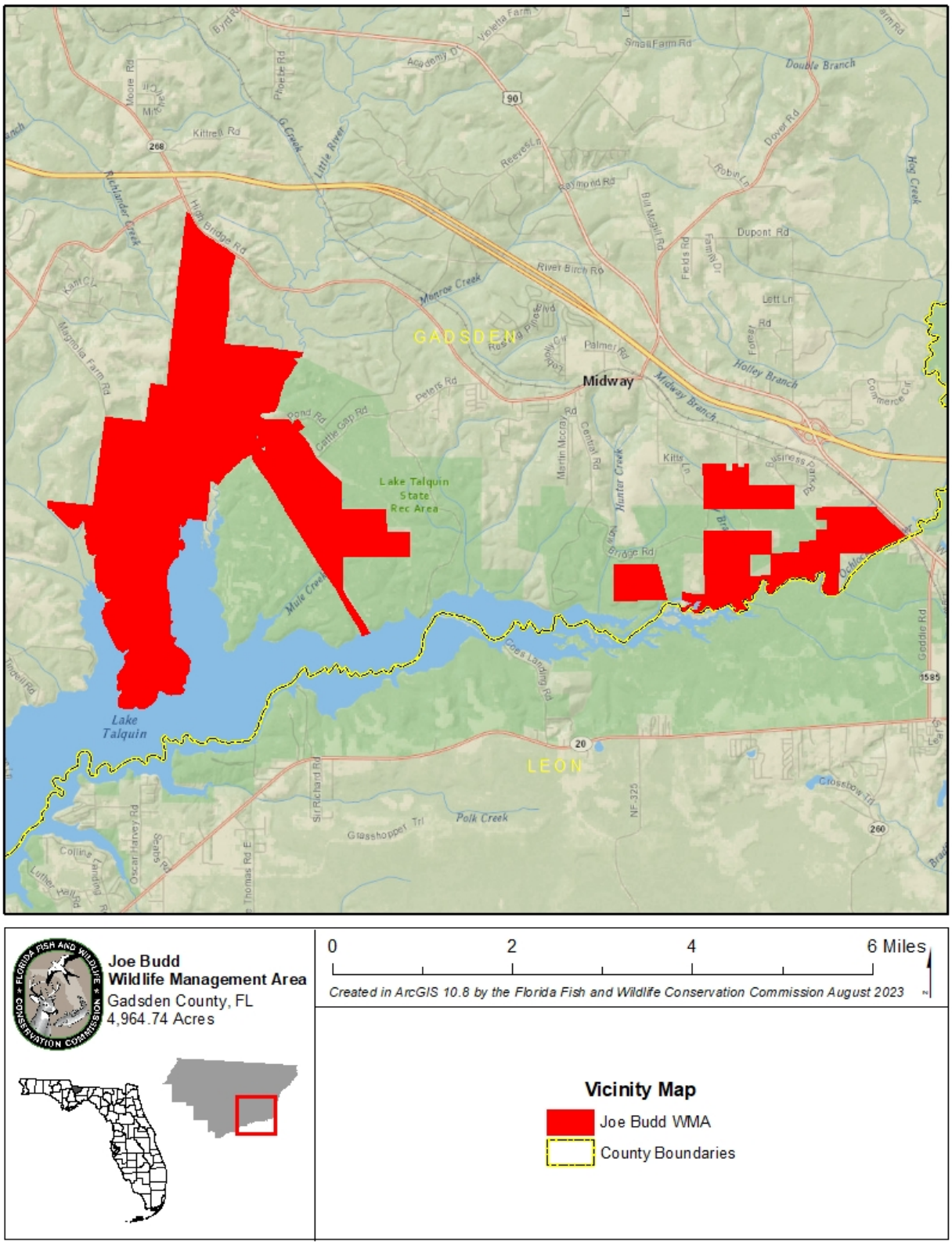


Figure 1. Vicinity Map

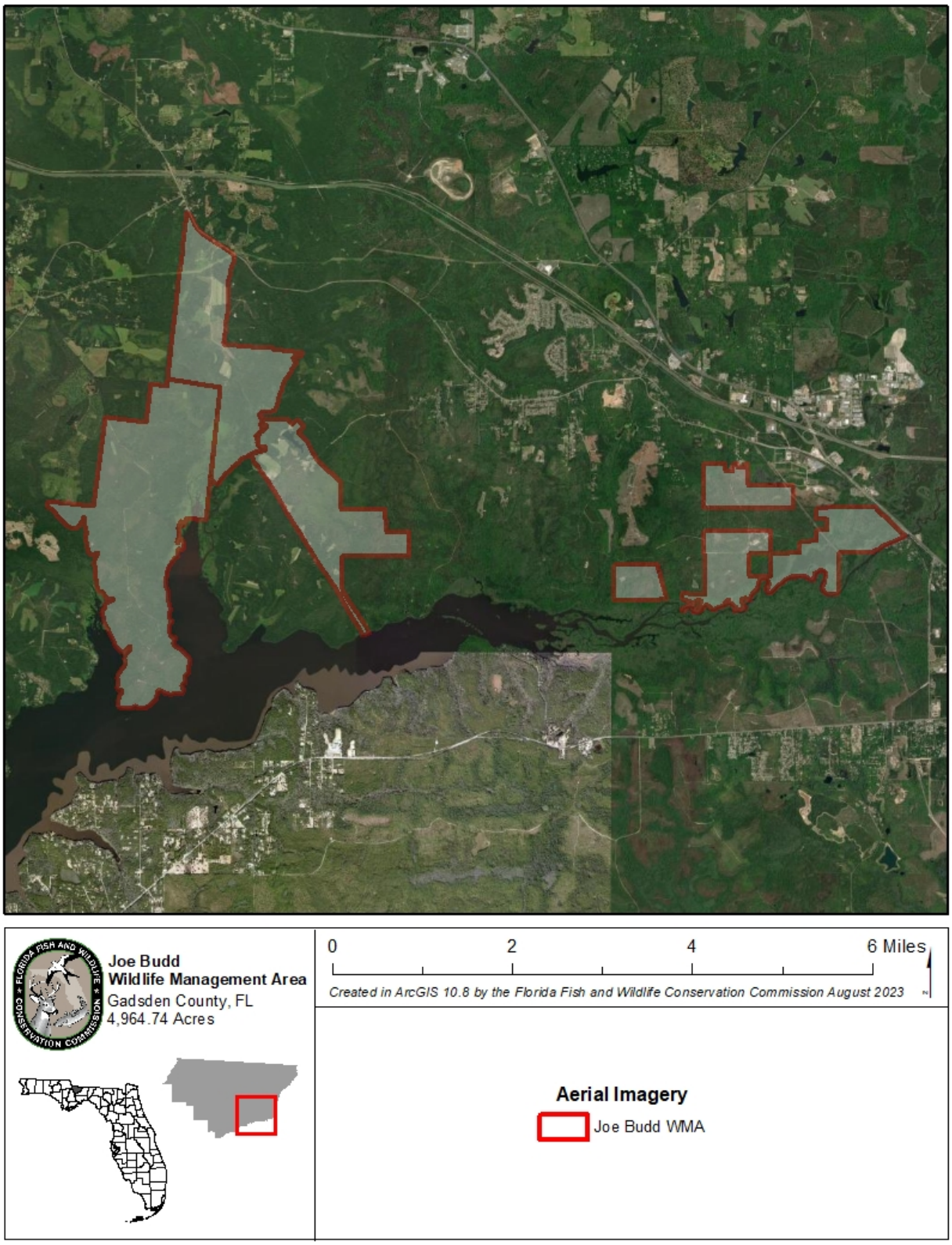


Figure 2. Aerial Imagery

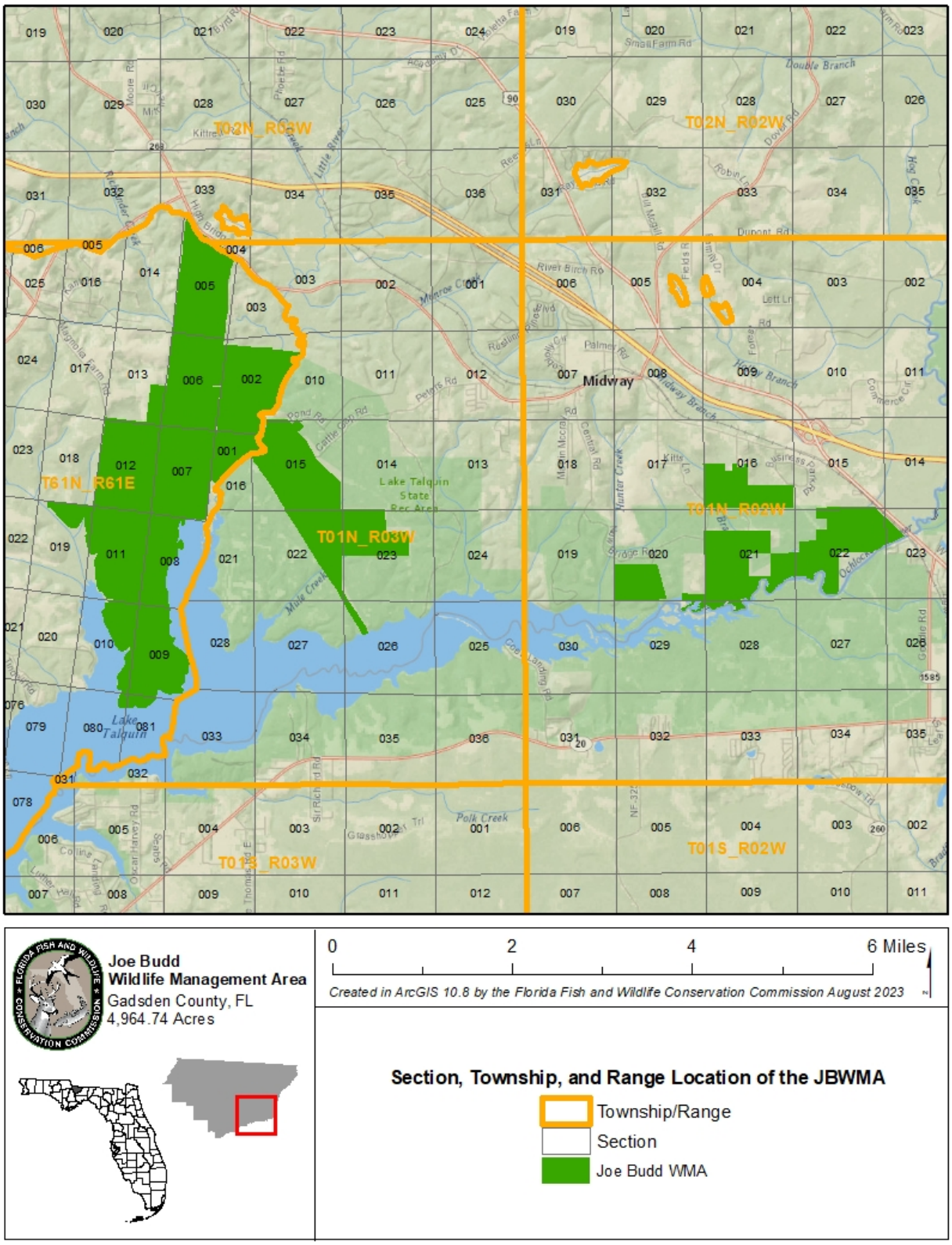
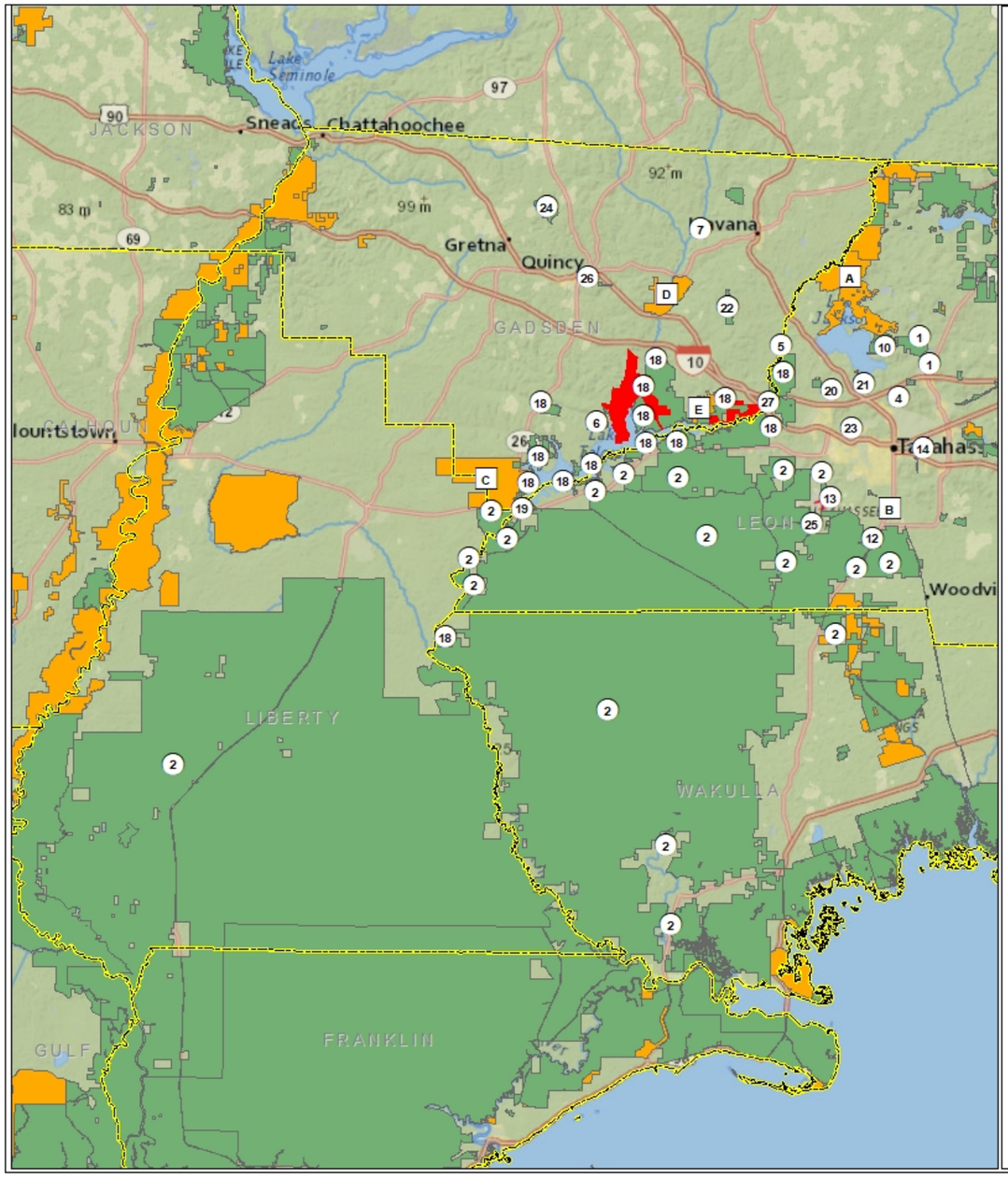


Figure 3. Section, Township, and Range Location



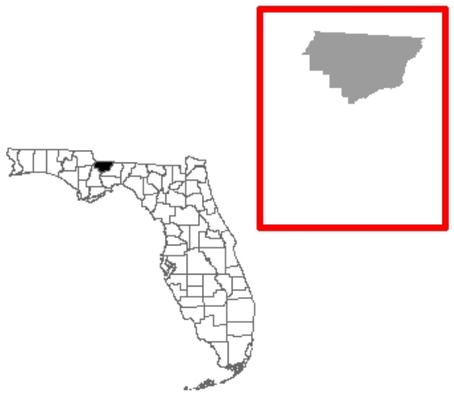
Conservation Lands within 10 miles of JBWMA

1 Alfred B. Maclay Gardens State Park
2 Apalachicola National Forest
3 Barnette W. Allen Nature Preserve
4 Brinkley Glen
5 Coastal Forest Resources Conservation Easement
6 Comfort Creek Conservation Easement
7 Davidson-Riverview Conservation Easement
8 Dr. Charles Billings Greenway
9 Elinor Klapp-Phipps Park
10 Farm's Eden Conservation Easement
11 Fred George Greenway
12 Gil Waters Preserve at Lake Munson
13 Golden Aster Preserve
14 Governors Park
15 Indian Head Acres Park
16 Jackson Conservation Easement (NWFWMD)
17 Lake Jackson Mounds Archaeological State Park
18 Lake Talquin State Forest
19 Lake Talquin State Park
20 Northwest Park
21 Okeeheepkee Prairie
22 RCM Farms Conservation Easement
23 San Luis Mission Park
24 Shade Farm Conservation Easement
25 Tallahassee Airport Conservation Easement
26 Tanyard Creek Preservation Park
27 Thompson/Gray Conservation Easement
28 Timberlane Ravine

Florida Forever Projects within 10 miles of JBWMA

A Ayavalla Plantation
B Florida's First Magnitude Springs - Church Sink
C Hosford Chapman's Rhododendron Protection Zone
D Little River Conservation Area
E S.M.A.L.L. - FFS-2
F S.M.A.L.L. - FWC-16

Joe Budd Wildlife Management Area
Gadsden County, Florida
4,964.74 Acres



Legend

County Boundaries
Joe Budd WMA
Conservation Lands
Florida Forever Projects

N

0 5 10 20 Miles

Created in ArcGIS 10.8 by the Florida Fish and Wildlife Conservation Commission August 2023

Figure 4. Nearby Conservation Lands and Florida Forever Projects

1.2 Acquisition

1.2.1 Acquisition History

In 1975, the Florida Game and Fresh Water Fish Commission (now the FWC) purchased 162 acres of land, known as the Budd Ranch, from the estate of Mr. Joseph T. Budd, Jr. using acquisition funding provided by the Federal Aid in Wildlife Restoration Act (Pittman-Robertson) (Appendix 11.1.1). In 1976, 158 acres, and in 1977, 474 acres of land were acquired by the FWC from Mr. Budd under the same circumstances (Appendices 11.1.2 and 11.1.3).

During the summer of 1987, the FWC acquired Little River tract, adding 1,007 more acres to the JBWMA (Appendices 11.1.4 and 11.1.5). These lands were purchased from Joseph and Teryl Pace using Pittman-Robertson funding.

In 1992, the Board of Trustees acquired the Davis Property, which consisted of 1,120 acres, using Preservation 2000 (P2000) funds (Appendices 11.1.7, 11.1.8, and 11.1.9). Using the same funding source in 1998, the Board of Trustees purchased the Rocky Comfort Creek tract which consisted of 2,018 acres (Appendix 4211).

In 2011, 20 acres known as the Anderson Parcel were donated via title transfer to the FWC by the Florida Gas Transmission Company (Appendix 11.1.6).

In 2015, the Board of Trustees purchased approximately 10 acres from the Florida Gas Transmission Company and leased the area to the FWC with the FFS as a cooperative manager. However, in 2022, this land was released in a land exchange with the FFS/Lake Talquin State Forest (State Forest), with FWC receiving five acres in exchange, adjacent to the JBYCC.

1.2.2 Purpose for Acquisition of the Property

The JBWMA was acquired through the Federal Aid in Wildlife Restoration Act for the purposes of restoration, conservation, and management of fish and wildlife habitat and associated natural resources, and to provide fish and wildlife-based recreational opportunities to the public. Subsequent acquisitions occurred under the FWC P2000 Inholdings and Additions Program, and through mitigation donations and exchanges. The purposes of these later acquisitions were to protect the native natural communities and associated wildlife habitat, to protect the watershed and water quality of Rocky Comfort Creek and Lake Talquin, to aid in the resource management of the area, and to provide fish and wildlife-based public outdoor recreation.

1.3 Title Interest and Management Authority

As State-owned lands, title to a majority of the JBWMA is vested in the Board of Trustees. In 1993, the DSL, as staff to the Board of Trustees, entered into a 50-year lease agreement (Lease Agreement Number 3949) granting the FWC lead-management authority and the FFS co-management authority for the JBWMA. In 2000, the DSL, as staff to the Board of Trustees, entered into a 50-year lease agreement (Lease Agreement Number 4211) granting the FWC and FFS co-management authority for the JBWMA.

Lands purchased by the FWC with the Pittman-Robertson funding granted the FWC title interest and management authority pursuant to the requirements of the associated Act of 1937.

Further management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 373, 375, 378, 379, 403, 487, 597, and 870 of the F.S. These constitutional provisions and laws provide the FWC with the authority to protect, conserve, and manage the State's fish and wildlife resources.

The Board of Trustees' Lease Agreement Numbers 3949 and 4211 with the FWC and FFS also directs both agencies to "manage the leased premises only for the conservation and protection of natural and historical resources and resource-based, public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 253.023(11), F.S...." The lease agreement further directs the FWC to "implement applicable Best Management Practices for all activities under this lease in compliance with paragraph 18-2.018(2)(h), F.A.C., which have been selected, developed, or approved by lessor, lessee, or other land managing agencies for the protection and enhancement of the leased premises."

The State Forest boundary shown in Figure 5 is often considered to be part of the JBWMA boundary. However, this land was not leased to the FWC, but rather to the Division of Recreation and Parks of the Florida Department of Natural Resources (DNR). In 1976, the DNR subleased surface rights of the State Forest to the FFS with a provision that the FFS grant certain parcels to the FWC for appropriate management responsibilities (Appendix 11.1.11). Under this agreement, the FWC:

- Has the authority to provide and maintain check stations during hunting seasons;
- Acts as a consultant for wildlife habitat improvement, or the utilization of wildlife or fish by the public;
- Manages hunting and fishing rules and regulations, with the FFS's approval; and
- Provides law enforcement to enforce game laws on the area.

Because of the FWC's hunting management of both the JBWMA and the State Forest, and due to its contiguous nature, it is referred to as the "JBWMA", both in text and mapping, in hunting brochures.

1.3.1 Encumbrances

In 1992, the Board of Trustees acquired an access easement, ensuring that the JBWMA staff has unrestricted ingress and egress from Highway U.S. 90 (Appendix 11.2.1). In 2008, the Ochlockonee Point Apartment Complex was built; however, the developer of said apartments ensured the access easement was not obstructed. As of 1994, the Board of Trustees entered Easement Nos. 29168 and 29169 with the Florida Gas Transmission Company granting them the non-exclusive right and privilege to construct, maintain, operate, inspect, repair, replace or remove a pipeline for the purpose of transportation of natural gas (Appendix 11.2.2).

In 2023, both an agreement and a contract were entered. In January, a Memorandum of Agreement was entered between the FWC and the U.S. Department of Agriculture Animal and

Plant Health Inspection Service (APHIS) Wildlife Services (WS). The purpose of this agreement is for APHIS-WS to reduce property damage via the removal of feral hogs (Appendix 11.2.3).

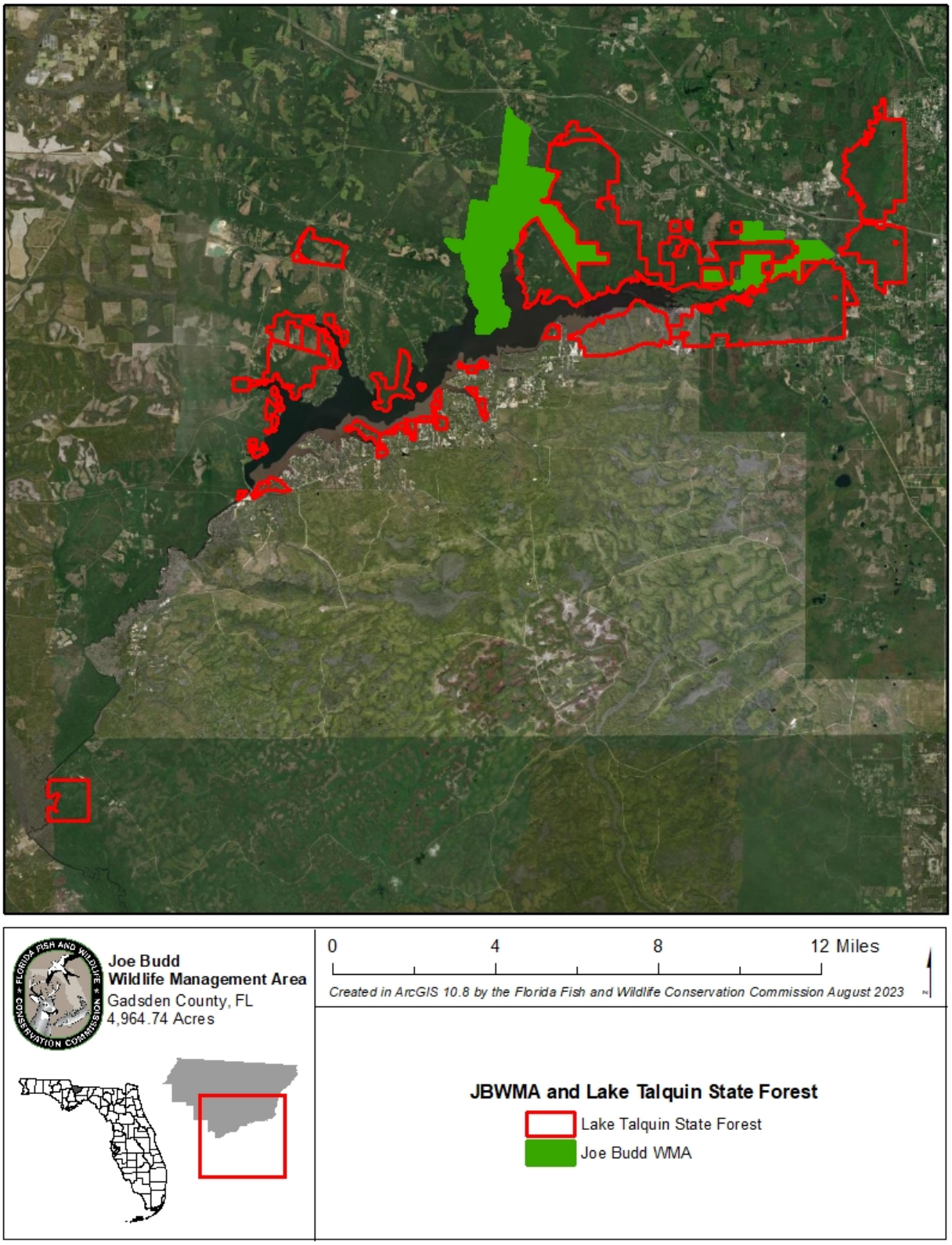


Figure 5. JBWMA and State Forest True Boundaries

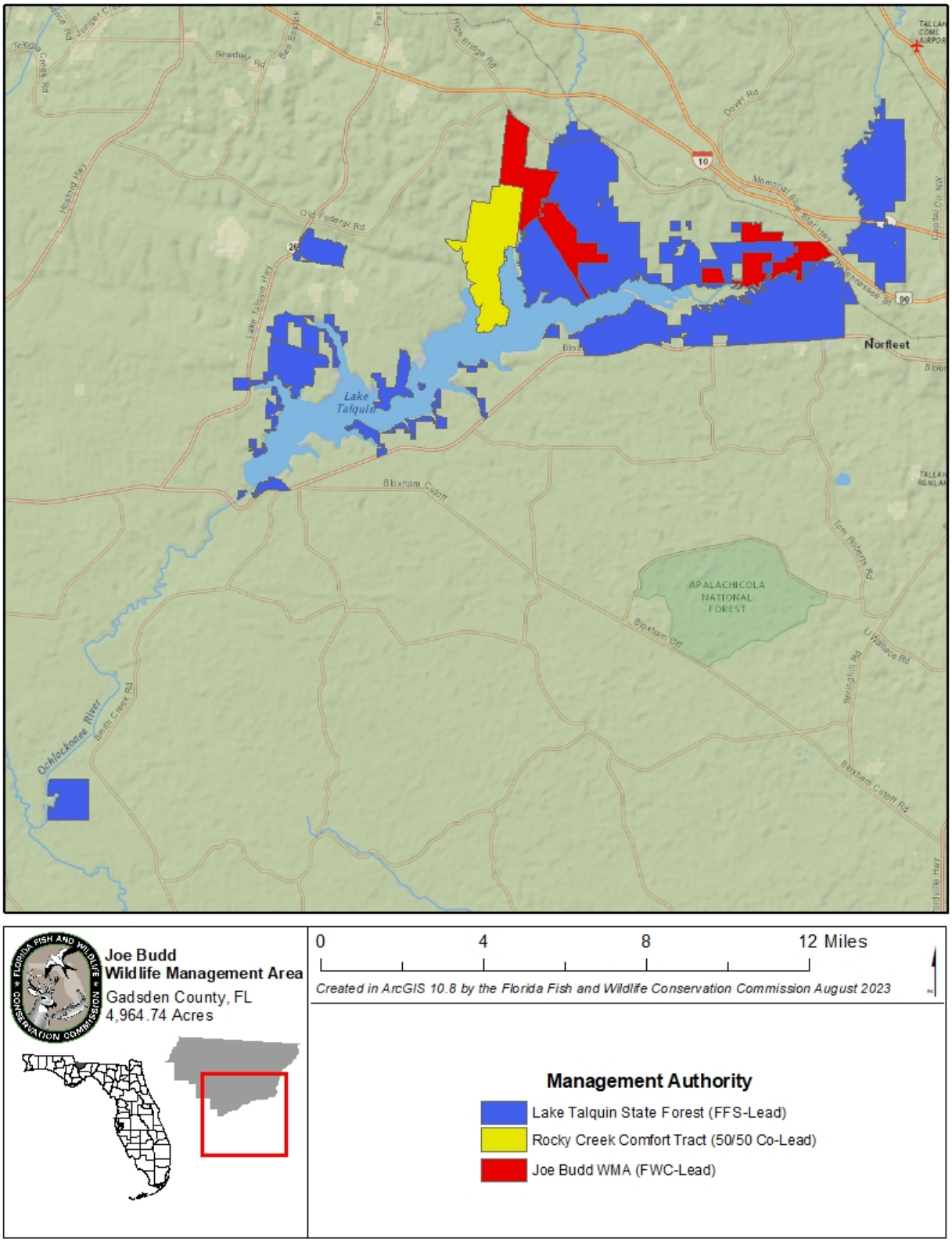


Figure 6. JBWMA Title Interest and Management Authority

1.4 Public Involvement

The FWC conducted a Management Advisory Group (MAG) meeting in Havana, Florida on February 15, 2023, to obtain input from both public and private stakeholders regarding management of the JBWMA. Results of this meeting were used by the FWC to develop management goals and objectives and to identify opportunities and strategies for management to include in the update to the Management Plan (Appendix 11.4.1). Further, a public hearing, as required by Chapter 259.032(10), F.S., was held in Quincy, Florida on May 24, 2023, to solicit input and comments from the public regarding the update to the Management Plan. The Management Prospectus was made available to the public 30 days prior to the hearing. A report of that hearing can be found in Appendix 11.4.2. A website is also maintained for receipt of public input at https://myfwc.com/conservation/management-plans/develop-mps/. Further testimony and input are received at a public hearing held by ARC. Input received from all public involvement efforts will be considered in the development of the update to the Management Plan.

1.5 Planning Philosophy

The FWC's planning philosophy focuses on producing conservation outcomes that align with the needs of an ever-changing world. The FWC emphasizes consensus-building from the beginning of the planning process in order to engage, understand, and incorporate the ideas of the various interests, user groups, and communities that it serves. To achieve this holistic management approach, the FWC convenes a MAG meeting which engages stakeholders from various user groups at this beginning of FWC's planning process, and a public hearing in which the public can provide formal testimony. The FWC also engages field staff, as well as other FWC staff expertise and other agency experts, in developing Management Plans, thereby facilitating development of meaningful management intent language. Further management planning input is also received through Land Management Reviews (LMR) conducted every five years. LMRs include both a review of the current management plan and a field review of the area conducted by a diverse team of land management auditors, providing the FWC with important information and guidance (Section 4.1).

Furthermore, the FWC maintains transparency and accountability throughout the development and implementation of the Management Plan by following a "living document" concept which links each plan with the previous plan by reporting on the objectives, management activities, and projects accomplished over the last planning timeframe (see Section 4).[1] The Management Plan serves as the guiding framework to implement an adaptive management process and content will be evaluated throughout the planning period to achieve comprehensive conservation goals (Section 4.2). As needed, amendments to Management Plans are presented to the DSL and ARC for review and consideration.

2 Natural and Cultural Resources

2.1 Physiography

2.1.1 Topography and Geologic Formations

Florida has a storied geological history. The State of Florida is a part of the Florida platform that extends into the Atlantic Ocean and extends over 100 miles into the Gulf of Mexico. During the Paleozoic and Mesozoic ages, volcanic and sedimentary rock formed to create the base layer of what is now Florida. Due to rifting and tectonic shift, North America broke away from Pangea and during this time the panhandle of Florida was underwater. Due to the waterway separating Florida from the rest of the United States, sediments eroding from the Appalachian Mountains kept Florida waters clear. This also created a limestone layer that, due to karstification, created the intricate aquifer and cave system in Florida. The final stage that brought Florida into the geologic condition represented today was the northern movement of the continent and receding water levels. This event also created the panhandle of Florida which is characterized by siliciclastic sediments created by the erosion of previously deposited rocks. Through these changes, Florida has a mosaic of geologic formations and soil types.

Florida is part of the Coastal Plain physiographic province which stretches from Cape Cod to the Mexican border. The Coastal Plain is divided into six physiographic sections, and Florida lies between two of these sections: the Floridian section, which encompasses most of peninsular Florida, and the East Gulf Plain section, which encompasses the panhandle of Florida. Additionally, there are a total of 10 physiographic divisions within Florida. The JBWWMA is in the Tifton Upland District and has a peak elevation of 220 ft above mean sea level.

The geology of the JBWMA is comprised of Miccosukee and Torreya formations. Miccosukee formations cover a majority of the JBWMA and are of the Pliocene epoch; they consist of grayish orange to grayish red, mottled, poorly to moderately consolidated, interbedded clay, sand, and gravel of varying coarseness. Although Miccosukee formations are considered impermeable, they are a part of the surficial aquifer system. Along the borders of Lake Talquin that are found in the JBWMA lies Torreya formations. Torreya formations are a part of the Hawthorn Group; they mostly consist of outcrops of an upper siliclastic unit and have increasing carbonate content in the lower portion. The upper siliclastic portions contain some fossils, and the formation varies from white to light gray, unconsolidated to poorly indurated, slightly clayey sands with minor phosphate to light gray to bluish gray, poorly consolidated, variably silty clay.

2.1.2 Soils

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) data were used to identify the JBWMA soil series and depth to water table.[2] The map units described in the soil survey of the JBWMA are distributed as shown in Figure 7. Analyses of depth to water table for map units occurring within the JBWMA are also provided in Figure 8. The NRCS defines a soil map unit as: “a collection of soil areas or non-soil areas (miscellaneous areas) delineated in a soil survey.” Soil map units may contain multiple soil components, which are given names that are unique identifiers. Appendix 11.7 lists the names and official map unit descriptions of areas

delineated on the detailed soil maps in a soil survey or by miscellaneous areas in the survey area as determined by the NRCS. Analysis of depth to water table for map units occurring within the JBWMA is also provided in Appendix 11.7. Specific soils found on the JBWMA are mostly Pickney, Dorovan, and Bibb soils making up about 28% of the area, Foxworth complexes making up 17%, Hurricane and Chipley soils are another 8%, and the remaining soils are approximately 0.03%-5% each.

2.1.3 Climate

In general, moderate climates occur in Gadsden County. The JBWMA is characterized by long, warm summers and mild winters. The average daily winter temperature over the last 10 years has been 58˚F with an average minimum temperature of approximately 55˚F. The average daily summer temperature is 79.2˚F with an average maximum temperature of approximately 81˚F. Over the last 10 years, the JBWMA has seen an average annual rainfall of 56 inches, with the majority occurring in the summer season.

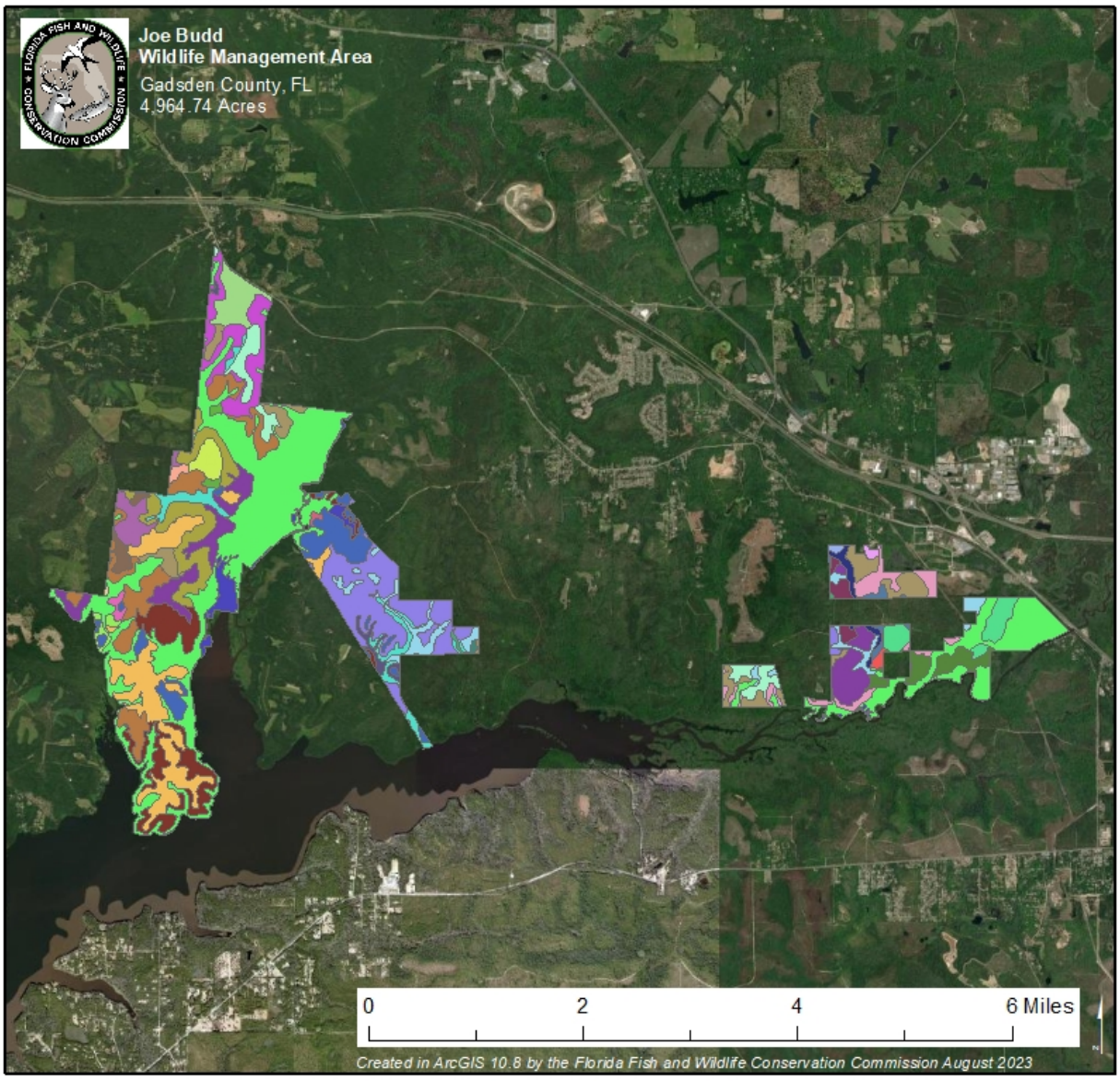


Figure 7. Soil Types

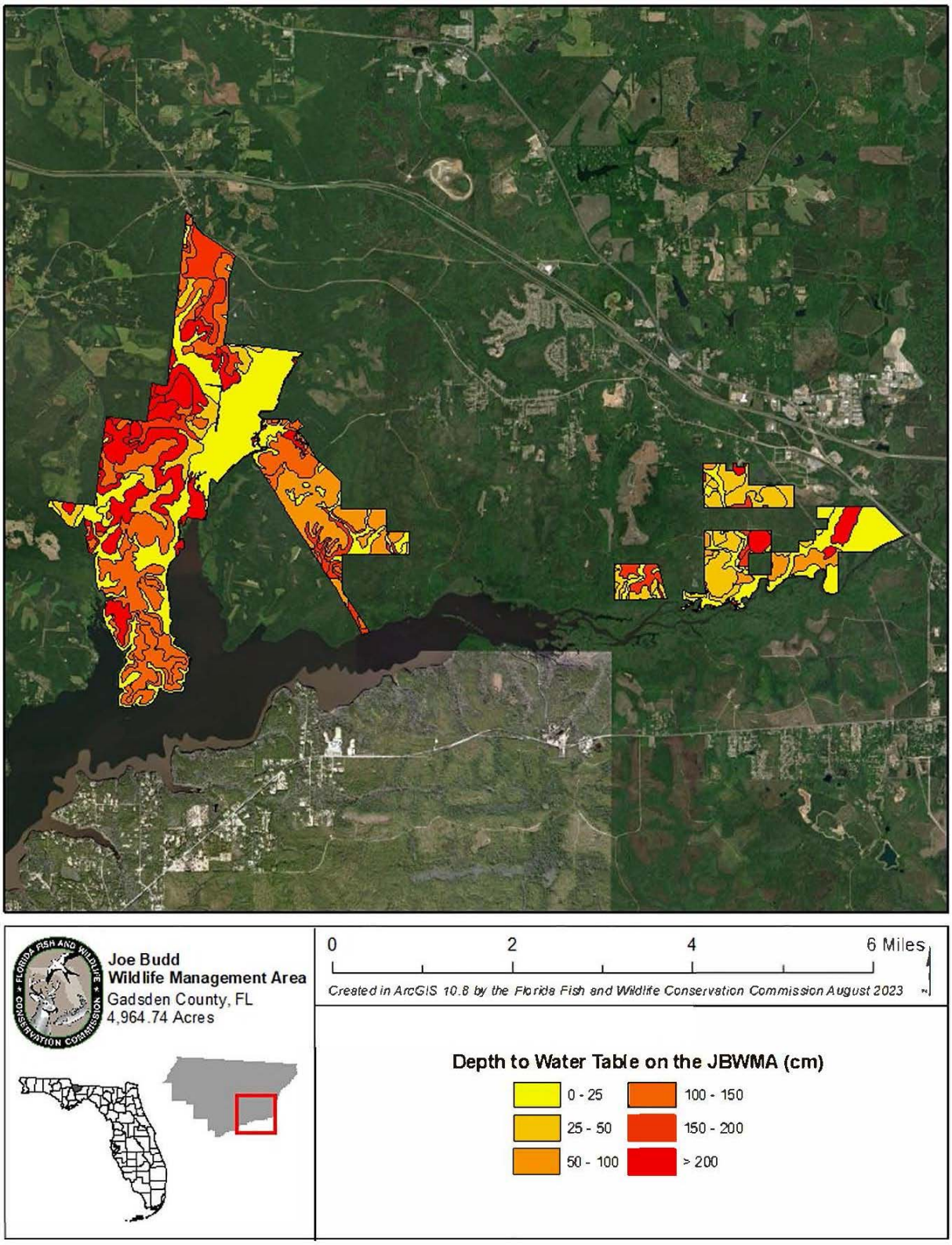


Figure 8. Depth to Water Table

2.2 Vegetation

The FWC manages the lands in the WMA system using a proactive natural community-focused approach. As applied by the FWC, natural resource management starts by classifying lands into distinct natural communities. The FWC then conducts management activities to maintain or enhance each community's structure, composition, and function. Land management that has a positive influence on natural community conditions generally benefits species occurring in these habitats.

Through the services of the Florida Natural Areas Inventory (FNAI), the FWC has mapped the cooperative land cover, and the historic and current natural and altered landcover types of the JBWMA and documented 24 natural and altered communities on the JBWMA (Table 3, Figures 9 and 10, and Appendix 11.6).

Additionally, plant species found on the JBWMA have been documented and recorded by either FWC staff or contractors (Appendix 11.5). Currently, 27 imperiled plant species and 10 non-native and invasive plant species have been documented on the area (Tables 4 and 5, Sections 2.2.1 and 2.2.2).

Table 3. Natural Communities and Altered Landcover Types

Community Type	GIS Acres	Percentage
Artificial Pond	15.36	0.30%
Baygall	1.73	0.03%
Blackwater Stream	10.18	0.20%
Bottomland Forest	1,118.45	22.15%
Clearing/Regeneration	67.66	1.34%
Depression Marsh	21.11	0.42%
Developed	19.31	0.38%
Dome Swamp	6.26	0.12%
Firebreak	4.73	0.09%
Floodplain Marsh	4.18	0.08%
Floodplain Swamp	455.17	9.02%
Linear Feature	3.05	0.06%
Mesic Flatwoods	166.97	3.31%
Pine Plantation	45.59	0.90%
Restoration Upland Pine	291.98	5.78%
Road	103.90	2.06%
Sandhill	36.60	0.72%
Successional Hardwood Forest	28.13	0.56%
Upland Hardwood Forest	887.90	17.59%
Upland Pine	1,550.02	30.70%
Utility Corridor	22.35	0.44%
Wet Flatwoods	36.08	0.71%
Wildlife Food Plot	152.26	3.02%

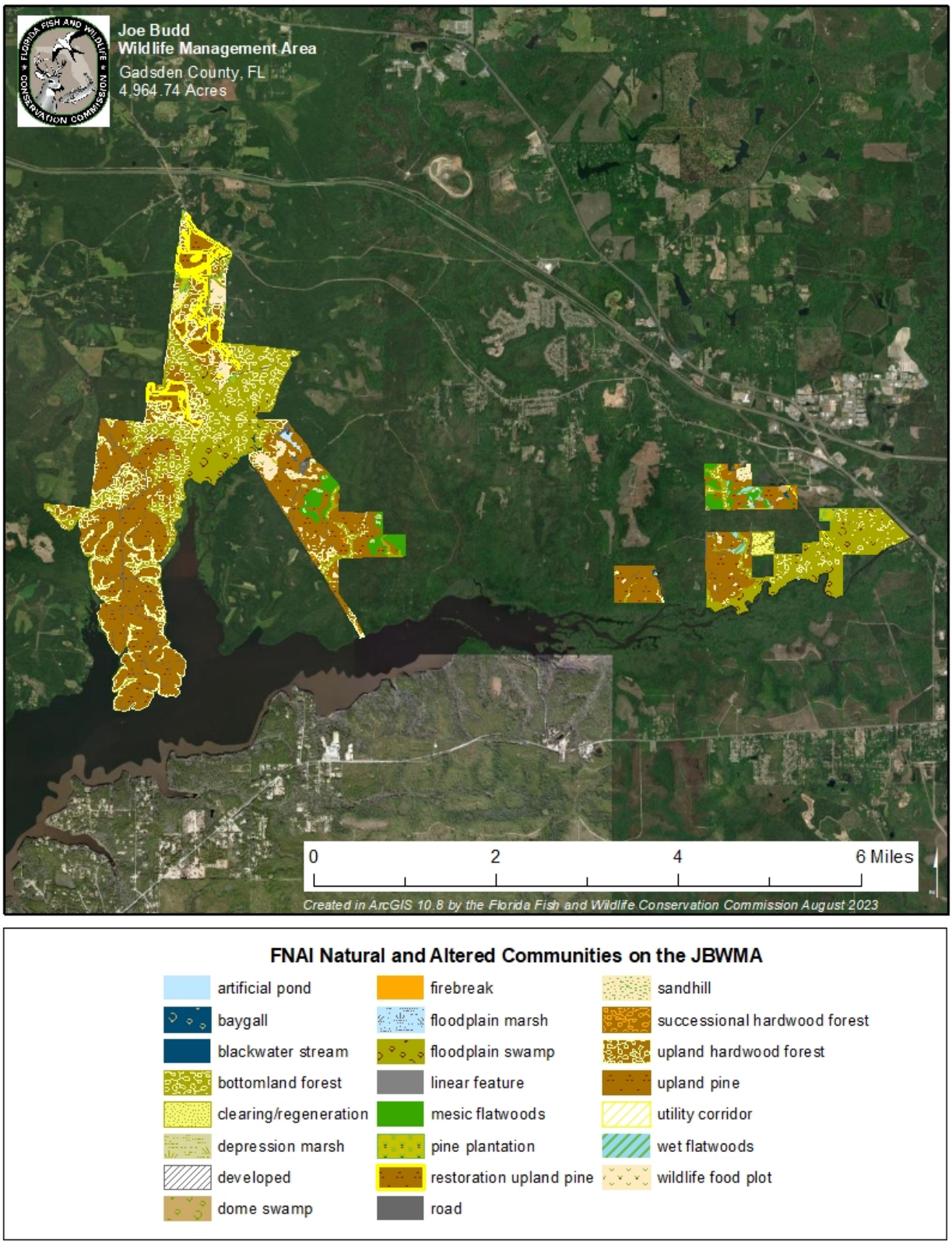


Figure 9. FNAI Natural and Altered Communities

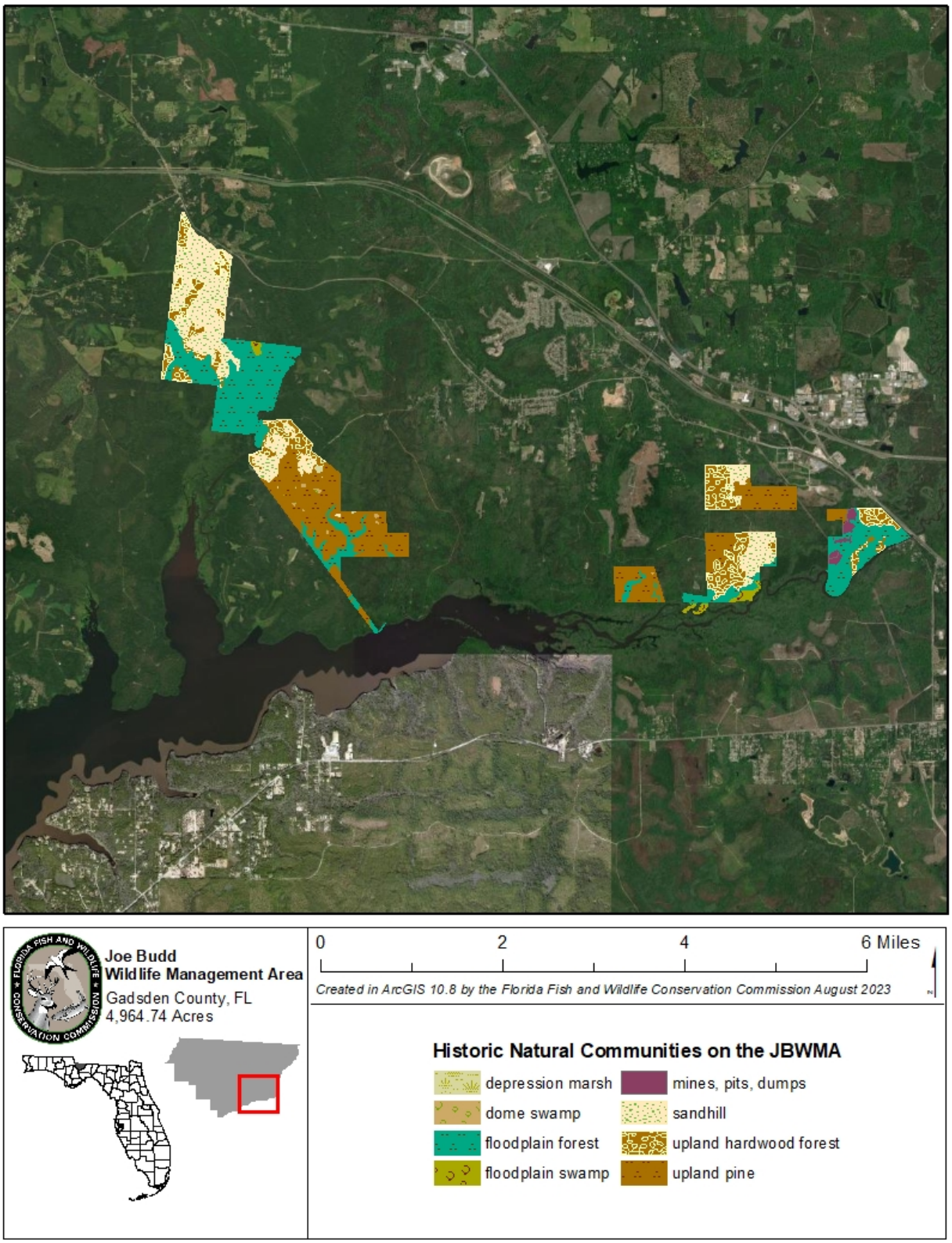


Figure 10. Historic Natural Communities

2.2.1 Imperiled Plants

For the purposes of this Management Plan, the term “imperiled species” as it relates to plants refers to plant species that Florida Department of Agriculture and Consumer Services (FDACS) or the United States Fish and Wildlife Service (USFWS) has designated as Endangered or threatened. This designation is commonly known as “listed species”, and all names and status determinations were derived from Florida’s Regulated Plant Index Rule (5B-40.0055, F.A.C.) that is maintained by FDACS.

FNAI conducted an imperiled plant survey in 2023 on the JBWMA and identified 27 imperiled plant species, of which 11 are designated State Endangered and 12 are State Threatened (Table 4). The protections afforded plants that occur on conservation lands, in conjunction with management actions including invasive plant removal and prescribed fire, should continue to maintain and enhance habitat for these and other imperiled plants. As such, these species should persist under planned management on the JBWMA.

In addition to the imperiled plants, three plants State listed as Commercially Exploited are known to occur on the JBWMA (Table 4). The FWC will continue to monitor the known occurrences of these species and report any illegal collection to the appropriate authorities.

Table 4. Imperiled Plant Species

Scientific Name	Common Name	Status	FNAI Ranks*
Athyrium filix-femina	Southern lady fern	ST	G5T5, SNR
Baptisia simplicifolia	Scare-weed	ST	G3, S3
Brickellia cordifolia	Heart-leaf Brickell-bush	SE	G3, S2
Calycanthus floridus	Sweet shrub	SE	G5, S2
Erythronium umbilicatum	Dimpled dogtooth-violet	SE	G5, S2
Hexastylis arifolia	Heartleaf wild ginger	ST	G5, S3
Lilium michauxii	Carolina lily	SE	G4G5, S2
Listera australis	Southern twayblade	ST	G4, S3S4
Lobelia cardinalis	Cardinal flower	ST	G5, SNR
Magnolia ashei	Ashe’s magnolia	SE	G2, S2
Magnolia pyramidata	Pyramid magnolia	SE	G4, S3
Malus angustifolia	Crabapple	ST	G5?, SNR
Matelea flavidula	Yellow-flowered spiny-pod	SE	G3?, S1
Matelea floridana	Florida spiny-pod	SE	G2, S2
Matelea gonocarpos	Angle pod	ST	G5, SNR
Osmunda cinnamomea	Cinnamon fern	CE	G5T5, SNR
Osmunda regalis	Royal fern	CE	G5T5, SNR
Platanthera ciliaris	Yellow-fringed orchid	ST	G5, SNR
Rhapidophyllum hystrix	Needle palm	CE	G4, S4
Rhododendron canescens	Pink azalea	CE	G5, SNR
Sarracenia minor	Hooded pitcher-plant	ST	G4, S4

Scientific Name	Common Name	Status	FNAI Ranks*
Spiranthes tuberosa	Little pearl-twist	ST	G5, S3S4
Stachys lythroides	Hyssop-leaved hedgenettle	SE	G5T1Q, S1
Stewartia malacodendron	Silky camellia	SE	G4, S3
Tipularia discolor	Crane-fly orchid	ST	G4G5, S4
Uvularia floridana	Florida merrybells	SE	G3, S1
Zephyranthes atamasca	Rainlily	ST	G4G5T4, S4

*FNAI Ranking System can be found in Appendix 11.22

Acronym	Status
CE	Commercially Exploited (State designation)
SE	State Endangered
ST	State Threatened

It is possible other imperiled species occur on the JBWMA, and, if encountered, staff will document these occurrences. Florida's imperiled species are adapted to natural communities and should continue to benefit from the FWC's ongoing and planned management to maintain and enhance natural community structure and function. Under the FWC's management, these species have a higher probability of persistence than in the absence of this management. However, while habitat management provides overall benefits to a host of species reliant upon these natural communities, imperiled species sometimes require specific attention.

Southern lady fern (*Athyrium filix-femina*) – Southern lady fern is a deciduous medium-sized understory fern that prefers partially shaded to shaded areas in upland hardwood forest, slope forests, and seepage streams. This species is sensitive to fire, but some of its preferred habitats occasionally burn during periods of drought. Hydrological disturbances and habitat alteration negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable and protect areas with known occurrences. The best time for conducting surveys or verifying species identity is when fronds are present, which occurs from March to November.

Scare-weed (*Baptisia simplicifolia*) – Scare-weed is a long-lived perennial with yellow raceme flowers and glabrate mature fruit that prefers sunny areas in mesic flatwoods and upland pine. This species needs a fire regime that includes frequent (two to four years for mesic flatwoods and one to three years for upland pine) growing season fires that reduce the encroachment of woody species and create open areas allowing sunlight to reach the ground. Altered fire regimes and fire suppression negatively affect this species, therefore, prescribed fire should follow appropriate natural community fire regimes incorporating the natural range of variation in burn season, frequency, and intensity. Flowering, which occurs from late July-August, is the best time for conducting surveys or verifying species identity.

Heart-Leaf Brickell-Bush (*Brickellia cordifolia*) – Heart-leaf brickell-bush is a perennial herb that prefers moist to dry, sunny areas in upland mixed woodland, upland pine, and slope forest. This species may occur in sunny openings or along edges of roads and trails. While this species' fire

requirements are currently unknown, some of its preferred habitats require frequent fire. Fire suppression and installing firebreaks in ecotones are harmful to this species, so staff should apply natural community specific fire regimes, not install firebreaks in ecotones, and allow fire to enter and extinguish naturally in non-fire maintained natural communities. Because logging can be detrimental, staff should protect known locations during timber operations. The best time for conducting surveys or verifying species identity is during flowering, which occurs from late August to October.

Sweet Shrub (*Calycanthus floridus*) – Sweet shrub, State Endangered, is an aromatic deciduous shrub that prefers moist areas in floodplain swamp, slope forest, and upland hardwood forest. This species is sensitive to fire, but some of its preferred habitats occasionally burn as a result of fire entering from adjacent fire-maintained communities. Soil disturbances negatively affect this species; therefore, staff should avoid intensive forestry practices such as heavy logging, clear cutting, chopping, disking, and bedding, and monitor known occurrences for hog activity. Flowering, which occurs from April to May, or fruiting, which occurs from August to September, are the best times for conducting surveys or verifying species identity.

Dimpled Dogtooth-Violet (*Erythronium umbilicatum*) – Dimpled dogtooth-violet is a perennial herb in the Lily family (Liliaceae) that prefers shaded to partially shaded areas in slope forest and upland hardwood forest. This species does not require fire. However, its preferred habitats occasionally burn when fires creep into the forest edges from surrounding pyrogenic communities. Illegal collecting and habitat alteration negatively affect this species; therefore, staff should protect known occurrences and make sure not to negatively influence areas with known occurrences. The best time for conducting surveys or verifying species identity is during flowering, which occurs from February to April.

Heartleaf Wild Ginger (*Hexastylis arifolia*) – Heartleaf wild ginger is an aromatic perennial evergreen herb that prefers full or partially shaded areas in slope forest and upland hardwood forest. This species does not require fire, but its preferred habitats occasionally burn when fires creep into the forest edges from surrounding pyrogenic communities. Soil disturbances negatively affect this species; therefore, staff should limit the impact of disruptive activities near documented occurrences, including monitoring for hog damage. Flowering, which occurs from late March to May, is the best time for conducting surveys or verifying species identity.

Carolina Lily (*Lilium michauxii*) – Carolina lily is a perennial herb that prefers open or partly shaded areas in mesic hammock and upland hardwood forest. This species does not require fire, but its preferred habitats occasionally burn when fires creep into the forest edges from surrounding pyrogenic communities. Soil disturbances negatively affect this species; therefore, management should limit the impact of disruptive activities near documented occurrences, including monitoring for hog damage. The best time for conducting surveys or verifying species identity is during flowering, which occurs from late July to early August.

Southern twayblade (*Listera australis*) – Southern twayblade is a small terrestrial orchid that prefers partially shaded to sunny areas in bottomland forests, baygalls, mesic and wet flatwoods, ravines, banks of streams, and hydric hammocks. Botanists have not studied this species' fire

ecology. However, this species occurs in mesic and wet flatwoods, which require frequent fire. Soil and hydrologic disturbance negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable, limit disruptive activities near documented occurrences, and monitor for hog activity. Flowering, which occurs from January to May, is the best time for conducting surveys or verifying species identity.

Cardinal Flower (*Lobelia cardinalis*) – Cardinal flower is a milky sapped tall perennial herb with large, brilliant red, two-lipped flowers on a tall stem. Few native plants have flowers of such intense color as cardinal flower, so it is easily recognized at a considerable distance when in bloom in the summer. This species prefers sunny areas near sources of water in bottomland forest, dome swamp, hydric hammock, floodplain swamp, and spring run streams. Cardinal flower is sensitive to fire, and typically prefers non-pyrogenic habitats, which occasionally burn during periods of drought. Soil and hydrologic disturbance negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable, avoid using heavy machinery in wetlands with known occurrences, and monitor known populations for hog damage. The best time for conducting surveys or verifying species identity is during flowering, which primarily occurs from July to September.

Ashe's Magnolia (*Magnolia ashei*) – Ashe's magnolia, endemic to Florida, is often a multi-trunked small tree that prefers mesic hammock, slope forest, and upland hardwood forest. This species does not require fire, but its preferred habitats occasionally burn when fires creep into the forest edges from surrounding pyrogenic communities. Soil disturbances negatively affect this species; therefore, staff should limit the impact of disruptive activities near documented occurrences, including monitoring for hog activity. Flowering, which occurs from April to May, is the best time for conducting surveys or verifying species identity.

Pyramid Magnolia (*Magnolia pyramidata*) – Pyramid magnolia is a single-trunked tree that prefers mesic hammock, slope forest, and upland hardwood forest. This species does not require fire, but its preferred habitats occasionally burn when fires creep into the forest edges from surrounding pyrogenic communities. Soil disturbances negatively affect this species; therefore, staff should limit the impact of disruptive activities near documented occurrences and monitor known populations for hog damage. The best time for conducting surveys or verifying species identity is during flowering, which occurs from April to May.

Crabapple (*Malus angustifolia*) – Crabapple is a small deciduous tree with spreading branches, and a broad open canopy and it commonly forms thickets from suckers sprouting from its roots. This species prefers areas in mesic flatwoods, mesic hammock, sandhill, scrubby flatwoods, upland mixed woodland, and upland pine. While crabapple does not require fire for its survival, most of its preferred habitats require periodic fires that reduce overstory competition. If crabapple is top killed by fire, it survives by resprouting from its roots. Altered fire regimes and fire suppression negatively affect this species' preferred habitats; therefore, prescribed fire intervals should be applied with a frequency appropriate for the community with appropriate variation in season, frequency, and fire intensity. This species is considered important to wildlife as both food (the fruit and as browse), and as cover (when it grows as a thicket). Flowering, which occurs

primarily from February to May, or fruiting, which occurs from August to September, are the best time for conducting surveys.

Yellow-flowered spiny-pod (*Matelea flavidula*) – Yellow-flowered spiny-pod is an herbaceous, perennial vine and like other members of the Matelea genus, their leaves and stems produce a milky sap when cut or injured. This species prefers moist, well-drained, sunny or semi-shaded areas in bluff forests, upland hardwood forests, and upland glade edges. Yellow-flowered spiny-pod does not require fire, and it prefers non-pyrogenic habitats. Since this species is difficult to distinguish from other similar species without flowers or fruits, flowering or fruiting is the best time for conducting surveys or verifying species identity. Yellow-flowered spiny-pod flowers from early April to July, and fruiting occurs from August to October. Staff may be able to distinguish this species from other similar species by its yellow-green corolla with a darker green net-like pattern veins, and its lance shaped fruits that are covered in fleshy spines. Habitat alteration and invasive species negatively affect this species; therefore, staff should protect known occurrences.

Florida Spiny Pod (*Matelea floridana*) – Florida spiny pod prefers to grow and flower in moist well-drained soils, sunny or semi-shaded areas in mesic hammock, upland mixed woodland, and upland pine communities. However, Florida spiny pod is also able to grow and flower in full shade. This species may benefit from occasional fire to maintain and promote the open grassy habitats that it favors, with most fire occurring during the growing season. Since Florida spiny pod is difficult to distinguish from closely related species without flowers or fruits, flowering or fruiting is the best time for conducting surveys or verifying species identity. Florida spiny pod flowers from May-July, and fruiting occurs from August to October. Staff may be able to distinguish this species from other similar species by its black, cup-shaped, appendaged corona and maroon (sometimes yellow-green) petals, and its lance shaped fruits that are covered in fleshy spines. Altered fire regimes, fire suppression, and hydrologic disturbances negatively affect this species; therefore, staff should avoid constructing fire breaks in ecotones, restore ecotones by removing existing roads and fire breaks, and maintain and restore the natural hydrology.

Angle Pod (*Gonolobus suberosus*) – Angle pod is an herbaceous, perennial vine and like related members of the Matelea genus, its leaves and stems produce a milky sap when cut or injured. This species prefers moist well-drained, sunny, or semi-shaded areas in alluvial forest, basin swamp, baygalls, blackwater streams, bottomland forest, hydric hammock, maritime hammock, mesic hammock, shell mounds, upland hardwood forest, and upland pine communities. Angle pod may occur along wooded roadsides, and on the edges of sinkhole. Even though angle pod occurs in upland pine communities, which require frequent fire (2-3 year), it is sensitive to fire, surviving in fire shadows. Managers should vary the seasonality and severity of prescribed burns and allow prescribed fires from adjacent fire-maintained communities to naturally burn into and naturally extinguish in its' preferred communities. Since Angle pod is difficult to distinguish from other similar species without flowers or fruits, flowering or fruiting is the best time for conducting surveys or verifying species identity. Angle Pod flowers from June to August, and fruiting occurs from August to October. Staff may be able to distinguish this species from other similar species by its yellow or greenish-brown petals without a network of veins, dome-shaped corona, and its lance shaped fruits that are smooth and longitudinally angled. Soil and hydrologic disturbances

negatively affect this species; therefore, staff should limit the impact of disruptive activities, and maintain and restore the natural hydrology where practicable.

Cinnamon Fern (*Osmunda cinnamomea*) and Royal Fern (*O. regalis*) – These ferns, State Commercially Exploited, are terrestrial ferns that occur in many wet natural communities in Florida. While these species grow in many communities that the FWC typically does not actively manage, if conducting management activities near known occurrences, staff should make efforts to protect known occurrences from chemical and mechanical treatments. These species do not require fire. However, some of the natural communities in which these species occur are fire adapted, and these ferns resprout after fire. Illegal collecting and hydrological disturbances negatively affect these species; therefore, staff should protect areas with known occurrences and maintain and restore the natural hydrology where practicable. As fronds are present year-round, these species can be identified throughout the year.

Yellow-fringed Orchid (*Platanthera ciliaris*) – Yellow-fringed orchid is a terrestrial perennial orchid that prefers full or partial sun and moist to wet acidic soils in marsh, mesic flatwoods, seepage slope, wet flatwoods, and wet prairie. It also occurs along roadsides. The specific fire requirements are unknown for this species. However, since it prefers full or partial sun, a fire regime in flatwoods and prairies of frequent (2-3 year) growing season fires that reduce the encroachment of woody species will be beneficial for this species. Soil and hydrologic disturbance negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable, avoid using heavy machinery in wetlands with known occurrence, and monitor known populations for hog activity. Flowering, which occurs primarily from late June to late September, is the best time for conducting surveys or verifying species identity. Because flowering in this species is highly erratic from year to year, populations may be persisting even if not seen.

Needle Palm (*Rhapidophyllum hystrix*) – Needle palm is a small shrubby palm that prefers basin swamp, bottomland forest, floodplain swamp, hydric hammock, mesic hammock, sinkhole, slope forest, and upland hardwoods forest. Even though this species is not fire tolerant, staff should allow fire to naturally enter and extinguish within its habitats when feasible. Illegal collecting and habitat alteration negatively affect this species; therefore, protect known occurrences and make sure not to negatively influence areas with known occurrences. Surveys or species identification may occur throughout the year for this species.

Pink Azalea (*Rhododendron canescens*) – Pink azalea is a deciduous multi-trunked shrub or small trees that prefers moist areas in hydric hammock, mesic flatwoods, seepage slope, upland pine forest, and wet flatwoods. This species does not require fire. However, some of its preferred habitats are fire adapted, and this species may resprout after light fires. Illegal collecting and hydrological disturbances negatively affect this species; therefore, staff should protect areas with known occurrences, and staff should maintain and restore the natural hydrology where practicable. The best time for conducting surveys or verifying species identity is during flowering, which occurs from March to May.

Hooded Pitcherplant (*Sarracenia minor*) – Hooded pitcherplant is a perennial carnivorous herb forming dense clumps that prefers sunny to lightly shaded, moist to wet, sandy, acid soil in basin swamp, depression marsh, dome swamp, dry prairie, mesic flatwoods, wet flatwoods, wet prairie, shrub bog, seepage slope, and edges of seepage stream. This species may occur on boggy roadsides and ditches. Hooded pitcherplants have the widest ecological range compared to other Sarracenia species, grow on both wet and dry sites, and are more shade tolerant than most species of the genus. This species needs a fire regime that includes frequent (2-3 years) growing season fires that reduce the encroachment of woody species. Fire usually top-kills pitcherplants, but they survive by resprouting from rhizomes. Pitchers are identifiable all year, and surveys for flowers can occur from late March to mid-May. Soil and hydrologic disturbances negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable, avoid soil disturbing activities near known populations, and monitor sites for hog activity.

Little Pearl-twist (*Spiranthes tuberosa*) – Little pearl-twist is a perennial orchid that prefers open areas in mesic flatwoods, sandhill, scrub, scrubby flatwoods, and wet prairie. This species may occur along dry to moist roadsides and ditches. The specific fire requirements are unknown for this species. However, since this species occurs in fire-maintained communities, a fire regime that includes frequent growing season fires that reduce the encroachment of woody species, and fires allowed to naturally enter and extinguish in wetlands and ecotones will be beneficial for this species. Hydrological disturbances and illegal collecting negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable and protect known occurrences. Flowering, which occurs from late May to July, is the best time for conducting surveys or verifying species identity. However, if staff plan on making opportunistic observations for this species, they may need to react when they notice blooming, since this species has a short blooming period (10-40 days).

Hyssop-leaved hedgenettle (*Stachys lythroides*) – Hyssop-leaved hedgenettle is a perennial herb with branching 4-angled stems that prefers moist to wet sandy areas in bottomland forest, floodplain swamp, and alluvial forest. This species may occur on natural pond margins. Hyssop-leaved hedgenettle does not require fire. Hydrological disturbances and habitat alteration negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable and protect areas with known occurrences. The best time for conducting surveys or verifying species identity is during flowering, which occurs from late June to September.

Silky Camellia (*Stewartia malacodendron*) – Silky camellia is a deciduous shrub or tree that prefers shaded areas in bottomland forest, slope forest, and upland hardwood forest. This species does not require fire, but its preferred habitats occasionally burn when fires creep into the forest edges from surrounding pyrogenic communities. Soil disturbances negatively affect this species; therefore, staff should avoid intensive forestry practices such as heavy logging and clearcutting near known occurrences. Flowering, which occurs from April to June, and fruiting which occurs from June to October, are the best time for conducting surveys or verifying species identity.

Crane-fly orchid (*Tipularia discolor*) – Crane-fly orchid is a small terrestrial orchid that prefers shaded moist areas in upland hardwood forest, upland mixed woodland, hammocks, and ravine forests. The specific fire requirements are unknown for this species. However, this species occurs in upland mixed woodland, which requires periodic fire. Habitat degradation and invasive species negatively affect this species; therefore, staff should protect this species' habitat from alteration and treat invasive plant infestations, taking extra precautions to protect this species during herbicide treatments. The best time for conducting surveys or verifying species identity is during flowering, which occurs from late June to September.

Florida Merrybells (*Uvularia floridana*) – Florida merrybells is an erect perennial herb that prefers mesic to wet areas in bottomland forest, floodplain forest, slope forest, and upland hardwood forest. This species does not require fire, but its preferred habitats occasionally burn when fires creep into the forest edges from surrounding pyrogenic communities. Habitat alteration and intensive forestry practices such as clearcutting and heavy logging negatively affect this species; therefore, staff should protect areas with known occurrences. Flowering and fruiting, which occurs from March to April, is the best time for conducting surveys or verifying species identity.

Rainlily (*Zephyranthes atamasca*) – Rainlily is a perennial herb that prefers the closed canopied bottomland forest, hydric hammock, mesic hammock, upland hardwood forest, and upland mixed forest. This species does not require fire; however, it vigorously flowers following fires. Hydrological disturbances, illegal collecting, and fire suppression in flatwoods negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable, protect areas with known occurrences, and apply prescribed fire conducted within flatwoods with a frequency that will create or maintain open areas, limit the shrub layer, and encourage diverse herbaceous cover. The best time for conducting surveys or verifying species identity is during flowering, which occurs from January-May.

2.2.2 Invasive and Non-native Plants

FWC biologists and contractors have documented 10 non-native and invasive plant species (Table 5) on the JBWMA. Species that are considered invasive are species that (a) are nonnative to a specified geographic area; (b) were introduced by humans (intentionally or unintentionally); and (c) do or can cause environmental, economic, or human harm. The FWC relies on the Florida Invasive Species Council (FISC) for the categorization of invasive plant species.

Table 5. Non-native and Invasive Plant Species Observed

Scientific Name	Common Name	FISC Category
Albizia julibrissin	Silktree, Mimosa	I
Alternanthera philoxeroides	Alligator weed	II
Ardisia crenata	Coral ardisia, scratchthroat	I
Cinnamomum camphora	Camphor tree	I
Crotalaria spectabilis	Showy rattlebox	-
Cynodon dactylon	Bermudagrass	-
Desmodium triflorum	Threeflower tick-trefoil	-
Imperata cylindrica	Cogongrass	I
Kummerowia striata	Japanese clover	-

Ligustrum sinense	Chinese privet	I
Lygodium japonicum	Japanese climbing fern	I
Paspalum notatum	Bahiagrass	-
Sporobolus indicus	Smutgrass	-
Triadica sebifera	Chinese tallow, Popcorn tree	I
Verbena brasiliensis	Brazilian vervain	-

2.3 Fish and Wildlife Resources

As described above, the JBWMA has a variety of natural communities and habitat types that support a wide array of imperiled and more common wildlife species. Active wildlife management practices make the JBWMA an excellent place to view wildlife. The JBWMA's bottomland forest, upland hardwood forest, floodplain swamp, and other natural communities provide critical habitat for resident and migratory wildlife. The FWC maintains an inventory of fauna occurring on the JBWMA listed in Appendix 11.5, including mammals, birds, reptiles, amphibians, and invertebrates.

2.3.1 Imperiled Fish and Wildlife

For the purposes of this Management Plan, the term "imperiled species" refers to plant and animal species that are designated as Endangered, Threatened, or a Species of Special Concern by the FWC, or that are designated as Endangered or Threatened by the USFWS. This designation is also commonly known as "listed species." Table 6 outlines all imperiled fish and wildlife that have been observed on the JBWMA.

Table 6. Imperiled Species Observed

Scientific Name	Common Name	Status	FNAI Ranks*
Gopherus polyphemus	Gopher tortoise	ST	G3, S3
Mycteria americana	Wood stork	FT	G4, S2

*FNAI Ranking System can be found in Appendix 11.22

Acronym	Status
FT	Federally Threatened
ST	State Threatened

At its November 2016 Commission meeting, the FWC approved Florida's Imperiled Species Management Plan (http://myfwc.com/wildlifehabitats/imperiled/plan/), which included changes to the listing status for many wildlife species. Subsequent rule changes (68A-27.003 and 68A-27.005 F.A.C.) have come into effect since the Imperiled Species Management Plan was approved and those changes have been incorporated into this Management Plan. All federally listed species that occur in Florida are included in Florida's Endangered and Threatened Species list (https://myfwc.com/media/1945/threatened-endangered-species.pdf) as federally-designated Endangered or federally-designated Threatened. Species that are not federally listed, but which have been identified by the FWC as being at some level of risk of extinction, are state-designated as Threatened.

Gopher Tortoise Recipient Site Eligibility

According to an FWC GIS analysis, Joe Budd WMA has roughly 1,300 acres of potentially permittable soils and landscape classifications, per the Gopher Tortoise Permitting Guidelines developed in April 2023. However, due to the area's objective to manage listed wildlife, the fact the area has an existing primary support gopher tortoise population, and the initial and recurring costs of establishing and maintaining a gopher tortoise recipient site, our determination is that the establishment of a gopher tortoise recipient site is not feasible at this time and would conflict with the primary management objective of Joe Budd WMA.

2.3.2 Invasive and Non-Native Wildlife Species

In addition to the species listed in Appendix 11.5, one invasive and non-native wildlife species has been documented on the JBWMA (Table 7). The FWC will continue to document any occurrences of invasive and non-native species found on the JBWMA. More information on monitoring and management of invasive and non-native wildlife can be found in Section 4.5 and Section 5.4.

Table 7. Invasive and Non-native Species Observed

Scientific Name	Common Name
Sus scrofa	Wild hog

2.3.3 FNAI Element Occurrences

A diversity of wildlife species is found on the JBWMA. The FWC uses the FNAI Natural Heritage Database to assist in identifying and recording rare species and sensitive resources on FWC-managed areas. This database also supplemented the development of the species tables found in Appendix 11.5. FNAI's Natural Heritage Database is a comprehensive compilation of records documenting the location and ecological status of rare plant and animal species in the state. The database consists of "element occurrences", where an "element" is any exemplary or rare component of the natural environment, such as a species, natural community, or other ecological feature; and an "element occurrence" is an area of land and/or water where an element is, or was, present. FNAI scientists "track" (collect information on) approximately 233 vertebrates, 562 invertebrates, and 492 plants representing approximately 13% of the state's vertebrate species, less than 5% of the invertebrates, and about 12% of the plants. The status of each tracked element is assessed using standardized methodology; each tracked element is assigned ranks that reflect its rarity and degree of imperilment at the global and state level. These ranks are applied using a methodology that incorporates many factors, including geographic range; number, size, and condition of known occurrences; population size and trends; life history characteristics; and threats. The Natural Heritage ranking system and definitions in Appendix 11.22 and can furthermore be found on the following website:
https://www.fnai.org/PDFs/Rank_and_Status_Explanation.pdf

The FNAI element occurrence records include 77 occurrences of wildlife species in the vicinity of the JBWMA. Several of the imperiled species discussed in Section 2.2.1 and Section 2.3.1 in this

report are tracked by FNAI. These species and their ranks are listed in Table 6. In addition to the imperiled species listed in Table 6, FNAI also tracks two additional species that occur on the JBWMA, pine snake (*Pituophis melanoleucus*; G4, S3) and Florida black bear (*Ursus americanus floridanus*). Appendix 11.10 contains a letter from FNAI authorizing the FWC to utilize their database for the purpose of identifying known plant and animal resources.

2.4 Water Resources

All surface waters of the State are classified by the DEP according to designated uses as described in Chapter 62-302.44 F.A.C. The surface waters of the JBWMA are designated as Class III and classified for fish consumption, recreation or limited recreation, as well as propagation and maintenance of a healthy, well-balanced population of fish and wildlife. Additionally, it is the policy of the DEP to afford the highest protection to Outstanding Florida Waters (OFW) and Outstanding National Resource Waters (Chapter 62-302.700, F.A.C.). Portions of the JBWMA, including Lake Talquin and the surrounding floodplains are designated as OFW. No degradation of water quality, other than that allowed in subsections Chapter 62-4.242(2) and (3) F.A.C., is permitted in these OFW, notwithstanding any other DEP rules that may allow water quality lowering. The JBWMA is not located within and/or adjacent to an aquatic preserve. The JBWMA has numerous water resources that include Double Branch, Gulley Branch, Hunter Creek, Little River, Midway Branch, Mule Creek, Ochlockonee River, Pole Branch, Richlander Creek, Rocky Comfort Creek, and several smaller unnamed seepage streams. Joe Budd Pond and Lake Talquin are the open water bodies associated with the JBWMA.



Figure 11. Water Resources

2.5 Forest Resources

On the JBWMA, the FWC is converting the former intensively managed forestry property to a diverse array of communities more representative of the historical and natural landscapes. The project area covers about 1,010 acres of pine timberland. These natural pine stands contain loblolly, longleaf, and slash pine with about 55% of them being over 75 years old. Thinning of the forest over-story, hydrological restoration and reintroduction of prescribed burning are the most important factors in re-establishment of natural communities and the enhancement of wildlife habitats in these areas. Upland pine forest planted with off-site pines will be reforested with longleaf pine or other on-site species as appropriate. Degraded or disturbed bottomland hardwood sites will be encouraged to reforest naturally with native wetland oaks, hardwoods, and other appropriate native plant species.

2.6 Beaches and Dunes

There are no beaches or dunes located on the JBWMA.

2.7 Mineral Resources

An abandoned sand mine is in the eastern portion of the JBWMA.

2.8 Cultural Resources

The Florida Master Site File (FMSF), maintained by the Florida Department of State's Division of Historical Resources (DHR), is the State of Florida's official inventory of cultural resources, archaeological and historical survey reports, and other manuscripts relevant to historic preservation in Florida. Categories of resources recorded at the FMSF include archaeological sites, historical structures, historical cemeteries, historical bridges, and historical resource groups (comprised of historic districts, landscapes, and linear features).

To date, the FMSF indicates that 11 previous cultural resource surveys have been conducted on the JBWMA. Additionally, 17 archaeological sites and one historical structure have been recorded on the JBWMA. None of the identified cultural resources have been determined eligible for inclusion in the National Register of Historic Places (NRHP) (Table 8). The FWC consults with the DHR to determine the necessary actions for resource inventory and preservation. All identification, assessment, and preservation strategies are developed in consultation with the DHR.

Table 8. Cultural Resources

FMSF No.	Resource Category	Resource Title	Acres	NRHP Eligibility
GD00106	Archaeological site	Pace Site	76.98	Yes
GD00114	Archaeological site	N/A	6.08	No
GD00125	Archaeological site	Suber	34.11	No
GD00303	Archaeological site	Richlander Creek	45.62	No
GD00310	Archaeological site	Gadsden Station 7	1.08	No
GD00405	Archaeological site	X138f-1	9.08	No
GD00701	Archaeological site	Little River Village	17.34	No
GD00702	Archaeological site	Rocky Comfort Scatter	8.69	No

GD00703	Archaeological site	Rocky Comfort Homestead	2.94	No
GD00704	Archaeological site	Francis	0.47	No
GD00705	Archaeological site	Animal Pen	4.51	No
GD00706	Archaeological site	Coral Bend	0.49	No
GD00707	Archaeological site	Lone Sherd	0.33	No
GD00708	Archaeological site	Bunting	1.37	No
GD00710	Archaeological site	Five Points	5.05	No
GD00875	Archaeological site	Drew-Hair Homestead	10.26	No
GD00876	Archaeological site	Little River Bluff	3.33	No
GD02268	Historical structure	Joe Budd Cabin	--	No

2.9 Scenic Resources

On the JBWMA, visitors are treated to the shoreline views of Lake Talquin and beautiful scenery within the upland habitats. This area offers great opportunities for birdwatching among the natural communities of upland pine, upland hardwood forest, and mesic flatwoods, as well as a variety of rare plants throughout the JBWMA.

3 Uses of the Property

3.1 Previous Use and Development

The first Paleoindian inhabitants of Florida arrived at least 13,000 years ago. While these and subsequent native inhabitants of Florida were largely fisher-gatherer-hunters, subsequent cultures began to produce domesticated crops, such as maize, beans, squash, and other crops for a growing and increasingly sedentary population. For thousands of years before Europeans arrived, Native peoples thrived in South Florida by hunting, fishing, and gathering of wild plants and shellfish. The forced removal of these cultures began shortly after the arrival of Europeans, either by the introduction of disease—to which the Native Americans had no resistance—or through outright conflict. In modern day Florida, the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida are federally recognized tribes, the Muscogee Nation of Florida is state recognized, and the Muscogee, along with several other tribes, have active petitions for federal recognition.

By the time Europeans arrived, the landscape of Florida had been shaped and modified by Native Americans for thousands of years. Along with novel agricultural practices, the Spanish, and later, the British and other settlers, brought cattle, hogs, horses, and other livestock to Florida. Social programs such as British agricultural land grants led to the proliferation of intensive agriculture throughout the state.

Agricultural practices such as rangeland cattle grazing quickly became crucial to the economy of the state from the 16th through the 20th century. The influx of settlers and resulting intensification of agricultural practices led to additional landscape alteration, continuing a trend that had been occurring for centuries. This alteration was quickly outpaced by Florida's boom-and-bust economies of the 19th and 20th centuries. The ensuing widespread environmental modification

and commercial and residential development would permanently transform the cultural and ecological landscape of the state.

The JBWMA resides on the land that was originally home to Apalachee Indians; modern archeologists have discovered various artifacts on the JBWMA that show Indigenous Peoples once lived and thrived there. This area then played a role within the shade tobacco industry, as well as timber and cattle grazing.

3.2 Current Use of the Property

Currently, the JBWMA is managed for the conservation and protection of fish and wildlife habitat and fish and wildlife-based public outdoor recreation. A wide range of operational and resource management actions are conducted on the JBWMA each year, including activities such as prescribed burning; wildlife habitat restoration and improvement; invasive species maintenance and control; road repairs and maintenance; imperiled and locally-important species management, monitoring, and protection; facilities and infrastructure maintenance and repair; conservation acquisition and stewardship activities; cultural resources monitoring and protection; and research related activities.

The JBWMA is being managed as a multiple-use conservation land. Multiple-use management strategies incorporate uses related to wildlife, fisheries, forest management, and fish and wildlife-based public outdoor recreation. Current and anticipated resource uses of the property are diverse. Recreational opportunities are provided that are compatible with the original purposes for acquisition of the JBWMA. Hunting continues to be a popular recreational activity on the JBWMA. The area also offers excellent opportunities for bird watching, especially for wading birds. The diversity of vegetation not only harbors a variety of bird species, but also provides good opportunities for mammalian wildlife viewing. Other uses include hiking, photography, bicycling, sightseeing, and horseback riding, as well as the utilization of the JBYCC. Due to the proximity of population centers in Gadsden County, public use can be expected to increase as public awareness of opportunities increases.

3.2.1 Hunting

Currently, the JBWMA offers several hunting seasons, including archery, small game, archery/muzzleloading gun, and spring turkey. For more information on hunting opportunities at the JBWMA, please visit the Joe Budd WMA Hunting Brochure.

3.2.2 Fishing

Fishing is allowed throughout the JBWMA (except Joe Budd Pond), but only when hunting is not allowed on the area. The Joe Budd Pond is a 20-acre impoundment, and open to fishing on Saturdays and Sundays from the first Saturday in July through Labor Day. Other fishing opportunities are available on Lake Talquin, directly adjacent to the JBWMA, and Little River.

3.2.3 Paddling and Boating

Opportunities for paddling are available on Lake Talquin when the Joe Budd Pond is open, and Little River, where visitors can find boat landings and access points along High Bridge Road.

3.2.4 Trails and Roads

The JBWMA has an extensive network of roads and old logging trams, which provide opportunities for hiking, bicycling, and horseback riding. The Wetland Nature Trail meanders through a cypress swamp, offering many opportunities to observe wildlife and unique plants. Currently, the JBWMA offers 32.8 miles of marked, multi-use trails and 8.03 miles of roads. Hiking, bicycling, and horseback riding are available on all roads and trails within the JBWMA, except on the trails around the JBYCC. Additionally, there are approximately 6.3 miles of those roads for public vehicular access and the remainder used by staff to access the JBWMA for management.

3.2.5 Camping

Camping on the JBWMA is prohibited except for at the High Bluff campground by permit from the FFS.

3.2.6 Geocaching

Geocaching, also known as Global Positioning System (GPS) Stash Hunt and GeoStash, is a contemporary combination of orienteering and scavenger hunting generally utilizing a GPS receiver unit. Geocache websites routinely promote good stewardship. However, the potential exists for resource damage, user conflicts, or safety issues caused by inappropriately placed caches and/or links that do not provide adequate information about the area.

It is the policy of the FWC to allow placement of geocaches only in those locations that do not present the potential for resource damage, user conflicts, or threats to the safety of the activity participants. The placement of geocaches on the FWC-managed lands is governed by specific guidelines. These guidelines may be found on the following the FWC website: https://myfwc.com/license/public-land-use/geocaching/guidelines/ .

3.2.7 Wildlife Viewing

The JBWMA has a variety of wildlife indigenous to the flatwoods and sandy upland areas, including alligators, gopher tortoises, and more. On the JBWMA, there is a fishing pier/wildlife observation platform, a Great Florida Birding and Wildlife Trail site, on Lake Talquin; it is the perfect place to observe wading birds and the fish stocked in the pond. During spring and fall migration, visitors can also hear a wide variety of warblers in the pine-oak forests.

3.2.8 Joe Budd Youth Conservation Center

The JBYCC is a local treasure trove of education and adventure. This conservation center hosts survival workshops, summer day camps, and school year programs which are designed to give youths and families memorable outdoor experiences. The JBYCC is part of the Florida Youth Conservation Centers Network (FYCCN), the FWC's youth initiative that is leading the effort to reconnect Florida's youth with traditional outdoor activities. The FYCCN is a statewide network of sustainable places where youth and their families can participate in outdoor activities and safely share experiences that inspire lifelong support for fish and wildlife conservation.

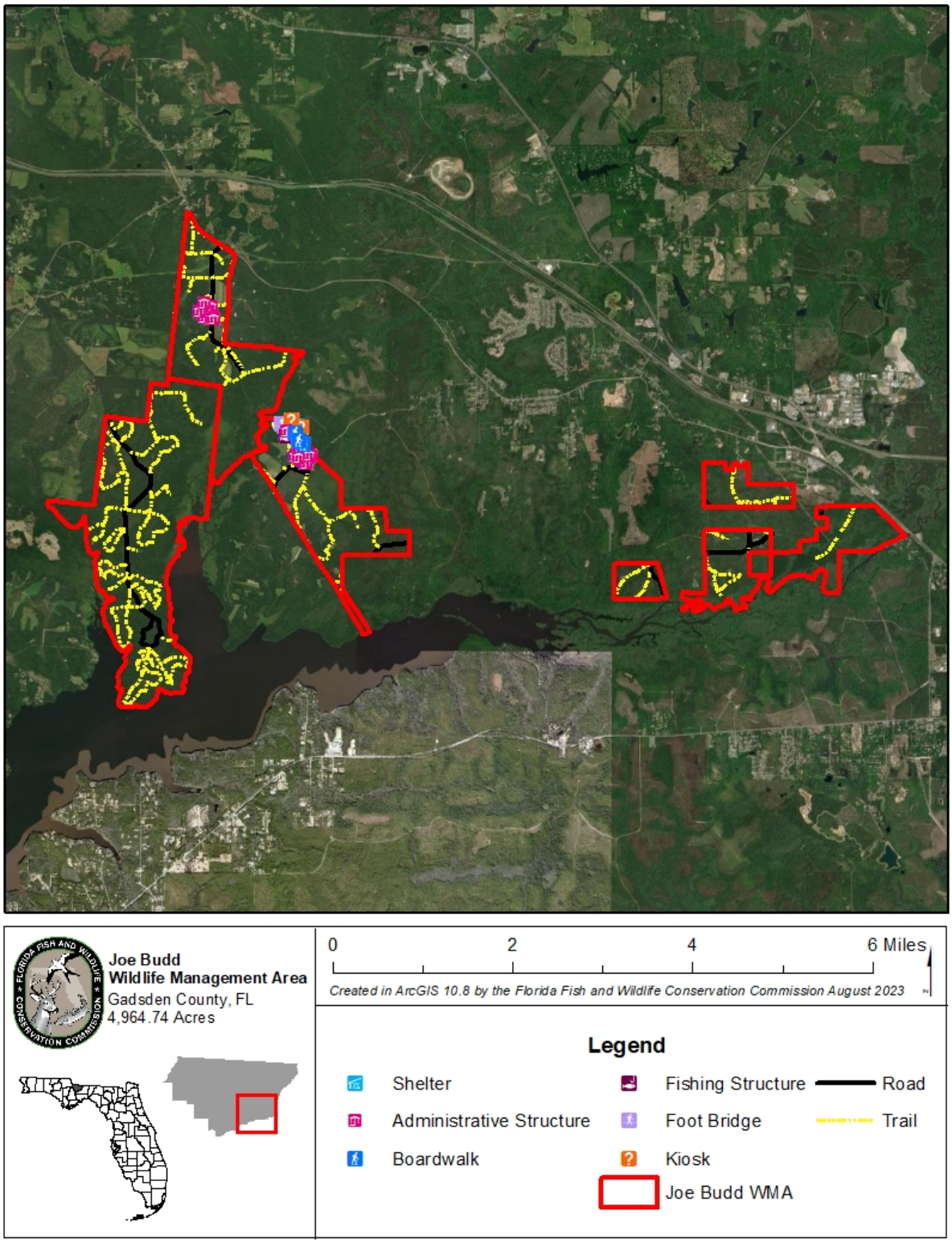


Figure 12. Facilities

3.3 Adjacent Land Uses

The JBWMA is in eastern Gadsden County, west of Tallahassee and southwest of Midway. Over the last 50 years, the economy of this area has been based primarily on mineral extraction, agriculture, and silvicultural practices. The urban area of Midway has been growing in the westerly and southerly directions, which will likely influence future development in the area.

The 2019 U.S. Census estimates that there are 48,813 people living in Gadsden County. The Department of Economic Affairs, Bureau of Economic and Business Research's (BEBR) medium-range population projection indicates that in the year 2035, there will be 44,400 people living in Gadsden County. The BEBR population projections for the counties surrounding Gadsden County for the year 2035 are as follows: Calhoun County – 14,200; Jackson – 49,000; Leon – 321,200; and Liberty – 7,900.

Lands immediately adjacent to the JBWMA are classified as Rural Residential, Agriculture, and Municipal. The current land use designation for the JBWMA is Conservation. According to the Gadsden County Land Development Code, this category permits recreational and silvicultural uses, and allows for one unit per forty acres. Gadsden County's Future Land Use Map indicates that the JBWMA will continue to be designated and zoned as Conservation.

3.4 Visitation, Economic Benefits, and Revenue-generating Potential

Visitation and public use of the area for fish and wildlife-based public outdoor recreational opportunities is the primary source of economic benefits from the JBWMA, which contributes to the overall economy for the northwest region of Florida. In Fiscal Year 2021-22, an estimated 50,539 people visited the JBWMA. As a result of this visitation and use of the area, the FWC economic analysis estimates that the JBWMA generated an annual economic impact of $9,874,815 * for the State and the northwest region of Florida. This estimated annual economic impact has aided in the support or creation of an estimated 100 jobs. *

Further revenue generating potential of the JBWMA will depend upon future uses described in this Management Plan, and may include sales of various permits, recreational user fees, or other ecotourism activities, if such projects are feasible. The annual area regulations can be consulted to clarify the necessary and required permits, fees, and regulations. Additionally, the long-term value of ecosystem services, including the protection of air and water quality functions, are considered to be significant to local and regional land and water resources, as well as human health.

**The above figures are based on expenditure data from the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation (USFWS) and 2006 IMPLAN economic models assembled by Southwick Associates and the USFWS. The results were updated in 2010 based on hunting and fishing license trends and inflation. The results were combined and weighted based on the numbers of hunters, anglers, and wildlife viewers statewide. The results assume participants' expenditures and the values used to calculate these expenditures are consistent throughout the state. Users applying these results to local situations should be aware that*

differences might exist between these statewide averages and the site in question and adjust if needed.

3.5 Single- or Multiple-use Management

As mentioned previously, the JBWMA will be managed under the multiple-use concept as a WMA. The JBWMA will provide fish and wildlife-based public outdoor recreation and educational opportunities, while protecting the natural and cultural resources found on the area. Any natural and cultural resources on the JBWMA will be managed under the guidance of ARC, the Conceptual State Lands Management Plan, and as outlined in the original purposes for acquisition. A detailed assessment of the benefits and potential impacts of planned uses and activities on natural and cultural resources was an integral part of the development of the management activities and intent, goals, objectives, challenges, and strategies sections of this Management Plan.

3.5.1 Analysis of Multiple-use Potential

The following actions or activities have been considered under the multiple-use concept as possible uses to be allowed on the JBWMA. Uses classified as “Approved” are considered to be in accordance with the purposes for acquisition; the Conceptual State Lands Management Plan; and the FWC agency mission, goals, and objectives as expressed in the FWC Agency Strategic Plan (Appendix 11.11). Uses classified as "Conditional" indicate that the use may be acceptable but will be allowed only if approved through a process other than the management plan development and approval process (e.g., special-use permitting, managed-area regulation and rule development). Uses classified as “Rejected” are not considered to be in accordance with the original purpose of acquisition or one or more of the various forms of guidance available for planning and management.

	Approved	Conditional	Rejected
Apiaries		✓	
Archery		✓	
Astronomy	✓		
Bicycling	✓		
Cattle grazing			✓
Citrus or other agriculture			✓
Ecosystem services and maintenance	✓		
Ecotourism		✓	
Environmental Education	✓		
First-responder training		✓	
Fishing		✓	
Geocaching		✓	
Hiking	✓		
Horseback riding	✓		
Hunting		✓	
Linear facilities		✓	
Military training		✓	
Preservation of cultural resources	✓		
Primitive camping		✓	

Protection of imperiled species	✓		
Off-road vehicle use			✓
Shooting sports park			✓
Soil and water conservation	✓		
Timber harvest		✓	
Wildlife observation	✓		

3.5.2 Incompatible Uses and Linear Facilities

Consideration of incompatible uses and linear facilities on the JBWMA are made in accordance with the requirements of Section 253.034(10), F.S.; various applicable Florida constitution, statute, rule, and policy requirements; and other provisions governing applications for proposed incompatible uses or linear facilities on state-owned conservation lands. Upon approval and implementation of this management plan, any proposed future uses that have been classified herein as Rejected, or other proposed future uses that are determined to be incompatible with the purposes of acquisition or other management authorizations and guidance, will be forwarded for review and approval consideration to the DEP-DSL, ARC, and the Board of Trustees prior to any incompatible use or linear facility being authorized on the JBWMA.

3.6 Acreage Recommended for Potential Surplus Review

On conservation lands where the FWC is the lead manager, the FWC evaluates and identifies recommended areas for a potential surplus designation by the DSL, ARC, and the Board of Trustees. This evaluation consists of GIS modeling and analysis, aerial photography interpretation, analysis of fish and wildlife resources, a review of resource and operational management needs, and a review of public access and recreational use of the area. Also, the FWC considers recommendations for surplus lands as they relate to Florida's "No Net Loss of Hunting Lands" legislation (Ch. 379.3001, F.S.), as well as surplus restrictions for lands acquired through the Federal Aid in Wildlife Restoration Act (Pittman-Robertson) or through other federal grant programs.

The evaluation of the JBWMA by the FWC has determined that all portions of the area are being managed and operated for the original purposes of acquisition and remain integral to the continued conservation of important fish and wildlife resources and continue to provide good fish and wildlife-based public outdoor recreational opportunities. Therefore, no portion of the JBWMA is recommended for potential surplus review.

4 Management Activities and Intent

The following section provides a description of agency plans to locate, identify, protect, preserve, or otherwise use fragile natural resources and non-renewable cultural resources. In general, the FWC management intent for the JBWMA is to restore and maintain natural communities in a condition that sustains ecological processes and conserves biological diversity, especially fish and wildlife resources. In conjunction with this primary emphasis, it is the FWC's intent to provide quality fish and wildlife-based public outdoor recreational opportunities on the JBWMA. The FWC will utilize the best available data, guidelines, natural resource management practices, and

recreational management practices to achieve these outcomes in accordance with the original purposes for acquisition. Furthermore, as noted previously, the management activities described in this section comply with those of the Conceptual State Lands Management Plan.

4.1 Land Management Review

On-site reviews of conservation and recreation lands that exceed 1,000 acres and are titled in the name of the Board of Trustees are required every five years by Section 259.036, F.S. These reviews determine whether the lands are being managed for the purposes for which they were acquired and whether they are being managed in accordance with their land management plan adopted pursuant to Section 259.032, F.S. According to statute, the review team “shall evaluate the extent to which the existing management plan provides sufficient protection to Threatened or Endangered species, unique or important natural or physical features, geological or hydrological functions or archaeological features. The review shall also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan.”

The most recent land management review for the JBWMA was done in 2019 and received excellent scores with no identified items requiring improvement.

4.2 Adaptive Management

Adaptive management is "learning by doing";[3] it is the adjustment or modification of conservation actions to achieve a desired conservation goal. In practice, adaptive management is a rigorous process that includes sound planning and experimental design with a systematic evaluation process that links monitoring to management.[3,4] Adaptive management requires flexibility for implementation, but should be fitted over a fundamentally sound, well-planned design.

An adaptive management process produces the strongest inference and most reliable results when experimental design components are incorporated into the monitoring process. Adaptive management is most rigorously applied in an active format when components of experimental design (i.e., controls, replication, and randomization) are included in the monitoring process.[3,4] Incorporating valid statistical analyses of results will further enhance the value of the adaptive management process. However, in some situations, rigorous experimental design procedures can be relaxed without invalidating monitoring results. In a passive format, adaptive management can involve applying a conservation action at a site, observing the results, and adjusting the action in the future if warranted. [3,4]

Proposed adaptive management, monitoring, and performance measures are developed through literature reviews and FWC staff meetings. Overall, a results-based approach is incorporated into the Management Plan, for which effective monitoring is an integral component. The FWC will monitor conservation actions, species, habitats, and major threats to the conservation of the natural and cultural resources of the JBWMA.

4.2.1 Monitoring

A well-developed monitoring protocol is also one of the principal required criteria for the management of the JBWMA. Monitoring and performance measures are important, but often overlooked, elements of conservation planning. Monitoring provides the critical link between implementing conservation actions and revising management goals.

Monitoring is the systematic, repeated measurement of environmental characteristics to detect changes, and particularly trends, in those characteristics. Monitoring provides essential feedback, the data needed to understand the costs, benefits, and effectiveness of planned conservation actions and the management projects undertaken to address them.[1]

For natural communities, monitoring protocols are established through the FWC's Objective Based Vegetation Management (OBVM) program, which monitors how specific vegetative attributes are responding to FWC management (Section 4.3.1). For imperiled and locally-important fish and wildlife species, monitoring protocols are established through the FWC's Wildlife Conservation Prioritization and Recovery (WCPR) program (Section 4.4.1). The FWC staff may monitor additional fish and wildlife species when deemed appropriate. Invasive plant and animal species are also monitored as needed and appropriate (Section 4.5). Recreational uses are monitored through the FWC's Public Access Services Office (PASO) program, and work in conjunction with the establishment and adjustment of public access carrying capacities (Section 4.6.3). Cultural resources are monitored with guidance from the DHR (Section 4.9).

4.2.2 Florida Landscape Assessment Model

The FWC has developed the Florida Landscape Assessment Model (FLAM) as a Geographic Information Systems (GIS)-based assessment tool that incorporates a wide variety of landscape and wildlife species data. The FLAM evaluates the Florida landscape based upon important natural resources and habitat needs of wildlife to identify ecologically significant lands in the state, and to assess the potential impacts of management and land-use changes. The FLAM was developed to provide technical assistance to various local, regional, state, and federal agencies, and entities interested in wildlife needs and conservation in order to: (1) determine ways to avoid or minimize project impacts by evaluating alternative placements, alignments, and transportation corridors during early planning stages, (2) assess direct, secondary, and cumulative impacts to habitat and wildlife resources, and (3) identify appropriate parcels for public land acquisition for wetland and upland habitat mitigation purposes. The FLAM ranks habitat from a 0-10; a rank of 10 being of greatest value. The FLAM (2021) indicates that the JBWMA has a very high mean wildlife value of 8.8 (Figure 13).

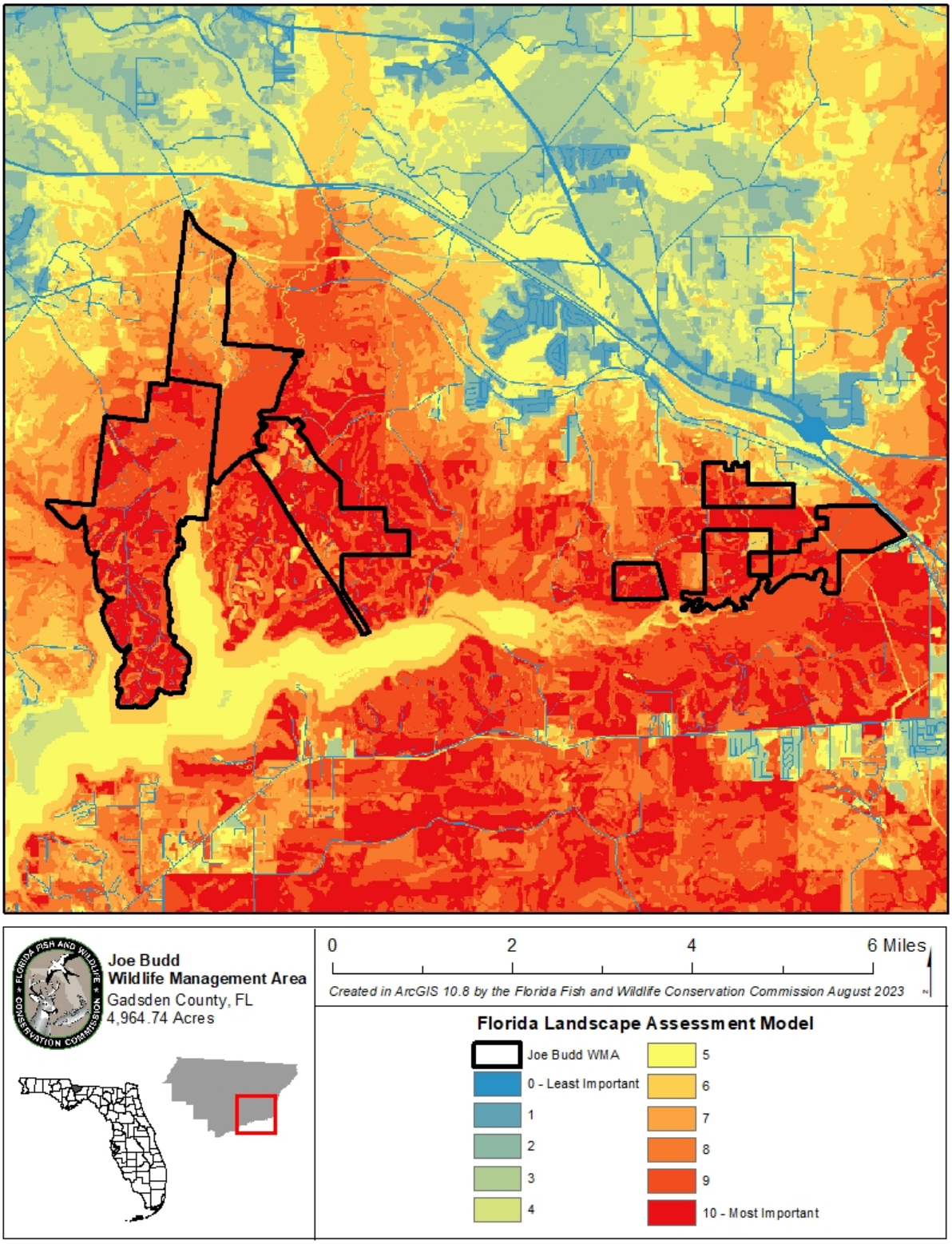


Figure 13. FLAM Map of the JBWMA

4.2.3 Performance Measures

Performance measures include qualitative or quantitative measures used to provide an estimate or index of the characteristic of interest, and to chart the overall progress of conservation actions towards specific goals. Successful monitoring programs and their associated performance measures provide natural resource professionals with valuable feedback on the effectiveness of conservation actions and make it possible to implement a more flexible adaptive management approach. An adaptive management approach ultimately will be more efficient and effective when it tracks inputs, incorporates an effective monitoring program that integrates performance measures, and evaluates results against desired goals.

4.2.4 Implementation

The JBWMA Management Plan serves as the guiding framework to implement this adaptive management process. It serves as the underpinning for the integration of management programs (OBVM, WCPR, PASO, Recreation Master Plans, etc.) underway to accomplish needed conservation actions that are planned to manage the natural resources of the JBWMA and resolve conservation threats to fish and wildlife and the habitats they occupy. Based on evaluations of project results, the conservation actions are revised as necessary, and the adaptive management process is repeated.

4.3 Habitat Restoration and Improvement

On the JBWMA, the FWC will focus on managing to increase native habitat diversity, emphasizing maintenance of natural communities, and restoration of disturbed areas. The JBWMA has functioning natural communities including upland pine, upland hardwood forest, and bottomland forest that the FWC will continue to manage and protect. The conservation of old growth forest remains an important management consideration when found on an area. On any disturbed upland sites, the FWC intends to continue natural community restoration. Restoration may be achieved on disturbed areas by the reintroduction of fire, restoring historic hydrological conditions, and/or the use of mechanical or chemical forest management techniques as appropriate.

4.3.1 Objective-Based Vegetation Management

The FWC uses a comprehensive resource management approach to improving FWC-managed areas. Restoring the form and function of Florida's natural communities is the foundation of the FWC's management philosophy. OBVM is a monitoring tool used by the FWC to monitor how specific vegetative attributes are responding to management.

The first step in implementing OBVM is to map the current, and in most cases the historic natural communities, on the managed area using the FNAI Guide to the Natural Communities of Florida. A natural community, as defined by FNAI, is a distinct and recurring assemblage of populations of plants, animals, fungi, and microorganisms naturally associated with each other and their physical environment. The FWC contracts with FNAI to provide these mapping services and plans to have natural community maps recertified for most areas on a five-year basis.

FNAI has conducted surveys and mapped the current and historic natural communities on the JBWMA. The most recent mapping update was completed in 2023. New acquisitions that

occurred on the area were mapped for current natural and altered communities during this planning period.

After natural communities have been mapped, FWC land managers will identify those natural communities that will influence and guide management decisions, known as the actively managed natural communities. Through OBVM monitoring, the FWC collects data on specific vegetation attributes that provide insight about natural community conditions. This information will be used to guide and prioritize management and restoration efforts on the area. Because the FWC is interested in the overall effect of management on the natural communities, OBVM data is analyzed area wide, at the natural community level, and not the management unit level.

Vegetation monitoring samples the 12 OBVM core attributes, with the results being compared to the desired future conditions (DFCs). Measurable habitat management objectives, referred to as DFCs, have been established by FNAI for each actively managed natural community. The DFCs are the acceptable range of values for quantifiable vegetation attributes, such as basal area, shrub height and cover, and ground cover. The FWC collaborated with FNAI to identify 'reference sites' for each actively managed natural community and applied the OBVM monitoring methodology at these reference sites to determine what attribute values occur in a high-quality community (http://www.fnai.org/reference-natural-communities.cfm). The FWC staff generally uses the reference site attribute values when setting DFCs for actively managed natural communities.

All monitoring performed under OBVM is completed using the program's Standard Operating Procedures. Consistent, long-term monitoring of managed natural communities will quantify changes in habitat conditions, provide information on the cumulative effects of management activities, and measure progress towards meeting management objectives for the DFCs. Measured changes in vegetation conditions are intended to be used to inform future land management actions.

Overall, natural community mapping, OBVM structural sampling, and plant species list provide the FWC staff with baseline data indicating natural community structure, distribution, and condition on the area. Comparing the monitoring results to desired future conditions provides important information on the structural condition and composition of a natural community at a given point in time. OBVM sampling is repeated every five years and comparisons with past OBVM monitoring data allows changes over time to be detected. Using this information, managers can evaluate, adjust, and modify their management practices to better natural community conditions. By comparing natural community mapping products through the years, managers can track progress in moving altered communities to functioning natural communities.

4.3.2 Prescribed Fire and Fire Management

Periodic spring and summer fires occur in fire-adapted communities under natural conditions. Plant species composition reflects the frequency and intensity of these fires. In the absence of fire, fire-dependent communities follow a successional pattern in which opportunistic woody species grow increasingly dominant, altering the composition, structure, diversity, and flammability of vegetation. When fire is excluded, the eventual plant species composition may

differs slightly from community to community, but the dominant role of fire in controlling woody encroachment is equally important in all Florida's fire-dependent natural communities.

Fire exclusion and timber management practices have altered the plant species composition of the area likely resulting in a loss of fine fuels and complicating the return to the desired "natural" fire management regime. Site-specific combinations of prescribed fire, mechanical and chemical vegetation control, reforestation, and restoration of natural water regimes are likely actions that will be needed to restore the area to historic natural communities.

The FWC employs a fire management regime to maintain or increase both species and habitat diversity and will continue a prescribed burning program on the JBWMA in accordance with natural community management objectives. As fire moves across a landscape, some areas carry fire better than others. Areas with higher fine fuel loads typically burn more evenly and with greater intensity. Areas with lower fuel loads or wetland areas typically will not carry fire as evenly, and usually burn at a lower intensity. Employing a burning program with different fire frequencies, intensities, and seasonality (dormant season vs. growing season) of prescribed burns creates habitat diversity and a mosaic of vegetation patterns. This mosaic landscape will have characteristics of both frequently and infrequently burned areas, benefiting the greatest suite of flora and fauna.

On some areas, prescribed burning is limited by the buildup of mid-story brush and a lack of pyrogenic groundcover fuels. When extensive this condition creates unsuitable habitat for many wildlife species. Used in conjunction with prescribed fire, mechanical control of brush by roller chopping, mowing, shredding, or incidentally by equipment during timber thinning operations, can reduce shading and encourage the grasses and forbs that best sustain prescribed fire. Mowing and roller chopping can be a valuable management tool, enabling the use of prescribed fires in areas heavily impacted by dense woody vegetation. However, used inappropriately, roller chopping may damage the herbaceous ground cover, especially wiregrass. Therefore, the FWC will work to limit its use to situations where burning can only be accomplished by a mechanical reduction of woody vegetation.

Whenever possible, existing firebreaks such as roads and trails, as well as natural breaks such as creeks and wetlands, will be used to define management units. Disk harrows, mowing, and foam lines will be used as necessary to minimize disturbance and damage created by fire plows.

The transitional areas between two adjacent but different natural community types are known as ecotones. Except for wildfire suppression, mechanical soil disturbance in wetland ecotones will be avoided in order to protect habitats for important rare species that often occur between upland and wetland margins. Creation of firebreaks will be avoided in wetland margins unless necessary to defend the boundary of a managed area. When safe, fires are allowed to burn into the edges of marshes, swamps, and other wetlands to maintain these habitats. With some exceptions, such as scrub and scrubby flatwoods, most fire managed natural communities are best maintained, or improved, with fire returns of two to five years, preferably during the spring and early summer months when appropriate.

In addition to the general prescribed fire management guidelines described above, an area-specific Prescribed Burn Plan has been developed and implemented for the JBWMA. This plan includes, but is not limited to, delineation of burn management units, descriptions of prescribed fire methodology, safety, and smoke management guidelines. As further outlined in the area's Prescribed Burn Plan, the FWC plans to continue to conduct prescribed burning on the area's fire adapted communities, with a goal to keep 100% of the area being maintained within the recommended fire return intervals during this planning period. Challenges that continue to impact the implementation of prescribed fire on the area are described further in Section 7. The continuing benefits of prescribed fire on the area's wildlife habitats, along with other ongoing habitat restoration activities that are being implemented on JBWMA, are found in more detail in Section 4.3.3.

4.3.3 Habitat Restoration and Improvement Activities and Accomplishments

Significant habitat management activities have taken place within many of the natural and altered communities on the JBWMA over the course of the previous management period beginning in 2015. As stated previously, all management units with fire-adapted natural communities will continue to be treated with prescribed fires, most on a repeated basis as established within the Prescribed Burn Plan. This has aided in the improvement of native ground cover and wildlife habitat throughout the JBWMA. Following is a list of the primary habitat restoration and improvement activities that have occurred on the JBWMA since 2015.

- Prescribed Burn Plan updated in 2015.
- 1,158 acres of the area's fire adapted communities have been treated with prescribed fire.
- Approximately 80% of the fire-adapted communities are maintained within the recommended fire return intervals.
- Over 35 acres have been mechanically treated.

Continuing habitat management activities on the JBWMA will focus on enhancing natural communities, maintaining recommended fire return intervals for fire adapted communities, treating, and removing invasive plant species, and controlling vegetation through mowing and roller chopping as needed. Invasive species control is more extensively discussed in Section 4.5. Further specific habitat management and improvement objectives planned for the JBWMA are described in Section 5.

4.4 Fish and Wildlife Management, Enhancement, and Population Restoration

Across the JBWMA, the size and diversity of natural communities create a mosaic that supports a wide variety of fish and wildlife species, including imperiled, game, and non-game species. The FWC uses the term "locally-important species" to encompass imperiled species, as well as a select group of common species, that occur on the area and can help guide management activities. By managing the area's natural communities for locally-important species, the area will benefit a host of other species that use these natural communities. To support this goal, the FWC emphasizes conservation, protection, and management of natural communities to protect and enhance populations of fish and wildlife found on the JBWMA. Natural communities vital to locally-

important species on the JBWMA include upland pine, upland hardwood forest, and bottomland forest. Restoration and improvement of any altered communities, to expand habitat on the JBWMA, is also emphasized.

To guide species management on FWC-managed lands, the FWC takes a proactive, science-based approach in conjunction with input from species experts and individuals with knowledge of the area. Management practices are designed to restore, enhance, or maintain natural communities with an emphasis on the needs of locally-important species. Locally-important species (resident and migratory) will be managed for optimum richness, diversity, and abundance. This will be further augmented by following approved Federal and FWC Species Recovery Plans, guidelines, and other scientific recommendations for these species. Guided by these recommendations, land management activities including prescribed burning and timber stand improvements will further address locally-important species requirements and habitat needs.

For locally-important species population monitoring, the FWC takes a tiered approach. Using taxa inventory monitoring and opportunistic observations, staff identify which species occur on the JBWMA and track diversity through time. In addition, when appropriate, staff monitor specific species to track population status. Wildlife experts help to identify the best monitoring approach for the area to inform how management is influencing the populations. Using this tiered monitoring approach, the FWC will gather information about the species using the area, and how select species are responding to management. Section 4.4.1 and Appendix 11.15 provide further information on the FWC's comprehensive species management strategy for all locally-important wildlife and their respective habitats.

4.4.1 Locally-important Species: Wildlife Conservation Prioritization and Recovery

The FWC has identified the need to: 1) demonstrate optimal wildlife habitat conservation on FWC-managed lands; 2) develop science-based performance measures to evaluate management; 3) recover imperiled species; and 4) prevent future imperilment of declining wildlife species. To help meet these needs, the FWC uses a comprehensive resource management approach to maintain FWC-managed areas. Restoring the form and function of Florida's natural communities is the foundation of this management philosophy. The FWC uses the OBVM to monitor how specific vegetative parameters are responding to management and uses the WCPR program to ensure management is having the desired effect on wildlife.

The WCPR program helps assess locally-important wildlife species' needs and opportunities, prioritize what the FWC does for locally-important species, prescribe management actions to aid in species recovery, prescribe monitoring to allow evaluation of the species' response to management, and ensure the information is shared with others. To determine specific management and monitoring actions needed for each species, the FWC considers the species' status on the area; the current condition of the area's natural communities; the amount and spatial arrangement of the species' potential habitat on the area and adjacent lands; the species' response to management; and any local overriding factors (e.g., status of species in the region, local declines, or extirpations). Staff then combine these assessments with area-specific management considerations to develop a Wildlife Management Strategy for the area (Appendix

11.15). Each area-specific Strategy prescribes management actions to achieve and identifies monitoring to verify progress towards meeting desired outcomes. By providing the FWC managers with information on actions they should undertake, the FWC intends for the Strategy to assure the presence and persistence of Florida's native wildlife.

Through the actions of this program, the FWC facilitates fulfilling the needs of locally-important wildlife species on the JBWMA. In the long-term, by implementing the WCPR Strategies on FWC-managed lands and continuing to assess wildlife species' needs, the FWC will continue to play an integral role in aiding the recovery of locally-important species and preventing the future imperilment of declining wildlife species.

4.4.2 Game Populations

The FWC intends to manage game populations on a sustained-yield basis to assure healthy game populations and a high-quality recreational experience. In general, game wildlife populations will be managed to provide continued recreational sport hunting and wildlife viewing opportunities. However, some of the hunting opportunities may be regulated through a limited entry hunt program to ensure the persistence of viable game species populations, as well as hunter safety and satisfaction. The potential for conflicts among recreational activities and user groups will also be considered and continually monitored.

4.4.3 Nuisance Animal Species

The FWC also works to address nuisance animal species on the JBWMA. The FWC will continue to monitor impacts of nuisance animal behavior on the area and implement mitigation strategies as needed and appropriate.

4.4.4 Fish and Wildlife Management Activities and Accomplishments

During the previous planning period, the FWC conducted monitoring activities for 15 locally-important species on the JBWMA. Locally-important species projects will continue to be implemented in accordance with the WCPR Strategy. In addition to locally-important species activities, the FWC will continue to monitor and manage game and nuisance animal species. The following is a list of activities and monitoring outcomes that have occurred since 2015 to further the FWC's mission for managing fish and wildlife on the JBWMA.

- Surveyed for Bachman's sparrows (*Peucaea aestivalis*), brown-headed nuthatches (*Sitta pusilla*), southern bald eagles (*Haliaeetus leucocephalus*) multiple times since 2015.
- Completed a baseline survey for gopher tortoises.

4.5 Invasive and Non-native Species Maintenance and Control

With non-native and invasive species populations continuing to grow in Florida, the FWC takes a proactive and comprehensive approach to the monitoring and management of invasive and non-native plants and animals, as well as pests and pathogens, on FWC-managed areas. Non-native species are those species that do not originate from Florida. These species are often introduced by deliberate or accidental human activities and are closely monitored by the FWC for potential future impacts. If a non-native species is found to cause or is likely to cause environmental harm

or economic harm to humans, it is then classified as an invasive. On the JBWMA, the FWC has established a variety of control measures for the management of any found non-native or invasive plant and animal species as further outlined in Section 4.5.1 of this Management Plan.

4.5.1 Invasive Plant Species

The FWC will continue efforts to control the establishment and spread of FISC Category I or II plants on the JBWMA while using the most current control technologies (CCT) which may include mechanical, herbicide, and biological control. Treatments utilizing herbicides will comply with instructions found on the herbicide label and employ Best Management Practices and CCT for their application. More information regarding herbicides used on FWC's lead managed areas can be found here: https://edis.ifas.ufl.edu/pdf%5CWG%5CWG20900.pdf

During the previous planning period, several control activities have occurred (Section 4.5.3). FWC staff strive to either eradicate infestations or achieve maintenance rotation. Maintenance rotation is defined as having a given area/acreage with invasive species infestations reduced to a level where no ecological harm will occur by skipping any treatment for a period of one- to several-years, depending on the species. Maintenance rotation is not necessarily synonymous with eradication, which is usually impractical to achieve.

Maintenance rotation intervals for invasive plants vary greatly by species. Generally, woody species that form canopies will need a thorough initial treatment and a follow-up treatment the next growing season. Thereafter, the maintenance rotation treatment will need to follow seed germination and seedling/sapling regrowth patterns, with subsequent treatments being necessary every two- to ten-years, depending on initial infestation level, seed bank presence, and likely new dispersal into the area from neighboring populations of these species. Woody species that dominate the midstory will need a treatment regimen similar to those that form canopies, except the subsequent retreatment rotation would be every two to five years.

Herbaceous species that can affect the midstory and canopy, including vines, weak lianas, and climbing ferns need to be detected and treated as early as possible. These need to have an aggressive initial treatment, followed by yearly treatments, until the populations no longer affect the midstory. At this point, a two- to three-year rotation, with treatment as necessary, will keep these infestations in maintenance rotation.

Herbaceous and weakly woody species that only dominate the groundcover can be particularly challenging. This group is diverse and includes species such as coral ardisia (*Ardisia crenata*) and cogongrass. The rotation intervals can vary from treatments once every two to three years (for coral ardisia), to annual treatments, to as many as four treatments in a growing season depending on the species. For this reason, rotation intervals for these species should be developed in coordination with the FWC's Invasive Plant Management Section. Infestations requiring multiple treatments in a growing season should also be mapped individually, because their treatment plans may differ from the rest of the invasive plants in any given unit.

The FWC will continue to focus control and maintenance activities on areas identified as having invasive plant occurrences, as well as treating any new occurrences as they are identified through

continued monitoring activities. Natural disasters such as tropical cyclones, flooding, wildfire, and drought can both negatively and positively impact maintenance rotation of an area and affected acreage should be re-surveyed following any of these events to reassess the maintenance state of the area.

The degree of maintenance effort for invasive plant occurrences often varies substantially by species, level of disturbance, environmental conditions, other land management activities such as timber harvesting, groundcover restoration, etc., and can also be affected by the status of ongoing eradication and control efforts. The staff will make a special effort to treat invasive species in coordination with mechanical treatments and prescribed fire so optimal results are achieved. Treatment strategies for invasive plants will be adjusted over time as conditions change on the JBWMA. Changes may include hydrological restoration, wildfire, and reintroduction of Endangered plant/animal species.

Additionally, the FWC will continue efforts to control the introduction of invasive species, as well as pests and pathogens, on the JBWMA by requiring all personnel, both contracted and internal, to follow the FWC Decontamination Protocol. The JBWMA has a designated site which can be used for decontamination of both equipment and personnel to allow for a proactive approach to controlling new introductions.

FWC area staff will continue to work closely with FWC's Invasive Plant Management Section for guidance and assistance on treatments and management of invasive species. For areas on the JBWMA that require treatments for aquatic based invasive species, FWC area staff will work closely with both FWC's Invasive Plant Management Section and FWC's Aquatic Habitat Conservation and Restoration for assistant and guidance on aquatic plant control.

4.5.2 Invasive and Non-native Fish and Wildlife Species

The FWC continues to work towards minimizing the adverse impacts of non-native and invasive fish and wildlife species in Florida. This task is accomplished through prevention, early detection, rapid response, control and management, and education and outreach. Early detection and rapid response are a critical defense against the establishment of invasive fish and wildlife. The FWC monitors and removes non-native species, responds to new invasions, and continues to assess the risk of species not yet present in our state. Rule 68-5, F.A.C., Federal Lacey Act, and certain F.S. govern the importation, possession, and use of non-native fish and wildlife. Rule 68-5, F.A.C., identifies Conditional and Prohibited non-native species in Florida. More information on these regulations can be found here: https://www.fws.gov/injuriouswildlife/ and https://www.flrules.org/gateway/chapterhome.asp?chapter=68-5. Conditional species (formerly referred to as restricted species) and Prohibited species are considered to be dangerous to Florida's native species and habitats and could pose threats to health and welfare of the people of Florida. The FWC relies on monitoring efforts and current science including risk determination, supplemental documentation, and research to identify possible invasive species. To further assist the FWC's effort on invasive fish and wildlife identification and removal, the FWC encourages the public to utilize the FWC's Exotic Species Hotline at 888-Ive-Got1 (483-4681) or to visit www.IveGot1.org to report observations of non-native species. More information on these public

reporting options and other components of the Wildlife Impact Management Section's Nonnative Fish and Wildlife Program can be found here: https://myfwc.com/wildlifehabitats/nonnatives/.

To address the presence of non-native and invasive fish and wildlife on the JBWMA, FWC area staff will continue to work closely with FWC's Wildlife Impact Management Section for guidance and assistance. The FWC also relies on public assistance and participation in the control of invasive fish and wildlife species. Executive order 23-16 authorizes the lethal take and removal of non-native reptiles on 32 FWC-managed lands. Trappers and nuisance wildlife control operators can also apply for an eradication and control permit to assist in the capture of Prohibited non-native species on private and public lands including WMAs. More information on this permit process can be found here: https://myfwc.com/wildlifehabitats/nonnatives/rule-development/trappers/. Due to the growing concern related to the impacts of several non-native species, the FWC and partners take a proactive and coordinated approach towards the removal of non-native species.

An invasive animal species of concern throughout the state and on the JBWMA is the wild hog. These animals have high reproductive rates, and when populations reach high densities, wild hogs can significantly degrade natural communities through foraging activity (rooting). The FWC will consult with other regional natural resource managing agencies and private landowners to coordinate wild hog control measures as necessary. Wild hog populations may be managed by hunting opportunities offered during the wild hog, archery, small game, general gun, family hunt, and muzzleloading gun seasons. Wild hog populations may also be managed by trapping, as necessary, to aid in minimizing the negative impacts caused by wild hog populations on the area.

4.5.3 Invasive and Non-native Activities and Accomplishments

Invasive plant species known to occur on the JBWMA include alligator weed (*Alternanthera philoxeroides*), bahiagrass (*Paspalum notatum*), bermuda grass (*Cynodon dactylon*), Brazilian vervain (*Verbena brasiliensis*) camphor tree (*Cinnamomum camphora*), Japanese climbing fern (*Lygodium japonicum*), Japanese clover (*Kummerowia striata*), showy rattlebox (*Crotalaria spectabilis*), smutgrass (*Sporobolus indicus*), and threeflower tick-trefoil (*Desmodium triflorum*). During the previous planning period, FWC staff worked to survey and control invasive and non-native plant and wildlife species found on the JBWMA. The following is a list of activities the FWC accomplished during the last planning period as well as activities that are still ongoing. Non-native and invasive species objectives and challenges for the JBWMA for the next 10 years are further detailed in Sections 5-6.

- Ten acres have been placed into maintenance rotation.
- Approximately 74% of the JBWMA is considered as having achieved maintenance rotation.
- The FWC continues to offer hunts for control of the wild hog population.

4.6 Public Access and Recreational Opportunities

To facilitate wildlife viewing recreational opportunities on the area, the FWC has continued to establish and maintain Joe Budd Office Complex, check station, shop area complex, Joe Budd

staff residence, JBYCC facility, boardwalks, and kiosks. The FWC also offers additional opportunities to enhance public access and recreation through statewide programs. The FWC hosts annual events on WMAs throughout the State. Events are designed to help Florida residents and visitors discover some of Florida's best spots to see wildlife and enjoy the outdoors. For more information on the numerous recreation opportunities the FWC offers on all areas visit: https://myfwc.com/recreation/.

In addition to recreation opportunities on the JBWMA, the FWC offers a variety of environmental education programs throughout the state. The FWC has several summer camp locations across the state. Camps vary in the activities they offer, but the theme of conservation-centered recreation is consistent throughout. Currently, FWC staff on the JBWMA coordinate with the JBYCC. FWC Conservation Center staff are available to assist the JBWMA staff on education programs or tours for the JBWMA, such as wildlife education and ethical angling and hunting. However, the FWC has identified a need for increasing conservation centers to reach other areas of the state.

In addition to FWC Conservation Centers, the FWC offers the educational program Project WILD. Project WILD is an interdisciplinary conservation and environmental education program emphasizing wildlife. The program is designed for educators of kindergarten through 12th grade students. However, Project WILD can also be utilized by area biologists throughout the state. Project WILD workshops are conducted at some of the FWC-managed areas and educators or biologists can request materials and more information by visiting the following webpage: https://myfwc.com/education/educators/project-wild/.

Further planned public access, recreational, and educational opportunities in the area are detailed in Section 5. Ongoing public access and recreational opportunity management challenges are addressed in Section 6. In addition, the FWC will continue to implement activities in accordance with the JBWMA Recreation Master Plan.

4.6.1 Americans with Disabilities Act

When public facilities are developed on areas managed by the FWC, every effort is made to comply with the Americans with Disabilities Act (ADA) (Public Law 101-336). As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions. Recreation facilities in semi-primitive or primitive zones will be planned to be universally accessible to the degree possible except as allowed by the ADA[6] where:

1. Compliance will cause harm to historical resources, or significant natural features and their characteristics.
2. Compliance will substantially alter the nature of the setting and therefore the purpose of the facility.
3. Compliance would not be feasible due to terrain or prevailing construction practices.
4. Compliance would require construction methods or materials prohibited by federal or state statutes, or local regulations.

4.6.2 Recreation Master Plan

The FWC has adopted a comprehensive approach to the planning and administration of fish and wildlife-based public outdoor recreational opportunities for the JBWMA. To accomplish this, the FWC will work with recreational stakeholders and the public to develop a Recreation Master Plan for the JBWMA that will be used to further design and develop appropriate infrastructure that will support the recreational use of the area by the public. This Recreation Master Plan will include planning for parking, trail design, and area resource interpretation.

4.6.3 Public Access Carrying Capacity

Baseline carrying capacities for users on the FWC-managed lands are established by conducting a site-specific sensitivity analysis using available data for the site. The intent of the carrying capacity analysis is to minimize wildlife and habitat disturbance and provide the experience of being “immersed in nature” that visitors to the FWC-managed areas desire. Carrying capacities are just a first step; management of recreational use requires a means of monitoring visitor impacts. Responding to these impacts may require adjusting the carrying capacities as necessary. The carrying capacities generated through this process are used as a tool to help plan and develop public access, wildlife viewing, and other fish and wildlife-based public outdoor recreation opportunities. Based on an analysis of the overall approved uses and supported public access user opportunities, and the anticipated proportional visitation levels of the various user groups, the FWC has determined that the JBWMA can currently support 214 visitors per day. However, an objective to increase the public access carrying capacity to 250 visitors per day has been proposed in Section 5.5 of this Management Plan. It is important to note that public access carrying capacities are not developed to serve as a goal for expanding the public use of a particular area to match the established carrying capacity. Rather, they are developed to establish maximum thresholds for public use of the respective area to protect the natural and cultural resources on the JBWMA and to ensure that visitors will have a high-quality visitor experience. The public access carrying capacity will be periodically reevaluated, and additional capacity may be contemplated.

4.6.4 Public Access and Recreational Activities and Accomplishments

During the previous 10-year planning period, the FWC completed several public access and recreational improvements and enhancements on the JBWMA, including:

- Provided hunting opportunities for deer, dove, turkey, migratory birds, non-migratory small game, and wild hogs.
- Provided fishing opportunities at Little River.
- Increased carrying capacity to 214 visitors per day.
- Continued to provide education and outreach programs through the JBYCC.
- Facilitated volunteer and internship opportunities for bluebird nest box monitoring in partnership with Audubon Florida.

4.7 Hydrological Preservation and Restoration

FWC staff will work towards implementing hydrological restoration and improvement activities as recommended by the area’s assessment. Some recommendations may not be feasible during

this planning period due to funding and potential adjacent land impacts. However, during this planning period, staff will work to improve and repair existing culverts and low water crossings, as well as install any new culverts or low water crossings, as appropriate.

Currently, staff continue to communicate and collaborate as needed with the NWFWMD and the DEP on any ground or surface water quality or quantity monitoring. The FWC will cooperate with the DEP and the NWFWMD to develop and implement any surface water quality and quantity monitoring protocols for the JBWMA. In this capacity, the FWC will primarily rely on the expertise of the NWFWMD and the DEP to facilitate these monitoring activities as needed. If necessary, the FWC may independently conduct or contract for water resource monitoring on the JBWMA, as guided by the DEP and the NWFWMD.

4.7.1 Hydrological Preservation and Restoration Activities and Accomplishments

During the previous 10-year planning period, the FWC completed several hydrological restoration and improvement activities on the JBWMA, including:

- Management of low water crossings in the area through regular management activities.
- Continued monitoring ground water quality on the JBWMA.

4.8 Forest Resource Management

A Timber Assessment of the timber resources of the JBWMA was conducted by The Forestry Company in 2015 (Appendix 11.14). The management of timber resources will be considered in the context of the Timber Assessment and the overall land management goals and activities.

Pursuant to OBVM management goals, the FWC will continue to manage timber resources for wildlife benefits and natural community restoration. Management activities including timber thinning and harvesting may be utilized. The primary management technique for encouraging reforestation is protection of young trees and seedlings on these sites from damage. However, where natural regeneration is lacking, artificial reforestation may be implemented. Planting trees on these selected sites is used to increase the rate of reforestation and to ensure diversity. Forested wetlands are managed for stands with old growth characteristics. Snags will be protected to benefit cavity-nesting species.

4.8.1 Forest Resource Management Activities and Accomplishments

During the previous 10-year planning period, the FWC completed several forest resource management activities on the JBWMA, including:

- Timber Assessment completed by The Forestry Company in 2015.
- Continued longleaf pine reforestation.

4.9 Cultural Resources

A review of the FMSF indicates that 18 cultural resources have been recorded on the JBWMA (Section 2.8). Additionally, 10 cultural resource surveys have been conducted on the area. In cooperation with the DHR, the FWC will continue to monitor and report on all recorded sites annually.

The FWC will consult with the DHR to determine the procedures necessary to identify, assess, and preserve any unrecorded or unevaluated cultural resources that may be present within the JBWMA. In addition, the FWC will ensure area management staff has the latest DHR Archaeological Resource Management (ARM) training. The FWC will follow the DHR's *Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties*, and, in accordance with Sections 267.061(2)(a,b), F.S., the FWC will consult with and allow the DHR a reasonable opportunity to comment prior to any undertaking that may impact historic properties. Furthermore, should any previously unidentified resources be located on the JBWMA, the FWC will prepare and submit all necessary documentation to the FMSF.

4.9.1 Cultural Resource Management Activities and Accomplishments

During the previous planning period, no significant management activities or changes to the existing cultural resources occurred.

4.10 Capital Facilities and Infrastructure

The FWC's land management philosophy is designed to conserve the maximum amount of wildlife habitat while providing the minimal number of capital facilities and infrastructure necessary to effectively conduct operational and resource management activities and provide ample opportunities for fish and wildlife-based public outdoor recreation. For these reasons, planned capital facilities and infrastructure will focus on improving access, recreational potential, hydrology, or other resource and operational management objectives.

Current capital facilities and infrastructure on the JBWMA include the Joe Budd Office Complex, a check station, the shop area complex, the Joe Budd staff residence, the JBYCC facility, three boardwalks, and four kiosks. As described in Section 4.6.1 of this Management Plan, for any public facilities that are developed on areas managed by the FWC, every effort is made to comply with the ADA Act (Public Law 101-336). Maintenance and improvement activities of current and future capital facilities are further outlined in Section 5.9 and Figure 16.

4.10.1 Capital Facilities and Infrastructure Activities and Accomplishments

During the previous 10-year planning period, the FWC completed several capital facilities and infrastructure improvements on the JBWMA, including:

- Improved roads on the JBWMA.
- Annually maintained all roads and trails on the JBWMA.

4.11 Land Conservation and Stewardship Partnerships

Landscape conservation is an approach that brings people together across geographies, sectors, and cultures to collaborate on connecting and conserving our diverse landscapes at a large scale – across public and private lands and regardless of political and jurisdictional boundaries. The goals of conservation at the landscape scale are to **conserve** ecosystems, habitats, and species on a large scale and across all borders. Landscape conservation can only be fully achieved by

pooling together resources and **connecting** staff, partners, and stakeholders to **collaborate** on conservation at the larger landscape scale.

The end goal is a resilient and adaptive landscape and economy that can support future generations of Florida. Thriving landscapes and habitats produce a range of benefits such as protecting our water and air, mitigating climate change, and providing habitat for fish, wildlife, and plants. In addition, productive landscapes power local and regional economies by supporting sustainable activities including fishing, farming, ranching, forestry, recreation, and tourism. Maintaining these benefits as Florida is facing ever-increasing significant land and water issues is paramount. Population growth, habitat loss and fragmentation, land use changes, invasive species, water crises, and climate change can threaten Florida's future. To successfully manage these challenges for the long term, there is a growing need for conservation work to be done at a larger scale and with multiple partners that can pool their resources and incorporate best scientific practices.

4.11.1 FWC's Landscape Conservation Strategic Initiative

The FWC and its partners have a legacy of excellent conservation work, much of which has been done at a landscape scale. To ensure Florida's natural resources are conserved for future generations, the FWC has launched the Landscape Conservation Strategic Initiative (LCSI) to serve as a catalyst for implementing further forward-looking and strategic conservation measures. In September 2021, the FWC adopted an official Landscape Conservation policy for the agency, defining a holistic conservation approach with supportive guidelines. The primary goal of the LCSI is to achieve conservation outcomes that are large-scale, long-lasting, and cost-effective, and to establish durable partnerships with government agencies, conservation organizations, private landowners, academic institutions, stakeholders, and other partners. This includes proactive, long-range planning that is multi-purpose and encompasses multiple stakeholders and jurisdictions. Additionally, using a variety of tools, FWC staff will prioritize actions that are within identified target conservation areas. These goals will be achieved through the development and monitoring of clear, specific, and measurable indicators and targets that allow FWC staff to track conservation actions and assess landscape conservation outcomes.

4.11.2 Decision Support Tools

Florida Conservation Blueprint

The Florida Conservation Blueprint (Blueprint) is a spatial plan that identifies shared conservation priorities across Florida. The Blueprint was developed by the Peninsular Florida Landscape Conservation Cooperative (PFLCC) for the cooperative incorporation of strategies from a suite of partners. The Blueprint supports spatial conservation planning to inform conservation actions and investment. The Blueprint provides planners and managers across organizations the opportunity to align their efforts to protect fish and wildlife habitat, improve quality of life for people, and develop strong economies. The Florida Conservation Blueprint can be accessed from the Florida Conservation Planning Atlas. The FWC uses the Blueprint to help guide and prioritize landscape conservation actions and acquisition opportunities (Figure 14).

Other Decision Support Tools

There are additional data and tools that have been developed as decision support tools for identifying and prioritizing areas for conservation action as well as to guide resource (i.e., time, staff, and funding) allocation. These tools include, but not limited to, FLAM (Section 4.4.2), Critical Lands and Water Identification project (CLIP), the Florida Ecological Greenways Network (FEGN), FNAI element occurrences database, Simple Map Viewer, Fire Map Viewer, Florida Springs Dashboard, Climate Adaptation Explorer, and the Florida Ecological Report Cards. Tools and supporting data can be found at www.FNAI.org or on the Florida Conservation Planning Atlas.

4.11.3 Conservation Stewardship and Partnership Opportunities

Private Lands Partnerships

The FWC recognizes the interconnected needs of protecting and enhancing private property values and rights and creating new markets and economies that support the conservation value of private working lands. Private landowners seeking assistance with habitat management will likely find it offered within the FWC Landowner Assistance Program (LAP). The FWC LAP program provides many opportunities for conservation minded landowners to obtain the assistance and advice of FWC staff and programs for improving land conservation practices on their lands. The LAP routinely conducts workshops for interested landowners to interact with FWC staff and learn how they may participate in the program. The FWC employs biologists who are available to provide wildlife-related assistance with land use planning and habitat management. In addition, the LAP works with landowners to enroll in the Natural Resources Conservation Service conservation cost-share programs to assist with implementation of wildlife friendly practices. There are many forms of assistance that include technical, financial, educational, and various forms of recognition that seek to award landowners who manage their wildlife habitat responsibly. At the time of the plan development, no specific land stewardship workshops had been conducted for landowners adjacent to the JBWMA. The FWC will continue to evaluate the level of interest and efficacy of providing technical assistance to adjacent private landowners on enhancing the conservation management of their lands. More information on the FWC's LAP program and online habitat management tools are available on the LAP website.

Landscape Conservation Partnerships

The FWC will continue to work with partners including government entities, private organizations, and academic institutions on collaborative landscape conservation efforts and acquisition opportunities. Potential partners for the JBWMA and surrounding areas include the NWFWMD, FDACS-FFS, USFS, USFWS, Gadsden County, DEP, Tall Timbers Research, Inc., Conservation Florida, The Nature Conservancy, Alachua Conservation Trust, Department of Defense (DOD) and other organizations and potential grant program opportunities. The FWC will continue to commit staff time and other resources to regularly providing information to partners regarding landscape conservation science, opportunities, and progress. At the JBWMA, the FWC staff work with the FFS to conduct prescribed burning on the JBWMA.

4.11.4 Land Acquisition

Using identified tools outlined previously, the FWC works to identify lands within or adjacent to FWC-managed areas that are important for the conservation of fish and wildlife, serve as a link or corridor to other publicly owned property, enhance the protection or management of the property, would create a more manageable boundary configuration, or have a high resource value that would otherwise be unprotected. Preservation of these lands can be accomplished through fee-simple or less-than-fee acquisition. The FWC works to pursue these opportunities through the FWC Additions and Inholdings Acquisition program, supporting DEP/Board of Trustees acquisition and addition of lands within the Florida Forever program, and continued partnership with other agencies and private organizations on acquisition of identified lands.

Less-Than-Fee Acquisition

Less-than-fee acquisitions, also known as conservation easements, are voluntary agreements between a landowner and government agency or conservation organization that acquires certain rights to a landowner's property for long-term conservation of the land, while the landowner still retains ownership of their property. The agreement is designed for landowners to continue to manage their land to maintain a working landscape in a manner that also enhances the conservation benefits provided by their land. These voluntary agreements to conserve land support the goals of landscape conservation. Less-than-fee acquisition is not only a means of conserving land but is also a cost-effective means for governmental and non-governmental organizations to protect land, while also providing economic and tax benefits to the landowner and local economy.

Fee-Simple Acquisition

Fee-simple acquisition is the process of acquiring complete ownership of the land. Fee-simple acquisition can be accomplished through the State's Florida Forever program or through grant programs and acquisition partnerships. The Florida Forever program is a land acquisition program with the purpose of conserving natural and cultural resources throughout the State. The DEP, as staff to the Board of Trustees, or Governor and Cabinet oversees the program. The Florida Forever program replaced the Preservation 2000 program, and since these programs' inception, nearly three million acres have been conserved throughout the State.

FWC's Additions and Inholdings Acquisition Program

Per F.A.C. 18-2.021, the FWC identifies parcels located directly in or adjacent to the subject area which can be recommended for acquisition through the FWC Additions and Inholdings Acquisition program. Properties totaling approximately 1,952 acres, have been identified for recommended acquisition under the auspices of the FWC's Additions and Inholdings Acquisition program for the JBWMA (Figures 14 and 15). Consistent with Florida Forever program criteria, parcels on the list have been ranked High, Medium, or Low priority based on a score generated by a GIS-based resource evaluation model, along with technical input from FWC staff. The order of acquisition priority may be changed as necessary based on factors including available funding necessary to complete a particular acquisition project, changing development pressures, landowner willingness, funding partnerships, unique acquisition opportunities like bargain sales (less than 80% of appraised value), and donations.

The FWC Additions and Inholdings Acquisition List is updated over time, thus staying up to date for land ownerships, County parcel records, land conservation opportunities, and evolving management challenges. The FWC frequently analyzes, evaluates, and prioritizes its recommended conservation actions in a systematic, comprehensive, and consistent manner over time. Currently, the FWC often recommends fee-simple acquisition of the lands on the FWC Additions and Inholdings Acquisition List for the JBWMA to optimize the conservation of fish and wildlife, public access and use, and overall resource and operational management of the area. However, as mentioned previously, the FWC may also pursue less-than-fee acquisition with adjacent landowners. Though it should be noted that landowner preference is often the key element in determining whether to pursue a fee-simple or less-than-fee acquisition.

Parcels on the FWC Additions and Inholdings Acquisition List will be acquired if possible, according to their priority ranking for acquisition, as funding availability allows, and based on the landowner's willingness to sell their lands. Participation in any FWC acquisition is entirely voluntary and at the sole discretion of willing landowners. The FWC also continues to assist and support the DEP/Board of Trustees in the acquisition or recommend acquisition of the remaining lands within the Strategic Managed Area Lands List (SMALL) and Little River Conservation Area projects as essential to the long-term conservation of wildlife and other elements important to the ecosystem function on the JBWMA.

Alternative Options

Along with the several land acquisition options described previously, alternative land protection methods are also available. The state accepts donations of land, life estate, and first-right-of-refusal. Life estate is an alternative that allows a landowner to reside on their property during their lifetime, however, ensures state ownership after passing. Additionally, there is also the option that a landowner could offer the state a first-right-of-refusal. After a first offer is denied by a landowner, the first-right-of-refusal option provides the state with a chance to purchase the land in the future. The state offers several alternative possibilities to obtaining the rights and/or ownership to land for conservation purposes, which furthers conversation-based goals and objectives for Florida's future.

4.11.5 Landscape Conservation Activities and Accomplishments

During the previous 10-year planning period, the FWC has worked to advance landscape conservation partnerships and pursue potential acquisition opportunities. FWC staff have acquired five acres since 2015 that have been added onto the JBWMA.

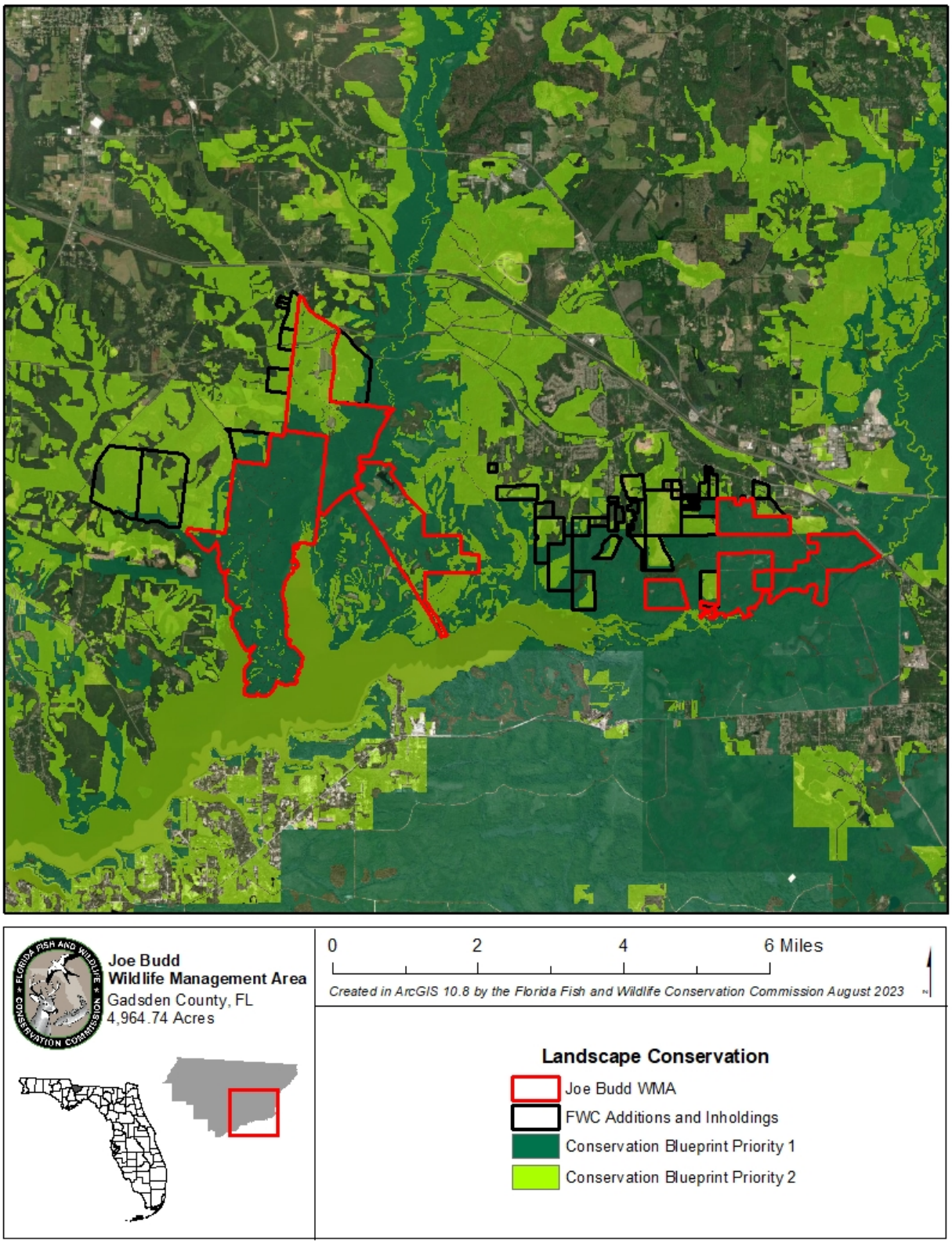


Figure 14. Landscape Conservation Blueprint

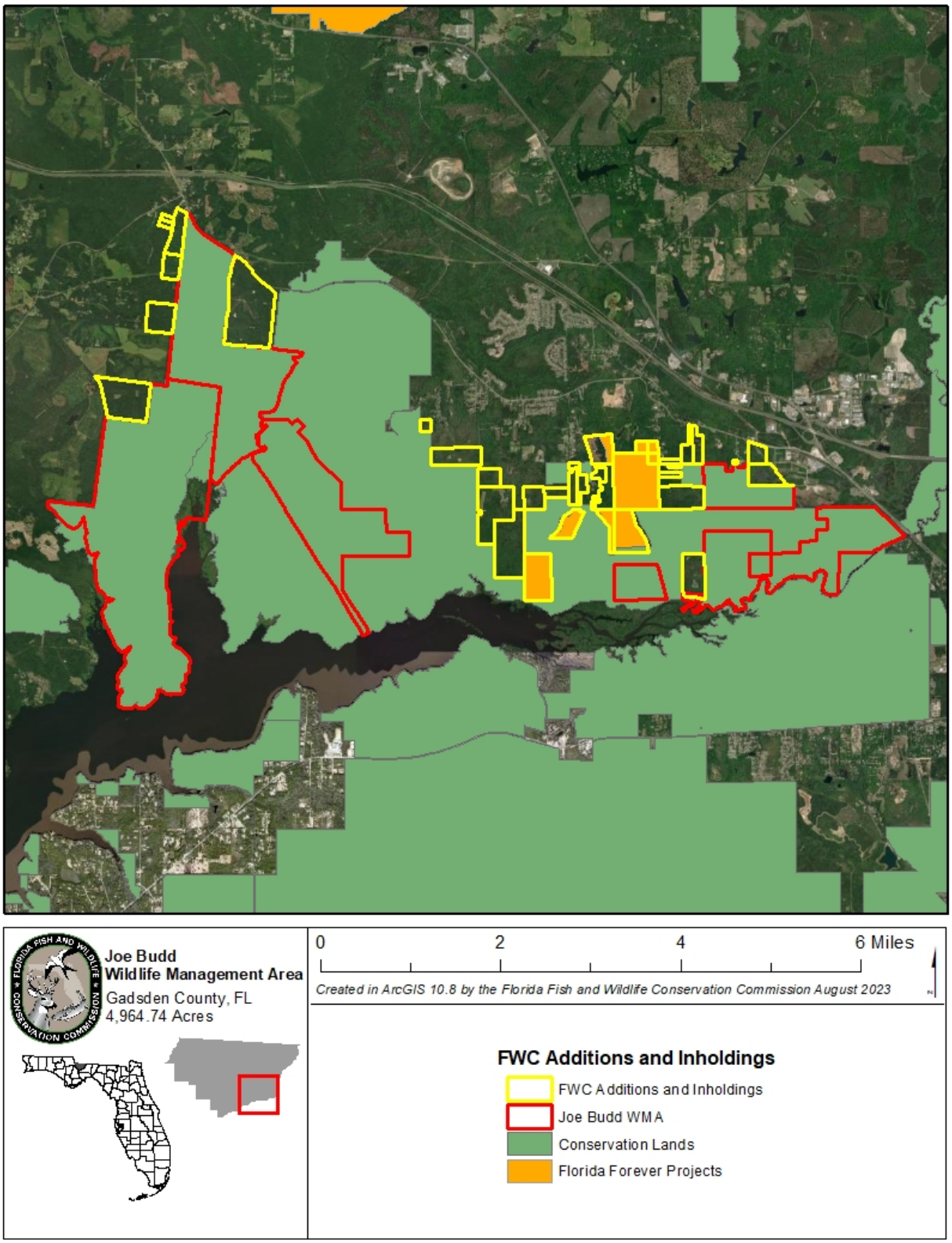


Figure 15. Additions and Inholdings for the JBWMA

4.12 Research Opportunities

The FWC intends to cooperate with researchers, universities, and others as feasible and appropriate. For the JBWMA, the FWC will continue to assess and identify research and environmental education partnership opportunities as appropriate. Research proposals involving the use of the area are evaluated on an individual basis. All research activities on the JBWMA must have prior approval by the FWC.

4.13 Cooperative Management and Special Uses

4.13.1 Cooperative Management

The FWC is responsible for the overall management and operation of the JBWMA as set forth in the lease agreements with the Board of Trustees and the FFS, as well as the land that is owned by the FWC. In keeping with the lease agreements, and to conduct its management operations in the most effective and efficient manner, the FWC cooperates with other agencies to achieve management goals and objectives described in this Management Plan. These include cooperating with the DHR to ensure the requirements of the *Management Procedures Guidelines - Management of Archaeological and Historical Resources* document (Appendix 11.17) is followed with regard to any ground-disturbing activities. In addition, the FFS is designated co-lead on portions of the JBMWA and lead management on the State Forest, which borders the JBWMA. The FFS assists the FWC by providing technical assistance on forest resource management (Figures 5 and 6). Also, the FWC cooperates and consults with the NWFWMD and DEP for the monitoring and management of both ground and surface water resources and the overall management of the JBWMA.

4.13.2 First Responder and Military Training

First-responder (public governmental police department or agency, fire and emergency medical service personnel) training and military training are conditionally allowed on the JBWMA. Such activities are considered allowable uses only when undertaken intermittently for short periods of time, and in a manner that does not impede the management and public use of the JBWMA and causes no measurable long-term impact to the natural resources of the area. Additionally, FWC staff must be notified and approve the training through issuance of a permit prior to any such training taking place on the JBWMA. Any first-responder or military training that is not low-impact, intermittent and occasional would require an amendment to the Management Plan, and therefore will be submitted by the FWC to the DSL and ARC for approval consideration prior to authorization.

Additionally, the Gulf Regional Air Space Initiative (GRASI) is a continuation of ongoing, mutually beneficial cooperation among the DOD and its military branches, including the United States Air Force (USAF), State and regional agencies, on issues related to military readiness and conservation. The GRASI was initiated to prepare for the addition to the regional airspace (Northwest Florida) of the Joint Strike Fighter (F-35), as well as additional training needs of air and ground units of the military. The GRASI's primary purpose for FWC-managed lands is to allow important military ground training activities on areas where related ground-support air activities can also be safely conducted, and thereby relieve congestion in other restricted airspaces.

The FWC participates in GRASI along with a consortium of consortium of military, state and regional agencies, DEP, FFS, NWFWMD, FDACS, Tall Timbers Research, Inc., the Florida Department of Economic Opportunity, the USFS, the National Park Service, the DOD, and the USAF. The GRASI consortium of agencies have worked to assess and recognize mutually compatible areas for training that minimize adverse impacts to natural resources and public recreational opportunities. As a result of this effort, FWC has identified and provided to the military a list of FWC-managed lands with potential for GRASI training areas. To further determine the suitability of the recommended FWC-managed areas, FWC and military personnel will coordinate site visits for areas of interest.

In addition, a GRASI Memorandum of Agreement (MOA; Appendix 11.2.4) between FWC and the USAF was developed and signed by FWC. Similar MOAs between other GRASI consortium entities and the USAF have also been developed and enacted. In general, the FWC GRASI MOA outlines the management responsibilities and activities of the participating entities that are considered compatible among all parties and that are not expected to unreasonably impact the managed lands. The GRASI MOA further calls for FWC and USAF personnel to work cooperatively to develop an "Annual Operations Plan."

To advance our shared national and State interests, FWC will continue to coordinate and cooperate with the USAF, other branches of the military, and other GRASI consortium members to achieve the goals of GRASI, and fulfill the commitments established in the FWC GRASI MOA. As with first-responder and other training described above, GRASI-related military training activities that are not low-impact, intermittent and occasional would require an amendment to the management plan, and therefore will be submitted by FWC to DSL and ARC for approval consideration and prior to authorization.

4.14 Climate Change

Florida's unique ecology and topography make impacts from climate change particularly acute and likely to affect multiple economic, agricultural, environmental, and health sectors across the state. The impact of climate change on wildlife and habitat is already occurring, from eroding shorelines and coral bleaching to increases in forest fires, severe weather events, and saltwater intrusion into inland freshwater wetlands.

The Intergovernmental Panel on Climate Change (IPCC), a multi-national scientific body, reports that climate change is proceeding at a rate where there will be unavoidable impacts to humans, wildlife, and habitat. Given current levels of heat-trapping greenhouse gas emissions, shifts in local, regional, and national climate patterns including changes in precipitation, temperature, increased frequency, and intensity of extreme weather events, rising sea levels, tidal fluctuations, and ocean acidification are projected to accelerate. The average global temperature has increased in recent decades, and continued greenhouse gas emissions may result in projected global average increases of 2 –11.5° F by the end of the century.[8,9]

This apparent change in global climate is likely to disrupt natural processes; in some areas, climate change may cause significant degradation of ecosystems that provide services such as clean and abundant water, sustainable natural resources, protection from flooding, as well as hunting, fishing, and other recreational opportunities. Consequently, climate change is a challenge not only because of its direct effects, but also because of its potential to amplify the stress on ecosystems, habitats, and species from existing threats such as exponential increases in surface and ground water use, habitat loss due to increased urbanization, introduction of invasive species, and fire suppression.

Potential impacts that may be occurring as a result of climate change include: change in the timing of biological processes, such as flowering, breeding, hibernation, and migration; [10, 11, 12] more frequent invasions and outbreaks of invasive species;[13] and loss of habitat in coastal areas due to sea level rise.[14] Some species are projected to adjust to these conditions through ecological or evolutionary adaptation, whereas others are projected to exhibit range shifts as their distributions track changing climatic conditions. However, the highly developed Florida coastline and significant projected urban growth in the state in coming decades is likely to make it difficult or impossible for many species and habitats to shift their ranges in response to a changing climate. Those species that are unable to respond to changing climatic conditions are projected to go extinct. Some estimates suggest that as many as 20% - 30% of the species currently assessed by the IPCC are at risk of extinction within this century if global mean temperatures exceed increases of 2.7 – 4.5° F.[15] A number of ecosystems are projected to be affected at temperature increases well below these levels.

At this time, the effects of climate change on Florida's conservation lands are just beginning to be studied and are not yet well understood. The FWC has a program in place to increase our understanding of the impacts of climate change on Florida's natural resources and to develop strategies to help wildlife and habitats adapt to changing conditions. While it may not be possible for natural resource managers to prevent or reverse the impacts of climate change, management actions can increase the resilience of natural systems. For example, the FWC follows a process that includes monitoring, evaluating, and determining what specific actions, if any, are recommended to ameliorate the projected impacts of climate change on fish and wildlife resources, native vegetation, and the possible spread of invasive species. Currently, the FWC is continuing its work on the development of future adaptation strategies. However, as noted above, the effects of climate change may become more frequent and severe within the time period covered by this Management Plan update.

For these reasons, there is a continuing need for increased information and research to enable adaptive management to cope with potential long-term climate change impacts. The most immediate actions that the FWC can take are to work with partners to gather the best scientific data possible for understanding natural processes in their current state, model possible impacts and subsequent changes from climate change, develop adaptive management strategies to enhance the resiliency of natural communities to adapt to climate change, and formulate criteria and monitoring for potential impacts when direct intervention may be necessary to protect a species. The FWC has conducted multiple species and habitat vulnerability assessments in

recent years, and these models are important tools to help managers assess the severity of climate change impacts. As impacts from climate change continue to accelerate, the FWC will consider the need for updating or conducting additional vulnerability assessments to model the potential effects of climate change, especially sea level rise and storm events, on imperiled species and their habitats on FWC-managed land.

To address the potential impacts of climate change on the JBWMA, goals and objectives have been developed as a component of this Management Plan (Section 5.11). Depending on the recommendations of the adaptive management strategies described above, additional specific goals and objectives to mitigate potential climate change impacts may be developed for the JBWMA in the future.

4.15 Soil and Water Conservation

Soil disturbing activities will be confined to areas that have the least likelihood of experiencing erosion challenges. On areas that have been disturbed prior to acquisition, an assessment will be made to determine if soil erosion is occurring, and if so, appropriate measures will be implemented to stop or control the effects of this erosion. Water conservation is accomplished through hydrological restoration, management, and monitoring as described in Section 4.7.

5 Resource Management Goals and Objectives

The management goals and objectives described in this section are broad, enduring statements designed to guide the general direction of management actions aimed at achieving an overall desired future outcome for the JBWMA. The objectives listed within each management goal offer more specific management guidance and measures and are considered the necessary steps to be completed to accomplish the management goals. Many of the objectives listed have specific end-of-the-calendar-year target dates for completion and all of them are classified as having either short-term (less than two years) or long-term (up to 10 years) timelines for completion.

5.1 Habitat Restoration and Improvement

Goal: Improve extant habitat and restore disturbed areas.

Long-term

1. Contract for recertification of historic and current natural community mapping.
2. Utilize OBVM monitoring to evaluate actively managed natural communities and adjust management efforts to meet DFCs.
3. Continue to implement Prescribed Burn Plan.
4. Update the Prescribed Burn Plan to incorporate new scientific information regarding projected climate change.
5. Continue to conduct habitat/natural community improvement, including prescribed fire.
6. Maintain fire adapted communities within a 1–3-year fire return interval.
7. Continue to conduct restoration activities including gyro-trac, mowing, herbicide, and other viable vegetation enhancement techniques on various natural communities.

5.2 Imperiled Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration

Goal: Maintain, improve, or restore imperiled species populations and habitats.

Short-term

1. Update the WCPR Strategy.

Long-term

1. Continue to implement the WCPR strategy by managing identified habitats and monitoring imperiled species and update as necessary and appropriate.
2. Continue to collect and record opportunistic wildlife species occurrence data.
3. Monitor for rare plants and survey as appropriate.

5.3 Other Wildlife (Game and Non-game) Habitat Maintenance, Enhancement, Restoration, and Population Restoration.

Goal: Monitor, maintain, improve, or restore game and non-game species populations and habitats.

Long-term

1. Continue to monitor locally-important wildlife species, as identified in the WCPR strategy.
2. Continue to collect opportunistic wildlife occurrence data.
3. Continue to maintain a white-tailed deer density index by conducting annual fall pre-season track count surveys.
4. Continue to assist with mourning dove banding as part of the statewide cooperative effort with the USFWS.
5. Continue to collect biological harvest data at check station.
6. Continue to use various habitat management techniques to maintain wildlife openings and food plots as appropriate.
7. Continue to manage the JBYCC pond by enhancing aquatic habitat and supplementing game fish (catfish, bream, and bass) populations through stocking.

5.4 Invasive and Non-native Species Maintenance and Control

Goal: Remove invasive and non-native plants and animals and conduct needed maintenance and/or control.

Long-term

1. In cooperation with the FFS, monitor the JBWMA for the level of infestation of FISC Category I and Category II invasive plant species and treat as needed and appropriate.
2. When feasible and appropriate, contract to conduct surveys and mapping of invasive and non-native plant species.

3. Ensure that staff are familiar with the identification, reporting procedures, and control measures of high priority nonnative wildlife species.
4. Continue to implement control measures on wild hogs.
5. Continue to evaluate permit applications for control and research opportunities for non-native fish and wildlife species.

5.5 Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities.

Short-term

1. Develop a trail map for the JBWMA.

Long-term

1. Develop the Recreation Master Plan.
2. Continue to maintain trails on the area.
3. Develop a trail guide brochure for the area.
4. Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 214 visitors per day on the JBWMA and 250 on the JBYCC.
5. Include the demographics of the area in designing and delivering conservation education programs and recreational opportunities, to provide a welcoming and inclusive experience for the community.
6. Develop interpretive signage providing context to external conservation land and other access points to the JBWMA and install this signage at entrances that do not connect to other parts of the JBWMA.
7. Continue to include the area in statewide interpretive programming as needed, and support interpretation, education, and wildlife data sharing projects. Develop Spanish language interpretive, informational, and educational materials as necessary.
8. Assess and improve ADA accessibility for recreation and conservation education programming as needed.
9. Continue to provide hunting opportunities for deer, turkey, small game, and wild hog.
10. Continue to provide paddling opportunities on appropriate water bodies, including paddling on Joe Budd Pond.
11. Continue to provide fishing opportunities on appropriate water bodies.
12. Cooperate with other agencies, County, stakeholders, and regional landowners to investigate regional recreational opportunities including linking paddling, hiking, and multi-use trail systems between adjacent public areas.
13. Continue and expand outreach programs for local schools through the JBYCC.
14. Continue providing summer camp at the JBYCC.
15. Explore the possibility for volunteer and staff lodging opportunities at the JBYCC, including RV pads, and construct if feasible.
16. Explore the feasibility of expanding the JBYCC footprint and coordinate with the DHR, NWFWMD, DEP, FNAI, and FFS to construct if feasible. Possible opportunities for expansion

include a shooting range, a bathroom facility, a dining hall, expanded parking, a low ropes area, and Little River paddling trail access.
17. Continue to provide volunteer and internship opportunities on JBWMA.

5.6 Hydrological Preservation and Restoration

Goal: Protect water quality and quantity, restore hydrology to the extent feasible, and maintain the restored condition.

Long-term

1. To maintain and enhance natural hydrological functions, install, maintain, or replace low-water crossings, bridges, dam, and culverts as appropriate.
2. If necessary, continue to cooperate with the NWFWMD and the DEP for the monitoring of surface and ground water quality and quantity.

5.7 Forest Resource Management

Goal: Manage timber resources to improve or restore natural communities for the benefit of wildlife.

Long-term

1. Update and implement a Timber Management Plan including reforestation, harvesting, and prescribed burning activities based on restoration and maintenance needs of the natural communities and other goals established for management of the JBWMA.
2. Continue to consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate.
3. Continue to conduct timber harvest for the purposes of habitat restoration as appropriate.

5.8 Cultural Resources

Goal: Protect, preserve, and maintain cultural resources.

Long-term

1. Cooperate with the DHR in designing site plans for development of infrastructure.
2. Continue to follow the DHR's *Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties* for the management of cultural and historic resources.
3. Continue to annually monitor, protect, preserve, and report any changes on 18 recorded sites on the JBWMA.
4. Ensure any newly identified sites are reported to the DHR for inclusion in the FMSF.
5. Coordinate with the DHR to ensure that staff have received updated Archaeological Resource Management training.
6. If feasible, contract to survey Little River Tract (Zone G), Main tract (Zones A-E), and Zone F.

5.9 Capital Facilities and Infrastructure

Goal: Develop the capital facilities and infrastructure necessary to meet the goals and objectives of this Management Plan.

Long-term

1. Monitor trails and infrastructure annually for visitor impacts.
2. Continue to maintain 10 facilities.
3. Continue to maintain 42 miles of roads.
4. If feasible, construct eight facilities, including day use area, entrance package, one kiosk, one shooting range, bunk house(s), one dining hall and kitchen, parking area with low ropes, and a bathroom facility.
5. Improve, repair, or replace existing facilities roads as needed, including potential ADA accommodation.
6. Review feasibility to construct RV hookups and a Little River paddling trail with paddling trail access facility.

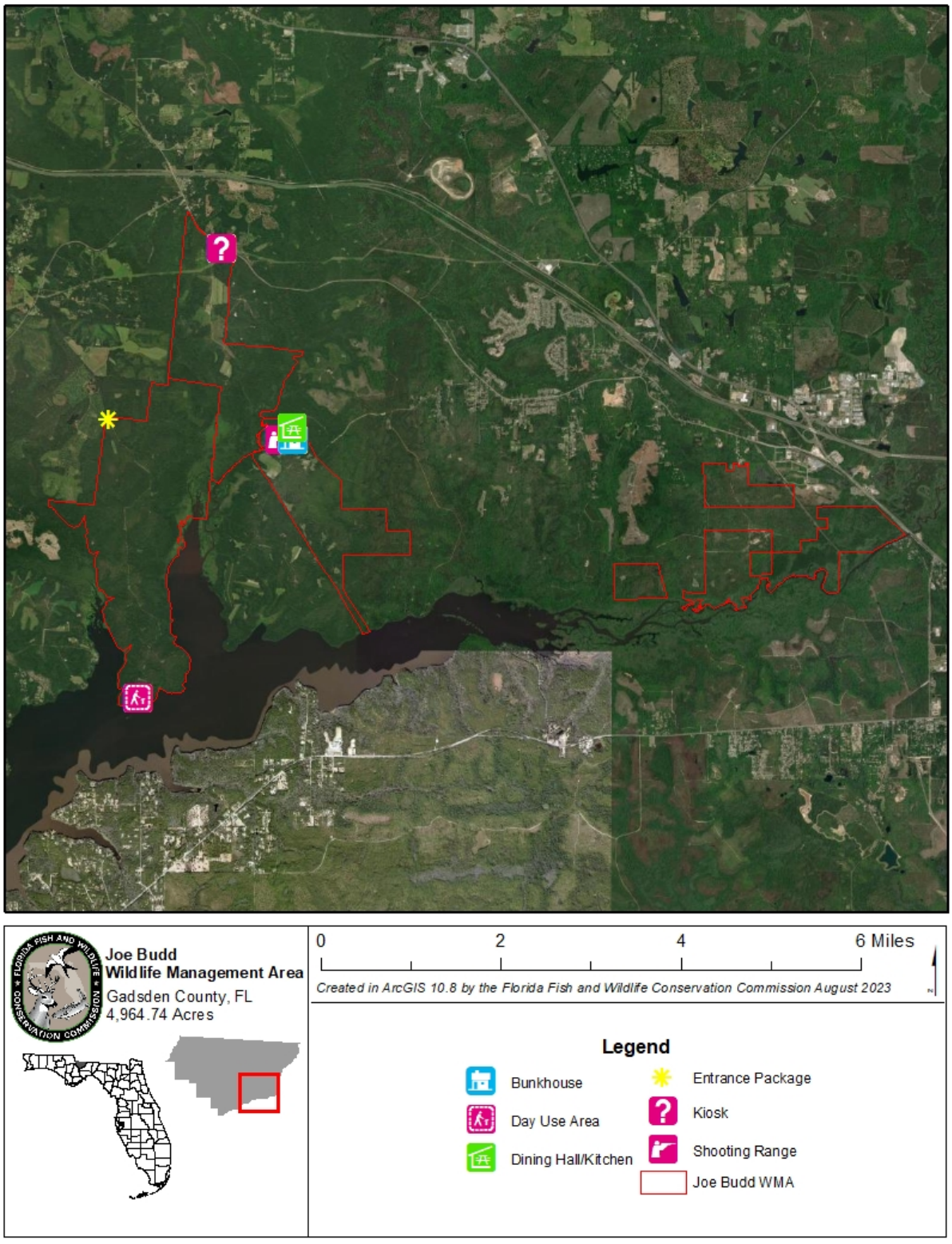


Figure 16. Potential Facilities

5.10 Land Conservation and Stewardship Partnerships

Goal: Enhance fish and wildlife conservation, resource, and operational management through development of an optimal boundary.

Long-term

1. Continue to identify and evaluate potential important wildlife habitat, landscape-scale linkages, wildlife corridors, and operational management needs as appropriate and necessary.
2. Continue to contact and inform adjoining private landowners about the FWC Landowners Assistance Program, and coordinate with public entities to pursue conservation stewardship partnerships.
3. Continue to evaluate and identify FWC inholdings and additions priority parcels for potential conservation acquisition and pursue acquisitions as funding allows.
4. Continue to maintain a GIS shapefile and other necessary data to facilitate nominations for the FWC landowner assistance and conservation acquisition programs.
5. Continue to identify potential non-governmental land stewardship organization partnerships and grant program opportunities.
6. Determine the efficacy of conducting a landowner assistance/conservation stewardship partnership workshop(s) and pursue as necessary and appropriate.
7. Continue to evaluate and determine if any portions of the JBWMA are no longer needed for conservation purposes, and therefore may be designated as surplus lands.

5.11 Climate Change Adaptation

Goal: Develop appropriate adaptation strategies in response to current and future projected climate change effects and their potential impacts on natural resources, including fish and wildlife, and the operational management of JBWMA

Long-term

1. Coordinate with FWC-FWRI Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of JBWMA.
2. As appropriate, update the JBWMA Prescribed Burn Plan, WCPR Strategy, and Recreation Master Plan to incorporate new scientific information regarding projected climate change.
3. As science, technology, and climate policy evolve, educate natural resource management partners and the public about the agency's policies, programs and efforts to study, document and address potential climate change.

5.12 Cooperative Management, Special Uses, and Research Opportunities

Goal: Provide access and use of the JBWMA to current cooperative managers and continue collaborative management and research efforts.

Long-term

1. Continue to coordinate and cooperate on all management activities with the FFS.

2. Continue to assess the need for and cooperate with researchers, universities, and others on research and environmental education partnership opportunities as appropriate.
3. Coordinate and cooperate with the DOD military branches to allow for training opportunities for military personnel and other initiatives as appropriate and compatible with the conservation of the JBWMA.

6 Resource Management Challenges and Strategies

The following section identifies and describes further management needs and challenges associated with the JBWMA and provides solution strategies that will address these challenges. These specific challenges may not be fully addressed in the broader goals and objectives section above and are thereby provided here.

Challenge 1: Potential future development on adjacent lands can result in incompatible land uses increasing management challenges for the area.

Strategy: Cooperate and work with Gadsden County to ensure land use and zoning designations adjacent to the JBWMA will continue to be compatible with the management of the area.

Challenge 2: The JBWMA's proximity to major roadways and residential areas presents significant smoke management challenges during prescribed burning.

Strategy: Use available tools and resources to minimize smoke impact and increase outreach for areas of potential impact.

Strategy: Coordinate with FDOT to notify the agency of scheduled prescribed burns to alert the travelling public and employ digital signage as needed for information dissemination.

Challenge 3: Access to Rocky Comfort tract is dependent on county road access.

Strategy: Continue to coordinate with Gadsden County to ensure road access.

Challenge 4: The JBWMA is not a widely known public outdoor recreation destination.

Strategy: Work with local organizations and Gadsden County to further promote the JBWMA.

Strategy: Cross-promote the JBWMA with other regional public conservation lands.

Strategy: Work with Gadsden County to install directional signage along area roads.

Strategy: Work with local conservation groups to expand promotion of the JBWMA.

Challenge 5: There is an inholding within the JBWMA that can cause management challenges.

Strategy: Explore conservation strategies for the inholding, including, but not limited to, fee simple or less-than-fee acquisition to ensure long term conservation of the site.

Strategy: Maintain FWC Additions and Inholdings List, including the identified inholding property.

Strategy: Coordinate with existing landowners regarding management of invasive plant species.

Challenge 6: Currently, invasive plant infestations exist at a level beyond the ability of area staff to fully maintain.

Strategy: Establish a treatment rotation and continue funding projects for contract spraying.

Strategy: Explore the feasibility of utilizing contractual services for appropriate activities.

Strategy: Cooperate with other nearby FWC staff to assist when needed.

Challenge 7: Maintaining proper level of antlerless harvest while maintaining optimal track count deer density estimates.

Strategy: Pursuant to FWC rules and regulations approved by FWC Commissioners, continue allowing for increase in limited doe harvest (via antlerless deer permits), while maintaining the white-tailed deer track count density estimates within the desired range. Maintain appropriate balance of permits issued, hunter harvest success/satisfaction, and optimal track count deer density estimates (40-70 crossing per mile).

Strategy: Continue conducting annual fall pre-season track counts and monitoring of harvest, hunting pressure and success, and biological parameters so that response of the population to corrective measures can be ascertained within an adaptive management framework.

7 Cost Estimates and Funding Sources

The following represents the actual and unmet budgetary needs for managing the lands and resources of the JBWMA. This cost estimate was developed using data developed by the FWC and other cooperating entities and is based on actual costs for land management activities, equipment purchase and maintenance, and for development of fixed capital facilities. Funds needed to protect and manage the property and to fully implement the recommended program are derived primarily from the Land Acquisition Trust Fund and from State Legislative appropriations. However, private conservation organizations may be cooperators with the agency for funding of specific projects. Alternative funding sources, such as monies available through grants and potential project-specific mitigation, may be sought to supplement existing funding as needed.

The following cost estimate, although exceeding what the FWC typically receives through the appropriations process, is estimated to be what is necessary for optimal management and is consistent with the current and planned resource management and operation of the JBWMA. Cost estimate categories are those currently recognized by the FWC and the Land Management Uniform Accounting Council. More information on these categories, as well as the Fiscal Year

2021-2022 operational plan showing detailed cost estimates by activity and categories of expenditures, may be found in Appendix 11.19.

JBWMA Management Plan Cost Estimate	*Maximum expected one-year expenditure*
Resource Management	Expenditure
Invasive Species Control	$66,794
Prescribed Burning	$20,854
Cultural Resource Management	$5,679
Timber Management	$2,265
Hydrological Management	$301,812
Vegetation Monitoring/Management	$75,189
Wildlife Monitoring/Management	$11,492
Subtotal	**$484,085**
Administration	
General administration	**$47,722**
Support	
Land Management Planning	$22,986
Management Reviews	$0
Training/Staff Development	$5,662
Vehicle Purchase	$0
Vehicle Operation and Maintenance	$47,648
Other (Technical Reports, Data Management, etc.)	$4,530
Internal Program Review	$35,104
Technology and Data Management	$13,589
Subtotal	**$145,859**
Capital Improvements	
New Facility Construction	$0
Facility Maintenance	$123,854
Subtotal	**$123,854**
Visitor Services/Recreation	
Info./Education/Operations	**$31,864**
Law Enforcement	
Resource protection	**$3,593**
Total	**$836,976**

* Based on the characteristics and requirements of this area, 6 FTE positions would be optimal to fully manage this area. All land management funding is dependent upon annual legislative appropriations.

JBWMA Management Plan Cost Estimate	*Ten-year projection*		
Resource Management	Expenditure	Priority	Priority Schedule:
Invasive Species Control	$765,723	(1)	**(1) Immediate**
Prescribed Burning	$239,063	(1)	*(2) Intermediate*
Cultural Resource Management	$65,108	(1)	(3) Other (5+
Timber Management	$25,963	(1)	
Hydrological Management	$3,459,935	(1)	
Vegetation Monitoring/Management	$861,963	(1)	
Wildlife Monitoring/Management	$131,738	(1)	
Subtotal	**$5,549,493**	(1)	
Administration			
General administration	**$547,079**	(1)	
Support			
Land Management Planning	$263,509	(1)	
Management Reviews	$11,901	(3)	
Training/Staff Development	$64,908	(1)	
Vehicle Purchase	$750,247	(2)	
Vehicle Operation and Maintenance	$546,231	(1)	
Other (Technical Reports, Data Management, etc.)	$51,927	(1)	
Internal Program Review	$402,433	(1)	
Technology and Data Management	$155,780	(1)	
Subtotal	**$2,246,936**		
Capital Improvements			
New Facility Construction	$6,603,196	(2)	
Facility Maintenance	$1,419,843	(1)	
Subtotal	**$8,023,039**		
Visitor Services/Recreation			
Info./Education/Operations	**$365,291**	(1)	
Law Enforcement			
Resource protection	**$41,187**	(1)	
Total	**$16,773,024**	*	

* Based on the characteristics and requirements of this area, 6 FTE positions would be optimal to fully manage this area. All land management funding is dependent upon annual legislative appropriations.

8 Analysis of Potential for Contracting Private Vendors for Restoration and Management Activities

The following management and restoration activities have been considered for outsourcing to private entities. It has been determined that items selected as “approved” are those that the FWC either does not have in-house expertise to accomplish or which can be done at less cost by an outside provider of services. Those items selected as “conditional” items are those that could be done either by an outside provider or by the agency at virtually the same cost or with the same level of competence. Items selected as “rejected” represent those for which the FWC has in-house expertise and/or which the agency has found it can accomplish at less expense than through contracting with outside sources:

	Approved	Conditional	Rejected
Dike and levee maintenance		✓	
Invasive species control		✓	
Mechanical vegetation treatment	✓		
Public contact and educational facilities development			✓
Prescribed burning			✓
Timber harvest activities	✓		
Vegetation inventories		✓	

9 Compliance with Federal, State, and Local Governmental Requirements

The operational functions of FWC personnel are governed by the agency’s Internal Management Policies and Procedures (IMPP) Manual. The IMPP Manual provides internal guidance regarding many subjects affecting the responsibilities of agency personnel including personnel management, safety issues, uniforms and personal appearance, training, as well as accounting, purchasing, and budgetary procedures.

When public facilities are developed on areas managed by the FWC, every effort is made to comply with Public Law 101 - 336, the ADA 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).

Land uses planned for the JBWMA are compliant with the Conceptual State Lands Management Plan and its requirement for “balanced public utilization,” and are in compliance with the mission of the FWC as described in its Agency Strategic Plan (Appendix 11.11). Such uses also comply with the authorities of the FWC as derived from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 373, 375, 378, 379, 403, 487, 597, and 870, F.S.

The FWC has developed and utilizes an Arthropod Control Plan for the JBWMA in compliance with Chapter 388.4111 F.S. (Appendix 11.20). This plan was developed in cooperation with the local Gadsden County arthropod control agency. This plan is also in conformance with the Local Government Comprehensive Plan as approved and adopted for Gadsden County, Florida, (Appendix 11.21)

10 Endnotes

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11 Appendices

11.1 Leases and Deeds

11.1.1 Budd Ranch Deed (1975)

BOOK 197 PAGE 382

TRUST DEED

KNOW ALL MEN BY THESE PRESENTS, that PAUL EUGENE WILLIAMS and THE QUINCY STATE BANK, Grantors, acting in pursuance and by virtue of the powers in us as Co-Trustees under Item Fourth, Section (a) of the Last Will and Testament of Joe T. Budd, Jr., dated March 1, 1966, which instrument created a two-thirds (2/3) undivided interest in the hereafter described property in us, and of every other power and authority granted thereunder, and in consideration of Ten Dollars ($10.00) and other good and valuable considerations the receipt of which is acknowledged, have remised, released and conveyed and do remise, release and forever convey to the FLORIDA GAME AND FRESH WATER FISH COMMISSION, Grantee, all that piece or parcel of land situated in the County of Gadsden, State of Florida, and described as follows:

Commence at the Southwest Corner of the Northwest 1/4 of Section 23 Township 1 North Range 3 West Gadsden County, Florida, and run; thence North 27 degrees 57 minutes 03 seconds East 2959.21 feet; thence North 89 degrees 41 minutes 36 seconds West along a blazed and painted line 1405.47 feet to a concrete monument; thence North 01 degrees 20 minutes 52 seconds East along a blazed and painted line 1701.59 feet to a concrete monument; thence South 64 degrees 07 minutes 01 seconds West 1164.92 feet to the POINT OF BEGINNING; From said POINT OF BEGINNING continue South 64 degrees 07 minutes 01 seconds West 2471.98 feet to a blazed and painted line; thence North 31 degrees 39 minutes 07 seconds West along said blazed and painted line 1350.19 feet to a concrete monument; thence North 31 degrees 38 minutes 43 seconds West along an old fence line 1277.04 feet; thence North 44 degrees 26 minutes 34 seconds West along an old fence line 541.42 feet; thence North 31 degrees 51 minutes 09 seconds West along an old fence line 578.95 feet to a point located on the elevation of 70.00 as determined from U.S. Coast and Geodetic Data; thence Northerly along elevation 70.00 (known as contour 70) as meandered by the following courses and distances:

Thence North 83 degrees 36 minutes 28 seconds East 107.41 feet;
Thence South 51 degrees 33 minutes 02 seconds East 115.63 feet;
Thence North 56 degrees 31 minutes 13 seconds East 45.55 feet;
Thence North 33 degrees 36 minutes 02 seconds West 131.94 feet;
Thence North 73 degrees 11 minutes 32 seconds West 80.38 feet;
Thence North 64 degrees 22 minutes 28 seconds East 197.25 feet;
Thence North 68 degrees 56 minutes 51 seconds East 590.60 feet;
Thence North 63 degrees 50 minutes 50 seconds East 104.30 feet;
Thence North 77 degrees 29 minutes 08 seconds East 99.12 feet;
Thence South 52 degrees 07 minutes 52 seconds East 80.09 feet;
Thence North 36 degrees 17 minutes 08 seconds East 45.86 feet;

This Instrument Prepared By: W. Robert Olive, Jr.
Bryant, Dickens, Franson and Miller
700 Barnett Bank Building
Tallahassee, Florida 32301

STATE OF FLORIDA DOCUMENTARY SUR TAX $.55
STATE OF FLORIDA DOCUMENTARY SUR TAX $1.10
STATE OF FLORIDA DOCUMENTARY SUR TAX $1.10
GADSDEN COUNTY 023980 P.O. BOX 1489 SEP 1975 DEPT. OF REVENUE STATE OF FLORIDA DOCUMENTARY STAMP TAX $387.60
STATE OF FLORIDA DOCUMENTARY SUR TAX $110.00 $11.00
STATE OF FLORIDA DOCUMENTARY SUR TAX $11.00 $5.50
STATE OF FLORIDA DOCUMENTARY SUR TAX $1.10
STATE OF FLORIDA DOCUMENTARY SUR TAX $1.10

Thence North 50 degrees 59 minutes 01 seconds West 131.00 feet;
Thence North 27 degrees 29 minutes 04 seconds West 81.26 feet;
Thence North 07 degrees 16 minutes 40 seconds West 144.60 feet;
Thence North 02 degrees 13 minutes 31 seconds East 80.59 feet;
Thence North 27 degrees 36 minutes 26 seconds East 81.28 feet;
Thence North 15 degrees 44 minutes 30 seconds East 200.56 feet;
Thence North 28 degrees 46 minutes 45 seconds East 73.27 feet;
Thence North 22 degrees 39 minutes 39 seconds East 77.70 feet;
Thence North 47 degrees 59 minutes 09 seconds East 79.47 feet;
Thence leaving said meander of elevation 70.00 run South 31 degrees 49 minutes 53 seconds East 2270.78 feet; thence South 54 degrees 16 minutes 09 seconds East 2380.65 feet to the POINT OF BEGINNING.

Containing 162.10 acres more or less.

being part of the premises conveyed to us by Joe T. Budd, Jr., by the above described provisions of his Last Will and Testament.

TO HAVE AND TO HOLD the above-described premises, with all rights, easements and appurtenances to the FLORIDA GAME AND FRESH WATER FISH COMMISSION, its successors and assigns, to its use and behalf forever.

AND Grantors do covenant with the Grantee and its assigns that the premises are free from all encumbrances made by Grantors, but against none other.

IN WITNESS WHEREOF, Paul Eugene Williams and The Quincy State Bank, Co-Trustees, as aforesaid, here set our hands and seals this ~~1st~~ 30th day of ~~October~~ September, 1975.

Paul Eugene Williams

PAUL EUGENE WILLIAMS, as Co-Trustee under Item Fourth, Section (a) of the Last Will and Testament of Joe T. Budd, Jr., dated March 1, 1966.

Signed in the presence of:

As to Paul Eugene Williams

THE QUINCY STATE BANK, as Co-Trustee under Item Fourth, Section (a) of the Last Will and Testament of Joe T. Budd, Jr., dated March 1, 1966.

By _____
Vice President and Trust Officer

Edith A Snowden

Joel E. Embry
As to The Quincy State Bank
Vice President and Trust Officer

ATTEST: _____
Cashier

2

O.R. BOOK 197 PAGE 384

STATE OF FLORIDA

COUNTY OF GADSDEN

Before me personally appeared Paul Eugene Williams, to me well known and known to me to be the person described in and who executed the foregoing instrument, and acknowledged to and before me that he executed said instrument for the purposes therein expressed.

WITNESS my hand and official seal, this 30th day of September, 1975.

Del E. Embry
Notary Public

My Commission Expires:

STATE OF FLORIDA

COUNTY OF GADSDEN

Before me personally appeared E.B. Woodbery, Vice President and Trust Officer of The Quincy State Bank, to me well known and known to me to be the person described in and executed the foregoing instrument, and acknowledged to and before me that he executed said instrument for the purposes therein expressed.

WITNESS my hand and official seal, this 30th day of September, 1975.

Del E. Embry
Notary Public

My Commission Expires:

FILED 9-30-75 4:46 P.M.
IN GADSDEN COUNTY, FLORIDA
REC. NO. 71520
Recorded in O.R. BOOK 197
PAGE 382 AND VERIFIED.
EDWIN MAUR, Clerk Circuit Court
By Nina B. Snipes
Deputy Clerk

3

11.1.2 Budd Ranch Deed (1976)

Unofficial Unofficial Unof

TRUST DEED

KNOW ALL MEN BY THESE PRESENTS, that PAUL EUGENE WILLIAMS and THE QUINCY STATE BANK, Grantors, acting in pursuance and by virtue of the powers in us as Co-Trustees under Item Fourth, Section (a) of the Last Will and Testament of Joe T. Budd, Jr., dated March 1, 1966, which instrument created a two-thirds (2/3) undivided interest in the hereafter described property in us, and of every other power and authority granted thereunder, and in consideration of Ten Dollars ($10.00) and other good and valuable considerations the receipt of which is acknowledged, have remised, released and conveyed and do remise, release and further convey to the FLORIDA GAME AND FRESH WATER FISH COMMISSION, Grantee, all that piece or parcel of land situated in the County of Gadsden, State of Florida, and described as follows:

Commence at the Southwest Corner of the Northwest 1/4 of Section 23 Township 1 North Range 3 West Gadsden County, Florida, and run; thence North 27 degrees 57 minutes 03 seconds East 2959.21 feet; thence North 89 degrees 41 minutes 36 seconds West along a blazed and painted line 1405.47 feet to a concrete monument for the POINT OF BEGINNING: From said POINT OF BEGINNING run South 32 degrees 58 minutes 11 seconds West 2979.23 feet to a blazed and painted line; thence North 31 degrees 39 minutes 07 seconds West along said line 3069.52 feet; thence North 64 degrees 07 minutes 01 seconds East 3636.90 feet to a concrete monument; thence South 01 degrees 20 minutes 52 seconds West along a blazed and painted line 1701.59 feet to the POINT OF BEGINNING.

Containing 158.00 acres more or less.

being part of the premises conveyed to us by Joe T. Budd, Jr., by the above described provisions of his Last Will and Testament.

TO HAVE AND TO HOLD the above-described premises, with all rights, easements and appurtenances to the FLORIDA GAME AND FRESH WATER FISH COMMISSION, its successors and assigns, to its use and behalf forever.

AND Grantors do covenant with the Grantee and its assigns that the premises are free from all encumbrances made by Grantors, but against none other.

This Instrument Prepared By: W. Robert Olive, Jr.
Bryant, Dickens, Franson and Miller
700 Barnett Bank Building
Tallahassee, Florida 32301

IN WITNESS WHEREOF, Paul Eugene Williams and The Quincy State Bank, Co-Trustees, as aforesaid, here set our hands and seals this 1st day of October, 1976.

Paul Eugene Williams
PAUL EUGENE WILLIAMS, as Co-Trustee under Item Fourth, Section (a) of the Last Will and Testament of Joe T. Budd, Jr., dated March 1, 1966.

Signed in the presence of:

J. Vivian Cook

Melissa E. Barksdale
As to Paul Eugene Williams

THE QUINCY STATE BANK, as Co-Trustee under Item Fourth, Section (a) of the Last Will and Testament of Joe T. Budd, Jr., dated March 1, 1966.

By Hazel B Bunker
Trust Officer

ATTEST: Buck Register
Buck Register, Cashier

Mary Lil May

Sharon Kay Goodson
As to The Quincy State Bank
Trust Officer

STATE OF FLORIDA

COUNTY OF GADSDEN

Before me personally appeared Paul Eugene Williams, to me well known and known to me to be the person described in and who executed the foregoing instrument, and acknowledged to and before me that he executed said instrument for the purposes therein expressed.

WITNESS my hand and official seal this 29 day of September, 1976.

MELISSA E. BARKSDALE NOTARY PUBLIC STATE OF FLORIDA AT LARGE

Melissa E Barksdale
Notary Public

My Commission Expires: NOTARY PUBLIC, STATE OF FLORIDA AT LARGE
MY COMMISSION EXPIRES JANUARY 15, 1980

2

STATE OF FLORIDA

COUNTY OF GADSDEN

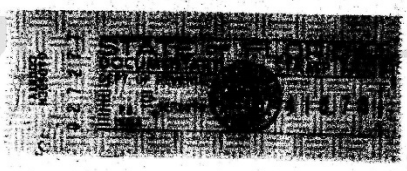
Before me personally appeared Hazel B. Burke, Trust Officer of The Quincy State Bank, to me well known and known to me to be the person described in and who executed the foregoing instrument, and acknowledged to and before me that he executed said instrument for the purposes therein expressed.

WITNESS my hand and official seal this 30th day of September, 1976.

Notary Public

My Commission Expires:

NOTARY PUBLIC STATE OF FLORIDA AT LARGE
MY COMMISSION EXPIRES MAY 1, 1978



STATE OF FLORIDA DOCUMENTARY SUR TAX $110.00

STATE OF FLORIDA DOCUMENTARY SUR TAX $1.00

STATE OF FLORIDA DOCUMENTARY SUR TAX $1.10

STATE OF FLORIDA DOCUMENTARY SUR TAX $5.50

STATE OF FLORIDA DOCUMENTARY SUR TAX $11.00

STATE OF FLORIDA DOCUMENTARY SUR TAX $1.10

STATE OF FLORIDA DOCUMENTARY SUR TAX $11.00

STATE OF FLORIDA DOCUMENTARY SUR TAX $1.10

STATE OF FLORIDA DOCUMENTARY SUR TAX $1.10

FILED 9/30/76 4:15 P.M.
IN GADSDEN COUNTY, FLORIDA
REC. NO. 7337
Recorded in O.R. BOOK 216
PAGE 291 AND VERIFIED.
EDWIN BAUR, Clerk Circuit Court
By Douglas E. Burn
Deputy Clerk

3

11.1.3 Budd Ranch Deed (1977)

Unofficial Unofficial Unof

O.R. BOOK 234 PAGE 124

TRUST DEED

KNOW ALL MEN BY THESE PRESENTS, that PAUL EUGENE WILLIAMS and THE QUINCY STATE BANK, Grantors, acting in pursuance and by virtue of the powers in us as Co-Trustees under Item Fourth, Section (a) of the Last Will and Testament of Joe T. Budd, Jr., dated March 1, 1966, which instrument created a two-thirds (2/3) undivided interest in the hereafter described property in us, and of every other power and authority granted thereunder, and in consideration of Ten Dollars ($10.00) and other good and valuable considerations the receipt of which is acknowledged, have remised, released and conveyed and do remise, release and further convey to the FLORIDA GAME AND FRESH WATER FISH COMMISSION, Grantee, all those parcels of land situated in the County of Gadsden, State of Florida, and described as follows:

PARCEL 1

Begin at the Southwest Corner of the Northwest ¼ of Section 23 Township 1 North Range 3 West Gadsden County, Florida, and run; thence South 00 degrees 36 minutes 25 seconds West along a blazed and painted line 1517.74 feet to a concrete monument; thence South 01 degrees 18 minutes 22 seconds West 536.44 feet to a concrete monument; thence South 37 degrees 03 minutes 41 seconds East along an old fence line 1566.57 feet; thence South 31 degrees 41 minutes 26 seconds East along an old fence line 288.02 feet; thence South 24 degrees 51 minutes 43 seconds East along an old fence line 1078.31 feet to a concrete monument 31.00 feet from the water's edge of Lake Talquin; thence South 65 degrees 52 minutes 39 seconds West 240.40 feet to a concrete monument 8.00 feet from the water's edge of Lake Talquin; thence North 31 degrees 52 minutes 39 seconds West along a blazed and painted line 3019.52 feet to a concrete monument; thence North 31 degrees 39 minutes 07 seconds West along a blazed and painted line 2565.32 feet; thence North 32 degrees 58 minutes 11 seconds East 2979.23 feet to a concrete monument; thence South 89 degrees 41 minutes 36 seconds East along a blazed and painted line 1405.47 feet; thence South 27 degrees 57 minutes 03 seconds West 2959.21 feet to the POINT OF BEGINNING.

Containing 158.00 acres more or less.

PARCEL 2

Begin at the Southwest Corner of the Northwest ¼ of Section 23 Township 1 North Range 3 West Gadsden County, Florida, and run; thence North 27 degrees 57 minutes 03 seconds East 2959.21 feet to a blazed and painted line; thence South 89 degrees 41 minutes 36 seconds East along

This Instrument Prepared By:

W. Robert Olive, Jr.
Bryant, Franson, Miller, Olive, Brant and Ryan
700 Barnett Bank Building
Tallahassee, Florida 32301

said line 1273.70 feet to a concrete monument; thence South 00 degrees 41 minutes 12 seconds West along a blazed and painted line 1321.41 feet to a concrete monument; thence South 89 degrees 27 minutes 17 seconds East along a blazed and painted line 1320.76 feet to a concrete monument; thence South 00 degrees 33 minutes 11 seconds West along a blazed and painted line 1320.52 feet to a concrete monument; thence North 89 degrees 19 minutes 00 seconds west along a blazed and painted line 3953.10 feet to the POINT OF BEGINNING.

Containing 158.00 acres more or less.

PARCEL 3

Commence at the Southwest Corner of the Northwest ¼ of Section 23 Township 1 North Range 3 West Gadsden County, Florida, and run; thence North 27 degrees 57 minutes 03 seconds East 2959.21 feet; thence North 89 degrees 41 minutes 36 seconds West along a blazed and painted line 1405.47 feet to a concrete monument; thence North 01 degrees 20 minutes 52 seconds East along a blazed and painted line 1701.59 feet to a concrete monument for the POINT OF BEGINNING; From said POINT OF BEGINNING run South 64 degrees 07 minutes 01 seconds West 1164.92 feet; thence North 54 degrees 16 minutes 09 seconds West 2380.65 feet; thence North 31 degrees 49 minutes 53 seconds West 2270.78 feet to a point located on the elevation of 70.00 as determined by U.S. Coast and Geodetic Data; thence Northerly along elevation 70.00 (known as contour 70) as meandered by the following courses and distances:

Thence North 44 degrees 44 minutes 39 seconds East 173.65 feet; Thence North 22 degrees 10 minutes 09 seconds East 143.48 feet; Thence North 03 degrees 33 minutes 42 seconds West 91.55 feet; Thence North 71 degrees 15 minutes 24 seconds East 107.33 feet; Thence South 81 degrees 45 minutes 51 seconds East 97.75 feet; Thence North 34 degrees 28 minutes 30 seconds East 75.23 feet; Thence North 44 degrees 04 minutes 18 seconds East 49.67 feet; Thence North 60 degrees 07 minutes 42 seconds West 82.03 feet; Thence North 80 degrees 58 minutes 42 seconds West 90.64 feet; Thence South 74 degrees 36 minutes 57 seconds West 73.98 feet; Thence North 50 degrees 06 minutes 33 seconds West 92.18 feet; Thence North 74 degrees 36 minutes 36 seconds West 106.96 feet; Thence North 71 degrees 41 minutes 36 seconds West 74.33 feet; Thence North 69 degrees 58 minutes 39 seconds West 72.45 feet; Thence North 29 degrees 12 minutes 03 seconds West 112.82 feet; Thence North 13 degrees 51 minutes 27 seconds East 121.75 feet; Thence leaving said meander of elevation 70 run South 88 degrees 49 minutes 28 seconds East along a blazed and painted line 1218.86 feet to a concrete monument; thence along an old fence line as follows: South 40 degrees 11 minutes 52 seconds East 1786.41 feet; thence South 25 degrees 11 minutes 23 seconds East 967.15 feet to a concrete monument; thence South 49 degrees 56 minutes 29 seconds East 1032.94 feet; thence South 44 degrees 44 minutes 39 seconds East 1034.97 feet to the POINT OF BEGINNING.

Containing 158.00 acres more or less.

O.R. BOOK 234 PAGE 126

being part of the premises conveyed to us by Joe T. Budd, Jr., by the above described provisions of his Last Will and Testament.

TO HAVE AND TO HOLD the above-described premises, with all rights, easements and appurtenances to the FLORIDA GAME AND FRESH WATER FISH COMMISSION, its successors and assigns, to its use and behalf forever.

AND Grantors do covenant with the Grantee and its assigns that the premises are free from all encumbrances made by Grantors, but against none other.

IN WITNESS WHEREOF, Paul Eugene Williams and The Quincy State Bank, Co-Trustees, as aforesaid, here set our hands and seals this 20th day of September, 1977.

Paul Eugene Williams

PAUL EUGENE WILLIAMS, as Co-Trustee under Item Fourth, Section (a) of the Last Will and Testament of Joe T. Budd, Jr., dated March 1, 1966.

Signed in the presence of:

As to Paul Eugene Williams

THE QUINCY STATE BANK, as Co-Trustee under Item Fourth, Section (a) of the Last Will and Testament of Joe T. Budd, Jr., dated March 1, 1966.

By Hazel B. Brooker
Trust Officer

ATTEST: Buck Rogers

As to The Quincy State Bank
Trust Officer

STATE OF FLORIDA

COUNTY OF GADSDEN

Before me personally appeared Paul Eugene Williams, to me well known and known to me to be the person described in and who executed the foregoing instrument and acknowledged to and before me that he executed said instrument for the purposes therein expressed.

WITNESS my hand and official seal, this 20th day of September, 1977.

Notary Public

My Commission Expires:
Notary Public, State of Florida at Large.
My Commission expires October 3, 1980.

STATE OF FLORIDA

COUNTY OF GADSDEN

Before me personally appeared Hazel B. Burke Trust Officer of The Quincy State Bank, to me well known and known to me to be the person described in and who executed the foregoing instrument, and acknowledged to and before me that he executed said instrument for the purposes therein expressed.

WITNESS my hand and official seal this 20th day of September, 1977.

Notary Public

My Commission Expires:
Notary Public, State of Florida at Large.
My Commission expires October 3, 1980.

FILED 9/20/77 11:51 AM.
IN GADSDEN COUNTY, FLORIDA
REG. NO. 8335
Recorded in O.R. BOOK 234
PAGE 124 AND VERIFIED.
WAYNE HANNA, Clerk Circuit Court
By Hazel B. Bryan
Deputy Clerk

4

11.1.4 Little River Tract Deed (Teryl Pace)

O.R. BOOK 337 PAGE 1552

WARRANTY DEED

THIS WARRANTY DEED, made the 14th day of May, 1987, by and between JOSEPH E. PACE, JR. and TERYL JAAN PACE, his wife, hereinafter called Grantor, to FLORIDA GAME AND FRESH WATER FISH COMMISSION, whose post office address is 620 South Meridian, Ferris Bryant Building, Tallahassee, Florida 32399-1600, hereinafter called the Grantee:

W I T N E S S E T H :

That the Grantor, for and in consideration of the sum of TEN and no/100ths ($10.00) DOLLARS, and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the Grantee, all that certain land situate in Gadsden County, Florida, to-wit:

DOCUMENTARY STAMP TAX PAID $4560.00 DATE 5-22-87
WAYNE HANNA, CLERK OF CIRCUIT COURT
GADSDEN COUNTY, FLORIDA
BY Peggy Barrus D.C.

SEE EXHIBIT "A" ATTACHED HERETO.

together with all the tenements, hereditaments, and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD the same in fee simple forever.

AND the Grantor hereby covenants with the said Grantee that the Grantor is lawfully seized of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land; that the Grantor fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 1986.

Frank E. Sheffield Attorney at Law
900 Thomasville Rd
Tallahassee, Fl 32303

O.R. BOOK 337 PAGE 1553

IN WITNESS WHEREOF, the said Grantor has signed and sealed these presents the day and year first above written.

Signed, sealed and delivered in our presence:

Marion D. Lamb
Kathleen M. Keyes

JOSEPH E. PACE, JR.

Marion D. Lamb
Kathleen M. Keyes

TERYL JAAN PACE

STATE OF FLORIDA:
COUNTY OF LEON :

I HEREBY CERTIFY that on this day, before me, an officer duly qualified to take acknowledgments, personally appeared JOSEPH E. PACE, JR., to me known to be the person described in and who executed the foregoing instrument and he acknowledged before me that he executed the same.

WITNESS my hand and official seal in the County and State last aforesaid this the 14TH day of MAY, 1987.

Kathleen M. Keyes
NOTARY PUBLIC

My Commission Expires:
NOTARY PUBLIC, STATE OF FLORIDA
MY COMMISSION EXPIRES [illegible] 1991.

STATE OF FLORIDA:
COUNTY OF LEON :

I HEREBY CERTIFY that on this day, before me, an officer duly qualified to take acknowledgments, personally appeared TERYL JAAN PACE, to me known to be the person described in and who executed the foregoing instrument and she acknowledged before me that she executed the same.

WITNESS my hand and official seal in the County and State last aforesaid this the 14TH day of MAY, 1987.

Kathleen M. Keyes
NOTARY PUBLIC

My Commission Expires:
NOTARY PUBLIC, STATE OF FLORIDA
MY COMMISSION EXPIRES [illegible] 1991.

This Instrument Prepared by:
MARION D. LAMB, JR.
1972 Raymond Diehl Road
Tallahassee, Florida 32308

Unofficial Document

11.1.5 Little River Tract Deed (Joseph Pace)

O.R. BOOK 339 PAGE 1290

WARRANTY DEED

THIS WARRANTY DEED, made the 17TH day of June, 1987, by and between JOSEPH E. PACE, JR. and TERYL JAAN PACE, his wife, hereinafter called Grantor, to FLORIDA GAME AND FRESH WATER FISH COMMISSION, whose post office address is 620 South Meridian, Ferris Bryant Building, Tallahassee, Florida 32399-1600, hereinafter called the Grantee:

W I T N E S S E T H :

That the Grantor, for and in consideration of the sum of TEN and no/100ths ($10.00) DOLLARS, and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the Grantee, all that certain land situate in Gadsden County, Florida, to-wit:

SEE EXHIBIT "A" ATTACHED HERETO.

$ 22.80 7-27-87
DOCUMENTARY STAMP TAX PAID
WAYNE HANNA, CLERK OF CIRCUIT COURT
GADSDEN COUNTY, FLORIDA
BY [illegible] D.C.
$80

together with all the tenements, hereditaments, and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD the same in fee simple forever.

AND the Grantor hereby covenants with the said Grantee that the Grantor is lawfully seised of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land; that the Grantor fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 1986.

O.R. BOOK 339 PAGE 1291

IN WITNESS WHEREOF, the said Grantor has signed and sealed these presents the day and year first above written.

Signed, sealed and delivered in our presence:

Kathleen M. Keyes

JOSEPH E. PACE, JR.

Kathleen M. Keyes

TERYL JAAN PACE

STATE OF FLORIDA:
COUNTY OF LEON :

I HEREBY CERTIFY that on this day, before me, an officer duly qualified to take acknowledgments, personally appeared JOSEPH E. PACE, JR., to me known to be the person described in and who executed the foregoing instrument and he acknowledged before me that he executed the same.

WITNESS my hand and official seal in the County and State last aforesaid this the 17TH day of July, 1987.

Kathleen M. Keyes
NOTARY PUBLIC
My Commission Expires:
NOTARY PUBLIC, STATE OF FLORIDA
MY COMMISSION EXPIRES: FEB. 9, 1991.
BONDED THRU NOTARY PUBLIC UNDERWRITERS

STATE OF FLORIDA:
COUNTY OF LEON :

I HEREBY CERTIFY that on this day, before me, an officer duly qualified to take acknowledgments, personally appeared TERYL JAAN PACE, to me known to be the person described in and who executed the foregoing instrument and she acknowledged before me that she executed the same.

WITNESS my hand and official seal in the County and State last aforesaid this the 17TH day of July, 1987.

Kathleen M. Keyes
NOTARY PUBLIC
My Commission Expires:

This Instrument Prepared by:
MARION D. LAMB, JR.
1972 Raymond Diehl Road
Tallahassee, Florida 32308

unofficial

11.1.6 Anderson Parcel

FILE # 110010378 RCD:12/14/2011 @ 11:56 AM
Nicholas Thomas, Clerk Circuit Court Gadsden Co

OFFICIAL RECORDS
BK 755 PG 295

110010378
Record Fee: 27.00
DOC STAMPS 420.00

Instrument Prepared By and Return To:

Right of Way Department
Florida Gas Transmission Company, LLC
5051 Westheimer Road
Houston, Texas 77056

(Rev. 11-9-11)

(Property ID Number: 4-28-1N-2W-0000-00210-0100)

SPECIAL WARRANTY DEED

THIS INDENTURE, made this 21st day of November, 2011, between **FLORIDA GAS TRANSMISSION COMPANY, LLC**, a Delaware limited liability company, formerly known as Florida Gas Transmission Company, a Delaware corporation ("Grantor"), whose mailing address is 5051 Westheimer Road, Houston, Texas 77056, and **FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION,** whose post office address is 620 South Meridian Street, Tallahassee, FL 32399-1600 ("Grantee").

WITNESSETH:

The Grantor, for and in consideration of the sum of One Dollar and other valuable consideration, the receipt of which is hereby acknowledged, does, subject to the exceptions, reservations and limitations described herein, hereby grant, bargain, sell, and convey unto Grantee, and Grantee's successors and assigns forever, the following described land, situated, lying and being in the County of Gadsden, State of Florida (the "Property"), more particularly described as:

Government Lot 2 being that part of the Northwest Quarter of Fractional Section 28, Township 1 North, Range 2 West, lying North and West of Ochlocknee River. Said lands situate, lying and being in the County of Gadsden, State of Florida.

An Acceptance of Transfer of Title to Donated Lands by Grantee is attached hereto as **Exhibit "A"** and by this reference made a part hereof

SUBJECT TO: Ad valorem taxes for 2011 and subsequent years; and

SUBJECT TO: All zoning and land development regulations, riparian rights, submerged land rights and oil, gas and mineral rights, if any;

AND Grantor does hereby fully warrant the title to the Property and will defend the same against the lawful claims of all persons claiming by, through or under Grantor, its successors and assigns, and not otherwise.

This Property was acquired (in part) with funds provided by the U. S. Department of Interior, Fish and Wildlife Service, pursuant to the "Wildlife Restoration" Program, covered under grant award FL-W-56-2 and will be managed for the purpose of this Grant Award, in accordance with applicable federal and State law. The Property may not be disposed of in any manner, or used for purposes inconsistent with the Program for which it was acquired, without the prior written approval of the Regional Director - Southeast Region, U. S. Fish and Wildlife Service.

1

Unofficial Unofficial

IN WITNESS WHEREOF, Grantor has caused these presents to be duly executed in its corporate name by its undersigned officer thereunto lawfully authorized the day and year first above written.

WITNESSES :

Print Name: Erik Breitinger

Print Name: Danielle Hillman

FLORIDA GAS TRANSMISSION COMPANY, LLC, a Delaware limited liability company

By: Christopher Cox
Print name: Christopher Cox
Title: Vice President

[SEAL]

STATE OF Texas
COUNTY OF Harris

The foregoing instrument was acknowledged before me this 21st day of November, 2011, by Christopher Cox, as Vice President of FLORIDA GAS TRANSMISSION COMPANY, LLC, a Delaware limited liability company, on behalf of the company. He is personally known to me or has produced _____ as identification.

GLORIA A RIVAS
My Commission Expires
August 16, 2013

Gloria A. Rivas
NOTARY PUBLIC
Print Name: Gloria A. Rivas
My Commission Expires: 8-16-2013

Unofficial Unofficial
Unofficial Unofficial
Unofficial Unofficial

2

OFFICIAL RECORDS
BK 755 PG 297

110010378

Exhibit "A"

Unofficial Unofficial

ACCEPTANCE OF TRANSFER OF TITLE TO DONATED LANDS

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION hereby accepts this conveyance as a transfer of title of the real property as described in this Special Warranty Deed in accordance with F. S. 259.041(10)(a).

WITNESSES:

Laura P. Stetler
(SIGNATURE OF FIRST WITNESS)

Robin P. Stetler
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

Pamela B. Matlock
(SIGNATURE OF SECOND WITNESS)

Pamela B. Matlock
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

SEAL

BY: Gregory L. Holder

NAME: Gregory L. Holder

TITLE: Asst. Exec. Dir.

DATE SIGNED: December 6, 2011

APPROVED AS TO FORM AND LEGAL SUFFICIENCY
Commission Attorney

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 6th day of December 2011, by, Gregory L. Holder, as Assistant Executive Director and as agent for and on behalf of **FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION**. He/She is personally known to me or has produced _____ as identification.

(NOTARY PUBLIC SEAL)

Notary Public

(Printed, Typed, or Stamped Name of Notary Public)
Commission No.:

My Commission Expires:

MY COMMISSION EXPIRES June 1, 2014
#DD 967083
Bonded thru Troy Fain-Insurance
NOTARY PUBLIC, STATE OF FLORIDA

Unofficial Unofficial

3

11.1.7 Parent Lease 3949

FDACS CONTRACT #

11496

SAL8104

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND
OF THE STATE OF FLORIDA

MULTIPLE AGENCY LEASE AGREEMENT (1)3949

Lease Agreement No. 3949

THIS LEASE AGREEMENT is made and entered into this 11th day of May, 1993, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "TRUSTEES", and the STATE OF FLORIDA GAME AND FRESH WATER FISH COMMISSION, hereinafter referred to as "LEAD AGENCY", and the STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, hereinafter referred to as "COOPERATING AGENCY", collectively hereinafter referred to as "MANAGING AGENCIES.

520.21
22.23
16.15
TMV
12.00

WITNESSETH:

WHEREAS, the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA holds title to certain lands and property being utilized by the State of Florida for public purposes, and

WHEREAS, the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA is authorized in Section 253.03, Florida Statutes, to enter into leases for the use, benefit and possession of public lands by State agencies which may properly use and possess them for the benefit of the people of the State of Florida;

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements hereinafter contained, LESSOR leases the below described premises to LESSEE subject to the following terms and conditions:

1. DELEGATIONS OF AUTHORITY: The Trustees' responsibilities and obligations herein shall be exercised by the Division of State Lands, Department of Natural Resources.

2. DESCRIPTION OF PREMISES: The property subject to this lease agreement is located in the County of Gadsden, State of Florida, and is more particularly described in Exhibit A attached hereto and hereinafter referred to as "leased premises".

3. TERM: The term of this lease agreement shall be for a period of fifty (50) years commencing on May 11, 1993 and ending on May 11, 2043, unless sooner terminated pursuant to the provisions of this lease agreement.

4. PURPOSE: The MANAGING AGENCIES shall manage these lands for the conservation and protection of natural and historical resources and for resource based public outdoor recreation which is compatible with the conservation and protection of these public lands as set forth in subsection 253.023(11), Florida Statutes, along with other related uses necessary for the accomplishment of this purpose as designated in the Management Plan required by paragraph 10 of this lease agreement.

5. BEST MANAGEMENT PRACTICES: The MANAGING AGENCIES shall implement applicable Best Management Practices for all activities conducted under this lease agreement in compliance with paragraph 18-2.004(1)(d), Florida Administrative Code, which have been selected, developed, or approved by the TRUSTEES or the MANAGING AGENCIES for the protection and enhancement of the leased premises.

6. EASEMENTS: All easements including, but not limited to, utility easements are expressly prohibited without the prior written approval of the TRUSTEES. Any easement not approved in writing by the TRUSTEES shall be considered void and without legal effect.

7. OTHER AGREEMENTS: This lease agreement shall not be construed as authorization for the MANAGING AGENCIES to lease, sublease, convey or encumber the leased premises or any portion thereof without the prior written approval of the TRUSTEES.

8. LEAD AGENCY RESPONSIBILITIES: The LEAD AGENCY shall coordinate and oversee all activities on the leased premises; initiate appropriate management programs to meet the intent of the goals and objectives stated herein; coordinate preparation and periodic revision of the Management Plan; coordinate and monitor all management activities undertaken by others; and, compile and submit such reports as may be required of the MANAGING AGENCIES. The LEAD AGENCY shall provide permanent

staff, as funding is acquired, for management on a day-to-day basis.

9. COOPERATING AGENCY RESPONSIBILITIES: The COOPERATING AGENCY shall, in coordination with the LEAD AGENCY, provide advice and on-site assistance in implementing a prescribed burning program; respond to and take charge of any wildfire; and provide advice and on-site assistance in any timber planting and harvesting activities.

10. MANAGEMENT PLAN: The LEAD AGENCY with assistance from the COOPERATING AGENCY shall prepare and submit a Management Plan for the leased premises, in accordance with Section 253.034, Florida Statutes, and Chapters 1802 and 18-4, Florida Administrative Code, within 12 months of the effective date of this lease. The Management Plan shall be submitted to LESSOR for approval through the Division of State Lands. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written approval of LESSOR until the Management Plan is approved. The Management Plan shall emphasize the original management concept as approved by LESSOR at the time of acquisition which established the primary purpose for which the leased premises were acquired. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by the LEAD AGENCY, COOPERATING AGENCY, Land Management Advisory Committee, and LESSOR at least every five (5) years. The LEAD AGENCY and COOPERATING AGENCY shall not use or alter the leased premises except as provided for in the approved Management Plan without the prior written approval of LESSOR. The Management Plan prepared under this lease shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management Plan.

11. QUIET ENJOYMENT AND RIGHT OF USE: The MANAGING AGENCIES shall have the right of ingress and egress, to, from and upon the leased premises for all purposes necessary to their full

quiet enjoyment of the rights conveyed herein. The MANAGING AGENCIES shall have the authority and right to enter and occupy the property for all purposes necessary to meet their designated responsibilities, including protection of the leased premises. The MANAGING AGENCIES shall have the authority and shall, through their agents and employees, take all reasonable measures to provide security against property damage, property degradation, and unauthorized uses or any use thereof not in conformance with this lease agreement.

12. RIGHT OF INSPECTION: The TRUSTEES or their duly authorized agents, shall have the right at any and all times to inspect the leased premises and the works and operations thereon of the MANAGING AGENCIES in any matter pertaining to this lease agreement.

13. BREACH OF COVENANTS, TERMS OR CONDITIONS: Should the MANAGING AGENCIES fail to keep or perform any of their responsibilities as designated by the approved Management Plan or otherwise as provided for herein, the TRUSTEES shall notify the specific agency of such non-performance. If correction or justification is not made within (60) sixty days of receipt of written notice, the TRUSTEES may either terminate this lease agreement and recover from the MANAGING AGENCIES all damages the TRUSTEES may incur by reason of the breach including, but not limited to, the cost of recovering the leased premises, or maintain this lease agreement in full force and effect and exercise all rights and remedies herein conferred upon the TRUSTEES.

14. ASSIGNMENT: This lease agreement shall not be assigned in whole or in part without the prior written consent of the TRUSTEES. Any assignment made without the prior written consent of the TRUSTEES shall be void and without legal effect.

15. LIABILITY: The MANAGING AGENCIES shall assist in the investigation of injury or damage claims either for or against the State of Florida or the TRUSTEES pertaining to their respective management programs and activities, and shall contact the Division of State Lands regarding whatever legal action they

deem appropriate to remedy such damage or claims.

16. UTILITY FEES: The MANAGING AGENCIES shall be responsible for the payment of all charges for the furnishing of gas, electricity, water and other public utilities to the leased premises and for having all utilities turned off when the leased premises are surrendered.

17. PAYMENT OF TAXES AND ASSESSMENTS: The MANAGING AGENCIES shall assume full responsibility for and shall pay all liabilities that accrue to the leased premises or to the improvements thereon, including any and all drainage and special assessments or taxes of every kind and all mechanic's or materialman's liens which may be hereafter lawfully assessed and levied against the leased premises.

18. CONDITIONS AND COVENANTS: All of the provisions of this lease agreement shall be deemed covenants running with the land included in the leased premises, and shall be construed to be "conditions" as well as "covenants" as though the words specifically expressing or imparting covenants and conditions were used in each separate provision.

19. TRIPLICATE ORIGINALS: This lease agreement is executed in triplicate originals each of which shall be considered an original for all purposes.

20. PROHIBITIONS AGAINST LIENS OR OTHER ENCUMBRANCES: Fee title to the leased premises is held by the TRUSTEES. The MANAGING AGENCIES shall not do or permit anything to be done which purports to create a lien or encumbrance of any nature against the real property contained in the leased premises including, but not limited to, mortgages or construction liens against the real property contained in the leased premises or against any interest of the TRUSTEES therein.

21. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of the MANAGING AGENCIES. Removable equipment and removable improvements placed on the leased premises by the MANAGING AGENCIES which do not become a permanent part of the leased premises will remain the property of the MANAGING AGENCIES

and may be removed by such upon termination of this lease agreement.

22. MAINTENANCE OF IMPROVEMENTS: The MANAGING AGENCIES shall maintain the real property contained within the leased premises and any improvements located thereon, in a state of good condition, working order and repair including, but not limited to, maintaining the planned improvements as set forth in the approved Management Plan, meeting all building and safety codes in the location situated and keeping the leased premises free of trash or litter and maintaining any and all existing roads, canals, ditches, culverts, risers and the like in as good condition as the same may be on the effective date of this lease agreement; provided, however, that any removal, closure, etc., of the above improvements shall be acceptable when the proposed activity is consistent with the goals of conservation, protection, and enhancement of the natural and historical resources within the leased premises and with the approved Management Plan.

23. NO WAIVER OF BREACH: The failure of the TRUSTEES to insist in any one or more instances upon strict performance of any one or more of the covenants, terms and conditions of this lease agreement shall not be construed as a waiver of such covenants, terms and conditions, but the same shall continue in full force and effect, and no waiver of the TRUSTEES of any one of the provisions hereof shall in any event be deemed to have been made unless the waiver is set forth in writing, signed by the TRUSTEES.

24. DAMAGE TO THE PREMISES: The MANAGING AGENCIES agree that they will not do, or suffer to be done, in, on or upon the leased premises or as affecting said leased premises, any act which may result in damage or depreciation of value to the leased premises, or any part thereof. The MANAGING AGENCIES shall not dispose of any contaminants including, but not limited to, hazardous or toxic substances, chemicals or other agents used or produced in the MANAGING AGENCIES' operations, on the leased premises or on any adjacent state land or in any manner not

permitted by law.

25. INSURANCE REQUIREMENTS: The MANAGING AGENCIES shall procure and maintain adequate fire and extended risk insurance coverage for any improvements or structures located on the leased premises in amounts not less than the full insurable replacement value of such improvements by preparing and delivering to the Division of Risk Management, Department of Insurance, a completed Florida Fire Insurance Trust Fund Coverage Request Form immediately upon erection of any structures as allowed by paragraph 4 of this lease agreement. A copy of said form and immediate notification in writing of any erection or removal of structures or other improvements on the leased premises and any changes affecting the value of the improvements shall be submitted to the following: Bureau of Land Management Services, Division of State Lands, Department of Natural Resources, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399.

26. PUBLIC LANDS ARTHROPOD CONTROL PLAN: The MANAGING AGENCIES shall identify and subsequently designate to the respective arthropod control district or districts all of the environmentally sensitive and biologically highly productive lands contained under this lease agreement, in accordance with Section 388.4111, Florida Statutes and Chapter 10D-54, Florida Administrative Code, for the purpose of obtaining a public lands arthropod control plan for such lands within one year of the effective date of this lease agreement.

27. ARCHAEOLOGICAL AND HISTORIC SITES: Execution of this lease agreement in no way affects any of the parties' obligations pursuant to Chapter 267, Florida Statutes. The collection of artifacts or the disturbance of archaeological and historic sites on state-owned lands is prohibited unless prior authorization has been obtained from the Department of State, Division of Historical Resources. The Management Plan prepared pursuant to Section 253.034, Florida Statutes, shall be reviewed by the Division of Historical Resources to insure that adequate measures have been planned to locate, identify, protect and preserve the archaeological and historic sites and properties on the tract.'

28. SURRENDER OF PREMISES: Upon termination or expiration of this lease agreement, the MANAGING AGENCIES shall surrender the leased premises to the TRUSTEES. In the event no further use of the leased premises or any part thereof is needed, the MANAGING AGENCIES shall give written notification to the Bureau of Land Management Services, Division of State Lands, Department of Natural Resources, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399 at least six (6) months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this lease agreement number, and an explanation of the release. The release shall only be valid if approved by the TRUSTEES through execution of a release of lease agreement instrument with the same formality as this lease agreement. Upon release of any leased premises or upon termination or expiration of this lease agreement, all improvements, including both physical structures and modifications to the leased premises, shall become the property of the TRUSTEES, unless the TRUSTEES give written notice to the MANAGING AGENCIES to remove any or all such improvements at the expense of the MANAGING AGENCIES. The decision to retain any improvements upon termination of this lease agreement shall be at the TRUSTEES' sole discretion. Prior to surrender of all or any part of the leased premises, a representative of the Division of State Lands shall perform an on-site inspection and the keys to any building on the leased premises shall be turned over to the Division. If the leased premises do not meet all conditions as set forth in paragraphs 16 and 22 herein, the MANAGING AGENCIES shall pay all costs necessary to meet the prescribed conditions.

29. COMPLIANCE WITH LAWS: The MANAGING AGENCIES agree that this lease agreement is contingent upon and is subject to the MANAGING AGENCIES obtaining all applicable permits and complying with all applicable permits, regulations, ordinances, rules, and laws of the State of Florida or the United States or of any political subdivision or agency of either.

30. ENTIRE UNDERSTANDING: This lease agreement sets forth the entire understanding between the parties and shall only be

amended with the prior written approval of the TRUSTEES.

31. RIGHT OF AUDIT: The MANAGING AGENCIES shall make available to the TRUSTEES all financial and other records relating to this lease agreement and the TRUSTEES shall have the right to audit such records at any reasonable time. This right shall be continuous until this lease agreement expires or is terminated. This lease agreement may be terminated by the TRUSTEES should the MANAGING AGENCIES fail to allow public access to all documents, papers, letters or other materials made or received in conjunction with this lease agreement, pursuant to Chapter 119, Florida Statutes.

32. NON-DISCRIMINATION: The MANAGING AGENCIES shall not discriminate against any individual because of that individual's race, color, religion, sex, national origin, age, handicaps, or marital status with respect to any activity occurring within the leased premises or upon lands adjacent to and used as an adjunct of the leased premises.

33. GOVERNING LAW: This lease agreement shall be governed by and interpreted according to the laws of the State of Florida.

34. SECTION CAPTIONS: Articles, subsections and other captions contained in this lease agreement are for reference purposes only and are in no way intended to describe, interpret, define or limit the scope, extent or intent of this lease agreement or any provisions thereof.

IN WITNESS WHEREOF, the parties have caused this lease to be executed on the day and year first above written.

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

Bonnie Wilson
Witness

By: Daniel T. Crabtree (SEAL)
Chief, Bureau of Land Management Services, Department of Natural Resources

Midge Coughlin
Witness

"TRUSTEES"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 11th day of May, 1993, by Daniel T. Crabb, as Chief, Bureau of Land Management Services, Division of State Lands, Department of Natural Resources, who is personally known to me and who did take an oath.

Kelly R. Williams
Signature of person taking acknowledgement

KELLY R. WILLIAMS
MY COMMISSION # CC269197 EXPIRES
March 19, 1997

Name of acknowledger typed, printed or stamped

Commission Expires: March 19, 1997

Commission Number: CC269197

Approved as to Form and Legality

By: William C. Robinson Jr.
DNR Attorney

STATE OF FLORIDA GAME AND FRESH WATER FISH COMMISSION

Witness: Sally J. Cook

Witness: Terry Mara

By: Robert M. Brantly (SEAL)

Its: Executive Director

"LEAD AGENCY"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 15th day of December, 1992, by Robert M. Brantly, as Executive Director, Florida Game and Fresh Water Fish Commission, who is personally known to me and who did take an oath.

Jimmie C. Bevis
Signature of person taking acknowledgement

JIMMIE C. BEVIS
Name of acknowledger typed, printed or stamped

Notary Public, State of Florida
My Commission Expires Nov. 7, 1993
Bonded Thru Troy Fain - Insurance Inc.

Commission Expires:

Commission Number:

APPROVED AS FISCALLY AND BUDGETARILLY SOUND

William C. Sumner
DIRECTOR
DIVISION OF ADMINISTRATIVE SERVICES

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

Commission Attorney

STATE OF FLORIDA DEPARTMENT OF
AGRICULTURE AND CONSUMER SERVICES,
BOB CRAWFORD, COMMISSIONER

Witness

Witness

By: _____ (SEAL)
Director, Division of
Administration, Department of
Agriculture and Consumer
Services

"COOPERATING AGENCY"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 18th day of March, 1993, by Mike Cretsman, as Director, Division of Administration, Department of Agriculture and Consumer Services, who is personally known to me and who did take an oath.

Signature of person taking acknowledgement

LEE H. SADLER
MY COMMISSION # CC 244401 EXPIRES
December 6, 1996
BONDED THRU TROY FAIN INSURANCE, INC.

Name of acknowledger typed, printed or stamped

Commission Expires: _____

Commission Number: _____

11.1.8 Lease 3949-01

FDACS CONTRACT #

ATL1 [9.78 acres] 001496

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT
TRUST FUND OF THE STATE OF FLORIDA

AMENDMENT NUMBER ONE TO LEASE NUMBER 3949

THIS LEASE AMENDMENT is entered into this 6th day of FEBRUARY, 2015, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR" and the STATE OF FLORIDA, FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as "LEAD AGENCY" and the STATE OF FLORIDA DEPARTMENT OF AGRICLUTURE AND CONSUMER SERVICES, hereinafter referred to as "COOPERATING AGENCY";

W I T N E S S E T H

WHEREAS, LESSOR, by virtue of Section 253.03, Florida Statutes, holds title to certain lands and property for the use and benefit of the State of Florida; and

WHEREAS, on May 11, 1993, LESSOR, LEAD AGENCY AND COOPERATING AGENCY entered into Lease Number 3949 (the "lease"); and

WHEREAS, LESSOR, LEAD AGENCY and COOPERATING AGENCY desire to amend the lease to add land to the leased premises.

NOW THEREFORE, in consideration of the mutual covenants and agreements contained herein, the parties hereto agree as follows:

1. The legal description of the leased premises set forth in Exhibit "A" of Lease Number 3949 is hereby amended to include the real property described in Exhibit "A" attached hereto and by reference made a part hereof.

2. It is understood and agreed by LESSOR, LEAD AGENCY AND COOPERATING AGENCY that in each and every respect the terms of Lease Number 3949, except as amended, shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by LESSOR, LEAD AGENCY AND COOPERATING AGENCY as of the date of this amendment.

3. It is understood and agreed by LESSOR, LEAD AGENCY AND COOPERATING AGENCY that this Amendment Number One to Lease Number 3949 is hereby binding upon the parties hereto and their successors and assigns.

IN WITNESS WHEREOF, the parties have caused this lease amendment to be executed on the day and year first above written.

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

Witness

By: Cheryl C. McCall (SEAL)
CHERYL C. McCALL, CHIEF,
BUREAU OF PUBLIC LAND
ADMINISTRATION, DIVISION OF
STATE LANDS, STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

DAVE FEWELL
Print/Type Witness Name

Witness

Print/Type Witness Name

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 6th day of FEBRUARY, 2015, by Cheryl C. McCall, Chief, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. She is personally known to me.

Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

DAVID LEE FEWELL
MY COMMISSION # FF 039635
EXPIRES: July 24, 2017
Bonded Thru Notary Public Underwriters

Approved as to Form and Legality

By:
DEP Attorney

FLORIDA FISH AND WILDLIFE
CONSERVATION COMISSION

Witness

By: Thomas H. Eason (SEAL)
for Nick Wiley, Executive Director

Richard C. Mosseaus
Print/Type Witness Name

Witness

Title: Director, HSC

Kimberlee M Braniforte
Print/Type Witness Name

"LEAD AGENCY"

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
Commission Attorney

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 14 day of January, 2015, by Nick Wiley, as Executive Director, on behalf of the Florida Fish and Wildlife Conservation Commission. He is personally known to me or has produced _____ as identification.

Notary Public, State of Florida

Jamie C. Sorin
Print/Type Notary Name

Commission Number:

Commission Expires:

JAMIE C. SORIN
Commission # EE 059535
Expires January 30, 2015
Bonded Thru Troy Fain Insurance 800-385-7019

STATE OF FLORIDA DEPARTMENT OF
AGRICULTURE AND CONSUMNER SERVICES

Witness

By: _____ (SEAL)
Alan Edwards, Director
Division of Administration

Cory Pierce
Print/Type Witness Name

Title: Director Administrator

Witness

Carmelita Bennett
Print/Type Witness Name

"COOPERATING AGENCY"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 27th day of January, 2015, by Alan Edwards, as Director of the Division of Administration, on behalf of State of Florida Department of Agriculture and Consumer Services. He is pergonally known to me or has produced _____ as identification.

Notary Public, State of Florida

LUKE T. JOYNER
Commission # FF 073061
Expires November 25, 2017
Bonded Thru Troy Fain Insurance 800-385-7019

Luke T. Joyner
Print/Type Notary Name

Commission Number: FF073061

Commission Expires: 11/25/17

EXHIBIT "A"
LEGAL DESCRIPTION

SEE CORRECTION Attached

OFFICIAL RECORDS: 3 of 3
Book: 779 Page: 187

EXHIBIT "A"

10 acres in Southwest corner of the Northwest ¼ of the Northeast ¼ of Section 14, Township 1 North, Range 3 West, said 10 acres being in the form of a square directly in the Southwest corner of the Northwest ¼ of the Northeast ¼ of the above described Section, Township and Range, Gadsden County, Florida. LESS AND EXCEPT any part of the above described property lying within the maintained right of way of High Bluff Landing Road.

Lake Talquin State Forest/Joe Budd WMA
Fl Gas LRA
Gadsden County

BSM
BY SK
Date: 7.10.2013

Page 1 of 1

11.1.9 Lease 3949-02

This instrument prepared by:
Tara Gray
Department of Environmental Protection
Bureau of Public Administration
Division of State Lands
3900 Commonwealth Blvd. MS 130
Tallahassee, Florida 32399-3000
AID# 44968

ATL1
[5.00 +/- acres]

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

AMENDMENT NUMBER 2 TO LEASE NUMBER 3949

THIS LEASE AMENDMENT is entered into this 3rd day of June, 2022, by and between the **BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA**, hereinafter referred to as "TRUSTEES" and **FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION,** hereinafter referred to as "LEAD AGENCY", and the **STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES,** hereinafter referred to as "COORPERATING AGENCY";

WITNESSETH:

WHEREAS, TRUSTEES, by virtue of Section 253.03, Florida Statutes, holds title to certain lands and property for the use and benefit of the State of Florida; and

WHEREAS, on May 11, 1993, TRUSTEES, LEAD AGENCY and COORPERATING AGENCY entered into Lease Number **3949** (the "lease"); and

WHEREAS, TRUSTEES, LEAD AGENCY and COORPERATING AGENCY desire to amend the lease to add land to the leased premises.

NOW THEREFORE, in consideration of the mutual covenants and agreements contained herein, the parties hereto agree as follows:

1. The legal description of the leased premises set forth in Exhibit "A" of Lease Number **3949** is hereby amended to include the real property described in Exhibit "A" attached hereto and by reference made a part hereof.

2. It is understood and agreed by TRUSTEES, LEAD AGENCY and COORPERATING AGENCY that in each and every respect the terms of Lease Number **3949**, except as amended, shall remain unchanged and in full force and effect and the

same are hereby ratified, approved and confirmed by TRUSTEES, LEAD AGENCY and COORPERATING AGENCY as of the date of this amendment.

3. It is understood and agreed by TRUSTEES, LEAD AGENCY and COORPERATING AGENCY that this Amendment Number **2** to Lease Number **3949** is hereby binding upon the parties hereto and their successors and assigns.

4. This lease amendment may be executed by electronic signature, which shall be considered as an original signature for all purposes and shall have the same force and effect as an original signature. Without limitation, "electronic signature" shall include faxed versions of an original signature or electronically scanned and transmitted versions (e.g., via pdf) of an original signature.

[*Remainder of page intentionally left blank; Signature page follows*]

IN WITNESS WHEREOF, the parties have caused this Amendment to Lease to be executed on the day and year first above written.

"TRUSTEES"

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

(SEAL)

BY: _____

Brad Richardson, Chief, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida

Approved subject to proper execution:

DEP Attorney Date 04/28/2022

"LEAD AGENCY"

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

David B. Johnson Digitally signed by David B. Johnson Date: 2022.05.27 10:05:00 -04'00' (SEAL)

BY: _____

David Johnson, Deputy Division Director
Division of Habitat and Species Conservation

"COOPERATING AGENCY"

STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

(SEAL)

BY: _____

Joey B. Hicks, Director
Division of Administration

DocuSign Envelope ID: 291AF7D9-1070-4094-986A-FBC9BFEE6676

IN WITNESS WHEREOF, the parties have caused this Amendment to Lease to be executed on the day and year first above written.

"TRUSTEES"

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

(SEAL)

BY: _____
Brad Richardson, Chief, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida

Approved subject to proper execution:

DEP Attorney Date 04/28/2022

"LEAD AGENCY"

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

(SEAL)

BY: _____
David Johnson, Deputy Division Director
Division of Habitat and Species Conservation

"COOPERATING AGENCY"

STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

(SEAL)

BY: Casey Drake 6/2/2022
for Joey B. Hicks, Director
Division of Administration

EXHIBIT "A"

Commence at the Southwest Corner of the Northwest ¼ of Section 23 Township 1 North Range 3 West Gadsden County, Florida, and run, thence N 27°57'03" E, 2959.21 feet; thence N 89°41'36" W along a blazed and painted line 1405.47 feet to a concrete monument; thence N 01°20'52" E along a blazed and painted line 1701.59 feet to a concrete monument; thence N 44°44'39" W, 1,034.97 feet; thence N 49°56'29" W a distance of 1,032.94 feet to a concrete monument; thence N 25°11'23" W, 967.15 feet; thence along an old fence line as follows: N 40°11'52" W a distance of 881.61 feet to the POINT OF BEGINNING (Northing: 541,758.66, Easting: 1,961,762.09), From said POINT OF BEGINNING run along an old fence line N 40°11'52" W, 554.70 feet to a point on the southeasterly edge of Pond Road; said point also lying on a compound curve concave Southeasterly; thence Northeasterly along said curve and along the southeasterly edge of said road for an arc distance of 218.81 feet to a point of compound curve concave Southeasterly; said curve having a radius of 1,053.26 feet and a centeral angle of 11°54'11"; the chord of said arc bears N 45°51'05"E, 218.42 feet; thence Northeasterly along said curve and along the southeasterly edge of said road for an arc distance of 187.72 feet; said curve having a radius of 291.20 feet and a central angle of 56°12'33"; the chord of said arc bears N 70°28'53" E, 184.49 feet; thence S 40°11'52" E, 504.60 feet; thence S 49°48'08" W, 390.50 feet to the POINT OF BEGINNING.

Containing 5.0 acres more or less.

Joe Budd WMA

Page 4 of 4
Amendment Number 2 to Lease Number 3949
v1.0

BSM: [signature]
DATE: January 31, 2022

11.1.10 Lease 3949-02 Partial Release

This Partial Release of Lease was prepared by:
Tara Gray
Bureau of Public Land Administration
Division of State Lands
Department of Environmental Protection, MS 130
3900 Commonwealth Boulevard,
Tallahassee, Florida 32399-3000
AID# 44966

PROL1 (v1.0)
[9.829 +/- acres]

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

PARTIAL RELEASE OF LEASE NUMBER 3949

STATE OF FLORIDA
COUNTY OF GADSDEN

The undersigned lessee on the 3rd day of June, 2022, do(es) hereby quitclaim, release and surrender unto lessor all right, title and interest in and to the leasehold estate of the lands described in Exhibit "A" attached hereto, which are a portion of the lands leased under Lease Agreement Number **3949,** dated May 11, 1993, between the **BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA**, as TRUSTEES, and the **FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION,** as LEAD AGENCY, and the **STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES,** as COOPERATING AGENCY effective the 3rd day of June, 2022.

This partial release may be executed by electronic signature, which shall be considered as an original signature for all purposes and shall have the same force and effect as an original signature. Without limitation, "electronic signature" shall include faxed versions of an original signature or electronically scanned and transmitted versions (e.g., via pdf) of an original signature.

[This space intentionally left blank; signature page follows]

IN WITNESS WHEREOF, the parties have caused this Partial Release of Lease to be executed on the day and year first above written.

"TRUSTEES"

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

(SEAL)

BY: _____

Brad Richardson, Chief, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida

Approved subject to proper execution:

_____

DEP Attorney

Date 04-21-2022

"LEAD AGENCY"

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

David B. Johnson Digitally signed by David B. Johnson Date: 2022.05.19 09:46:50 -04'00' (SEAL)

BY: _____

David Johnson, Deputy Division Director
Division of Habitat and Species Conservation

"COOPERATING AGENCY"

STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

(SEAL)

BY: _____

Joey B. Hicks, Director
Division of Administration

DocuSign Envelope ID: 291AF7D9-1070-4094-986A-FBC9BFEE6676

IN WITNESS WHEREOF, the parties have caused this Partial Release of Lease to be executed on the day and year first above written.

"TRUSTEES"

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

(SEAL)

BY: _____
Brad Richardson, Chief, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida

Approved subject to proper execution:

_____
DEP Attorney

Date 04-21-2022

"LEAD AGENCY"

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

(SEAL)

BY: _____
David Johnson, Deputy Division Director
Division of Habitat and Species Conservation

"COOPERATING AGENCY"

STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

(SEAL)

BY: Casey Dowke 6/2/2022
for Joey B. Hicks, Director
Division of Administration

EXHIBIT "A"

10 acres in Southwest corner of the Northwest ¼ of the Northeast ¼ of Section 14, Township 1 North, Range 3 West, said 10 acres being in the form of a square directly in the Southwest corner of the Northwest ¼ of the Northeast ¼ of the above described Section, Township and Range, Gadsden County, Florida. LESS AND EXCEPT any part of the above described property lying within the maintained right of way of High Bluff Landing Road.

Lake Talquin State Forest/Joe Budd WMA
FI Gas LRA
Gadsden County

BSM
BY SK
Date: 7.10.2013

11.1.11 Parent Lease No. 4211

(1) 4211

FDACS CONTRACT #
005642

SAL4

2,018.48 Acres

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

MULTIPLE AGENCY LEASE AGREEMENT
ROCKY COMFORT TRACT

Lease Number 4211

This lease is made and entered in this 1st day of September, 2000, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR", and the STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY, hereinafter referred to as "FORESTRY", and the STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as the "COMMISSION", hereinafter collectively referred to as the "MANAGING AGENCIES".

WITNESSETH:

WHEREAS, the LESSOR holds title to certain lands and property being utilized by the State of Florida for public purposes; and

WHEREAS, the LESSOR is authorized in Section 253.03, Florida Statutes, to enter into leases for the use, benefit, and possession of public lands by State agencies which may properly use and possess them for the benefit of the people of the State of Florida.

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements hereinafter contained, LESSOR leases the below described premises to the MANAGING AGENCIES subject to the following terms and conditions:

1. DELEGATIONS OF AUTHORITY: LESSOR'S responsibilities and obligations herein shall be exercised by the Division of State Lands, Department of Environmental Protection.

2. DESCRIPTION OF PREMISES: An undivided 50 per cent management interest in the property subject to this lease, which

RECEIVED

SEP 14 2000

is situated in the County of Gadsden, State of Florida and is more particularly described in Exhibit "A" attached hereto and hereinafter referred to as the "leased premises".

3. TERM: The term of this lease shall be for a period of fifty years commencing on September 1, 2000, and ending on August 31, 2050, unless sooner terminated pursuant to the provisions of this lease.

4. PURPOSE: The MANAGING AGENCIES shall manage the leased premises only for the conservation and protection of natural and historical resources and resource based public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 259.032(11), Florida Statutes, along with other related uses necessary for the accomplishment of this purpose as designated in the Management Plan required by paragraph 8 of this lease.

5. QUIET ENJOYMENT AND RIGHT OF USE: The MANAGING AGENCIES shall have the right of ingress and egress to, from and upon the leased premises for all purposes necessary to the full quiet enjoyment by said MANAGING AGENCIES of the rights conveyed herein.

6. UNAUTHORIZED USE: The MANAGING AGENCIES shall, through their agents and employees, prevent the unauthorized use of the leased premises or any use thereof not in conformance with this lease.

7. MANAGING AGENCIES RESPONSIBILITIES: The MANAGING AGENCIES shall coordinate and oversee all activities on the leased premises; initiate appropriate management programs to meet the intent of the goals and objectives stated herein; address the management of the leased premises in the Management Plans for Lake Talquin State Forest and Joe Budd Wildlife Management Area; coordinate and monitor all management activities undertaken by others; and, compile and submit such reports as may be required of the MANAGING AGENCIES. The MANAGING AGENCIES shall provide

permanent staff, as funding is acquired, for management on a day-to-day basis.

8. MANAGEMENT PLANS: The MANAGING AGENCIES shall prepare and submit Management Plans for their respective portions of the leased premises, in accordance with Section 253.034, Florida Statutes, and subsection 18-2.021(4), Florida Administrative Code, by amending the Management Plans for Lake Talquin State Forest and Joe Budd Wildlife Management Area within twelve months of the effective date of this lease. The amended Management Plans shall be submitted to LESSOR for approval through the Division of State Lands, Department of Environmental Protection. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written approval of LESSOR until the Management Plans are approved. The Management Plan shall emphasize the original management concept as approved by LESSOR at the time of acquisition which established the primary purpose for which the leased premises were acquired. The approved Management Plans shall provide the basic guidance for all management activities and shall be reviewed jointly by the MANAGING AGENCIES, Land Acquisition and Management Advisory Council, and LESSOR at least every five years. The MANAGING AGENCIES shall not use or alter the leased premises except as provided for in the approved Management Plans without the prior written approval of LESSOR. The Management Plans prepared under this lease shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management Plan.

9. RIGHT OF INSPECTION: LESSOR or its duly authorized agents shall have the right at any and all times to inspect the leased premises and the works and operations thereon of the MANAGING AGENCIES, in any matter pertaining to this lease.

10. INSURANCE REQUIREMENTS: The MANAGING AGENCIES shall procure and maintain fire and extended risk insurance coverage in accordance with Chapter 284, F.S., for any buildings and improvements located on the leased premises by preparing and delivering to the Division of Risk Management, Department of Insurance, a completed Florida Fire Insurance Trust Fund Coverage Request Form and a copy of this lease immediately upon erection of any structures as allowed by paragraph 4 of this lease. A copy of said form and immediate notification in writing of any erection or removal of structures or other improvements on the leased premises and any changes affecting the value of the improvements shall be submitted to the following: Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000.

11. LIABILITY: The MANAGING AGENCIES shall assist in the investigation of injury or damage claims either for or against LESSOR or the State of Florida pertaining to FORESTRY'S or the COMMISSION'S areas of responsibility under this lease agreement or arising out of FORESTRY'S or the COMMISSION'S management programs or activities and shall contact LESSOR regarding the legal action deemed appropriate to remedy such damage or claims. The MANAGING AGENCIES are responsible for all personal injury and property damage attributable to the negligent acts or omissions of the respective MANAGING AGENCIES and their officers, employees, and agents.

12. ARCHAEOLOGICAL AND HISTORIC SITES: Execution of this lease in no way affects any of the parties' obligations pursuant to Chapter 267, Florida Statutes. The collection of artifacts or the disturbance of archaeological and historic sites on state-owned lands is prohibited unless prior authorization has been obtained from the Department of State, Division of Historical Resources. The Management Plan prepared pursuant to Section

253.034, Florida Statutes, shall be reviewed by the Division of Historical Resources to insure that adequate measures have been planned to locate, identify, protect and preserve the archaeological and historic sites and properties on the leased premises.

13. EASEMENTS: All easements including, but not limited to, utility easements are expressly prohibited without the prior written approval of LESSOR. Any easement not approved in writing by LESSOR shall be void and without legal effect.

14. SUBLEASES: This lease is for the purposes specified herein and subleases of any nature are prohibited, without the prior written approval of LESSOR. Any sublease not approved in writing by LESSOR shall be void and without legal effect.

15. SURRENDER OF PREMISES: Upon termination or expiration of this lease, the MANAGING AGENCIES shall surrender the leased premises to LESSOR. The MANAGING AGENCIES hereby agree that in the event no further use of the leased premises or any part thereof is needed, written notification shall be made to the Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this lease number and an explanation of the release. The release shall only be valid if approved by LESSOR through execution of a release of lease instrument with the same formality as this lease. Upon release of all or any part of the leased premises or upon termination or expiration of this lease, all improvements, including both physical structures and modifications to the leased premises, shall become the property of LESSOR, unless LESSOR gives written notice to the MANAGING AGENCIES to remove any or all such improvements at the expense of the MANAGING AGENCIES. The decision to retain any improvements upon

termination of this lease shall be at LESSOR'S sole discretion. Prior to surrender of all or any part of the leased premises, a representative of the Division of State Lands shall perform an on-site inspection and the keys to any buildings on the leased premises shall be turned over to the Division. If the leased premises do not meet all conditions as set forth in paragraphs 18 and 21 herein, the MANAGING AGENCIES shall pay all costs necessary to meet the prescribed conditions.

16. BEST MANAGEMENT PRACTICES: MANAGING AGENCIES shall implement applicable Best Management Practices for all activities conducted under this lease in compliance with Paragraph 18-2.018(2)(h), Florida Administrative Code, which have been selected, developed, or approved by LESSOR, MANAGING AGENCIES or other land managing agencies for the protection and enhancement of the leased premises.

17. PUBLIC LANDS ARTHROPOD CONTROL PLAN: The MANAGING AGENCIES shall identify and subsequently designate to the respective arthropod control district or districts within one year of the effective date of this lease all of the environmentally sensitive and biologically highly productive lands contained within the leased premises, in accordance with Section 388.4111, Florida Statutes, and Chapter 10D-54, Florida Administrative Code, for the purpose of obtaining a public lands arthropod control plan for such lands.

18. UTILITY FEES: The MANAGING AGENCIES shall be responsible for the payment of all charges for the furnishing of gas, electricity, water and other public utilities to the leased premises and for having all utilities turned off when the leased premises are surrendered.

19. ASSIGNMENT: This lease shall not be assigned in whole or in part, without the prior written consent of LESSOR. Any assignment made either in whole or in part without the prior written consent of LESSOR shall be void and without legal effect.

20. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of the MANAGING AGENCIES. Removable equipment and removable improvements placed on the leased premises by the MANAGING AGENCIES which do not become a permanent part of the leased premises will remain the property of the MANAGING AGENCIES and may be removed by the MANAGING AGENCIES upon termination of this management agreement.

21. MAINTENANCE: The MANAGING AGENCIES shall maintain the real property contained within the leased premises and any improvements located thereon, in a state of good condition, working order and repair including, but not limited to, keeping the leased premises free of trash or litter, meeting all building and safety codes in the location situated, maintaining all planned improvements as set forth in the approved Management Plans and maintaining any and all existing roads, canals, ditches, culverts, risers, and the like in as good condition as the same may be on the effective date of this lease; provided, however, that any removal, closure, etc., of the above improvements shall be acceptable when the proposed activity is consistent with the goals of conservation, protection and enhancement of the natural or historical resources within the leased premises and with the approved Management Plans.

22. ENTIRE UNDERSTANDING: This lease sets forth the entire understanding between the parties and shall only be amended with the prior written approval of LESSOR.

23. BREACH OF COVENANTS, TERMS, OR CONDITIONS: Should the MANAGING AGENCIES breach any of the covenants, terms, or conditions of this lease, LESSOR shall give written notice to the MANAGING AGENCIES to remedy such breach within sixty days of such notice. In the event the MANAGING AGENCIES fail to remedy the breach to the satisfaction of LESSOR within sixty days of receipt of written notice, LESSOR may either terminate this lease and

recover from the MANAGING AGENCIES all damages LESSOR may incur by reason of the breach including, but not limited to, the cost of recovering the leased premises or maintain this lease in full force and effect and exercise all rights and remedies herein conferred upon LESSOR.

24. NO WAIVER OF BREACH: The failure of LESSOR to insist in any one or more instances upon strict performance of any one or more of the covenants, terms and conditions of this lease shall not be construed as a waiver of such covenants, terms and conditions, but the same shall continue in full force and effect, and no waiver of LESSOR of any one of the provisions hereof shall in any event be deemed to have been made unless the waiver is set forth in writing, signed by LESSOR.

25. PROHIBITIONS AGAINST LIENS OR OTHER ENCUMBRANCES: Fee title to the leased premises is held by LESSOR. The MANAGING AGENCIES shall not do or permit anything to be done which purports to create a lien or encumbrance of any nature against the real property contained in the leased premises including, but not limited to, mortgages or construction liens against the leased premises or against any interest of the LESSOR therein.

26. CONDITIONS AND COVENANTS: All of the provisions of this lease shall be deemed covenants running with the land included in the leased premises, and construed to be "conditions" as well as "covenants" as though the words specifically expressing or imparting covenants and conditions were used in each separate provision.

27. DAMAGE TO THE PREMISES: (a) MANAGING AGENCIES shall not do, or suffer to be done, in, on, or upon the leased premises or as affecting said leased premises or adjacent properties, any act which may result in damage or depreciation of value to the leased premises or adjacent properties, or any part thereof. (b) MANAGING AGENCIES shall not generate, store, produce, place, treat, release or discharge any contaminants, pollutants or

pollution, including, but not limited to, hazardous or toxic substances, chemicals or other agents on, into, or from the leased premises or any adjacent lands or waters in any manner not permitted by law. For the purposes of this lease, "hazardous substances" shall mean and include those elements or compounds defined in 42 USC Section 9601 or which are contained in the list of hazardous substances adopted by the United States Environmental Protection Agency (EPA) and the list of toxic pollutants designated by the United States Congress or the EPA or defined by any other federal, state or local statute, law, ordinance, code, rule, regulation, order or decree regulating, relating to, or imposing liability or standards of conduct concerning any hazardous, toxic, or dangerous waste, substance, material, pollutant or contaminant. "Pollutants" and "pollution" shall mean those products or substances defined in Chapters 376 and 403, Florida Statutes, and the rules promulgated thereunder, all as amended or updated from time to time. In the event of the MANAGING AGENCIES' failure to comply with this paragraph, the MANAGING AGENCIES shall, at their sole cost and expense, promptly commence and diligently pursue any legally required closure, investigation, assessment, cleanup, decontamination, remediation, restoration and monitoring of (1) the leased premises, and (2) all off-site ground and surface waters and lands affected by MANAGING AGENCIES' failure to comply, as may be necessary to bring the leased premises and affected off-site waters and lands into full compliance with all applicable federal, state or local statutes, laws, ordinances, codes, rules, regulations, orders and decrees, and to restore the damaged property to the condition existing immediately prior to the occurrence which caused the damage. MANAGING AGENCIES' obligations set forth in this paragraph shall survive the termination or expiration of this lease. Nothing herein shall relieve MANAGING AGENCIES of any responsibility or liability prescribed by law for fines,

penalties and damages levied by governmental agencies, and the cost of cleaning up any contamination caused directly or indirectly by MANAGING AGENCIES' activities or facilities. Upon discovery of a release of a hazardous substance or pollutant, or any other violation of local, state or federal law, ordinance, code, rule, regulation, order or decree relating to the generation, storage, production, placement, treatment, release, or discharge of any contaminant, MANAGING AGENCIES shall report such violation to all applicable governmental agencies having jurisdiction, and to LESSOR, all within the reporting period of the applicable governmental agencies.

28. PAYMENT OF TAXES AND ASSESSMENTS: The MANAGING AGENCIES shall assume full responsibility for and shall pay all liabilities that accrue to the leased premises or to the improvements thereon, including any and all drainage and special assessments or taxes of every kind and all mechanic's or materialman's liens which may be hereafter lawfully assessed and levied against the leased premises.

29. RIGHT OF AUDIT: The MANAGING AGENCIES shall make available to LESSOR all financial and other records relating to this lease and LESSOR shall have the right to audit such records at any reasonable time. This right shall be continuous until this lease expires or is terminated. This lease may be terminated by LESSOR should the MANAGING AGENCIES fail to allow public access to all documents, papers, letters or other materials made or received in conjunction with this lease, pursuant to Chapter 119, Florida Statutes.

30. NON-DISCRIMINATION: The MANAGING AGENCIES shall not discriminate against any individual because of that individual's race, color, religion, sex, national origin, age, handicap, or marital status with respect to any activity occurring within the leased premises or upon lands adjacent to and used as an adjunct of the leased premises.

31. COMPLIANCE WITH LAWS: The MANAGING AGENCIES agree that this lease is contingent upon and subject to the MANAGING AGENCIES obtaining all applicable permits and complying with all applicable permits, regulations, ordinances, rules, and laws of the State of Florida or the United States or of any political subdivision or agency of either.

32. TIME: Time is expressly declared to be of the essence of this lease.

33. GOVERNING LAW: This lease shall be governed by and interpreted according to the laws of the State of Florida.

34. SECTION CAPTIONS: Articles, subsections and other captions contained in this lease are for reference purposes only and are in no way intended to describe, interpret, define, or limit the scope, extent or intent of this lease or any provisions thereof.

35. ADMINISTRATIVE FEE: Each of the MANAGING AGENCIES shall pay LESSOR 50 per cent of an annual administrative fee of $300. The initial annual administrative fee shall be payable within thirty days from the date of execution of this lease agreement and shall be prorated based on the number of months or fraction thereof remaining in the fiscal year of execution. For purposes of this lease agreement, the fiscal year shall be the period extending from July 1 to June 30. Each annual payment thereafter shall be due and payable on July 1 of each subsequent year.

IN WITNESS WHEREOF, the parties have caused this lease to be executed on the day and year first above written.

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

Judy Woodard
Witness

Judy Woodard
Print/Type Witness Name

Florence Davis
Witness

Florence Davis
Print/Type Witness Name

By: Gloria C. Nelson (SEAL)
GLORIA C. NELSON, OPERATIONS AND MANAGEMENT CONSULTANT MANAGER, BUREAU OF PUBLIC LAND ADMINISTRATION, DEPARTMENT OF ENVIRONMENTAL PROTECTION

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 1st day of September 2000, by Gloria C. Nelson, as Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.

Sylvia S. Roberts
MY COMMISSION # CC654057 EXPIRES
July 25, 2001
BONDED THRU TROY FAIN INSURANCE, INC.

Sylvia D. Roberts
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality

By: Sarah L. Hesi
DEP Attorney

STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY

Lee Sadler
Witness
Lee Sadler
Print/Type Witness Name

By: Mike Gresham (SEAL)
Mike Gresham
Print/Type Name

Its: Director of Administration

Susie P. Burch
Witness
Susie P. Burch
Print/Type Witness Name

"FORESTRY"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 26th day of July 2000, by Mike Gresham, as Director of Administration, Division of Forestry, State of Florida Department of Agriculture and Consumer Services, who is personally known to me or who has produced _____ as identification.

Janice D. Harrell
Notary Public, State of Florida
Janice D. Harrell
Print\Type Notary Name

Commission Number:

Commission Expires:

Janice D. Harrell
MY COMMISSION # CC571561 EXPIRES
September 28, 2000
BONDED THRU TROY FAIN INSURANCE, INC.

STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Brenda Collins
Witness
Brenda Collins
Print/Type Witness Name

By: Victor J Heller (SEAL)
Victor J. Heller
Type/Print Name

Its: Assistant Executive Director

Cynthia L Ward
Witness
Cynthia Ward
Print/Type Witness Name

"COMMISSION"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 23rd day of August 2000, by Victor J. Heller, as Assistant Executive Dir., State of Florida Fish and Wildlife Conservation Commission, who is personally known to me or who has produced _____ as identification.

Jimmie C. Bevis
Notary Public, State of Florida

JIMMIE C. BEVIS
Print/Type Notary Name

Commission Number

Commission Expires

Jimmie C. Bevis
MY COMMISSION # CC702862 EXPIRES
December 28, 2001
BONDED THRU TROY FAIN INSURANCE, INC.

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
Commission Attorney

11.2 Easements and/or Other Agreements

11.2.1 Utilities Easement Agreement No. 00085

DIVISION LOG # `1944 AGREEMENT NUMBER **00085**

AGREEMENT ROUTING REVIEW FORM

CONTRACTOR THE TRUST FOR PUBLIC LANDS / BOT 00085 - Joe Budd WMA 90

VENDOR ID NO. _____ PROCUREMENT METHOD*/BID/RFP NO. _____

PROJECT TITLE JOE BUDD WMA – UTILITIES EASEMENT

ORIGINATOR/CONTACT D. JERMYN PHONE 488-3831 DIV./OFFICE/MAIL 10

_X_ NEW** _ AMENDMENT _ RENEWS OR EXTENDS **PURCHASING USE ONLY: POSTING - 7 DAY: 72 HR**

___EXPENDITURE** ___REVENUE ___AGREEMENT _X_ EASEMENT/DEED ___LEASE (INCLUDES WMA OR FMA LEASES)

AGREEMENT BEGINNING DATE/EXECUTION 1/30/92 END DATE INDEFINITE OPTION FOR ____YEARS TOTAL

CONTRACT AMOUNT $_____ PAYMENT AMOUNT $_____

BILLING PERIODS: ___MONTHLY ___QUARTERLY ___ANNUALLY ___OTHER_____

BUILDING INSURANCE TO BE INCURRED BY THE COMMISSION(LEASES) ___NO ___YES (Notify Property Administrator)

****NEW EXPENDITURE CONTRACTS**: (1) Attach a copy of the State Project checklist or, for Existing State Projects, show the CSFA No._____
(2) Vendor/Recipient Checklist: Attached? ___Yes ___No - not a State Project per (1) Checklist

ORG. CODE	E.O.	OBJECT CODE	CATEGORY	AMOUNT	PROJECT ID			FY

Certified Minority: ___Yes ____No ____Not Available ___Not Appl. Minority Category _____ (See reverse side for options)

Commodity Code_____ Federal Funds: Agcy _____ CFDA _____

Routing Order for Approval	Approval (Signature)	Date	Comments
1. Project Leader			Budget Sheet is available upon request by external sources. ___ Yes ___ No
2. Budget Director (Expenditure Only)			Budget Authority: __ Existing __ New
3. Div./Reg./Inst./Off. Dir./Section Leader			
4. Contracts Administrator			
5. Legal			
6. Accounting			Funds Availability: ___ Yes ___ No
7. Exec./Div./Reg./Inst./Off. Dir. **review (check below)**.			
__ Expenditure Contracts: Return to Originator for Contractor signature. __ Other documents: Send to **(circle)** Exec./Div./Reg./Inst./Off. Dir. for signature.			Expenditure Contracts: After Contractor signs, send to Exec./Div./Reg./Inst./Off. Director for signature and dating.
8. Exec./Div./Reg./Inst. Dir. **execute**			
Originator Copy to Accounting*			Send a complete copy of the Contract & Routing Form
Originator to Contracts Administrator*			Send executed Original Contract & Original Routing Form
Originator to OIG FSAA Originals			Send to OIG: Mail Code 1E

FWC 167/rev. 01/08 \SHARE\FORMS\CONROUTE.167 *See reverse for Codes/Definitions/Distribution

Randy Thompson 11/16/09

US 90 Access Easement
Joe Budd WMA

8/16/07 - 2:15 - c David Johnson (627-1773) - told DJ I had been monitoring the access - had been chopped off; but now smooth transition from plowed lot through "grass" to trail. [redacted]. DJ is to have Don Francis check out access, trail & [redacted]) & advise

8/21 - Communicated w/ Don Francis - he drove access - seems okay - he bottomed @ dip just inside from gate. Told I'd send letter to Owner on how to ensure it stays open
- sent Cert Mail - ARR letter to owner

8/27 - 4:42 T McM called - questioned the issue - said he had graded so no barrier - explained I'm concerned that a trailer or other item may be parked on the pavement area that would block our access - am open to how handled - can even paint pavement. He's to figure it out.

Later - FWC checked area + T McM has placed 2 signs, either side of paved area, saying there is to be no parking in the area.

8/1/08 - 2:58 Sent email to BS, DJ & DF saying I was closing the file.

US 90 Access Easement
Joe Budd WMA

7/12/06 - Magda advised The letter we resent to Ybor III, Ltd to The "correct address" come back - per envelope, it appears it was undeliverable for some reason. I resent it w/ a cover letter to The Registered Agent.

(7/24 - ?) Matt - ? McMullen sp? called - he represents Ybor III. & got my letter - yes They placed The bldgs to keep open our access easement & had intended to get w/ me/me at some point. I asked about how The slope was to be addressed from The parking lot to The dirt lane & if he intended to settle it - he was to get w/ his contractor & get back w/ me.

11/22 - Visited site - still u/c, but no sign yet of any drive to property line so we'd have access.

11/23 - 4/6 - Drove by several times - no change until 4/6 visit - area had received rough grading so There was a gradual slope down to The property line - looked like someone had driven across The area to The easement lane.

4/24 - 3:48 - Sent email to Billy Seamons - he responded to an inquiry by Michael Yaun, Tom one re any RR track issues w/in his region - BS mentioned The blockage needed attention & I told him I was aware of it - advised The developer & am monitoring it.

(4/25 - 8/14/07) Made few trips by There - has been graded so fairly smooth crossing from parking lot across "grass" to trail.

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

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DIVISION OF HABITAT AND SPECIES CONSERVATION
(850) 488-3831 TDD: (850) 488-9542

June 27, 2006

Ybor III, Ltd
2109 East Palm Avenue
Suite 206
Tampa, FL 33605

Re: Apartment Complex under Construction, Gadsden County Property #4-15-1N-2W-0000-00300-0100, U.S. Highway 90, Midway, FL

Dear Sir:

It is my understanding Ybor III, Ltd. is the owner and developer of the concerned apartment complex. Assuming that to be true, I wanted to inquire into your plans on how to deal with an access easement we hold that allows us access from U. S. 90, through the referenced property to our Joe Budd Wildlife Management Area.

The access easement was acquired by the State of Florida through its Board of Trustees of the Internal Improvement Trust Fund upon the acquiring of certain land conveyed to the Board by a Warranty Deed from The Trust for Public Land dated January 30, 1992 and recorded in the Gadsden County Official Records Book 388, Page 884. The perpetual nonexclusive easement for unrestricted ingress and egress was granted to The Trust for Public Land in a Trustees' Correction Deed dated December 16, 1991 from George I. Davis and James Calvin Davis, as Co-Trustees of the Eugene Moor Davis Family Trust as recorded in the Gadsden County Official Records Book 387, Page 113.

I look forward to hearing from you on the matter. You may reach me at the address and phone number stated hereon or by email at richard.mospens@MyFWC.com.

Sincerely,

Richard C. Mospens
Conservation Land Manager

RCM

CC: David Johnson

2109 East

620 South Meridian Street • Tallahassee • FL • 32399-1600
Visit MyFWC.com

Mospens, Richard

From: Johnson, David
Sent: Sunday, August 03, 2008 2:44 PM
To: Mospens, Richard
Subject: RE: Joe Budd Access Easement thru Ochlockonee Point Apartments

Thanks Rich. I appreciate your efforts on all this.

David Johnson

From: Mospens, Richard
Sent: Fri 8/1/2008 4:45 PM
To: Johnson, David
Subject: FW: Joe Budd Access Easement thru Ochlockonee Point Apartments

David,
Below is an email on which you were to be copied. I typed "Joh" and clicked on it, only for it to be Johnny Carden. You were the second name on the list that popped up & I thought I had clicked on the correct name. -- Rich

---

From: Mospens, Richard
Sent: Friday, August 01, 2008 2:58 PM
To: Sermons, Billy; 'Carden, Johnny'; Francis, Don
Cc: Brooks, Mike
Subject: Joe Budd Access Easement thru Ochlockonee Point Apartments

Gentlemen,
I wanted to let you know I intend to close the concerned file as the apartment developer did place his buildings, grade the area, pave a portion of the area and sign the area so that our access to the easement should not be obstructed. I have been to the area (including along the access easement to our gate several times) and feel comfortable with the developer understanding his obligation and commitment to keeping the area open. I will rely on the field staff to let me know if there are any problems in the future at the concerned location and at any point along the access easement, though I will probably stop by occasionally to confirm there is no problem. -- Rich

8/4/2008

Mospens, Richard

From: Francis, Don
Sent: Friday, August 01, 2008 5:47 PM
To: Mospens, Richard
Cc: Brooks, Mike; Sermons, Billy; Johnson, David; McDuffie, David; Alleman, James
Subject: RE: Joe Budd Access Easement thru Ochlockonee Point Apartments

Rich,

10-04. I appreciate your efforts regarding this situation. I, too, will also try to keep abreast of the easement in the future.

Thanks,

Donald Lee Francis
Wildlife Biologist
Joe Budd Wildlife Management Area
Florida Fish & Wildlife Conservation Commission
Division of Habitat & Species Conservation
Terrestrial Habitat Conservation & Restoration Section
5300 High Bridge Road
Quincy, Florida 32351
Office Phone: (850)627-1773
Mobile Phone: (850)819-0890
FAX: (850)875-4897
Email: don.francis@myfwc.com

Visit us at MYFWC.COM http://myfwc.com

From: Mospens, Richard
Sent: Friday, August 01, 2008 2:58 PM
To: Sermons, Billy; 'Carden, Johnny'; Francis, Don
Cc: Brooks, Mike
Subject: Joe Budd Access Easement thru Ochlockonee Point Apartments

Gentlemen,
I wanted to let you know I intend to close the concerned file as the apartment developer did place his buildings, grade the area, pave a portion of the area and sign the area so that our access to the easement should not be obstructed. I have been to the area (including along the access easement to our gate several times) and feel comfortable with the developer understanding his obligation and commitment to keeping the area open. I will rely on the field staff to let me know if there are any problems in the future at the concerned location and at any point along the access easement, though I will probably stop by occasionally to confirm there is no problem. -- Rich

Mospens, Richard

From: Mospens, Richard
Sent: Tuesday, April 24, 2007 3:48 PM
To: Sermons, Billy
Cc: Yaun, Michael; Johnson, David; Francis, Don
Subject: Joe Budd Access Easement at US 90

Billy -- I read your mention of the apartment building construction and its affect on our access in your response to the question of there being any railroad issues within your region. David Johnson brought the matter to my attention quite some time ago. I investigated the matter and discovered the name of the developer. A letter was sent to him, informing him of the easement and his requirement to keep it open. He responded that he is aware of the easement and will accommodate us. I have regularly driven to the construction site to inspect the situation. Though there was a time when one could not drive through the area, it is now passable. At one time, there was also a washed out area that needed attention to make the easement fully useable. It is still not in its final condition so I will continue to monitor the situation to ensure we receive an acceptable situation. I will keep each of you informed. -- Rich

1

Mospens, Richard

From: Sermons, Billy
Sent: Tuesday, April 24, 2007 2:37 PM
To: Mospens, Richard
Cc: Yaun, Michael; Johnson, David; Francis, Don; Manor, Philip; Pitts, Jerry
Subject: RE: rr tracks

Rich,

Railroads bisect **Apalachicola River WEA** and **Box-R WMA**. They abut **L. Kirk Edwards WEA** along a 7,000-foot boundary that crosses Alford Arm and along another 4,200-foot segment that borders **Joe Budd WMA**. The RR ROW bordering L. Kirk Edwards WEA is routinely used by waterfowl hunters and fishermen to access portions of the area.

In addition, we hold an easement that allows access into the eastern end of Zone F of Joe Budd. The easement road crosses railroad tracks near US Hwy 90. Don Francis advises that construction of the new Ochlochonee Point apartments should ensure continued maintenance of the crossing, but noted that the developer permanently blocked our easement access. This is another issue, but one that merits additional legal assistance.

Railroad crossings occur within the following areas:

Apalachicola River WEA—Apalachicola Northern Railway
1 – Gardner Landing Road: Road is maintained by Franklin County and leads to FWC constructed and improved boat ramp.
2 – Unnamed Road that joins Butcher Pen and Gardner Landing Roads: The railroad forms the boundary between the WEA and small, unposted inholding. Road is routinely used by recreational users, especially deer dog hunters to intercept their dogs.

Box-R WMA-Apalachicola Northern Railway
1 - Western Boundary Road: This is a shared road that provides access to an inholding and is regularly used for management (e.g. prescribed burning) and administration of the area
2 – Tilton Road/Huckleberry Lane: Tilton Road and Franklin County maintenance end at the RR tracks; Huckleberry Lane and FWC responsibility begin immediately across the tracks. This route serves as the primary entrance into the WMA; also provides access to FWC residence, offices and equipment storage facility.
3 – Teat's Road: Maintained by Franklin County

We're aware of no formal agreements between FWC and the railroad company. It's noteworthy that the State acquired Box-R from St. Joe Company who also owns ANR. Their ownership includes a ROW that extends 60' from the center of the tracks. It's unlikely that an agreement or easement conveyed with the property. Jerry Pitts routinely deals with on operational issues with Perry Adkins (850-229-7411) an ANR rep. Should additional information regarding agreements be needed Mr. Adkins suggested contacting:

Omega Rail Management
Andrea Couch
800-990-1961

Or

Jody Brooks
Senior Counsel
St. Joe Co.
904-301-4454

Please let me know if you have questions.--Billy

From: Mospens, Richard
Sent: Monday, April 23, 2007 1:39 PM
To: Yaun, Michael
Cc: Brooks, Mike; Abbott, Mike; Coughlin, Steven; McGrady, Jeff; Pollock, Matthew; Sermons, Billy

4/24/2007

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VICTOR J. HELLER, Assistant Executive Director

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(850) 488-3831 TDD: (850) 488-9542

July 17, 2006

Mr. Thomas J. McMullen, Jr.
1314 East Lumsden Road
Brandon, FL 33511

Re: Ybor III, Ltd.

Dear Mr. McMullen:

Included herewith please find a letter dated June 27, 2006, which I sent to the referenced limited liability company, but was returned as undeliverable. I am sending it to you as the Registered Agent according to the Department of State, Division of Corporations records for delivery to Ybor III, Ltd.

The address I used is the address on record at the County of Gadsden Property Appraisers Office. I was advised by that office that Ybor III, Ltd. is the developer of the apartment complex being developed on the property which is the focus of my aforesaid letter.

Should you wish to contact me, you may do so through the address and phone number stated hereon. Thank you for your efforts to deliver the letter to Ybor III, Ltd.

Sincerely,

Richard C. Mospens
Conservation Land Manager

RCM
Enclosure

CC: David Johnson

620 South Meridian Street • Tallahassee • FL • 32399-1600
Visit MyFWC.com

Mospens, Richard

From: Yaun, Michael
Sent: Friday, May 26, 2006 6:46 PM
To: Mospens, Richard
Subject: Re: Blocked Access Easement which Benefits Joe Budd WMA

Rich
I don't see any problem with the friendly letter as a start.

And sounds like you already know but just to do my lawyerly duty. A true washout would be our responsibility. Only if they dug it our diverted water onto it would it be there problem.
Mike

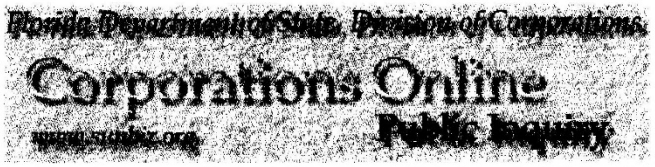
----- Original Message -----
From: Mospens, Richard
To: Yaun, Michael
Sent: Fri May 26 15:18:58 2006
Subject: Blocked Access Easement which Benefits Joe Budd WMA

Michael -- On our acquiring the Davis tracts for the Joe Budd WMA on January 30, 1992, we received an access easement to the land from US 90. The easement is incorporated into the deed. Apparently a portion of the land over which our access easement traverses was sold with the new owner blocking the entrance. The new landowner appears is now constructing apartments on the property. I have a copy of the January 30, 1992 deed to IITF, which mentions a 1991 document. I went to the Gadsden County Courthouse this week to obtain a copy of that document at which time I also visited the property and inspected the apartment complex layout and what I believe to be the lane which follows the access easement.

I believe the owner intend on keeping the access open, but I would like to make sure by sommunicating with him. My thought is to proceed with a friendly letter of inquiry at this point, but wanted to run the concept by you first.

I also noticed the lane appears to either be washed out at one point or someone dug the trench across the lane, thereby making the lane useless. I have a call into David Johnson, our District Biologist to discover his thoughts on the "washout".

Thanks for your input. -- Rich



Florida Limited Partnership

YBOR III, LTD.

PRINCIPAL ADDRESS
1314 E. LUMSDEN ROAD
BRANDON FL 33511
Changed 04/12/2006

MAILING ADDRESS
1314 E. LUMSDEN ROAD
BRANDON FL 33511
Changed 04/12/2006

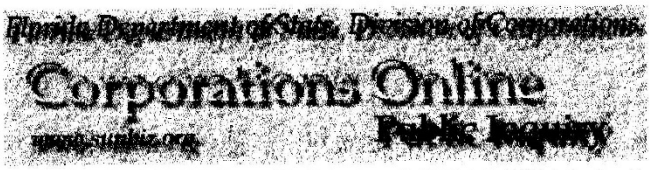
Document Number	FEI Number	Date Filed
A97000000203	593421655	01/23/1997
State	**Status**	**Effective Date**
FL	ACTIVE	NONE
Last Event	**Event Date Filed**	**Event Effective Date**
AMENDMENT	10/01/2004	NONE
Actual Contribution		
100.00		

Registered Agent

Name & Address
MCMULLEN, THOMAS J JR. 1314 E. LUMSDEN ROAD BRANDON FL 33511
Name Changed: 01/04/1999
Address Changed: 04/12/2006

General Partner Detail

Name & Address	Document Number
YBOR III GROUP, INC. 1314 E. LUMSDEN ROAD BRANDON FL 33511	P98000021034



Florida Profit

YBOR III GROUP, INC.

PRINCIPAL ADDRESS
1314 E. LUMSDEN ROAD
BRANDON FL 33511
Changed 04/12/2006

MAILING ADDRESS
1314 E. LUMSDEN ROAD
BRANDON FL 33511
Changed 04/12/2006

Document Number	FEI Number	Date Filed
P98000021034	593496759	03/05/1998
State	**Status**	**Effective Date**
FL	ACTIVE	NONE
Last Event	**Event Date Filed**	**Event Effective Date**
CANCEL ADM DISS/REV	10/01/2004	NONE

Registered Agent

Name & Address
MCMULLEN, THOMAS J JR. 1314 E. LUMSDEN ROAD BRANDON FL 33511
Address Changed: 04/12/2006

Officer/Director Detail

Name & Address	Title
MCMULLEN, THOMAS J JR. 1314 E. LUMSDEN ROAD BRANDON FL 33511 US	PD

Annual Reports

Report Year	Filed Date



http://wrmims2.dep.state.fl.us/output/era_map_WRMIMS2320428721304.jpg 5/19/2006

```
 @ CAM110M01    S  CamaUSA Appraisal System                      Gadsden County
  5/24/2006 10:25  Property Maintenance                 528675  Land  001
 Year T Property                          Sel                    AG    000
 2006 R 4-15-1N-2W-0000-00300-0100____ ... _                     Bldg  000
  Owner YBOR III LTD                     Conf                    Xfea  000
   Addr 2109 E PALM AVE                                  528675  TOTAL     B
        SUITE 206                                       11.130  Total Acres
                                                Retain Cap?   Renewal   Notice
City,St TAMPA                FL Zip 33605            N
Country                         (PUD1)          (PUD2)          (PUD3)

Appr By VB   Date  4/27/2004 AppCode     UseCd 001000 VACANT COMMERCIAL
      TxDist Nbhd        MktA    ExCode  Exemption/%     TxCode   Units    Tp
        005    5013.00   05
             MKT V
 House#               Street .                          MD      Dir    #
        -               City
   Subd       N/A                   Condo      .00 N/A
   Sect     15 Twn      1N Rnge     2W Subd        Blk         Lot
 Legals OR 615 P 190;                   COMMENCE AT THE SWC OF SECT
        15-1N-2W AND RUN THENCE         N 89*36'53" E 1319.14 FT,       +
   Map#                                   Mnt  5/11/2006 BETTS
 F1=Task  F2=ExTx  F3=Exit  F4=Prompt  F11=Docs  F10=GoTo  PgUp/PgDn  F24=More
```

Davis, Eugene Moore 9300005472 406/1664 Easement
7/15/93 Pipeline See 15-1-2

Davis, Eugene Moore Trust 9700002986 460/1448 Easement
4/7/97 See 15-1-2

Davis, Eugene Moore Trust 9700005379 463/1590 Easement
6/11/97 See 15-1-2

George F & James Calvin Davis 12/16/1991
To Trust for Public Land & its successors
OR Book 387, Pg 113

George F Davis 9700002986 460/1448 Easement
4/7/1997 See 15-1-2

James C Davis Midway Park, Inc. 9900003650 492/1518
Deed 4/13/1999 See 15-1-2

James C Davis Midway Park, Inc 9900003651 492/1522
Quit Claim Deed 4/13/99 See 15-1-2

James C Davis Midway Park, Inc 0300002387 561/688
Corrective Deed 3/6/2003 OR 492-P 1522

JOE BUDD WILDLIFE MANAGEMENT AREA
DISTRIBUTION OF MANAGEMENT AUTHORITY
Figure 2
TO QUINCY
MAGNOLIA FARMS ROAD
Little River Tract
106 (north of Hwy. 268)
2394.2 (west of High Bluff)
Rocky Comfort Tract
1280.4
Budd Tract
LAKE TALQUIN
0
3 Miles
HIGH BLUFF ROAD
PETERS ROAD
372.3 (east of High Bluff)
56.1
Davis Tract
CENTRAL ROAD
Davis Tract
133.2
1426.7
236.3
282.1
337.4
OCHLOCKONEE RIVER
39.7
PAVED HIGHWAYS
COUNTY GRADED ROADS
BUDD PUBLIC ROADS
BUDD BOUNDARY
GASLINE ROW
CSX RAILROAD
CHECK STATION
JOE BUDD POND
LITTLE RIVER
JOE BUDD WMA - FWC PURCHASE (FEE SIMPLE)
FWC LEAD AGENCY (16.3%)
JOE BUDD WMA - P-2000 ACQUISITION
FWC LEAD AGENCY (9.8%)
JOE BUDD WMA/LAKE TALQUIN STATE FOREST - ROCKY COMFORT UNIT
FWC & DOF CO-LEAD AGENCIES (19.9%)
JOE BUDD WMA/LAKE TALQUIN STATE FOREST - DOF LEAD AGENCY (54.0%)

Joe Budd
Wildlife Management Area
Gadsden County, Florida
10,539 acres
Figure 1: Basemap
Check station
Public administrative facility
Campsite
Boat ramp
Trail
Water
Railroad
Paved road
Dirt road
Water
Joe Budd WMA
0.5
0
0.5
1 Miles
Lake Talquin
Joe Budd WMA
Joe Budd Environmental Education Center
Joe Budd Pond
20
268
90
159
10

Gadsden County Property Appraiser's Office
Clay VanLandingham, CFA
COUNTY APPRAISER
16 S CALHOUN ST
QUINCY, FL 32353-0585
PH (850) 627-7168
FAX (850) 627-0396

RECENT SALES IN THIS AREA | PREVIOUS PARCEL NEXT PARCEL | RETURN TO MAIN SEARCH PAGE | GADSDEN HOME

OWNER NAME	MIDWAY PARK INC	TODAY'S DATE	May 23, 2006
MAILING ADDRESS	1921 GREENWOOD DR	PARCEL NUMBER	4-15-1N-2W-0000-00300-0000
	TALLAHASSEE, FL 32303	MILLAGE GROUP	MIDWAY (5)
		TOTAL MILLAGE	22.4779
		PROPERTY USAGE	TIMBER III (005600)
		MARKET AREA	South East (05) Show Map
LOCATION ADDRESS		PARCEL MAP	Show Parcel Map

2005 CERTIFIED TAX ROLL VALUES — **Tax Collector Information**

JUST VALUE OF LAND	LAND VALUE AGRICULTURAL	BUILDING VALUE	TOTAL MISC VALUE	JUST OR CLASSIFIED TOTAL VALUE	ASSESSED VALUE	EXEMPT VALUE	TAXABLE VALUE	HOME STEAD
0	12,353	0	0	12,353	12,353	0	12,353	N

LAND INFORMATION

LAND USE	NUMBER OF UNITS	UNIT TYPE	SEC-TWN-RNG
HWD MIXED	130.040	AC	15-1N-2W
MKT.VAL.AG	130.040	HWD MIXED	15-1N-2W

SHORT LEGAL	OR 526 P 1518 (EASEMENT) OR 145 P 377, OR 492 P 1518 OR 561 P 688 Show Complete Legal Description

BUILDING DATA

BUILDING #	TYPE	TOTAL AREA	HEATED AREA	BED ROOMS	BATHS	PRIMARY EXTERIOR	HEATING	COOLING	ACTUAL YEAR BUILT	EFFECTIVE YEAR BUILT
No buildings associated with this parcel.										

MISCELLANEOUS DATA

DESCRIPTION	LENGTH	WIDTH	UNITS	YEAR BUILT
No records associated with this parcel.				

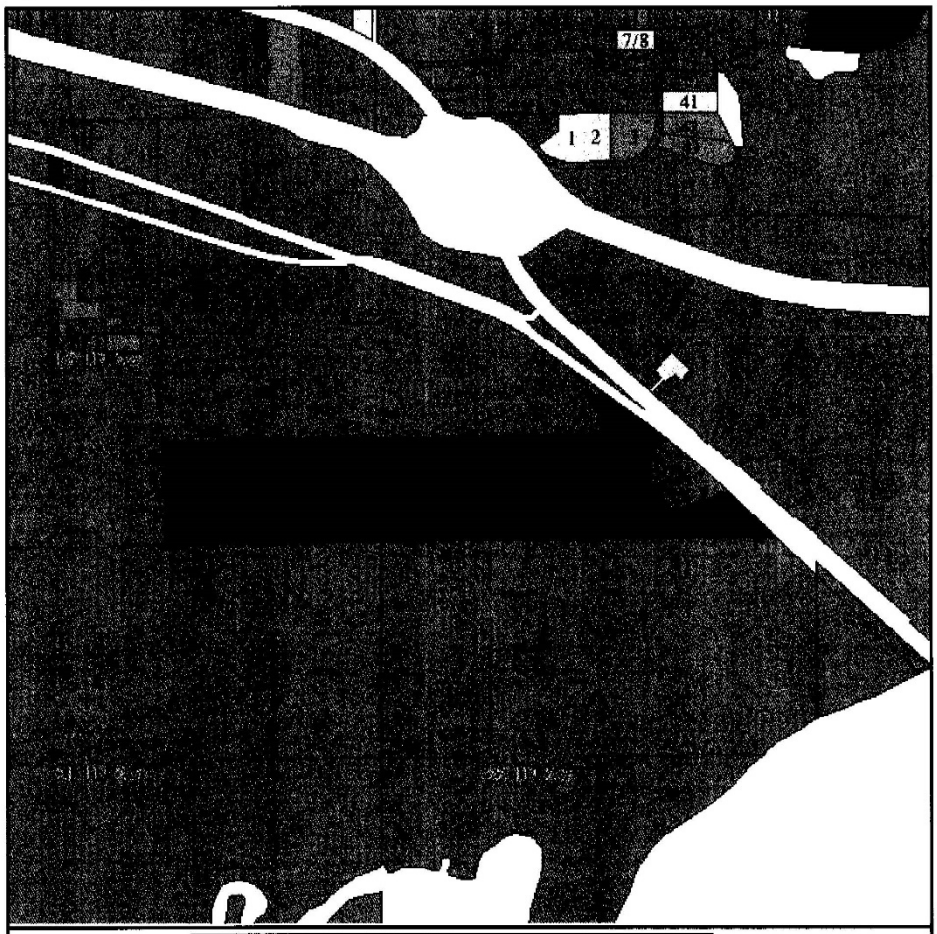
SALES DATA

SALE DATE	BOOK	PAGE	ADJUSTED PRICE	INSTRUMENT	QUALIFICATION	IMPROVED? (AT TIME OF SALE)	GRANTOR	GRANTEE
03-31-1999	492	1518	339,700	WARRANTY DEED	UNQUALIFIED	NO	GEORGE I DAVIS & JAMES C DAVIS	MIDWAY PARK INC
03-31-1999	561	688	100	QUIT CLAIM DEED	UNQUALIFIED	NO	GEORGE I DAVIS & JAMES C DAVIS	MIDWAY PARK INC

The Gadsden County Property Appraiser's Office makes every effort to produce the most accurate information possible. No warranties, expressed or implied, are provided for the data herein, its use or interpretation. The assessment information is from the last certified taxroll. All data is subject to change before the next certified taxroll. Website Updated: May 4, 2006

RECENT SALES IN THIS AREA | PREVIOUS PARCEL NEXT PARCEL | RETURN TO MAIN SEARCH PAGE | GADSDEN HOME

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0 0.3 0.6 0.9 1.2 mi

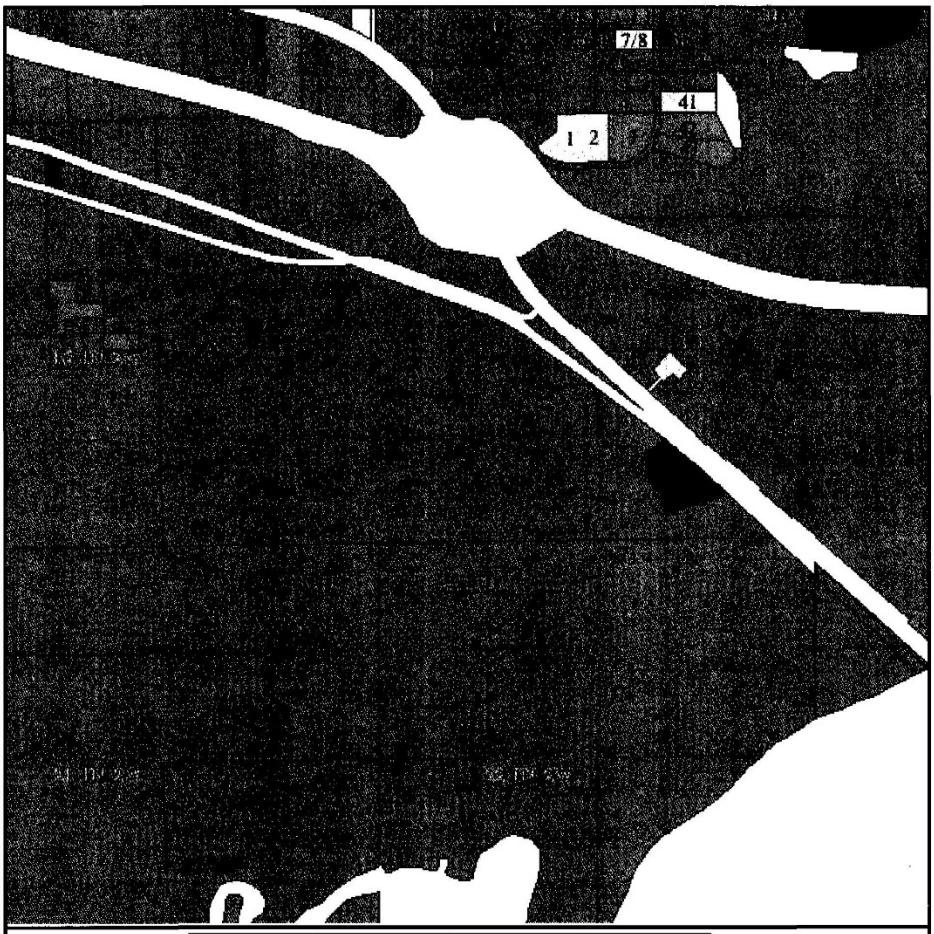
The Gadsden County Property Appraiser's Office makes every effort to produce the most accurate information possible. No warranties, expressed or implied, are provided for the data herein, it's use or interpretation. The assessment information is from the last certified taxroll. All data is subject to change before the next certified taxroll. Printed Tuesday May 23 2006 at 11:42:46.

Parcel	4-15-1N-2W-0000-00300-0000
Property Use	TIMBER III
Acres	130.04
Land Use	HWD MIXED-
Owner Name	MIDWAY PARK INC
Mailing Address	1921 GREENWOOD DR TALLAHASSEE, FL 32303
Situs Address	.

Land Value	0
Agricultural Value	12,353
Buildng Value	0
Misc Value	0
Just Value	12,353
Assessed Value	12,353
Exempt	0
Taxable Value	12,353
Homesteaded	N

Roads
Dimensions
Yearly Sales
Subdivisions
Blocks
Lot Numbers
Last 4 Digits

Sale Date	Sale Price	Vacant	Qual
03-1999	339,700	Y	U
03-1999	100	Y	U



The Gadsden County Property Appraiser's Office makes every effort to produce the most accurate information possible. No warranties, expressed or implied, are provided for the data herein, it's use or interpretation. The assessment information is from the last certified taxroll. All data is subject to change before the next certified taxroll. Printed Tuesday May 23 2006 at 11:45:41.

Parcel 4-15-1N-2W-0000-00300-0100	Land Value	Roads	
Property Use	Agricultural Value	Dimensions	
Acres 0.00	Buildng Value	Yearly Sales	
Land Use	Misc Value	Subdivisions	
Owner Name	Just Value	Blocks	
Mailing Address	Assessed Value	Lot Numbers	
,	Exempt	Last 4 Digits	
Situs Address	Taxable Value		
	Homesteaded		

Sale Date	Sale Price	Vacant	Qual

http://64.234.218.210/cgi-bin/gadsden_maps.cgi?map=/qpub1/maps/gadsden/parcels2.map&imgext=19863... 5/23/2006

Return to: Gary Heiser, Esq.
Division of State Lands
Department of Natural Resources
3900 Commonwealth Building, Mail Station 115
Tallahassee, FL 32399

Approved As to Form and Legality
By: Gary A. Heiser
Date: 2/17/92

This Instrument Prepared by:
Harvey A. Abrams, Esq.
The Trust for Public Land
2100 Centerville Road
Tallahassee, Florida 32308-4314

O.R. BOOK 388 PAGE 884

Property Appraisers Parcel Identification (Folio) Number(s):
Grantee(s) S.S. #(s):

WARRANTY DEED (STATUTORY)

THIS WARRANTY DEED made and executed this 30TH day of JANUARY 1992, by THE TRUST FOR PUBLIC LAND, a California not-for-profit corporation existing under the laws of California, and having a place of business at 2100 Centerville Road, Tallahassee, Florida 32308-4314, hereinafter called the Grantor, to BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose post office address is 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, Florida 32399, hereinafter called the Grantee (Wherever used herein the terms "Grantor" and "Grantee" include all the parties in this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations and public bodies):

WITNESSETH:

That the Grantor, for and in consideration of the sum of TEN DOLLARS ($10.00) and other valuable considerations, receipt whereof is hereby acknowledged, by these presents does grant, bargain, sell, alien, remise, release, convey and confirm unto the Grantee, its successors and assigns forever, all that certain land situate in Gadsden County, Florida, viz:

That Property More Particularly Described on EXHIBIT "A" attached hereto and incorporated herein by reference.

Subject to those matters recited on EXHIBIT "B".

Title to any portion of the Property lying below the Natural, Ordinary High Water Line of any navigable body or bodies of water is not warranted.

TOGETHER with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD, the same in fee simple forever.

AND the Grantor does hereby fully warrant the title to said lands and will defend the same against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, the Grantor has caused these presents to be executed in its name, and its corporate seal to be hereunto affixed, by its proper officers thereunto duly authorized, the day and year first above written.

Signed, sealed and delivered
in the presence of:

Harvey A. Abrams
Signature
Harvey A. Abrams
Printed Signature

Gordon J. Smith
Signature
Gordon J. Smith
Printed Signature

THE TRUST FOR PUBLIC LAND, a California not-for-profit corporation

By: W. Dale Allen
Name: W. Dale Allen
Title: Vice President
Address: 2100 Centerville Road
Tallahassee, FL 32308-4314

(CORPORATE SEAL) THE TRUST FOR PUBLIC LAND

STATE OF FLORIDA
COUNTY OF LEON

O.R. BOOK 388 PAGE 885

The foregoing Warranty Deed was acknowledged before me this 30th day of JAN., 1992, by W. Dale Allen, Vice President of THE TRUST FOR PUBLIC LAND, a California not-for-profit corporation, on behalf of the corporation. He is personally known to me and did take an oath.

Sara E. Brunger
Signature
SARA E. BRUNGER
Printed Signature
NOTARY PUBLIC
Notary Public, State of Florida
My Commission Expires: My Commission Expires Oct. 23, 1992
Bonded Thru Troy Fain-Insurance Inc.

(SEAL)

SARA E. BRUNGER NOTARY PUBLIC STATE OF FLORIDA

Commission No. AA 604067

O.R. BOOK 388 PAGE 886

EXHIBIT "A"

LEGAL DESCRIPTION

(LANDS)

TRACT I

All of the South half (S 1/2) of Section Twenty (20) lying South of the Forbes Purchase Line; Less and Except any part of the following described lands lying within said South one-half (S 1/2) of said Section 20, viz.: From the Northwest corner of the SW 1/4 of Section 20, Township 1 North, Range 2 West, run North along the section line 312.0 feet to a corner for a Point of Beginning; thence East 2,175.0 feet to an iron pipe in the Forbes Purchase Line; thence in a Southerly direction along the Forbes Purchase Line 1,036.0 feet to a corner; thence West 2,440.0 feet to the aforesaid section line; thence North along said section line 1,000.0 feet to the Point of Beginning.

All of the Southeast Quarter (SE 1/4) lying North of the Ocklocknee River except the Northwest Quarter (NW 1/4) of the said Southeast Quarter (SE 1/4), South half (S 1/2) of Southwest Quarter (SW 1/4), Northwest Quarter (NW 1/4) of Southwest Quarter (SW 1/4), South half (S 1/2) of Northwest Quarter (NW 1/4) and Southwest Quarter (SW 1/4) of Northeast Quarter (NE 1/4) of Section Twenty-one (21).

Lots Numbered One (1) and Four (4) in Section Twenty-Two (22) and all of the Northeast Quarter (NE 1/4) of the Northwest Quarter (NW 1/4) of Section Twenty-two (22), except Twelve acres more or less described as follows, to-wit: Begin at the Southwest corner of the Northeast Quarter (NE 1/4) of the Northwest Quarter (NW 1/4) and run East Ten and ninety-one hundredths (10.91) chains, thence run North ten and ninety-one hundredths (10.91) chains, thence West ten and ninety-one hundredths (10.91) chains and thence South ten and ninety-one hundredths (10.91) chains to the point of beginning.

Lot Number Two (2) in Section Twenty-three (23).

Excepted from the lands described as Lot No. One (1) in Section Twenty-two (22) and Lot No. Two (2) in Section Twenty-three (23) are those parts of those lots lying North and East and within 50 feet South and West of the Centerline of the existing CSX Railroad single track (described in the final decree of the case Seaboard Air Line Railroad v. Mary Pigott Davis, et al., recorded in Gadsden County, Florida Chancery Order Book "O" at Page 481).

All of the above described land, situate, lying and being in Township One (1) North, of Range Two (2) West.

TRACT IV

Begin at the Southeast Corner of Lot Number Three (3) in Section Twenty-two (22), Township One (1) North, Range Two (2) West and thence run North six hundred ninety (690) feet, thence West four hundred twenty (420) feet, thence South fifty-eight (58) feet, thence West five hundred seventy (570) feet, thence South six hundred thirty-two (632) feet, thence East nine hundred ninety

TRACT V

The South Half (S 1/2) of Southeast Quarter (SE 1/4) of Section 16, Township 1 North, Range 2 West. The Northeast Quarter (NE 1/4) of Southwest Quarter (SW 1/4) of Section Twenty-one (21), Township One (1) North, Range Two (2) West, Southeast Quarter (SE 1/4) of Northwest Quarter (NW 1/4) of Section 22, Township 1 North, Range 2 West.

TRACT VI

The Southwest Quarter (SW 1/4) of Section Sixteen (16), in Township One (1) North, Range Two (2) West.

LESS AND EXCEPT - Four acres in the Northwest Quarter (NW 1/4) of the Northeast Quarter (NE 1/4) of the Southwest Quarter (SW 1/4) of Section Sixteen (16), Township One (1) North, Range Two (2) West described as follows: Commencing at the Northwest Corner of the Northeast Quarter (NE 1/4) of the Southwest Quarter (SW 1/4); thence run due East 421 feet; thence due South 421 feet; thence due West 421 feet; thence due North 421 feet to point of beginning.

AND ALSO LESS AND EXCEPT - Begin at a point 1980 feet East and 2640 feet South of the Northwest corner of Section 16 and thence run South 210 feet; thence run East 420 feet; thence run North 210 feet; thence run West 420 feet to the point of beginning. Said tract of land containing 2 acres, more or less, and being in the Northwest Corner of the Northeast Quarter of the Northeast Quarter of the Southwest Quarter of Section 16, Township 1 North, Range 2 West, Gadsden County, Florida.

(EASEMENT)

TOGETHER WITH that certain perpetual nonexclusive easement for unrestricted ingress and egress to and from the above-described lands granted in Trustees' Correction Deed dated December 16, 1991, from George I. Davis and James Calvin Davis as Co-Trustees of the Eugene Moor Davis Family Trust to The Trust For Public Land and its successors in ownership and their invitees recorded in Official Record Book 387, page 113, Public Records of Gadsden County, Florida. Said easement grant and its use shall be by means of the existing roadway between U. S. Highway 90 crossing the CSX railroad and traversing lands in Section Fifteen (15), Township One (1) North, Range Two (2) West to Sections Sixteen (16) and Twenty-Two (22) in said township, and being more particularly described as follows:

A 30-foot wide access easement lying 15 feet right and left of the following described centerline.

Commence at the Southwest Corner of Section 15, Township 1 North, Range 2 West, Gadsden County, Florida, and run along the South line of said Section, North 89 degrees 33 minutes 05 seconds East 1648.15 feet to an intersection with the centerline of an unimproved dirt surfaced road and the Point of Beginning. From said Point of Beginning run along the centerline of said unimproved dirt surfaced roadway the following 25 courses:

North 24 degrees 25 minutes 24 seconds East 172.78 feet;
North 29 degrees 33 minutes 38 seconds East 63.31 feet;
North 39 degrees 19 minutes 59 seconds East 83.51 feet;
North 56 degrees 53 minutes 56 seconds East 103.47 feet;
North 75 degrees 19 minutes 53 seconds East 108.97 feet;
North 81 degrees 32 minutes 50 seconds East 106.97 feet;
North 77 degrees 17 minutes 04 seconds East 82.08 feet;

O.R. BOOK 388 PAGE 889

EXHIBIT "B"

Subject to the following:

1. Perpetual easement or right to flood from Eugene M. Davis, joined by his wife, Mary Davis, to West Florida Power Company, dated January 27, 1930, recorded in Deed Book XX at Page 175, et seq, public records of Gadsden County, Florida.

2. Perpetual easement or right to flood from Frank Davis to West Florida Power Company, dated May 7, 1930, recorded in Deed Book XX at page 328, et seq, public records of Gadsden County, Florida.

3. Easement for pipeline for natural gas, oil, petroleum products and other liquids, gases or substances which can be transported through a pipeline, from Mary Pigott Davis and George I. Davis, co-trustees of the Estate of Eugene M. Davis, deceased, to Florida Gas Transmission Company, dated November 10, 1967, recorded in OR Book 98 at Page 431, et seq, public records of Gadsden County, Florida.

4. Sovereignty ownership of any portion of the property lying below the ordinary high water line of any navigable body of water.

9200809

O.R. BOOK 388 PAGE 884-889
REC. NICHOLAS THOMAS, CLERK
GADSDEN CO., FLORIDA

'92 JAN 30 PM 4 16

FILED, RECORDED AND
RECORD VERIFIED
NICHOLAS THOMAS, CLERK CIR. COURT
GADSDEN COUNTY, FLORIDA
BY P. Parrish D.C.

North 69 degrees 59 minutes 17 seconds East 93.76 feet; North 83 degrees 34 minutes 31 seconds East 284.12 feet; South 87 degrees 49 minutes 19 seconds East 112.72 feet; South 80 degrees 16 minutes 59 seconds East 132.44 feet; South 67 degrees 42 minutes 54 seconds East 209.42 feet; South 86 degrees 54 minutes 37 seconds East 195.12 feet; South 61 degrees 39 minutes 59 seconds East 139.17 feet; South 79 degrees 58 minutes 32 seconds East 62.48 feet; North 73 degrees 39 minutes 11 seconds East 58.26 feet; and North 41 degrees 59 minutes 15 seconds East 71.82 feet to an intersection with the Southwest right-of-way line of U. S. Highway No. 90 and the end of said centerline.

The grant of the easement herein specifically contemplates and includes the right to invite the public to use the easement road for ingress and egress to and from the lands conveyed herein.

All of said land and the easement situate, lying and being in the County of Gadsden and State of Florida.

BOOK 387 PAGE 113

CERTIFIED A TRUE COPY
NICHOLAS THOMAS, CLERK OF CIRCUIT COURT
GADSDEN COUNTY, FLORIDA
BY _____ DEPUTY CLERK

TRUSTEES' CORRECTION DEED

THIS DEED made by and between GEORGE I. DAVIS and JAMES CALVIN DAVIS as Co-Trustees of the Eugene Moor Davis Family Trust (hereinafter referred to as the "Grantors") whose taxpayer number is 59-6912035, and whose address is Post Office Box 6089, Tallahassee, Florida 32314, and THE TRUST FOR PUBLIC LAND, a charitable non-profit California corporation, whose address is 1310 Thomasville Road, Tallahassee, Florida 32303 (hereinafter referred to as the "Grantee").

[Whenever used herein the terms "Grantors" and "Grantee" include all the parties to this instrument and the heirs, legal representatives, beneficiaries and assigns of the trustees and the successors and assigns of corporations.]

WITNESSETH: This deed supercedes and replaces the deed of the grantors to the grantee dated the 29th day of August, 1991, and recorded that day in Gadsden County, Florida, O. R. Book 383 at Pages 1591-1595. The grantor and the grantee covenant and agree that the lands and easement conveyed and granted by the grantors to the grantee are those described herein and not those described by the aforementioned deed dated the 29th day of August, 1991, and further that the total consideration paid by the grantee to the grantors for the land and easement described in the deed is the sum of $876,562.50 as stated in the deed dated the 29th day of August, 1991, plus an additional consideration of $90,628.13 paid at the time of delivery of this deed.

WITNESSETH FURTHER: That the Grantors, for and in consideration of the sum of Ten Dollars ($10.00) and other valuable considerations, receipt whereof is hereby acknowledged, hereby grant, bargain, sell, alien, remise, release, convey and confirm unto the Grantee, all those certain lands and the easement described in attached Exhibit "A".

Title to any portion of the property described in attached Exhibit "A" lying below the ordinary high water line of any navigable body of water, including specifically the waters of the Ocklocknee River, is not warranted.

[Any excess in the value of the property hereby granted and conveyed shall be deemed a gift of the Grantors to the Grantee.]

TOGETHER with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD the same in fee simple forever.

AND the Grantors hereby covenant with said Grantee that the Grantors as Trustees of the Eugene Moor Davis Family Trust are lawfully seized of said lands in fee simple; that the Grantors have good right and lawful authority to sell and convey said lands; that the Grantors for and on behalf of the Eugene Moor Davis Family Trust hereby fully warrant the title to said lands and to the easement hereby granted and will defend the same against the lawful claims of all persons whomsoever, except as herein stated; and that said lands and the easement are free of all liens and encumbrances, except taxes accruing subsequent to December 31, 1991, and except as stated in attached Exhibit "A".

$44.20 DATE 12-6-91
DOCUMENTARY STAMPS
NICHOLAS THOMAS, CLERK OF CIRCUIT COURT
GADSDEN COUNTY, FLORIDA
BY _____ D.C.

IN WITNESS WHEREOF, the said Grantors have signed and sealed these presents this 16th day of December, 1991.

Signed and sealed in our presence:

Robert M. Ervin — GEORGE I. DAVIS (SEAL)

Barbara K. Keel — JAMES CALVIN DAVIS (SEAL)

AS TRUSTEES OF AND FOR THE EUGENE MOOR DAVIS FAMILY TRUST

STATE OF FLORIDA
COUNTY OF LEON

The foregoing Trustees' Deed was acknowledged before me by GEORGE I. DAVIS and JAMES CALVIN DAVIS, both to me well known, as Trustees of and for the Eugene Moor Davis Family Trust, on this 16th day of December, 1991.

Barbara K. Keel
NOTARY PUBLIC

Notary Public, State of Florida
My Commission Expires May 1, 1993

My commission expires:

The Trust For Public Land accepts the foregoing Trustees' Correction Deed as superceding and replacing the deed from the grantors to the grantee appearing in Gadsden County, Florida, O. R. Book 383 at pages 1591-1595.

THE TRUST FOR PUBLIC LAND

By: W. Dale Allen
Its Vice President

This Instrument Prepared by
ROBERT M. ERVIN of
Ervin, Varn, Jacobs, Odom & Ervin
305 South Gadsden Street
Tallahassee, Florida 32301

EXHIBIT "A"

LEGAL DESCRIPTION

(LANDS)

TRACT I

All of the South half (S 1/2) of Section Twenty (20) lying South of the Forbes Purchase Line; Less and Except any part of the following described lands lying within said South one-half (S 1/2) of said Section 20, viz.: From the Northwest corner of the SW 1/4 of Section 20, Township 1 North, Range 2 West, run North along the section line 312.0 feet to a corner for a Point of Beginning; thence East 2,175.0 feet to an iron pipe in the Forbes Purchase Line; thence in a Southerly direction along the Forbes Purchase Line 1,036.0 feet to a corner; thence West 2,440.0 feet to the aforesaid section line; thence North along said section line 1,000.0 feet to the Point of Beginning.

All of the Southeast Quarter (SE 1/4) lying North of the Ocklocknee River except the Northwest Quarter (NW 1/4) of the said Southeast Quarter (SE 1/4), South half (S 1/2) of Southwest Quarter (SW 1/4), Northwest Quarter (NW 1/4) of Southwest Quarter (SW 1/4), South half (S 1/2) of Northwest Quarter (NW 1/4) and Southwest Quarter (SW 1/4) of Northeast Quarter (NE 1/4) of Section Twenty-one (21).

Lots Numbered One (1) and Four (4) in Section Twenty-Two (22) and all of the Northeast Quarter (NE 1/4) of the Northwest Quarter (NW 1/4) of Section Twenty-two (22), except Twelve acres more or less described as follows, to-wit: Begin at the Southwest corner of the Northeast Quarter (NE 1/4) of the Northwest Quarter (NW 1/4) and run East Ten and ninety-one hundredths (10.91) chains, thence run North ten and ninety-one hundredths (10.91) chains, thence West ten and ninety-one hundredths (10.91) chains and thence South ten and ninety-one hundredths (10.91) chains to the point of beginning.

Lot Number Two (2) in Section Twenty-three (23).

Excepted from the lands described as Lot No. One (1) in Section Twenty-two (22) and Lot No. Two (2) in Section Twenty-three (23) are those parts of those lots lying North and East and within 50 feet South and West of the Centerline of the existing CSX Railroad single track (described in the final decree of the case Seaboard Air Line Railroad v. Mary Pigott Davis, et al., recorded in Gadsden County, Florida Chancery Order Book "O" at Page 481).

All of the above described land, situate, lying and being in Township One (1) North, of Range Two (2) West.

TRACT IV

Begin at the Southeast Corner of Lot Number Three (3) in Section Twenty-two (22), Township One (1) North, Range Two (2) West and thence run North six hundred ninety (690) feet, thence West four hundred twenty (420) feet, thence South fifty-eight (58) feet, thence West five hundred seventy (570) feet, thence South six hundred thirty-two (632) feet, thence East nine hundred ninety (990) feet to the point of beginning.

TRACT V

The South Half (S 1/2) of Southeast Quarter (SE 1/4) of Section 16, Township 1 North, Range 2 West. The Northeast Quarter (NE 1/4) of Southwest Quarter (SW 1/4) of Section Twenty-one (21), Township One (1) North, Range Two (2) West, Southeast Quarter (SE 1/4) of Northwest Quarter (NW 1/4) of Section 22, Township 1 North, Range 2 West.

TRACT VI

The Southwest Quarter (SW 1/4) of Section Sixteen (16), in Township One (1) North, Range Two (2) West.

LESS AND EXCEPT - Four acres in the Northwest Quarter (NW 1/4) of the Northeast Quarter (NE 1/4) of the Southwest Quarter (SW 1/4) of Section Sixteen (16), Township One (1) North, Range Two (2) West described as follows: Commencing at the Northwest Corner of the Northeast Quarter (NE 1/4) of the Southwest Quarter (SW 1/4); thence run due East 421 feet; thence due South 421 feet; thence due West 421 feet; thence due North 421 feet to point of beginning.

AND ALSO LESS AND EXCEPT - Begin at a point 1980 feet East and 2640 feet South of the Northwest corner of Section 16 and thence run South 210 feet; thence run East 420 feet; thence run North 210 feet; thence run West 420 feet to the point of beginning. Said tract of land containing 2 acres, more or less, and being in the Northwest Corner of the Northeast Quarter of the Northeast Quarter of the Southwest Quarter of Section 16, Township 1 North, Range 2 West, Gadsden County, Florida.

(EASEMENT)

TOGETHER WITH a perpetual nonexclusive easement for unrestricted ingress and egress by The Trust For Public Land and its successors in ownership and their invitees to and from the above-described lands. Said easement grant and its use shall be by means of the existing roadway between U. S. Highway 90 crossing the CSX railroad and traversing grantor's lands in Section Fifteen (15), Township One (1) North, Range Two (2) West to Sections Sixteen (16) and Twenty-Two (22) in said township, and being more particularly described as follows:

A 30-foot wide access easement lying 15 feet right and left of the following described centerline.

Commence at the Southwest Corner of Section 15, Township 1 North, Range 2 West, Gadsden County, Florida, and run along the South line of said Section, North 89 degrees 33 minutes 05 seconds East 1648.15 feet to an intersection with the centerline of an unimproved dirt surfaced road and the Point of Beginning. From said Point of Beginning run along the centerline of said unimproved dirt surfaced roadway the following 25 courses:

North 24 degrees 25 minutes 24 seconds East 172.78 feet;
North 29 degrees 33 minutes 38 seconds East 63.31 feet;
North 39 degrees 19 minutes 59 seconds East 83.51 feet;
North 56 degrees 53 minutes 56 seconds East 103.47 feet;
North 75 degrees 19 minutes 53 seconds East 108.97 feet;
North 81 degrees 32 minutes 50 seconds East 106.97 feet;
North 77 degrees 17 minutes 04 seconds East 82.08 feet;
North 69 degrees 19 minutes 38 seconds East 75.89 feet;
North 54 degrees 16 minutes 46 seconds East 84.68 feet;
North 41 degrees 19 minutes 35 seconds East 123.39 feet;
North 49 degrees 26 minutes 54 seconds East 107.64 feet;
North 45 degrees 47 minutes 17 seconds East 91.15 feet;
North 34 degrees 50 minutes 26 seconds East 149.39 feet;
North 26 degrees 31 minutes 21 seconds East 154.90 feet;
North 42 degrees 38 minutes 32 seconds East 73.03 feet;
North 69 degrees 59 minutes 17 seconds East 93.76 feet;
North 83 degrees 34 minutes 31 seconds East 284.12 feet;
South 87 degrees 49 minutes 19 seconds East 112.72 feet;
South 80 degrees 16 minutes 59 seconds East 132.44 feet;

2

South 67 degrees 42 minutes 54 seconds East 209.42 feet; South 86 degrees 54 minutes 37 seconds East 195.12 feet; South 61 degrees 39 minutes 59 seconds East 139.17 feet; South 79 degrees 58 minutes 32 seconds East 62.48 feet; North 73 degrees 39 minutes 11 seconds East 58.26 feet; and North 41 degrees 59 minutes 15 seconds East 71.82 feet to an intersection with the Southwest right-of-way line of U. S. Highway No. 90 and the end of said centerline.

The grant of the easement herein specifically contemplates and includes the right to invite the public to use the easement road for ingress and egress to and from the lands conveyed herein.

All of said land and the easement situate, lying and being in the County of Gadsden and State of Florida.

Except and subject to the following:

1. Perpetual easement or right to flood from Eugene M. Davis, joined by his wife, Mary Davis, to West Florida Power Company, dated January 27, 1930, recorded in Deed Book XX at Page 175, et seq, public records of Gadsden County, Florida.

2. Perpetual easement or right to flood from Frank Davis to West Florida Power Company, dated May 7, 1930, recorded in Deed Book XX at Page 328, et seq, public records of Gadsden County, Florida.

3. Easement for pipeline for natural gas, oil, petroleum products and other liquids, gases or substances which can be transported through a pipeline, from Mary Pigott Davis and George I. Davis, co-trustees of the Estate of Eugene M. Davis, deceased, to Florida Gas Transmission Company, dated November 10, 1967, recorded in OR Book 98 at Page 431, et seq, public records of Gadsden County, Florida.

4. Sovereignty ownership of any portion of the property lying below the ordinary high water line of any navigable body of water.

9109844

O.R.: 387 : 113-117
REC. : ... THOMAS, CLERK
... FLORIDA

'91 DEC 16 PM 4 26

FILED, RECORDED AND
RECORD VERIFIED
NICHOLAS THOMAS CLERK CIR CRT
GADSDEN COUNTY FLA
BY _____ DC

Mospens, Richard

From: Mospens, Richard
Sent: Thursday, December 01, 2005 10:08 AM
To: Johnson, David
Cc: Brooks, Mike; Sermons, Billy; Cochran, Gary; Francis, Don
Subject: RE: Joe Budd WMA easement

David -- First, thanks for stopping by so we could talk further on the COE license agreement for Apalachee WMA.

Regarding land acquisition, that falls under Gary Cochran and Tom Houston, so they have the right and authority to talk on the matter. When I was in Land Acquisition, Marion Lamb indicated he may be willing to sell. From there, I reviewed each A&I parcel and was able to get a few other landowners interested in possibly selling their land to the state. I then realized we were not the lead agency on the land adjacent to those parcels. Therefore, Gary Cochran and I met with DOF and they decided to take over the projects versus allowing us to proceed. If you compare the CMP A&I map with the Distribution of Management Authority map, you will note that FWC land is only adjacent to the Talquin Game Preserve and Anderson parcels. I had talked to Mr. Anderson, who is a player in the Talquin Game Preserve parcel and he, at that time, was willing to consider selling one or both parcels, but if in exchange for an access easement across Zone G to get to the shore (I can't remember if it was to get to an existing dock or if he wanted the approval to build one).

On the access issue from US 90, I see from the Distribution of Management Authority map that you are correct that FWC is the lead manager of the land closest to and to which the road connects to state land. A review of our working file did not show our having an easement file. I will place the matter on my project list and commence further work on it. If the access easement does exist, it should always be available to us, whether we use it or not.

Again, thanks for your input on these matters. -- Rich

From: Johnson, David
Sent: Wednesday, November 30, 2005 2:49 PM
To: Mospens, Richard
Cc: Brooks, Mike; Sermons, Billy; Cochran, Gary; Francis, Don
Subject: FW: Joe Budd WMA easement

Richard,

Yesterday when I met you in your office concerning the Apalachee License agreement with the COE, you mentioned the blocked easement on Joe Budd. If I understood you correctly you said it had been decided that the easement in question was DOF's and not ours and that there was no need for us to pursue resolving the situation. As I mentioned yesterday I felt like our understanding has always been that the easement was ours and had been established when FWC purchased the Davis tract. Don Francis's email below explains the situation fully. Is this incorrect?

You also mentioned that it had been decided not to pursue the tracts on our acquisition list in Zone F (eastern portion of Joe Budd WMA) because we didn't have much land there. The attached map depicts the property which FWC is the lead managing agency on in the eastern portion of Joe Budd. The largest private tract is obviously adjacent to property that we are lead on so we still have a keen interest in purchasing this parcel for inclusion into the management area. Would this tract be taken off our list? Could you send us a revised list? It would be helpful to know what is and is not on the list.

If we can provide anymore info to help clarify something just let me know. I look forward to hearing from you.

Thanks,

David B. Johnson
District Wildlife Biologist
FL Fish and Wildlife Conservation Commission
Joe Budd Field Office
5300 High Bridge Road
Quincy, FL 32351
Phone: 850-627-1773 ext. 107
FAX: 850-875-4897

1

Visit us at MyFWC.com

<< File: xxx001.jpg >>

From: Francis, Don
Sent: Thursday, November 13, 2003 10:28 AM
To: Johnson, David
Cc: Sermons, Billy; David McDuffie (E-mail); Nathan Bunting (E-mail)
Subject: Joe Budd WMA easement

David -

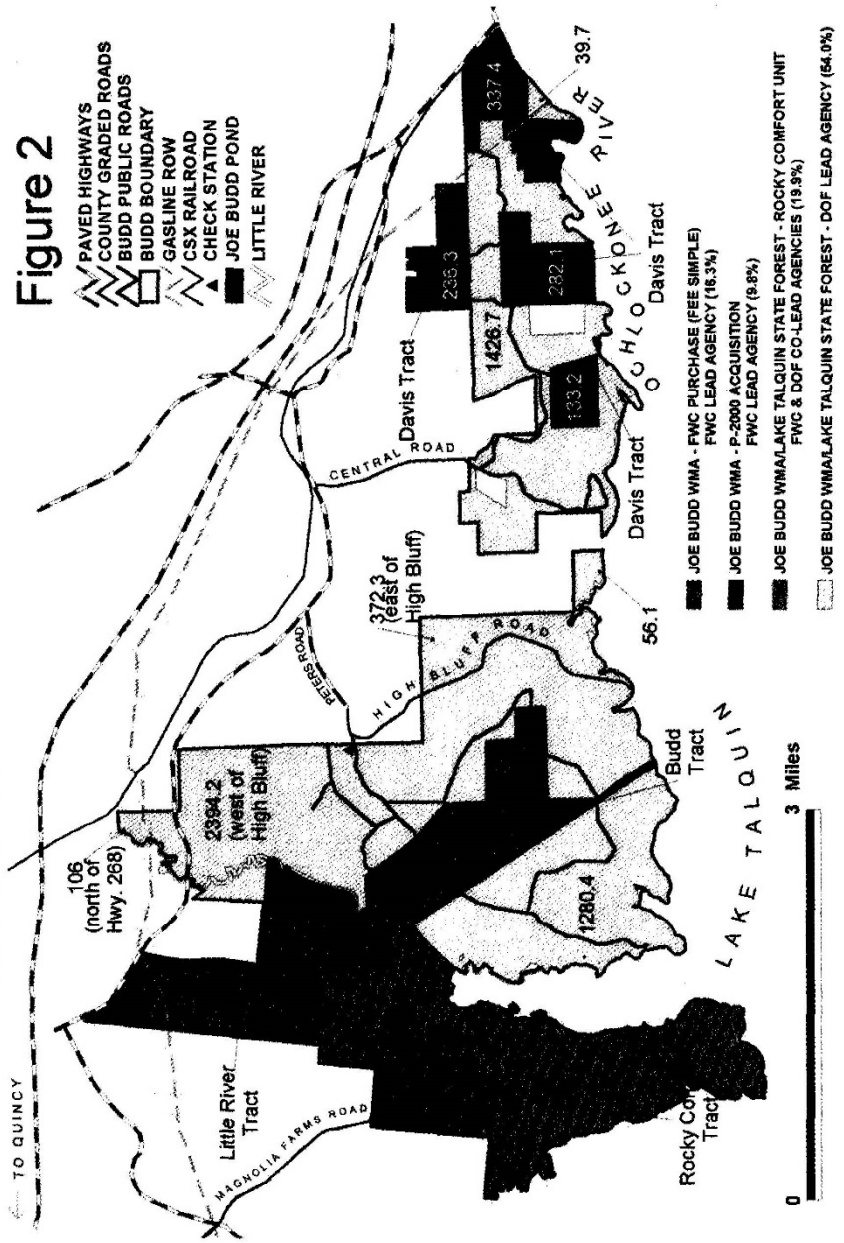
This is just to let you know that an easement from Highway 90 to the extreme eastern portion of Zone F of Joe Budd WMA that was acquired along with the purchase of the Davis property in 1992 has been permanently blocked by the current owner by piling a substantial dirt mound near its intersection with Highway 90. This easement was originally obtained due to concerns regarding future access of the eastern portion of the acquisition over a small DOF bridge across Hunter Creek. The ability of this bridge to accommodate heavy equipment such as logging trucks and construction equipment was questioned, as well as general public access should this small bridge ever get washed out or otherwise rendered impassable. In addition, a potential access east of this bridge off of Williams Road was unusable at the time due to the poor conditions of the road.

Since then, substantial improvements to the roadway extending from the end of Williams Road has been made, and just earlier this summer, the Division of Forestry made extensive repairs to the bridge across Hunter Creek, installing DOT approved bailey bridges that can accommodate much heavier traffic. Given these improvements, it is not my intent to argue the continued need for the above easement. In fact, we now use it very infrequently and have never found it necessary to permit public access at this location. My concern is the possibility of state funds having been used to purchase this easement that is now no longer available for fwc use.

I have a copy of the legal description which is contained on pages 15 & 16 of lease agreement No. 3949. However, I have no purchase information for the Davis tracts and whether the easement was purchased as well and if so, how much was paid. A couple of years ago, I met the owner of this property, a Mr. James A. Stiles, but I do not know if he is still the owner. His office number at that time was 422-3367.

While I have no problem with discontinuing this easement, if a significant amount was paid for its use, perhaps there is a possibility of reimbursement. I don't know if this would involve our land acquisition staff or possibly legal but I just wanted to bring this to your attention. If you have any questions or require any additional information, please let me know.

Donald Lee Francis
Wildlife Biologist
Joe Budd Wildlife Management Area
Florida Fish & Wildlife Conservation Commission
5300 High Bridge Road
Quincy, Florida 32351
(850)627-9674
FAX:(850)875-4897
E-Mail: Don.Francis@fwc.state.fl.us

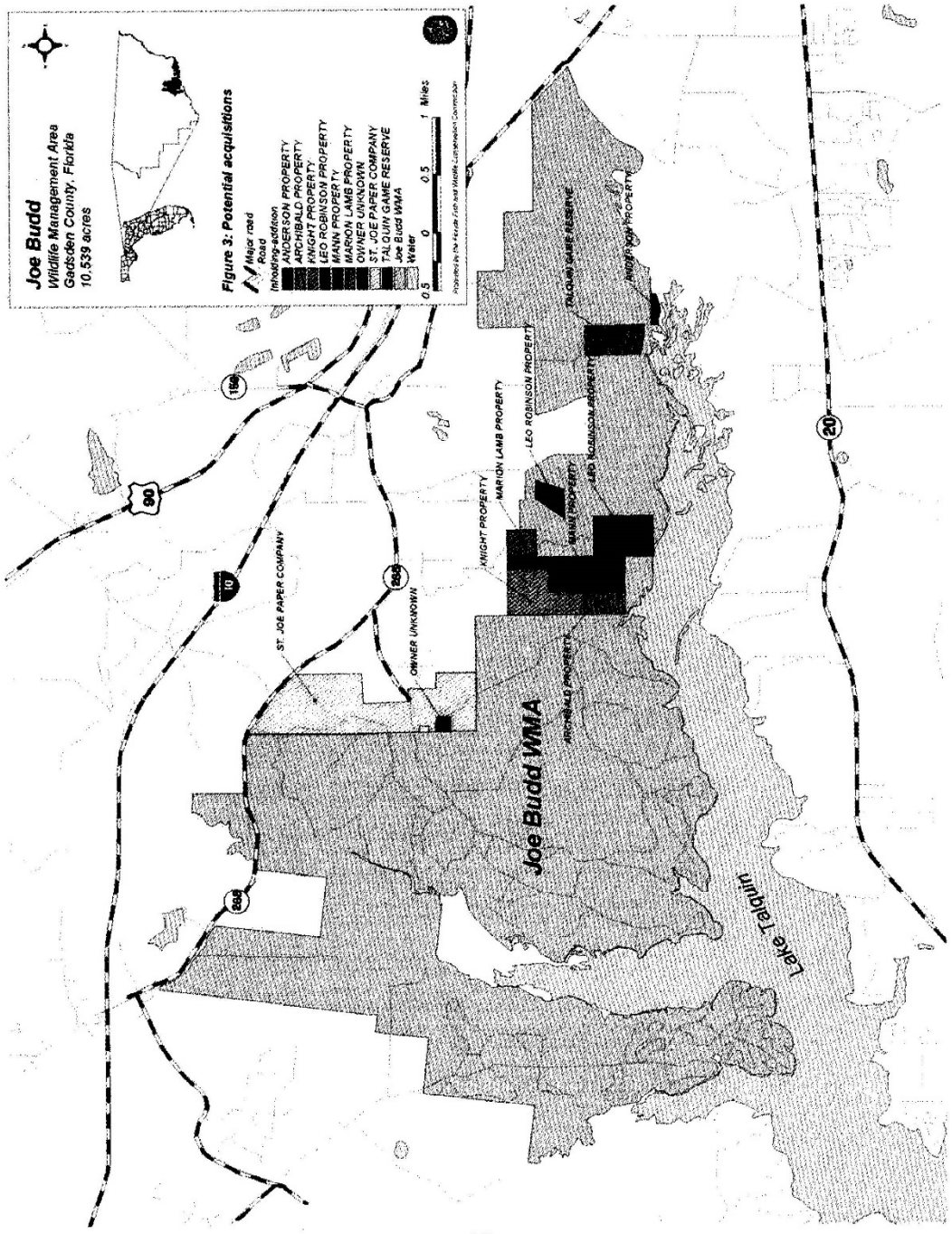

JOE BUDD WILDLIFE MANAGEMENT AREA
DISTRIBUTION OF MANAGEMENT AUTHORITY
Figure 2
PAVED HIGHWAYS
COUNTY GRADED ROADS
BUDD PUBLIC ROADS
BUDD BOUNDARY
GASLINE ROW
CSX RAILROAD
CHECK STATION
JOE BUDD POND
LITTLE RIVER
TO QUINCY
106 (north of Hwy. 268)
2394.2 (west of High Bluff)
Little River Tract
MAGNOLIA FARMS ROAD
PETERS ROAD
HIGH BLUFF ROAD
372.3 (east of High Bluff)
CENTRAL ROAD
Davis Tract
236.3
1426.7
337.4
39.7
OCHLOCKONEE RIVER
232.1
133.2
Davis Tract
Davis Tract
56.1
Budd Tract
1280.4
LAKE TALQUIN
Rocky Co Tract
0
3 Miles
JOE BUDD WMA - FWC PURCHASE (FEE SIMPLE) FWC LEAD AGENCY (16.3%)
JOE BUDD WMA - P-2000 ACQUISITION FWC LEAD AGENCY (9.8%)
JOE BUDD WMA/LAKE TALQUIN STATE FOREST - ROCKY COMFORT UNIT FWC & DOF CO-LEAD AGENCIES (19.9%)
JOE BUDD WMA/LAKE TALQUIN STATE FOREST - DOF LEAD AGENCY (54.0%)

C. Prospective Land Acquisitions

Ten private properties have been identified for acquisition under the authority granted to the agency as a part of the I & A Program (See table 2 and Figure 3). These properties have been nominated for purchase to further protect the wildlife and other resources of JBWMA, to lessen conflicts caused by housing development adjacent to areas where prescribed burning is required for resource management, to achieve an optimum and regular property boundary, and to provide critical habitat connectivity to other public wildlife habitat lands for the JBWMA.

Table 2. List of inholdings within Wildlife Management Area, County Florida

Parcel Name	Acres
Anderson Property	11.6
Archibald Property	42.8
Knight Property	126.7
Leo Robinson Property (north)	29.9
Leo Robinson Property (south)	106.5
Mann Property	158.3
Marion Lamb Property	37.1
St. Joe Paper Co., Inc.	505.6
Talquin Game Reserve	79.9
Unknown owner	9.9
Total	1,108.3


Joe Budd
Wildlife Management Area
Gadsden County, Florida
10,539 acres
Figure 3: Potential acquisitions
Major road
Road
Inholding-addition
ANDERSON PROPERTY
ARCHIBALD PROPERTY
KNIGHT PROPERTY
LEO ROBINSON PROPERTY
MANN PROPERTY
MARION LAMB PROPERTY
OWNER UNKNOWN
ST. JOE PAPER COMPANY
TALQUIN GAME RESERVE
Joe Budd WMA
Water
0 0.5 0 0.5 1 Miles
Joe Budd WMA
Lake Talquin
ST. JOE PAPER COMPANY
OWNER UNKNOWN
KNIGHT PROPERTY
MARION LAMB PROPERTY
LEO ROBINSON PROPERTY
MANN PROPERTY
ARCHIBALD PROPERTY
TALQUIN GAME RESERVE
ANDERSON PROPERTY
90
10
19
65
65
20

10

Mospens, Richard

From: Mospens, Richard
Sent: Thursday, August 12, 2004 4:24 PM
To: Sermons, Billy
Cc: Cochran, Gary; Brooks, Mike
Subject: FW: Joe Budd WMA easement

Billy -- On looking through emails that I received prior to assuming Don Poindexter's position, I saw this one regarding our easement access being blocked. Is the easement still blocked? Has anyone taken any action on it or has it been sitting? Let me know & I will, if still necessary, commence a review and action plan. Thanks -- Rich

-----Original Message-----
From: Cochran, Gary
Sent: Thursday, May 20, 2004 3:04 PM
To: Mospens, Richard
Subject: FW: Joe Budd WMA easement

FYI -future projects on the burner.

-----Original Message-----
From: Brooks, Mike
Sent: Wednesday, May 19, 2004 1:47 PM
To: Sermons, Billy
Cc: Allen, Mike; Cochran, Gary
Subject: RE: Joe Budd WMA easement

It will be 2 weeks before Don's replacement is in Don's chair. You all can coordinate with Legal, however keep Gary Cochran in the loop. Thanks

-----Original Message-----
From: Sermons, Billy
Sent: Wednesday, May 19, 2004 9:12 AM
To: Brooks, Mike
Subject: FW: Joe Budd WMA easement

Mike: It looks like we allowed Don to allow this to lapse. It believe it is a matter that may require consultation and direct involvement from our legal staff. Would you like for us to consult directly with them or, as David suggests, route this through Patti? Alternatively, is Don's successor the appropriate person to handle this matter? Thanks!--Billy

-----Original Message-----
From: Johnson, David
Sent: Wednesday, May 19, 2004 7:38 AM
To: Sermons, Billy
Subject: FW: Joe Budd WMA easement

Billy,

I had discussed this with Poindexter but never did hear anything back about this. Should I forward this to Patti?

-----Original Message-----
From: Francis, Don
Sent: Thursday, November 13, 2003 10:28 AM
To: Johnson, David
Cc: Sermons, Billy; David McDuffie (E-mail); Nathan Bunting (E-mail)
Subject: Joe Budd WMA easement

David -

This is just to let you know that an easement from Highway 90 to the extreme eastern portion of Zone F of Joe Budd WMA that was acquired along with the purchase of the Davis property in 1992 has been permanently blocked by the current owner by piling a substantial dirt mound near its intersection with Highway 90. This easement was originally obtained due to concerns regarding future access of the eastern portion of the acquisition over a small DOF bridge across Hunter Creek. The ability of this bridge to accommodate heavy equipment such as logging trucks

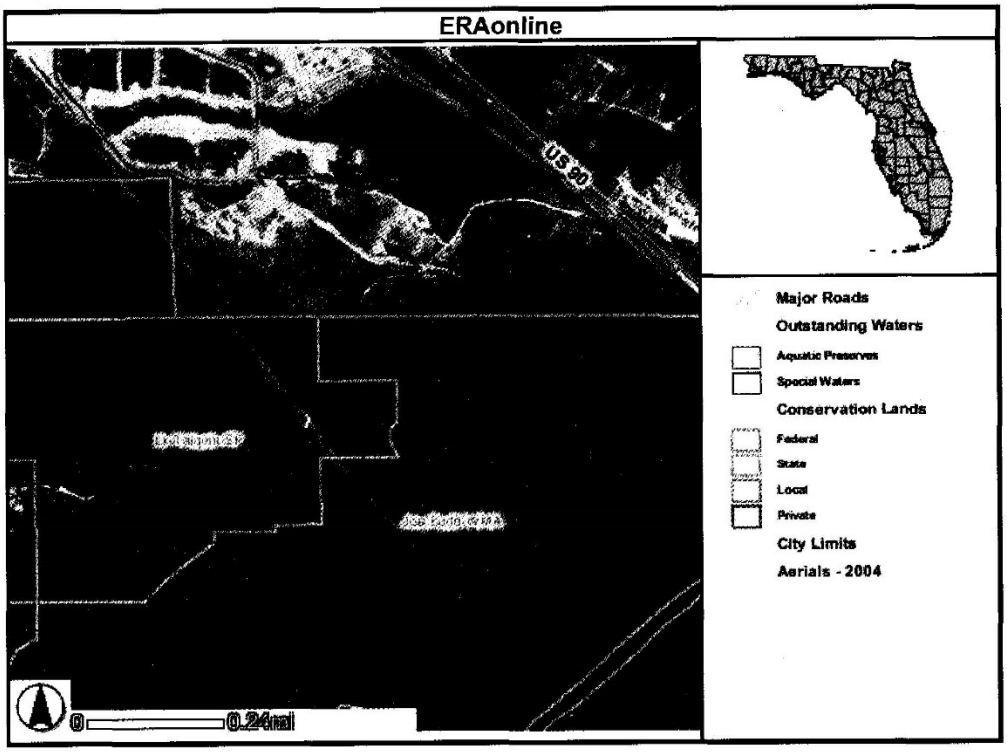
and construction equipment was questioned, as well as general public access should this small bridge ever get washed out or otherwise rendered impassable. In addition, a potential access east of this bridge off of Williams Road was unusable at the time due to the poor conditions of the road.

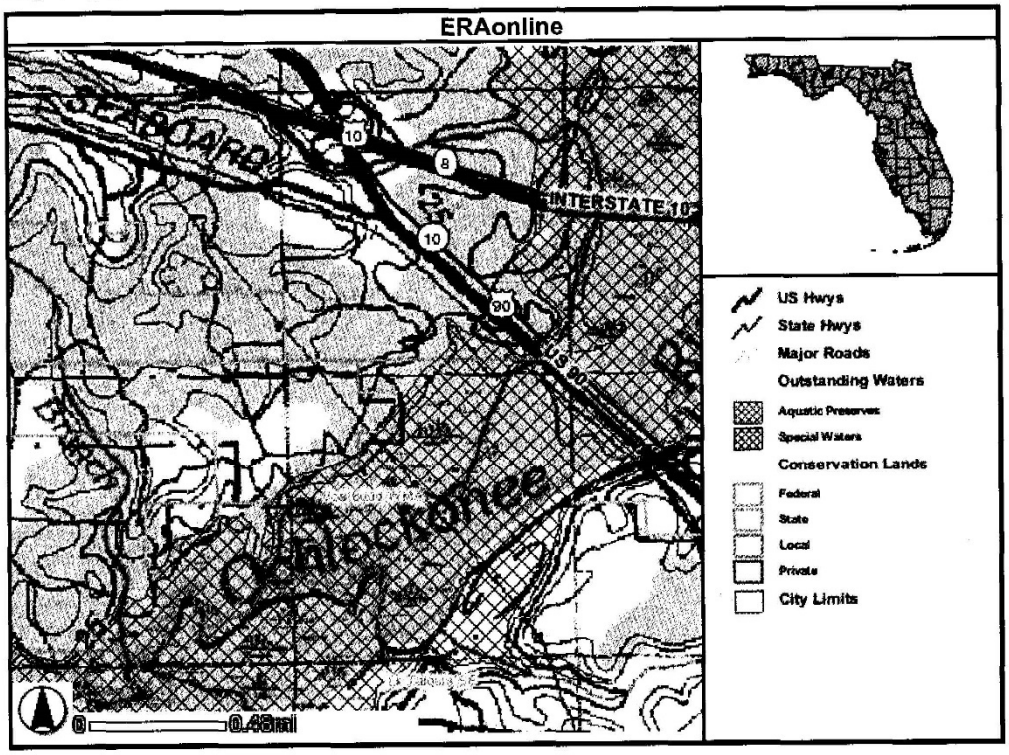
Since then, substantial improvements to the roadway extending from the end of Williams Road has been made, and just earlier this summer, the Division of Forestry made extensive repairs to the bridge across Hunter Creek, installing DOT approved bailey bridges that can accommodate much heavier traffic. Given these improvements, it is not my intent to argue the continued need for the above easement. In fact, we now use it very infrequently and have never found it necessary to permit public access at this location. My concern is the possibility of state funds having been used to purchase this easement that is now no longer available for fwc use.

I have a copy of the legal description which is contained on pages 15 & 16 of lease agreement No. 3949. However, I have no purchase information for the Davis tracts and whether the easement was purchased as well and if so, how much was paid. A couple of years ago, I met the owner of this property, a Mr. James A. Stiles, but I do not know if he is still the owner. His office number at that time was 422-3367.

While I have no problem with discontinuing this easement, if a significant amount was paid for its use, perhaps there is a possibility of reimbursement. I don't know if this would involve our land acquisition staff or possibly legal but I just wanted to bring this to your attention. If you have any questions or require any additional information, please let me know.

Donald Lee Francis
Wildlife Biologist
Joe Budd Wildlife Management Area
Florida Fish & Wildlife Conservation Commission
5300 High Bridge Road
***Quincy, Florida* 32351**
(850)627-9674
FAX:(850)875-4897
E-Mail: Don.Francis@fwc.state.fl.us


ERAonline
US 90
Major Roads
Outstanding Waters
Aquatic Preserves
Special Waters
Conservation Lands
Federal
State
Local
Private
City Limits
Aerials - 2004
0
0.24mi


ERAonline
INTERSTATE 10
10
8
90
0
0.4 mi
US Hwys
State Hwys
Major Roads
Outstanding Waters
Aquatic Preserves
Special Waters
Conservation Lands
Federal
State
Local
Private
City Limits

JOE BUDD WILDLIFE MANAGEMENT AREA
HUNTER DISTRIBUTION ZONES
PAVED HIGHWAYS
COUNTY GRADED ROADS
JOE BUDD PUBLIC ROADS
JOE BUDD BOUNDARY
GASLINE ROW
CSX RAILROAD
CHECK STATION
LITTLE RIVER
JOE BUDD POND
ZONE A
ZONE B
ZONE C
ZONE D
ZONE E
ZONE F
ZONE G
ZONE E
0
3 Miles

Figure 3

Return to: Gary Heiser, Esq.
Division of State Lands
Department of Natural Resources
3900 Commonwealth Building, Mail Station 115
Tallahassee, FL 32399

Approved As to Form and Legality
By: Gary L. Hein
Date: 2/17/92

This Instrument Prepared by:
Harvey A. Abrams, Esq.
The Trust for Public Land
2100 Centerville Road
Tallahassee, Florida 32308-4314

O.R. BOOK 388 PAGE 884

Property Appraisers Parcel Identification (Folio) Number(s):
Grantee(s) S.S. #(s):

WARRANTY DEED (STATUTORY)

THIS WARRANTY DEED made and executed this 30TH day of JANUARY 1992, by THE TRUST FOR PUBLIC LAND, a California not-for-profit corporation existing under the laws of California, and having a place of business at 2100 Centerville Road, Tallahassee, Florida 32308-4314, hereinafter called the Grantor, to BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose post office address is 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, Florida 32399, hereinafter called the Grantee (Wherever used herein the terms "Grantor" and "Grantee" include all the parties in this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations and public bodies):

WITNESSETH:

That the Grantor, for and in consideration of the sum of TEN DOLLARS ($10.00) and other valuable considerations, receipt whereof is hereby acknowledged, by these presents does grant, bargain, sell, alien, remise, release, convey and confirm unto the Grantee, its successors and assigns forever, all that certain land situate in Gadsden County, Florida, viz:

That Property More Particularly Described on EXHIBIT "A" attached hereto and incorporated herein by reference.

Subject to those matters recited on EXHIBIT "B".

Title to any portion of the Property lying below the Natural, Ordinary High Water Line of any navigable body or bodies of water is not warranted.

TOGETHER with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD, the same in fee simple forever.

AND the Grantor does hereby fully warrant the title to said lands and will defend the same against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, the Grantor has caused these presents to be executed in its name, and its corporate seal to be hereunto affixed, by its proper officers thereunto duly authorized, the day and year first above written.

Signed, sealed and delivered in the presence of:

Harvey A. Abrams
Signature
Harvey A. Abrams
Printed Signature

Gordon J. Smith
Signature
Gordon J. Smith
Printed Signature

THE TRUST FOR PUBLIC LAND, a California not-for-profit corporation

By: W. Dale Allen
Name: W. Dale Allen
Title: Vice President
Address: 2100 Centerville Road
Tallahassee, FL 32308-4314

(CORPORATE SEAL)

THE TRUST FOR PUBLIC LAND INCORPORATED MAY 13 1972 CALIFORNIA

DOCUMENTARY STAMP TAX PAID $6223.20 DATE 1-30-92
NICHOLAS THOMAS, CLERK OF CIRCUIT COURT
GADSDEN COUNTY, FLORIDA
BY: Cathy Wells D.C.

STATE OF FLORIDA
COUNTY OF LEON

O.R. BOOK 388 PAGE 385

The foregoing Warranty Deed was acknowledged before me this 30th day of JAN., 1992, by W. Dale Allen, Vice President of THE TRUST FOR PUBLIC LAND, a California not-for-profit corporation, on behalf of the corporation. He is personally known to me and did take an oath.

Sara E. Brunger
Signature
SARA E. BRUNGER
Printed Signature
NOTARY PUBLIC

(SEAL)

My Commission Expires: Notary Public, State of Florida
My Commission Expires Oct. 20, 1992
Bonded Thru Troy Fain-Insurance Inc.

Commission No. AA 604067



EXHIBIT A

LEGAL DESCRIPTION

(LANDS)

TRACT I

All of the South half (S 1/2) of Section Twenty (20) lying South of the Forbes Purchase Line; Less and Except any part of the following described lands lying within said South one-half (S 1/2) of said Section 20, viz.: From the Northwest corner of the SW 1/4 of Section 20, Township 1 North, Range 2 West, run North along the section line 312.0 feet to a corner for a Point of Beginning; thence East 2,175.0 feet to an iron pipe in the Forbes Purchase Line; thence in a Southerly direction along the Forbes Purchase Line 1,036.0 feet to a corner; thence West 2,440.0 feet to the aforesaid section line; thence North along said section line 1,000.0 feet to the Point of Beginning.

All of the Southeast Quarter (SE 1/4) lying North of the Ocklocknee River except the Northwest Quarter (NW 1/4) of the said Southeast Quarter (SE 1/4), South half (S 1/2) of Southwest Quarter (SW 1/4), Northwest Quarter (NW 1/4) of Southwest Quarter (SW 1/4), South half (S 1/2) of Northwest Quarter (NW 1/4) and Southwest Quarter (SW 1/4) of Northeast Quarter (NE 1/4) of Section Twenty-one (21).

Lots Numbered One (1) and Four (4) in Section Twenty-Two (22) and all of the Northeast Quarter (NE 1/4) of the Northwest Quarter (NW 1/4) of Section Twenty-two (22), except Twelve acres more or less described as follows, to-wit: Begin at the Southwest corner of the Northeast Quarter (NE 1/4) of the Northwest Quarter (NW 1/4) and run East Ten and ninety-one hundredths (10.91) chains, thence run North ten and ninety-one hundredths (10.91) chains, thence West ten and ninety-one hundredths (10.91) chains and thence South ten and ninety-one hundredths (10.91) chains to the point of beginning.

Lot Number Two (2) in Section Twenty-three (23).

Excepted from the lands described as Lot No. One (1) in Section Twenty-two (22) and Lot No. Two (2) in Section Twenty-three (23) are those parts of those lots lying North and East and within 50 feet South and West of the Centerline of the existing CSX Railroad single track (described in the final decree of the case Seaboard Air Line Railroad v. Mary Pigott Davis, et al., recorded in Gadsden County, Florida Chancery Order Book "O" at Page 481).

All of the above described land, situate, lying and being in Township One (1) North, of Range Two (2) West.

TRACT IV

Begin at the Southeast Corner of Lot Number Three (3) in Section Twenty-two (22), Township One (1) North, Range Two (2) West and thence run North six hundred ninety (690) feet, thence West four hundred twenty (420) feet, thence South fifty-eight (58) feet, thence West five hundred seventy (570) feet, thence South six hundred thirty-two (632) feet, thence East nine hundred ninety (990) feet to the point of beginning.

TRACT V

The South Half (S 1/2) of Southeast Quarter (SE 1/4) of Section 16, Township 1 North, Range 2 West. The Northeast Quarter (NE 1/4) of Southwest Quarter (SW 1/4) of Section Twenty-one (21), Township One (1) North, Range Two (2) West, Southeast Quarter (SE 1/4) of Northwest Quarter (NW 1/4) of Section 22, Township 1 North, Range 2 West.

TRACT VI--

The Southwest Quarter (SW 1/4) of Section Sixteen (16), in Township One (1) North, Range Two (2) West.

LESS AND EXCEPT - Four acres in the Northwest Quarter (NW 1/4) of the Northeast Quarter (NE 1/4) of the Southwest Quarter (SW 1/4) of Section Sixteen (16), Township One (1) North, Range Two (2) West described as follows: Commencing at the Northwest Corner of the Northeast Quarter (NE 1/4) of the Southwest Quarter (SW 1/4); thence run due East 421 feet; thence due South 421 feet; thence due West 421 feet; thence due North 421 feet to point of beginning.

AND ALSO LESS AND EXCEPT - Begin at a point 1980 feet East and 2640 feet South of the Northwest corner of Section 16 and thence run South 210 feet; thence run East 420 feet; thence run North 210 feet; thence run West 420 feet to the point of beginning. Said tract of land containing 2 acres, more or less, and being in the Northwest Corner of the Northeast Quarter of the Northeast Quarter of the Southwest Quarter of Section 16, Township 1 North, Range 2 West, Gadsden County, Florida.

(EASEMENT)

TOGETHER WITH that certain perpetual nonexclusive easement for unrestricted ingress and egress to and from the above-described lands granted in Trustees' Correction Deed dated December 16, 1991, from George I. Davis and James Calvin Davis as Co-Trustees of the Eugene Moor Davis Family Trust to The Trust For Public Land and its successors in ownership and their invitees recorded in Official Record Book 387, page 113, Public Records of Gadsden County, Florida. Said easement grant and its use shall be by means of the existing roadway between U. S. Highway 90 crossing the CSX railroad and traversing lands in Section Fifteen (15), Township One (1) North, Range Two (2) West to Sections Sixteen (16) and Twenty-Two (22) in said township, and being more particularly described as follows:

A 30-foot wide access easement lying 15 feet right and left of the following described centerline.

Commence at the Southwest Corner of Section 15, Township 1 North, Range 2 West, Gadsden County, Florida, and run along the South line of said Section, North 89 degrees 33 minutes 05 seconds East 1648.15 feet to an intersection with the centerline of an unimproved dirt surfaced road and the Point of Beginning. From said Point of Beginning run along the centerline of said unimproved dirt surfaced roadway the following 25 courses:

North 24 degrees 25 minutes 24 seconds East 172.78 feet;
North 29 degrees 33 minutes 38 seconds East 63.31 feet;
North 39 degrees 19 minutes 59 seconds East 83.51 feet;
North 56 degrees 53 minutes 56 seconds East 103.47 feet;
North 75 degrees 19 minutes 53 seconds East 108.97 feet;
North 81 degrees 32 minutes 50 seconds East 106.97 feet;
North 77 degrees 17 minutes 04 seconds East 82.08 feet;
North 69 degrees 19 minutes 38 seconds East 75.89 feet;
North 54 degrees 16 minutes 46 seconds East 84.68 feet;
North 41 degrees 19 minutes 35 seconds East 123.39 feet;
North 49 degrees 26 minutes 54 seconds East 107.64 feet;
North 45 degrees 47 minutes 17 seconds East 91.15 feet;
North 34 degrees 50 minutes 26 seconds East 149.39 feet;
North 26 degrees 31 minutes 21 seconds East 154.90 feet;
North 42 degrees 38 minutes 32 seconds East 73.03 feet;

North 69 degrees 59 minutes 17 seconds East 93.76 feet;
North 83 degrees 34 minutes 31 seconds East 284.12 feet;
South 87 degrees 49 minutes 19 seconds East 112.72 feet;
South 80 degrees 16 minutes 59 seconds East 132.44 feet;
South 67 degrees 42 minutes 54 seconds East 209.42 feet;
South 86 degrees 54 minutes 37 seconds East 195.12 feet;
South 61 degrees 39 minutes 59 seconds East 139.17 feet;
South 79 degrees 58 minutes 32 seconds East 62.48 feet;
North 73 degrees 39 minutes 11 seconds East 58.26 feet;
and North 41 degrees 59 minutes 15 seconds East 71.82 feet to an intersection with the Southwest right-of-way line of U. S. Highway No. 90 and the end of said centerline.

The grant of the easement herein specifically contemplates and includes the right to invite the public to use the easement road for ingress and egress to and from the lands conveyed herein.

All of said land and the easement situate, lying and being in the County of Gadsden and State of Florida.

EXHIBIT "B"

Subject to the following:

1. Perpetual easement or right to flood from Eugene M. Davis, joined by his wife, Mary Davis, to West Florida Power Company, dated January 27, 1930, recorded in Deed Book XX at Page 175, et seq, public records of Gadsden County, Florida.

2. Perpetual easement or right to flood from Frank Davis to West Florida Power Company, dated May 7, 1930, recorded in Deed Book XX at page 328, et seq, public records of Gadsden County, Florida.

3. Easement for pipeline for natural gas, oil, petroleum products and other liquids, gases or substances which can be transported through a pipeline, from Mary Pigott Davis and George I. Davis, co-trustees of the Estate of Eugene M. Davis, deceased, to Florida Gas Transmission Company, dated November 10, 1967, recorded in OR Book 98 at Page 431, et seq, public records of Gadsden County, Florida.

4. Sovereignty ownership of any portion of the property lying below the ordinary high water line of any navigable body of water.

9200809

O.R. BOOK 388 PAGE 884-889
REC. NICHOLAS THOMAS, CLERK
GADSDEN CO., FLORIDA

'92 JAN 30 PM 4 16

FILED, RECORDED AND
RECORD VERIFIED
NICHOLAS THOMAS, CLERK CIR. COURT
GADSDEN COUNTY, FLORIDA
BY: P. Garrish D.C.

11.2.2 Lake Talquin Special Use Permit

SPECIAL USE PERMIT

Between the

FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES,
DIVISION OF FORESTRY

and the

FLORIDA GAME AND FRESH WATER FISH COMMISSION

WHEREAS, the Head of the State of Florida Department of Natural Resources authorized State acceptance of donation of Lake Talquin lands from the Florida Power Corporation, which lands comprise the bulk of the former Jackson Bluff Hydro Project property in Leon, Gadsden and Liberty counties, to be used by the State for park recreation and related public purposes; and

WHEREAS, the Division of Recreation and Parks of the Florida Department of Natural Resources is the lessee of the donated Lake Talquin lands from the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida for operation and maintenance as the Lake Talquin State Recreation Area, pursuant to the conditions of the donation; and

WHEREAS, the Department of Natural Resources, Division of Recreation and Parks, has subleased the surface rights to the Lake Talquin lands for the purpose of conducting extensive reforestation work and physical improvements on the property; and

WHEREAS, the sublease agreement between the Department of Natural Resources and the Department of Agriculture and Consumer Services contains a provision that the Department of Agriculture and Consumer Services shall grant use of certain parcels (as shown on attached exhibit) to the Florida Game and Fresh Water Fish Commission for appropriate management as outlined below.

NOW THEREFORE, be it resolved by the Florida Department of Agriculture and Consumer Services, Division of Forestry, hereafter referred to as the Division, and the Florida Game and Fresh Water Fish Commission, hereafter referred to as the Commission, that they do mutually and jointly agree as follows:

1. The Division will designate areas to be opened to hunting on an annual basis.

2. The Division or its agents shall have at all times the right of ingress or egress to these lands for program purposes.

3. The Division will be responsible for performing all of the maintenance and upkeep of the roads, fences, and all physical improvements as funds permit. The exception to this is that the Commission may provide and maintain check stations during hunting seasons if it desires to do so and if funds are available. The Division and the Commission will be jointly responsible for wildlife habitat improvement according to mutually agreeable annual work plans and a ten year management plan.

4. The Commission will act as a consultant to the Division in wildlife habitat improvement, or the utilization of wildlife or fish by the public. The Commission will prepare a suggested annual work plan and submit it to the Division by May of each year for the fiscal year that begins on July 1 of that year.

5. The Commission shall not sublease any rights and privileges on these lands without advance written consent by the Division.

6. The Commission shall have all signs approved by the Division prior to erection or posting of such signs.

7. The Commission will submit proposed hunting and fishing rules and regulations for the lands to the Division for review each year prior to the official adoption of said rules and regulations. Rules and regulations affecting public use of physical facilities should be subject to Division approval.

8. The Commission will provide adequate law enforcement personnel to enforce the game laws on these lands, and take all reasonable measures to provide security against property damage and unauthorized uses.

9. The Commission shall be entitled to all proceeds derived from the sale of licenses or permits for hunting.

10. The Commission shall defend, hold and save the Division harmless from any and all liability or claims that may result from injuries to persons or damage to property arising out of use of the property by the Commission, for the purposes stated herein, to the extent allowed by the laws of Florida.

11. Any inequities that may subsequently appear in this permit shall be subject to negotiation upon written request of either party hereto.

12. This permit is subject to all the items and conditions as contained in the sublease agreement between the Department of Natural Resources and the Department of Agriculture and Consumer Services dated October 31, 1977.

13. The Division or the Commission shall have the right to terminate this agreement at any time upon 60 days notification prior to February 1 of any year, providing such notification is in writing from the Commissioner of the Department of Agriculture and Consumer Services or the Executive Director of the Game and Fresh Water Fish Commission. If notification is not received by February 1, the effective date of the termination will not be until sixty (60) days following February 1 of the next calendar year. In the event that the Department of Natural Resources cancels the sublease agreement with the Department of Agriculture and Consumer Services, all provisions of the Special Use Permit will be cancelled immediately.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed this 8th day of June, 1978.

WITNESSES:

Virgie Thompson

Shirley Ottinger

STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY

By: Doyle Conner
Commissioner of Agriculture

6-8-78
Date

WITNESSES:

Frank H. Smith Jr.

Virginia Cobb

STATE OF FLORIDA, GAME AND FRESH WATER FISH COMMISSION

By: Robert M. Brantly
Executive Director

May 8, 1978
Date

Approved as to form and legality

By: Leslie McGuire
Resident Attorney

APPROVED AS TO FORM AND LEGAL SUFFICIENCY
5/3/78
Commission Attorney

File -
Joe Budd WMA

SUBLEASE AGREEMENT

Between the

STATE OF FLORIDA DEPARTMENT OF NATURAL RESOURCES
Referred to herein as DNR

and the

STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES
Referred to herein as DACS

WHEREAS, the Head of the State of Florida Department of Natural Resources authorized State acceptance of donation of Lake Talquin lands from the Florida Power Corporation, which lands comprise the bulk of the former Jackson Bluff Hydro Project property in Leon, Gadsden and Liberty Counties, to be used by the State for park, recreation and related public purposes; and

WHEREAS, the Division of Recreation and Parks of DNR is the Lessee of the donated Lake Talquin lands from the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida for operation and maintenance as the Lake Talquin State Recreation Area, pursuant to the conditions of the donation; and

WHEREAS, a principal management objective in utilization of the property is to achieve optimum public benefit by providing a wide range of outdoor recreation opportunities for large numbers of users in a relatively natural and scenic setting; and

WHEREAS, major portions of the property have undergone extensive timber harvesting and are in need of restoration of natural conditions; and

WHEREAS, DNR desires to provide for restoration of natural conditions, and DACS desires to undertake reforestation and related restoration work and has the expertise and capability to do so effectively;

NOW, THEREFORE, Be It Resolved by DNR and DACS, that they do hereby mutually and jointly agree as follows:

1. Subject to all the terms and conditions of the Lease Agreement of June 8, 1971, entered into between the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida, as Lessor, and the State of Florida Department of Natural Resources, as Lessee, for the use and benefit of the Division of Recreation and Parks, DNR does hereby sublease to DACS the surface rights to the tracts indicated by Exhibit A, attached hereto and made a part hereof, lying, being and situated within the Lake Talquin State Recreation Area, for the purposes outlined herein.

2. DACS shall have use of the indicated property for a period of ten years from the date hereof for purposes of re-forestation, and related restoration work, which shall be conducted in accordance with the Management Concept for the Lake Talquin State Recreation Area, Exhibit B, attached hereto and made a part hereof, and DACS shall have the option of renewal for an additional period of fifteen years by mutual consent of the parties hereto; provided, however, that the Executive Director of DNR may withdraw lands from this Sublease as follows:

a. Any of the subleased lands designated on Exhibit A as "Potential Park Sites", upon six months' written notice by DNR to DACS.

b. Up to five per cent of the subleased lands bordering the Potential Park Sites designated on Exhibit A, or bordering Lake Talquin and its tributaries, upon twelve months' written notice by DNR to DACS.

c. Access lanes for vehicles and utilities through the subleased lands to the lands designated for Potential Park Sites on Exhibit A or subsequently removed from the Sublease pursuant to paragraph 2.b. above, upon six months' written notice by DNR to DACS.

d. The tract identified as "Reserve Acreage", upon twelve months' written notice by DNR

to DACS, which must be given within two years of the date of this Agreement and be pursuant to a specific program for public benefit authorized by the Head of DNR and legally acceptable to the Florida Power Corporation, as the Donor of the property.

3. Upon execution of this Agreement, DACS shall have the right to enter and occupy the subleased lands indicated by Exhibit A for the purposes necessary to the full enjoyment of the uses provided for herein, and shall commence implementation of reforestation and related work for the purposes of enhancement of the vegetative features of the property.

4. It is understood and agreed that DACS shall have responsibility for day-to-day management and protection of the subleased property, to include fire prevention and fire control.

5. DACS shall through its agents and employees cooperate to prevent the unauthorized use of the subleased property or any use thereof not in conformity with this Sublease Agreement and shall take all reasonable steps to provide security for the subleased property against damage and degradation.

6. This Sublease Agreement is subject to cancellation by DNR if DACS ceases, in the opinion of DNR, to meet its responsibilities under this Sublease Agreement for financial or whatever reasons.

7. The Management Concept, Exhibit B, shall be subject to periodic review and revision by cooperative action of the parties hereto so that it shall always reflect the current needs of the Lake Talquin State Recreation Area.

8. DACS shall be entitled to reimbursement of out-of-pocket expenses it incurs from any timber sales resulting from its reforestation and related vegetative restoration work during the life of this Sublease Agreement, or of the initial extension thereof. Any revenues from this source over and above the out-of-pocket expenses incurred by DACS shall be divided equally between DACS and DNR. DACS shall maintain detailed records of revenues and expenses for accountability purposes.

9. This Sublease Agreement and any rights and privileges contained herein shall not be assigned or transferred by DACS to any other party without the advance written approval of DNR. DNR desires and DACS agrees, however, that DACS shall grant use of certain parcels to the State of Florida Game and Fresh Water Fish Commission for appropriate management. The Executive Director of DNR shall be afforded full opportunity to review and approve the conditions of the proposed instrument between DACS and the Commission.

10. To the extent allowable by law, DACS shall defend, hold and save DNR harmless from any and all liability or claims that may result from injuries to persons or damage to property arising out of use of the subleased property by DACS under this Sublease Agreement.

11. DNR shall have the right to enter upon and inspect the subleased lands at any reasonable time for purposes of planning, coordination and supervision to insure the long range compatibility and effectiveness of all resource management programs on the Lake Talquin property under lease by DNR from the Board of Trustees of the Internal Improvement Trust Fund.

12. DNR reserves the right for its agents and employees to cross the subleased lands by foot, or horseback, or by vehicle on existing roads and trails, to gain access to its interior holdings on the lake in performance of its duties. DNR shall be responsible for the coordination of such access needs with DACS.

13. Any physical alterations of the property by DACS shall be consistent with the Management Concept, Exhibit B, and shall be made in accordance with plans approved in writing and in advance by the Executive Director of DNR.

14. DNR reserves the right to provide nature and hiking trails for public use on the subleased property at locations and in a manner agreeable to DACS for use during periods which will not conflict with the operations of DACS or authorized uses granted third parties.

11.2.3 Memorandum of Agreement (Contract No. 22179)

Florida Fish & Wildlife Conservation Commission
Contract/Agreement Routing Review Form

1. TYPE: ☑ New ☐ Amendment #_____ ☐ Task Assignment #_____ ☐ Renewal/Extension ☐ Modification
☐ Expenditure Contract ☐ Expenditure Grant ☑ MOA/MOU ☐ Revenue Generating

2. Contract Number: 22179 | 3. Contract Manager's Name/Telephone Number: Byron A. Williams 850-617-9510

4. Project Manager: Clint Peters | Date: 12/15/2022 | Telephone #: (850)717-8741 | Division/Office HSC

5. ☐ Financial ☑ Non-Financial | Method of Procurement: L-Exempt, Services or Commodities provided by Govern | Solicitation #:

6. Project Title/Contract Description: Memorandum of Agreement with USDA - APHIS - Wildlife Damage Management Project on Joe Budd WMA and Apalachee WMA

7. Original Contract Amount	Increase Amount	Decrease Amount	Revised Contract Amount
$ 0.00	$	$	$

8. Contract Begin Date: 1/2/2023 | Original End Date: 6/30/2026 | New End Date:

9. Vendor Name: USDA APHIS | Telephone#: (352) 448-2135

10. Vendor's Contact Name: Parker Hall | 11. Vendor/Tax ID# 41-0696271 | Seq.#

12. Cost/Price Analysis Required? ☐ Yes ☑ No | 13. Risk Assessment Required? ☐ Yes ☑ No

14. Administrative Review/Signature

Reviewed			
	If Reviewed Electronically, check box to indicate "Reviewed" and include the continuous email of approvals. If Reviewed in Hard Copy, please initial under "Reviewed", Print Name, Date and indicate if edits are required.		
✓	Contract Manager Name: Byron A. Williams (Digitally signed by Byron A. Williams Date: 2022.12.19 09:42:44 -05'00')	Date: 12/19/2022	FCCM #: 22092
✓	*If not applicable, indicate with "N/A"* Budget Reviewer Name: Rosa Guthrie (Digitally signed by Rosa Guthrie Date: 2022.12.19 16:44:27 -05'00')	Date: 12/19/2022	Edits: ☐ Yes ☑ No
✓	*Delegate based on current Fiscal Year Delegation of Authority* Div/Off Director or Delegate: David B. Johnson (Digitally signed by David B. Johnson Date: 2022.12.19 17:13:32 -05'00')	Date: 12/19/2022	Edits: ☐ Yes ☑ No
	If not applicable, indicate with "N/A" Chief Information Officer:	Date: N/A	Edits: ☐ Yes ☐ No
✓	FBO Contract Admin.: Bryan Tucker (Digitally signed by Bryan Tucker Date: 2022.12.20 07:58:30 -05'00')	Date: 12/20/2022	Edits: ☐ Yes ☑ No
	Applicable when one or more of the following applies (Over $325k, a five-year or longer contract term, Requires OED Execution), if none apply indicate with "N/A" General Services Section Leader:	Date: N/A	Edits: ☐ Yes ☐ No

15. Contract Execution *(MUST be Hard Copy Review/Signatures)*
If not executed for any reason, please notify FBO Contract Administration and the Contract Manager

Legal Signature: Joseph Meyer (Digitally signed by Joseph Meyer Date: 2022.12.22 11:33:33 -05'00') Date: 12/22/2022

Print Name: _____

Return to the Contract Manager for Vendor Signature

Date Sent to Vendor: _____ Date Received Back from Vendor: _____

By signature, the Contract Manager Confirms no changes were made after Legal review during initial routing and review.

Contract Manager Signature: Byron A. Williams (Digitally signed by Byron A. Williams Date: 2022.12.26 09:21:26 -05'00') Date: 12/26/2022

Print Name: Byron A. Williams

If changes were made after Legal review, attach a documented list of changes and route back to Legal prior to proceeding with any further approvals or execution.

Legal Signature: _____ Date: _____

Print Name: N/A

If not applicable (under $500k or less than 5 years or does not require OED Execution), indicate with "N/A"

**Chief Operating Officer Signature: _____ Date: _____

Print Name: N/A

Executive Director or Designee Signature: David B. Johnson (Digitally signed by David B. Johnson Date: 2022.12.28 10:45:39 -05'00') | EXECUTION DATE: *(Date Signed by Ex. Dir. or Designee)* 12/29/2022

Print Name: _____

FBO Contract Admin. Signature: _____ Date Entered into FACTS: _____

Date Received: _____ Print Name: _____

**Contract Attestation, if anticipated expenditures of $500,000 or more: I confirm that this contract or purchase order contains or complies with the requirements of FBO Memorandum 2016-01.

(Revised – 5/2019)

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

CONFLICT OF INTEREST CERTIFICATION

As set forth in Section 112.313, Florida Statutes, employees of the Florida Fish and Wildlife Conservation Commission (FWC/Commission) may not have any interest, financial or otherwise, direct or indirect; engage in any business transaction or professional activity; or accept any obligation of any kind which is in conflict with the proper conduct of their duties in the public interest. Therefore, I hereby certify that I have no present conflict of interest and that I will recuse myself from any capacity in taking part in the solicitation, development, or selection criteria for evaluation; the evaluation process and the decision making, approval, disapproval, or recommendation of any consultant/contractor for selection on any contract; or management of any contract if I have a conflict of interest or a potential conflict of interest.

I realize that violation of the above-mentioned statute would be punishable in accordance with Section 112.317, Florida Statutes, and may result in disciplinary action by the Commission.

22179

FWC Grant Agreement/Contract #

Byron A. Williams

Print Name

12/15/2022

Signature **Date**

(7/2019 version)

WS Agreement Number: 23-7212-8116-RA
WBS: AP.RA.RX12.72.0218
[optional] PO: _____

COOPERATIVE SERVICE AGREEMENT
between
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION (FWC)
JOE BUDD WILDLIFE MANAGEMENT AREA (JBWMA)
APALACHEE WILDLIFE MANAGEMENT AREA (APWMA)
and
UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE (APHIS)
WILDLIFE SERVICES (WS)

ARTICLE 1 – PURPOSE

The purpose of this Agreement is for APHIS-WS to provide wildlife damage management services to the FWC by removing feral swine from JBWMA and APWMA.

ARTICLE 2 – AUTHORITY

APHIS-WS has statutory authority under the Acts of March 2, 1931, 46 Stat. 1468-69, 7 U.S.C. §§ 8351-8352, as amended, and December 22, 1987, Public Law No. 100-202, § 101(k), 101 Stat. 1329-331, 7 U.S.C. § 8353, to provide services to States, local jurisdictions, individuals, public and private agencies, organizations, and institutions while conducting a program of wildlife services involving mammal and bird species that are reservoirs for zoonotic diseases, or animal species that are injurious and/or a nuisance to, among other things, agriculture, horticulture, forestry, animal husbandry, wildlife, and human health and safety.

ARTICLE 3 - MUTUAL RESPONSIBILITIES

The parties mutually understand that:

1. APHIS-WS shall perform services set forth in the Work Plan, which is attached hereto and made a part hereof. The parties may mutually agree in writing, at any time during the term of this agreement, to amend, modify, add or delete services from the Work Plan.

2. The FWC certifies that APHIS-WS has advised FWC there may be private sector service providers available to provide wildlife damage management (WDM) services that FWC is seeking from APHIS-WS.

3. There will be no equipment with a procurement price of $5,000 or more per unit purchased directly with funds from FWC for use on this project. All other equipment purchased for the program is and will remain the property of APHIS-WS.

4. The parties will coordinate with each other before responding to media requests on work associated with this project.

ARTICLE 4 - COOPERATOR RESPONSIBILITIES

FWC will:

1. Designate the following as the authorized representative who shall be responsible for administering the activities conducted in this agreement;

   FWC:
   Clint Peters, Northwest Regional Wildlife Biologist
   620 S. Meridian Street
   Tallahassee, FL 32399
   (850) 819-0617
   Clint.Peters@MyFWC.com

2. Authorize APHIS-WS to conduct direct control activities as defined in the Work Plan. APHIS-WS will be considered an invitee on the lands controlled by FWC. FWC will be required to exercise reasonable care to warn APHIS-WS as to dangerous conditions or activities in the project areas.

3. Reimburse APHIS-WS for costs, not to exceed the annually approved amount specified in the Financial Plan and associated Purchase Order. If costs are projected to exceed the amount reflected in the Financial Plan, the agreement with amended Work Plan and Financial Plan shall be formally revised and signed by both parties before services resulting in additional costs are performed and an updated Purchase Order will be issued. FWC agrees to pay all costs of services submitted via an invoice from APHIS-WS within 30 days of the date of the submitted invoice(s). Late payments are subject to interest, penalties, and administrative charges and costs as set forth under the Debt Collection Improvement Act of 1996.

4. Provide a Tax Identification Number or Social Security Number in compliance with the Debt Collection Improvement Act of 1996.

5. As a condition of this agreement, FWC ensures and certifies that it is not currently debarred or suspended and is free of delinquent Federal debt.

6. Notify APHIS-WS verbally or in writing as far in advance as practical of the date and time of any proposed meeting related to the program.

7. FWC acknowledges that APHIS-WS shall be responsible for administration of APHIS-WS activities and supervision of APHIS-WS personnel.

ARTICLE 5 – APHIS-WS RESPONSIBILITIES

APHIS-WS Agrees:

1. Designate the following as the APHIS-WS authorized representative who shall be responsible for administering the activities conducted in this agreement.

Parker Hall, FL State Director
APHIS Wildlife Services
2820 East University Avenue
Gainesville, FL 32641
(352) 448-2135
parker.hall@usda.gov

2. Conduct activities at sites designated by FWC as described in the Work and Financial Plans. APHIS-WS will provide qualified personnel and other resources necessary to implement the approved WDM activities delineated in the Work Plan and Financial Plan of this agreement.

3. That the performance of wildlife damage management actions by APHIS-WS under this agreement is contingent upon a determination by APHIS-WS that such actions are in compliance with the National Environmental Policy Act, Endangered Species Act, and any other applicable federal statutes. APHIS-WS will not make a final decision to conduct requested wildlife damage management actions until it has made the determination of such compliance.

4. Invoice FWC quarterly for actual costs incurred by APHIS-WS during the performance of services agreed upon and specified in the Work Plan. Authorized auditing representatives of FWC shall be accorded reasonable opportunity to inspect the accounts and records of APHIS-WS pertaining to such claims for reimbursement to the extent permitted by Federal law and regulations.

ARTICLE 6 – CONTINGENCY STATEMENT

This agreement is contingent upon the passage by Congress of an appropriation from which expenditures may be legally met and shall not obligate APHIS-WS upon failure of Congress to so appropriate. This agreement may also be reduced or terminated if Congress only provides APHIS-WS funds for a finite period under a Continuing Resolution.

ARTICLE 7 – NON-EXCLUSIVE SERVICE CLAUSE

Nothing in this agreement shall prevent APHIS-WS from entering into separate agreements with any other organization or individual for the purpose of providing wildlife damage management services exclusive of those provided for under this agreement.

ARTICLE 8 – CONGRESSIONAL RESTRICTIONS

Pursuant to Section 22, Title 41, United States Code, no member of or delegate to Congress shall be admitted to any share or part of this agreement or to any benefit to arise therefrom.

ARTICLE 9 – LAWS AND REGULATIONS

This agreement is not a procurement contract (31 U.S.C. 6303), nor is it considered a grant (31 U.S.C. 6304). In this agreement, APHIS-WS provides goods or services on a cost recovery basis to nonfederal recipients, in accordance with all applicable laws, regulations and policies.

ARTICLE 10 – LIABILITY

APHIS-WS assumes no liability for any actions or activities conducted under this agreement except to the extent that recourse or remedies are provided by Congress under the Federal Tort Claims Act (28 U.S.C. 1346(b), 2401(b), and 2671-2680).

ARTICLE 11 – NON-DISCRIMINATION CLAUSE

The United States Department of Agriculture prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. Not all prohibited bases apply to all programs.

ARTICLE 12 - DURATION, REVISIONS, EXTENSIONS, AND TERMINATIONS

This agreement shall become effective upon execution and shall continue through June 30, 2026. This Agreement may be amended by mutual agreement of the parties in writing. FWC must submit a written request to extend the end date at least 10 days prior to expiration of the agreement. Also, this agreement may be terminated at any time by mutual agreement of the parties in writing, or by one party provided that party notifies the other in writing at least 60 days prior to effecting such action. Further, in the event FWC does not provide necessary funds, APHIS-WS is relieved of the obligation to provide services under this agreement.

ARTICLE 13

It is mutually understood and agreed that:

A. The state of Florida's performance and obligation to pay under this agreement is contingent upon an annual appropriation by the Legislature as provided in Section 287.0582, Florida Statutes.

B. Payments made under this agreement are subject to the approval of the State Chief Financial Officer (Department of Financial Services) and Article 4.2.

In accordance with the Debt Collection Improvement Act of 1996, the Department of Treasury requires a Taxpayer Identification Number for individuals or businesses conducting business with the agency.

FWC's Tax ID No.: 85-8012618231C-1
APHIS-WS's Tax ID: 41-0696271

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

David B. Johnson Digitally signed by David B. Johnson Date: 2022.12.28 10:46:33 -05'00' 12/28/2022

David B. Johnson, Deputy Division Director — Date
Habitat and Species Conservation
Florida Fish and Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, FL 32399-1600

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
WILDLIFE SERVICES

PARKER HALL Digitally signed by PARKER HALL Date: 2022.12.29 10:27:51 -05'00'

Parker Hall, FL State Director — Date
USDA, APHIS, WS
2820 East University Avenue
Gainesville, FL 32641

WILLIE HARRIS Digitally signed by WILLIE HARRIS Date: 2022.12.29 11:57:00 -05'00' 12/29/2022

Willie D. Harris, Eastern Regional Director — Date
USDA, APHIS, WS
920 Main Campus Drive; Suite 200
Raleigh, NC 27606

WORK PLAN

In accordance with this Agreement between the Florida Fish and Wildlife Conservation Commission (FWC) and the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS), this Work Plan sets forth the objectives, activities and budget of this project during the period of this agreement.

Program Objective

The purpose of this agreement is to provide wildlife damage management services to FWC Joe Budd WMA and Apalachee WMA to reduce property damage by removal of feral swine.

Plan of Action

WS will provide a Wildlife Specialist to conduct feral swine management activities at the above mentioned WMAs. The WS employee will have appropriate training and professional expertise to provide control and scientific advice regarding feral swine management. The planned activities for the Wildlife Specialist are identified below.

- The Wildlife Specialist will conduct direct control activities to remove as many feral swine as possible.
- Cage traps, trail cameras, night vision, thermal imagers, and suppressed firearms are the primary tools WS will use for feral swine removal
- The Wildlife Specialist will work directly with the WMA manager to ensure no baiting of feral swine is conducted during legal hunting seasons.
- All animals euthanized will be disposed of on WMA property at the direction of WMA personnel.
- For months when work occurred a report will be provided that contains items such as feral swine removed, locations worked on property, areas that need work, days on property, etc.

FINANCIAL PLAN

Cost Element		Full Cost
Personnel Compensation		$18,726.57
Vehicles		$1,170.00
Supplies and Materials		$2,200.00
Equipment		$1,000.00
Subtotal (Direct Charges)		$23,096.57
Pooled Job Costs	11.00%	$2,540.62
Indirect Costs	16.15%	$3,730.10
Agreement Total		$29,367.29

The distribution of the budget from this Financial Plan may vary as necessary to accomplish the purpose of this agreement but may not exceed: $29,367.29 this fiscal year. The amount of each work order and a scope of work will be stipulated in the Purchase Order issued by the FWC each year. The effective date for the CSA is three years, but the budget per state fiscal year is not to exceed the stated amount in the purchase order(s) and/or amended financial plan.

Financial Point of Contact/Billing Address:

FWC

Jennifer Duyser
3911 Highway 2321
Panama City, FL 32409
(850) 767-3640
Jennifer.duyser@myfwc.com

APHIS-WS Florida State Office

Vielka Dyer, Budget Analyst
2820 East University Avenue
Gainesville, FL 32641
(352) 448-2137
vielka.g.dyer@usda.gov

11.2.4 GRASI Memorandum of Agreement

MEMORANDUM OF AGREEMENT BETWEEN
THE PRINCIPAL DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE FOR
INSTALLATIONS, ENVIRONMENT AND LOGISTICS
PENTAGON, WASHINGTON, D.C. 20330
AND
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
TALLAHASSEE, FL 32399
FOR THE PROVISION OF MILITARY TRAINING ON STATE LANDS

THIS MEMORANDUM OF AGREEMENT (hereafter, the "Agreement") is made and entered into by and between Office of the Principal Deputy Assistant Secretary of the Air Force for Installations, Environment and Logistics (hereinafter, "Air Force") and Florida Fish and Wildlife Conservation Commission (hereinafter, "Commission").

WITNESSETH:

WHEREAS, the Air Force, in order to successfully accomplish mission requirements has a need for expanded training opportunities in Northwest Florida beyond the current Department of Defense lands and training areas, and

WHEREAS, the Commission is responsible for managing, protecting, maintaining, and developing over 1.4 million acres of state conservation land ("Commission Lead-Managed Lands"), and

WHEREAS, the Parties have mutually concluded that it is desirable, practicable, and beneficial for the Parties to enter this Agreement to the mutual benefit of both and the goal is to work together in an effort to enhance both Parties' ability to carry out their respective missions.

NOW, THEREFORE, BE IT AGREED THAT:

1. Military training operations on the Commission Lead-Managed Lands in Northwest Florida can be compatible for both Parties without unreasonable impacts to resources if conducted with the proper planning and coordination.
2. Commission staff and Air Force personnel will work together to develop a detailed "Annual Operations Plan" that:

    a. Establishes a-framework through which military training exercises may be conducted on State-owned Commission Lead-Managed Lands. This framework may include other appropriate instruments within the jurisdiction of both Parties.
    b. Identifies number and locations of compatible available sites in the Northwest Florida region, to be defined as "training sites".
    c. Provides detailed maps showing boundaries delineating training areas.
    d. Details limitations of liability between the parties.
    e. Estimates the frequency of use of the sites.
    f. Indicates the types of compatible training allowed and the training activities that are expected to be prohibited.
    g. Establishes procedures for requesting, cancelling, coordinating and notification of the use of training sites.

h. Identifies options for compensation or reimbursement for the Commission providing lands for training through cash payment or in-kind services.

i. Establishes a feedback mechanism to assess the usefulness of the training site for the Air Force and the impact, if any, upon the mission of the Commission.

j. Identifies and clarifies the Air Force's responsibility with regard to the National Environmental Policy Act (NEPA).

EXECUTION OF THIS AGREEMENT:

3. This Agreement shall become effective upon the date last signed below, and shall remain in full force and effect until cancelled by mutual agreement of the Parties, or upon the provision of at least sixty (60) days advance written notice from the Party desiring to terminate this Agreement to the other Party. Upon becoming effective, this Agreement shall supersede all previous agreements between the Parties on the same subject.
4. Unless a notice of change of address is given, any and all notices shall be delivered to the parties at the following addresses:

Commission

Mike Brooks
Section Leader
Wildlife and Habitat Management Section
620 South Meridian Street
Tallahassee, Florida 32399-1600
(850) 488-3831

Air Force

Kathleen I. Ferguson, P.E.
Principal Deputy Assistant Secretary
(Installations, Environment & Logistics)
Pentagon, Washington, D.C.
(703) 697-6300

IN WITNESS WHEREOF, authorized representatives of the Parties have affixed their signatures hereto, in recognition and acceptance of the terms, conditions and obligations set forth and or assumed under this Agreement.

Florida Fish and Wildlife Conservation Commission:

Nick Wiley, Executive Director for

DATE: 3-25-13

Department of the Air Force:

Kathleen I. Ferguson, P.E.
Principal Deputy Assistant Secretary
(Installations, Environment & Logistics)
Pentagon, Washington, D.C.

DATE:_____

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
Commission Attorney

h. Identifies options for compensation or reimbursement for the Commission providing lands for training through cash payment or in-kind services.

i. Establishes a feedback mechanism to assess the usefulness of the training site for the Air Force and the impact, if any, upon the mission of the Commission.

j. Identifies and clarifies the Air Force's responsibility with regard to the National Environmental Policy Act (NEPA).

EXECUTION OF THIS AGREEMENT:

3. This Agreement shall become effective upon the date last signed below, and shall remain in full force and effect until cancelled by mutual agreement of the Parties, or upon the provision of at least sixty (60) days advance written notice from the Party desiring to terminate this Agreement to the other Party. Upon becoming effective, this Agreement shall supersede all previous agreements between the Parties on the same subject.
4. Unless a notice of change of address is given, any and all notices shall be delivered to the parties at the following addresses:

Commission

Mike Brooks
Section Leader
Wildlife and Habitat Management Section
620 South Meridian Street
Tallahassee, Florida 32399-1600
(850) 488-3831

Air Force

Kathleen I. Ferguson, P.E.
Acting Assistant Secretary
(Installations, Environment & Logistics)
Pentagon, Washington, D.C.
(703) 697-6300

IN WITNESS WHEREOF, authorized representatives of the Parties have affixed their signatures hereto, in recognition and acceptance of the terms, conditions and obligations set forth and or assumed under this Agreement.

Florida Fish and Wildlife Conservation Commission:

_____
Nick Wiley, Executive Director

DATE:_____

Department of the Air Force:

Kathleen I. Ferguson
Kathleen I. Ferguson, P.E.
Acting Assistant Secretary
(Installations, Environment & Logistics)
Pentagon, Washington, D.C.

DATE: MAR 22 2013

AGREEMENT OF OCCUPANCY FOR STATE-OWNED RESIDENCE OR SITE

Florida Fish and Wildlife Conservation Commission

FWC Contract No. 23078

This Agreement (hereinafter referred to as the "Agreement"), is by and between the State of Florida Fish and Wildlife Conservation Commission (hereinafter referred to as the "Commission" or "FWC"), whose address is 620 S. Meridian Street, Tallahassee, FL 32399, and Justin Van Gorder (hereinafter referred to as "Resident"), Fisheries & Wildlife Biological Scientist III.

WHEREAS, the Commission recognizes that residency within Joe Budd Wildlife Management Area (WMA) ("Commission Managed Lands") can assure greater security of the state's real and/or personal property and can afford enhanced visitor services to its customers, and;

WHEREAS, the Resident desires to reside on Commission Managed Lands, and;

WHEREAS, the Commission desires to have Resident residing on the Commission Managed Lands to be the Lead Area Biologist for Joe Budd WMA, provide security and/or visitor services to the public.

NOW, THEREFORE, this Agreement is made to provide for such benefits and services subject to the following terms and conditions as follows:

Section 1. PREMISES

The Resident shall be allowed to reside on Commission Managed Lands in a Commission provided house, Commission provided trailer, or Resident provided trailer as solely determined by the Commission ("Residence"). If Resident is allowed to provide a trailer at the discretion of the Commission, the placement of the trailer shall be on a site in the location solely determined by the Commission. The size of the trailer shall be limited depending on the limitation of the site and is at the discretion of the Commission. The Residence together with its demarcated immediately surrounding land and outbuildings, if applicable shall make up the "Premises" (Attachment A).

The type of Residence covered by this Agreement is:

☒ House

☐ Trailer

☐ Trailer Pad

The address for the Premises is as follows:

1244 Cattle Gap Road

Midway, Florida 32343

Section 2. COMMISSION OBLIGATIONS

(For a Commission-owned house or trailer).

The Commission shall:

a. Ensure compliance with building, housing, and health code.

b. Maintain the roof, windows, doors, locks and keys, floors, steps, porches, exterior walls, foundations, plumbing, and other structural components in good repair and capable of resisting normal forces and loads.

c. Ensure that the Residence has heat, air conditioning, and hot and cold running water.

d. Provide a refrigerator and range in the Residence upon occupancy and throughout the occupancy. In the event the Resident desires to upgrade any properly functioning appliances, the Resident may do so with Supervisor approval with the understanding that the upgraded appliance is the property of the Resident and the Resident is to ensure the appliances present upon occupancy are placed back in the housing unit in working order when vacating the Residence. In the event that Resident desires to buy their own replacement appliance when the existing appliance at the Residence is broken, they shall not be required to place back in the unit the previous broken appliance or any other replacement upon vacating. Select residences may have dishwashers, garbage disposals and other additional appliances, which may be replaced by the Commission if necessary. The attached FWC Housing Agreement Appliance Checkoff Sheet (Attachment B) defines the number of Appliances owned by the COMMISSION and the EMPLOYEE and the authorized representative signature is an acknowledgment of the number of appliances owned by each.

e. Install smoke and carbon monoxide (if applicable) detectors in the Residence.

Section 3. RESIDENT OBLIGATIONS
The Resident shall:

a. Comply with all obligations imposed upon residents by applicable provisions of building, housing, and health codes.

b. Maintain smoke and carbon monoxide (if applicable) detectors in the housing unit.

c. Maintain the Premises as required by this Agreement.

Section 4. TERM
This Agreement shall commence on July 28, 2023 ("Commencement Date") and continue until terminated.

a. If at any time Commission desires to terminate the Agreement, Commission may do so by providing to Resident such written notice of intention to terminate at least 30 days prior to the desired date of termination of the Agreement. Notices to terminate may be given on any calendar day, irrespective of Commencement Date. Resident may ask the Commission to terminate the Agreement, but if required to live at the Residence in their position description, request may be denied unless they vacate the position.

b. If terminated from employment, Resident, after receipt of written notification of termination of his/her employment as shown on page 1 of this Agreement, shall within 30 days, vacate the Premises and remove from Commission Managed Lands all his/her property, furnishings, and belongings and surrender to Commission, or its duly authorized representative, full possession of the Premises in as good a condition as it was at the time of occupancy, ordinary wear and tear excepted. A Resident may be asked to vacate in less than 30 days if disciplinary actions occur that interfere with the operations of the Commission Managed Lands or that violates Florida Statutes, State of Florida personnel rules, Commission Policies and Procedures. In the event the Resident retires from employment he/she will have 30 days to vacate the premises

Section 5. USE OF PREMISES
The Resident will notify the Commission, in writing, of the name and relationship of all occupants and the residing adults phone numbers. Generally, the Resident's immediate family members will be allowed to reside at the Residence. However, all initial occupancy requests and changes must be approved by the Commission, in writing, in advance and this decision is in Commission's sole discretion. "Immediate family member" means a relationship based on blood, marriage, cohabitation, adoption, or guardianship and is limited to the following: any spouse, domestic partner, cohabitant, child, stepchild,

grandchild, parent, stepparent, mother-in-law, father-in-law, son-in-law, daughter-in-law, grandparent, great grandparent, brother, sister, half-brother, half-sister, stepsibling, brother-in-law, sister-in-law, aunt, uncle, niece, nephew, or first cousin (that is, a child of an aunt or uncle).

The occupants of the Residence will be:

Name	Relationship to the Resident
Michelle Van Gorder	Spouse
Ryan Van Gorder	Son

The Resident recognizes that his/her occupation of the Premises is required for the necessary or better performance of his/her employment or to provide security to the Commission Managed Lands and facilities. Additional occupants may not occupy the Residence after Resident vacates the Premises due to the termination or end of the Resident's employment.

No part of the Premises shall be used at any time during the term of this Agreement for the purpose of carrying on any business, profession, or trade of any kind, outside of the Resident's duties, or any purpose other than a private single-family dwelling. Resident shall not allow any other person, other than Resident's immediate family or transient relatives and friends who are guests of Resident, to use or occupy the Premises without first obtaining Commission's written consent to such use. Resident shall comply with any and all laws, ordinances, rules and orders of any and all governmental or quasi-governmental authorities affecting the cleanliness, use, occupancy and preservation of the Premises.

This Agreement is between the Commission and the Resident and is not intended nor shall be construed as granting any rights, privileges, or interest to any third party, including any other occupant.

Section 6. CONDITION OF PREMISES

Resident stipulates, represents, and warrants that Resident has examined the Premises, and that they are, at the time of this Agreement, in good order, repair, and in a safe, clean and habitable condition.

Section 7. PETS

The Commission in its sole discretion shall determine if pets and livestock are allowed at the Residence. If Resident desires to keep pets or livestock at the Residence, they shall make such request in writing submitted to the Office or Section Leader as applicable for consideration. The request must include the following information: type of pet, size, how many, whether they are indoor or outdoor, and if outdoor how they will be restrained. The Commission reserves the right to seek additional information about any requested pets or livestock as needed to make its determination Resident is responsible for any damage caused by pets or livestock.

Section 8. MAINTENANCE AND REPAIR; RULES

Resident will, at its sole expense, keep and maintain the Premises and appurtenances in good and sanitary condition and repair during the term of this Agreement. Without limiting the generality of the foregoing, Resident shall:

a. Require family and guests at all times maintain order in the Residence and at all places on the Premises and shall not make or permit any loud or improper noises, or otherwise disturb other visitors to Commission Managed Lands.

b. Keep all radios, television sets, stereos, phonographs, etc., turned down to a level of sound that does not annoy or interfere with visitors to Commission Managed Lands.

c. Be responsible for their trash, garbage, rubbish, recycling and refuse, (collectively "Waste") including the storage, removal, and collection if available. If collection is not available but a location to deposit it is provided by the Commission, Resident shall deposit all Waste in the locations provided, and shall not allow any Waste to be deposited or permitted to stand on the exterior of any building or within the common elements. However, the Resident may place Waste in the Residence's Outside garbage and recycling containers if allowed in the Commission's sole discretion. Whenever practicable, exterior containers shall be bear-proof. If no deposit site, nor collection is available, Resident shall remove Waste legally offsite.

d. Repair damages due to negligence, recklessness, or intentional or willful conduct by the Resident, family members, other occupants, guests, or pets/livestock.

e. Abide by and be bound by any and all rules and regulations affecting the Premises, or the common area appurtenant thereto, which may be adopted or promulgated by State of Florida Personnel Rules and Commission Policies and Procedures.

f. Maintain demarcated Premises off duty from Commission work time. With supervisory approval, the Resident may use Commission equipment for the purpose of maintaining the Premises. The Resident shall not be responsible for normal wear and tear or repairs of Commission equipment when properly used for maintenance of the Premises. The Resident is however liable for their actions when conducting maintenance of the Premises.

Section 9. UTILITIES

Unless stated herein, Resident shall pay for utilities. Utilities may be provided at no cost to Residents who are deemed by the Commission as seasonal employees, or under some other special circumstances. Utilities provided shall include gas, water, and electricity. For trailers and trailer pads, utility hook ups (water, gas, and electricity) are provided on site. Electricity includes only costs associated with heating/cooling and providing power to the Residence. Personal Mobile and/or landline telephone service, internet connectivity and associated accounts, and satellite/cable/streaming television services are the responsibility of the Resident.

☐ Utilities are provided by the Commission at no cost for this Agreement.

☒ Utilities are not provided by the Commission for this Agreement and the cost for utilities is the responsibility of the Resident.

Section 10. ASSIGNMENT AND SUB-LETTING

Resident shall not assign this Agreement, rent, sub-let, grant any license, or otherwise to use the Premises or any part thereof identified in Paragraph 1.

Section 11. CONDUCT

The Resident shall exercise good judgment regarding personal conduct in housing by themselves, family members and guests, to avoid criticism and unfavorable public reaction or publicity. Conduct of the Resident, including family members and guests, that interfere with the operation of the Commissioned Managed Lands or that violates Florida Statutes, State of Florida Personnel Rules, Commission Policies and Procedures, will not be tolerated and will be subject to disciplinary action and/or termination of this Agreement.

Section 12. DECORATIVE DISPLAYS

With the exception of the United States flag, the display of flags, banners, or other objects that may be visible to the public or co-workers is prohibited without the approval of the Resident's supervisor.

Section 13. ALTERATIONS AND IMPROVEMENTS
Resident shall make no alterations to the Residence, whether interior or exterior, including any outbuildings, or other improvements on the Premises or construct any outbuilding or make any other improvements on the Premises without the prior written consent of the section leader.

Section 14. INSPECTION OF PREMISES
The Commission's agents or Division Management representatives shall have the right at all reasonable times during the term of this Agreement to inspect the Premises, and interior and exterior of the Residence at any time and make requests for reasonable improvements. The right of entry shall likewise exist for the purpose of removing placards, signs, fixtures, alterations, or additions that do not conform to this Agreement or to any restrictions, rules or regulations affecting the Premises. The Supervisor is responsible to ensure an inspection is completed at a minimum, annually.

Section 15. DAMAGE TO PREMISES
In the event the Premises are destroyed or rendered wholly uninhabitable by fire, storm, earthquake, or other casualty not caused by the negligence of Resident, the Commission shall not be liable for any damages to or loss of a housing unit or other property of the Resident, except for damage or loss, which occurs as a result of actions of the Commission, in which case the Commission will make a good faith effort to provide temporary or alternate housing for residents. Residents are encouraged to obtain their own insurance to cover personal liability and property contents in case of fire, theft or other casualty.

Section 16. INSURANCE
The Commission is not responsible for insuring Resident's, other occupant's, or Resident's permitted visitors' personal property and vehicles against loss or damage to theft, vandalism, fire, water, rain, criminal or negligent acts of others, or any other cause. The Commission has advised Resident to carry Resident's own insurance (renter's insurance) to protect Resident from any such loss or damage.

Section 17. ABANDONMENT
If the Resident fails to vacate residency after separation from the Commission or written notification of termination of the Agreement and 30 days have passed, the Resident's belongings and trailer if provided by the Resident, shall be treated as abandoned property unless the parties hereto agree otherwise in writing. The Commission shall consider any personal property belonging to Resident and left on the Premises to also have been abandoned, in which case the Commission may dispose of all such personal property in any manner the Commission shall deems proper and the Commission is hereby relieved of all liability for doing so. By signing this Agreement, resident agrees that upon surrender or abandonment, as defined by Chapter 83, Florida Statutes, Commission shall not be liable or responsible for storage or disposition of the Resident's personal property.

Section 18. RADON NOTIFICATION
Pursuant to Florida Statute 404.056(8), Resident is notified: "RADON GAS: Radon is a naturally occurring radioactive gas that, when it has accumulated in the building in sufficient quantities, may present health risks to persons who are exposed to it over time. Levels of radon gas that exceed federal and state guidelines have been found in buildings in Florida. Additional information regarding radon and radon testing may be obtained from your County Public Health Unit."

Section 19. HAZARDOUS MATERIALS
Resident shall not keep on the Premises any item of a dangerous, flammable or explosive character that might unreasonably increase the danger of fire or explosion on the Premises or that might be considered hazardous or extra hazardous by any responsible insurance company.

Section 20. QUIET ENJOYMENT
Resident, upon Resident's performance of all Resident's agreements contained herein and Resident's observance of all rules and regulations, shall and may peacefully and quietly have, hold and enjoy said Premises for the term hereof.

Section 21. INDEMNIFICATION
Commission shall not be liable for any damage or injury of or to the Resident, Resident's family, guests, pets, livestock, invitees, agents of Resident or to any other person entering the Residence or any building that is a part or lies upon the Premises, or to goods or equipment, or in the structure or equipment of the structure of which the Premises are a part, and Resident hereby agrees to indemnify, defend and hold Commission harmless from any and all claims or assertions of every kind and nature. This indemnification includes, but is not limited to, any damage or injury which may be incurred by Resident, Resident's family, guests, pets, invitees, agents of Resident or to any other person for damage or injuries that arise from any contact, attack or interaction from or with any animals, domestic or wild, whether such damage or injury occurs on the Premises or off, and Resident holds harmless the Commission from any and all claims or assertions of every kind and nature for any damage or injury Resident attributes to any absence or failure of fencing that may be on or surrounding the Premises.

Section 22. GOVERNING LAW
This Agreement shall be governed, construed and interpreted by, through and under the Laws of the State of Florida.

Section 23. SEVERABILITY
If any provision of this Agreement or the application thereof shall, for any reason and to any extent, be invalid or unenforceable, neither the remainder of this Agreement nor the application of the provision to other persons, entities or circumstances shall be affected thereby, but instead shall be enforced to the maximum extent permitted by law.

Section 24. DESCRIPTIVE HEADINGS
The descriptive headings used herein are for convenience of reference only and they are not intended to have any effect whatsoever in determining the rights or obligations of the Commission or Resident.

Section 25. CONSTRUCTION
The pronouns used herein shall include, where appropriate, either gender or both, singular and plural.

Section 26. NON-WAIVER
No indulgence, waiver, election or non-election by the Commission under this Agreement shall affect Resident's duties and liabilities hereunder.

Section 27. MODIFICATION
The above terms and conditions constitute the entire Agreement of the parties. Any revisions, additions, or waivers of provisions herein shall be valid only when they have been provided in writing, duly signed by each of the parties hereto, and attached to the original of this Agreement.

Section 28. WAIVER OF JURY TRIAL
The Commission and Resident have specifically waived the right to a jury trial concerning any disputes which may arise concerning this agreement, specifically but not limited to, any issues involving Resident's occupancy.

Section 29. VENUE
Any action hereon or in connection with this Agreement shall be brought in Leon County, Florida unless prohibited by applicable law.

Section 30. NOTICE
Any notice required or permitted under this Agreement or under state law shall be deemed sufficiently given or served if sent by United States certified mail, return receipt requested, addressed as follows:

If to Commission:	*If to Resident:*
Florida Fish and Wildlife Conservation Commission 620 S. Meridian Street Tallahassee, FL, 32399	Justin Van Gorder 1244 Cattle Gap Road Midway, FL, 32343

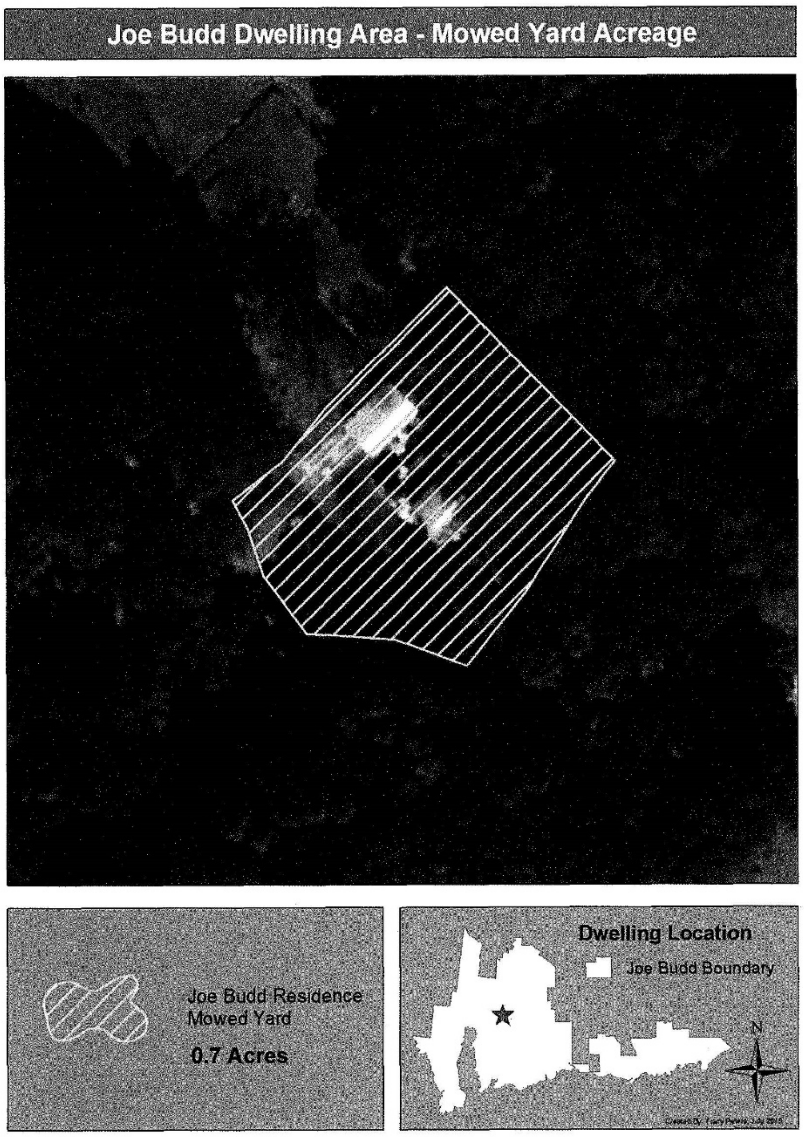
Commission and Resident shall each have the right from time to time to change the place notice is to be given under this paragraph by written notice thereof to the other party.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed through their duly authorized signatories on the day and year last written below.

RESIDENT EXECUTION SIGNATURE	**COMMISSION EXECUTION SIGNATURE**
Justin Van Gorder	**Florida Fish and Wildlife Conservation Commission**
Resident Signature	Ingrid Easom Digitally signed by Ingrid Easom Date: 2023.08.09 11:39:06 -04'00' Executive Director (or Designee) Signature
Justin Van Gorder Print Name	Ingrid Easom Print Name
Fisheries & Wildlife Biological Scientist III Title	Acting HSC Deputy Division Director Title
8/9/2023 Date	8/9/2023 Date

Attachments in this Agreement include the following:

- Attachment A, Overhead View of Premises
- Attachment B, FWC Housing Agreement Appliance Checkoff Sheet


Joe Budd Dwelling Area - Mowed Yard Acreage
Joe Budd Residence
Mowed Yard
0.7 Acres
Dwelling Location
Joe Budd Boundary
N

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

CONFLICT OF INTEREST CERTIFICATION

As set forth in Section 112.313, Florida Statutes, employees of the Florida Fish and Wildlife Conservation Commission (FWC/Commission) may not have any interest, financial or otherwise, direct or indirect; engage in any business transaction or professional activity; or accept any obligation of any kind which is in conflict with the proper conduct of their duties in the public interest. Therefore, I hereby certify that I have no present conflict of interest and that I will recuse myself from any capacity in taking part in the solicitation, development, or selection criteria for evaluation; the evaluation process and the decision making, approval, disapproval, or recommendation of any consultant/contractor for selection on any contract; or management of any contract if I have a conflict of interest or a potential conflict of interest.

I realize that violation of the above-mentioned statute would be punishable in accordance with Section 112.317, Florida Statutes, and may result in disciplinary action by the Commission.

23078

FWC Grant Agreement/Contract #

Byron A. Williams

Print Name

Byron A. Williams Digitally signed by Byron A. Williams Date: 2023.07.12 16:00:25 -04'00' 7/12/2023

Signature **Date**

11.3 Public Hearing Notice, Advertisements, and Press Release

11.3.1 Public Hearing Notice

NOTICE

Florida Fish and Wildlife Conservation Commission (FWC)
Announces a

PUBLIC HEARING

for the
Joe Budd
Wildlife Management Area
Management Plan

Gadsden County, Florida

7:00 P.M. Wednesday, May 24th, 2023
Gadsden Board of County Commissioner Chambers
9-B East Jefferson Street
Quincy, Florida 32351

PURPOSE: To receive public comment regarding considerations for the FWC ten-year Land Management Plan for the Joe Budd Wildlife Management Area (JBWMA). This hearing is being held EXCLUSIVELY for discussion of the Joe Budd WMA Management Plan, which outlines environmental and recreation management on the area. This meeting is not being held to discuss area hunting or fishing regulations, which are handled through a separate rule and regulation development process. For more information about the rule and regulation development process, go online to: http://myfwc.com/about/rules-regulations/

A Management Prospectus for the Joe Budd WMA is available upon request. For a copy, please contact Hannah Klein, Florida Fish and Wildlife Conservation Commission, Land Conservation and Planning, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: 850-487-9767.

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this meeting should notify the agency at least ten calendar days before the meeting by calling 850-488-6411 or contact the agency using the Florida Relay Service at 800-955-8771 (TDD) or 800-955-8770 (Voice), if you are hearing or speech impaired. If you believe that you have been discriminated against in any program, activity, or facility, or if you need more information, contact the Florida Fish and Wildlife Conservation Commission at: FWC, Office of Human Resources, 620 S Meridian Street, Tallahassee, FL 32399, 850-488-6411. Or write to: Office of Diversity, Inclusion & Civil Rights, Department of the Interior, 1849 C Street, NW, Washington, D.C. 20240.

11.3.2 Internal FWC Press Release

Help plan the future of the Joe Budd Wildlife Management Area

The Florida Fish and Wildlife Conservation Commission (FWC) will present the draft materials for the Joe Budd WMA 10-year Management Plan at a public hearing in Gadsden, County on Wednesday, May 24, 2023.

The public hearing will be held at 7 p.m. at the Gadsden Board of County Commissioner Chambers, 9-B East Jefferson Street, in Quincy, Florida. The public is encouraged to attend and will have the opportunity to comment and ask questions regarding the Management Plan for the FWC-managed WMA.

Perched on rolling uplands, slopes, and along the streams of the Ochlockonee River basin and shores of Lake Talquin, the Joe Budd WMA is a diverse mosaic of upland and wetland natural habitats. Interspersed among these natural habitats are managed wildlife openings and seasonal dove fields that provide additional forage to wildlife that are valued by hunters and wildlife viewers. The area conserves important habitat for a number of imperiled species, including the wood stork (*Mycteria americana*), gopher tortoise (*Gopherus polyphemus*), Florida pine snake (*Pituophis melanoleucus*), and alligator snapping turtle (*Macrochelys temminckii*), along with a variety of other wildlife.

"The Joe Budd WMA was purchased to ensure the preservation of fish, wildlife, and other natural and cultural resources for future generations, and to provide fish and wildlife-based outdoor recreation opportunities to the public," said Hannah Klein, FWC Land Conservation Planner. "This Management Plan will specify how we intend to accomplish that goal."

For more information regarding this and other upcoming public hearings, go to the FWC Land Conservation and Planning webpage. Hunting and fishing regulations are not included in this plan or public hearing; they are addressed through a separate public process. Please visit MyFWC.com/hunting/regulations or MyFWC.com/fishing/freshwater/regulations to learn more about hunting and fishing regulations.

To obtain a copy of the draft elements of the Management Plan for the Joe Budd WMA, call Hannah Klein at (850) 487-9767 or email Hannah.Klein@myFWC.com. For more information about the Hannah Klein, please visit the website at https://myfwc.com/recreation/lead/joe-budd/.

Pursuant to Chapters 253 and 259, Florida Statutes, all lands purchased with public funds must have a Management Plan that ensures the property will be managed in a manner that is consistent with the intended purposes of the purchase. For more information and background on management plans and their goals, visit MyFWC.com/conservation/management-plans/terrestrial.

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this meeting should notify the agency at least 10 calendar days before the meeting by calling (850) 488-6411 or contact the agency using the Florida Relay Service at (800) 955-8771 (TDD) or (800) 955-8770 (Voice), if you are hearing or speech impaired. If you believe that you have been discriminated against in any program, activity or facility, or if you need more information, contact the Florida Fish and Wildlife Conservation Commission at:

FWC, Office of Human Resources

620 S Meridian Street,

Tallahassee, FL 32399, 850-488-6411

Or write to:

Office of Diversity, Inclusion & Civil Rights

Department of the Interior

1849 C Street, NW

Washington, D.C. 20240

11.3.3 Newspaper

THE GADSDEN COUNTY TIMES
Quincy, Gadsden County, Florida
STATE OF FLORIDA
COUNTY OF GADSDEN

Before the undersigned authority personally appeared a representative of FLORIDA NEWSPAPERS, INC. who on oath does say they are the publisher of The Gadsden County Times, a newspaper published in Quincy, Florida.

PUBLIC NOTICE RE:
Fish + Wildlife Public Notice
The above public notices were published in The Gadsden County Times newspaper issues on the following dates...

May 18th, 2023

Affiant further says that the said The Gadsden County Times is a newspaper published in Quincy, in said Gadsden County, Florida, and the said newspaper has heretofore been continuously published in said Gadsden County, Florida, each Thursday and has been entered as second class mail matter at the post office in Quincy in said Gadsden County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says he has neither paid nor promised any person, firm or corporation any discount, in securing this advertisement for publication in the said newspaper.

MARK PETTUS, who is personally known to me

Sworn to and subscribed before me this 19 Day of May, A.D. 2023.

Seal

COLLEEN SPERRY
MY COMMISSION # HH281720
EXPIRES: June 28, 2026

NOTARY PUBLIC: Colleen Sperry

The Florida Fish and Wildlife Conservation Commission (FWC) announces a PUBLIC HEARING for the FWC Lead Managed Portions of the Joe Budd Wildlife Management Area located in Gadsden County, Florida.

7:00 P.M. Wednesday, May 24th, 2023
Gadsden Board of County Commissioner Chambers
9-B East Jefferson Street
Quincy, Florida 32351

PURPOSE: To receive public comment regarding considerations for the FWC's ten-year Management Plan for the FWC Lead Managed Portions of the Joe Budd Wildlife Management Area (WMA).

This hearing is being held EXCLUSIVELY for discussion of the DRAFT Joe Budd WMA Management Plan, otherwise referred to as the Management Prospectus. This meeting will not address area hunting or fishing regulations. For more information on the process for FWC rule and regulation development visit our Proposed Rules Changes webpage at https://myfwc.com/about/rules-regulations/proposed-rule-changes/.

A Management Prospectus for the Joe Budd WMA and a copy of the agenda is available upon request from Hannah Klein by mail at the Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, Florida 32399-160; by telephone at (850) 487-9767; or by email at Hannah.Klein@MyFWC.com.

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this meeting should notify the agency at least 10 calendar days before the meeting by calling (850) 488-6411 or contact the agency using the Florida Relay Service at (800) 955-8771 (TDD) or (800) 955-8770 (Voice), if you are hearing or speech impaired. If you believe that you have been discriminated against in any program, activity, or facility, or if you need more information, contact the Florida Fish and Wildlife Conservation Commission at:

FWC, Office of Human Resources
620 S Meridian Street
Tallahassee, FL 32399, (850) 488-6411

Or write to:

Office of Diversity, Inclusion & Civil Rights
Department of the Interior
1849 C Street, NW
Washington, D.C. 20240

1t: 5/18

11.3.4 Florida Administrative Register Ad

Notice of Meeting/Workshop Hearing

FISH AND WILDLIFE CONSERVATION COMMISSION
Freshwater Fish and Wildlife

The Florida Fish and Wildlife Conservation Commission announces a public meeting to which all persons are invited.

DATE AND TIME: Wednesday, May 24, 2023, 7:00 p.m.

PLACE: Gadsden Board of County Commissioner Chambers, 9-B East Jefferson Street, Quincy, Florida 32351

GENERAL SUBJECT MATTER TO BE CONSIDERED: To receive public comment regarding considerations for the FWC's ten-year Management Plan for the FWC Lead Managed Portions of the Joe Budd Wildlife Management Area (WMA).

This hearing is being held EXCLUSIVELY for discussion of the DRAFT Joe Budd WMA Management Plan, otherwise referred to as the Management Prospectus. This meeting will not address area hunting or fishing regulations. For more information on the process for FWC rule and regulation development visit our Proposed Rules Changes webpage at https://myfwc.com/about/rules-regulations/proposed-rule-changes/.

A copy of the agenda may be obtained by contacting: A Management Prospectus for the Joe Budd WMA and a copy of the agenda is available upon request from Hannah Klein by mail at the Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, Florida 32399-160; by telephone at (850) 487-9767; or by email at Hannah.Klein@MyFWC.com.

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 14 days before the workshop/meeting by contacting: Hannah Klein by mail at the Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, Florida 32399-160; by telephone at (850) 487-9767; or by email at Hannah.Klein@MyFWC.com. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

If any person decides to appeal any decision made by the Board with respect to any matter considered at this meeting or hearing, he/she will need to ensure that a verbatim record of the proceeding is made, which record includes the testimony and evidence from which the appeal is to be issued.

For more information, you may contact: Hannah Klein by mail at the Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, Florida 32399-160; by telephone at (850) 487-9767; or by email at Hannah.Klein@MyFWC.com.

11.4 Public Input

11.4.1 Management Advisory Group Meeting Results

Joe Budd Wildlife Management Area (JBWMA)
Management Advisory Group (MAG)
Consensus Meeting Results

February 15, 2023 in Havana, Florida

The intent of convening a consensus meeting is to involve a diverse group of stakeholders in assisting the Florida Fish and Wildlife Conservation Commission (FWC) in development of a rational management concept for lands within the agency's managed area system. The FWC does this by asking spokespersons for these stakeholders to participate in a half-day meeting to provide ideas about how FWC-managed lands should be protected and managed.

The MAG consensus meeting was held on the morning of *February 15, 2023* at the Northwest Florida Water Management District Office, at 81 Water Management Drive in Havana, Florida in Gadsden County. The ideas found below were provided by stakeholders for consideration in the 2023-2033 Management Plan (MP) with priority determined by vote. These ideas represent a valuable source of information to be used by biologists, planners, administrators, and others during the development of the MP. Upon approval by the FWC, the Acquisition and Restoration Council (ARC), and the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), the MP will guide the activities of FWC personnel over the ten-year duration of the management plan and will help meet agency, state, and federal planning requirements.

Numbers to the left of **bold-faced ideas** listed below represent the total number of votes and the score of each idea. Rank is first determined by the number of votes and then by score. Score is used to break ties when two or more ideas have the same number of votes. A lower score indicates higher importance because each voter's most important idea (recorded as #1) received a score of 1, and their fifth most important idea (recorded as #5) received a score of 5. Ideas not receiving any votes are listed, and were considered during the development of the MP, but carry no judgment regarding priority.

Statements following the bold-faced ideas represent a synopsis of the clarifying discussion of ideas as transcribed and interpreted by the FWC recorder at the meeting. As indicated above, the ideas below are presented in priority order:

Rank	# of Votes	Score	Idea
1.	[7]	[8]	1. **Continue implementation of natural community maintenance and restoration.** In the wildlife habitat management system this is an umbrella statement for a lot of things on this list. Implementation of management restoration on natural communities can include many things such as prescribed burns, timber harvests, and invasive treatments to reach goals.

Rank	# of Votes	Score	Idea	
2.	[7]	[18]	20.	**Promotion of recreational opportunities on the JBWMA (specifically regarding non-hunting uses).** The county is interested in economic development, the natural environment is a great way to do that. Determining what is available and advertising it to the public would be a good way to provide for the residents of the surrounding counties, but also to draw people in from afar. More public awareness of the opportunities at Joe Budd would be beneficial, including for hiking opportunities as the trails association has never even been there.
3.	[4]	[14]	9.	**Conservation and protection of water resources.** Keep the area as natural as possible.
4.	[4]	[15]	4.	**Continue to monitor and treat non-native and invasive species (contract or in-house).** There are many invasives and it is hard to keep them where they should be. There needs to be treatment to keep them where they need to be and this could fall under natural community restoration. They are an issue out there. We had a contract last year through the USDA whish has removed over 400 hogs. Non-natives are a problem and we need get rid of them. Healthy woods makes for healthy wildlife.
5.	[4]	[16]	11.	**Implement the new 2025 WCPR strategy.** This includes wildlife surveys that occur on the area, imperiled species, habitat indicators, and other items.
6.	[3]	[10]	21.	**Continue to offer high quality hunting opportunities.**
7.	[3]	[12]	7.	**Implement small pockets of cover crops or wildlife plantings.** This idea is to increase the diversity of wildlife on the property, as well as food plots for hunters that are out there.

Rank	# of Votes	Score		Idea
8.	[2]	[2]	6.	**Designate single track equestrian and multi-use trails.** Multi-use trails can help to limit the number of designated trails overall. Trails should be marked, but don't have to be super fancy or extravagent, just so that people don't get lost because you can get lost very easilyat Joe Budd. A 15-mile loop would be a good minimum trail length, and a loop is more conducive to enjoying nature. Designated trails are preferred so that we don't get lost. Loop trails preferred and mileage prefered, there are many hands to help if needed.
9.	[2]	[4]	10.	**Continued intergovernmental coordination.** Give the county and the city of Midway the opportunity to work with Joe Budd to solve potential problems that occur within the municipality.
10.	[2]	[5]	23.	**Create interpretive signage for unique features at the JBWMA, including a wildflower hiking trail.** The notion being that the JBWMA can be an educational opportunity so that people learn to understand, love, and protect the woods and nature. I am not super familiar with Joe Budd, but I assume local wildlflower species occur in the area bc they are associate species. A small trail highlighting those species, talking about the habitat and community, and signs at trailhead and along the trail would be beneficial.
11.	[2]	[7]	25.	**Development of greenways and blueways trail system that includes limited primitive camping opportunities.** Minimal development of places for people to camp that could be used by different recreational groups.
12.	[2]	[7]	31.	**Continue management for listed species.** Continue to check on, survey, and manage for the rare species that occur on the JBWMA. The last one was in 1997 and its important to have continual reassessments of rare species, for some of them this is the eastern extent of their range, it is important to check in and make sure they are still alive and thriving, a 10 year basis would be good.

Rank	# of Votes	Score	Idea	
13.	[2]	[8]	29.	**Encourage collaboration with local conservation groups.** There are opportuniteis with the Native Plant Society, Audubon Society, and other organizations to collaborate and promote citizen science. They have many professionals in their organizations that could help with services.
14.	[2]	[10]	26.	**Continue monitoring historical sites and survey new areas.** Survey the main tract and zone F.
15.	[1]	[3]	3.	**Confirmation of non-hunting public access options where it doesn't conflict with hunting seasons and zones.**
16.	[1]	[3]	24.	**Increasing road accessibility.** Identify problem areas and fix those areas as to not limit the white-tailed deer surveys.
17.	[1]	[5]	5.	**Development of paddling launch and landing on northwest portion.** That the northwest side of the lake is really wild. Simple launch and landing areas would be congruent with keeping the area wild.

Items of equal rank:

The following item received no votes. All ideas represent valuable input, and are considered in development of the MP, but carry no rank with regard to the priority perceptions of the MAG.

18.	[]	[]	15.	**Improvement of existing launch and landing ramps (paddlers).**
19.	[]	[]	17.	**Implement short-interval patch burning.** Provides habitat for quail and turkey. To burn this way in certain areas provides the wildlife with the ability to go somewhere and forage.
20.	[]	[]	19.	**Educational opportunity about water resources.** Anything, even interpretive signs about what could go on.

Rank	# of Votes	Score	Idea	
21.	[]	[]	27.	**Interpretive signs for invasive species.** Letting people know what species to be aware of so that they can aid in reporting them. Talk about invasives, why they're a problem, how they are being managed and why.
22.	[]	[]	28.	**Creation and maintenance of signage and infrastructure, specifically natural resources.**
23.	[]	[]	30.	**Support single track trails for specific user groups.** Sometimes the recreational experience for the user loses value (multi-use trails sometimes create that situation), for example cyclists on equestrian trails. Has to be planned so as not to alter the natural resource basin.
24.	[]	[]	32.	**Limiting impervious surfaces on the JBWMA.** Limit the amount of concrete or hard surfaces. That would destroy the environment.
25.	[]	[]	33.	**Continue to limit motorized vehicle use on the JBWMA.** Prevent the destruction of the user experience while on the JBWMA, and prevent the creation of new alternative trails that are not already there. This is mostly regarding ATVs. E-bikes are a whole different situation and are a new problem that also needs to be addressed (this is mostly done by hunters).

Joe Budd Wildlife Management Area
MAG Meeting Participants

Name	Affiliation
Active Participants	
Justin VanGorder	FWC Area Biologist
Lieutenant James Holcomb	FWC Law Enforcement
Starsky Harrell	Northwest Florida Water Management District
Justin Stiell	Gadsden County Planning Department
Ryan Slyter	Florida Forest Service
Michael Felton	Natural Resources Conservation Service (NRCS)
Howard Pardue	Florida Trail Association
Lilly Anderson-Messec	Florida Native Plant Society
Joyce Papp	Southern Trailriders Association
Derry Walsh	Florida Paddling Association
Supportive Participants	
Clint Peters	FWC Habitat and Species Conservation (HSC), Regional Biologist
Josh Hendricks	FWC HSC, District Biologist
Diana Pepe	FWC HSC, Conservation Biologist
Dan Roberts	FWC HSC, Aquatic Habitat and Restoration Regional Biologist
Kathy Burke	FWC Public Access Services Office (PASO)
Tom M. Matthews	FWC PASO
Camila Caceres	FWC PASO
Lauren Ali	FWC PASO
Tim Canavan	FWC HSC, Land Conservation and Planning (LCP)
Rachael Welsh	FWC HSC, LCP
Wendy Trawick	Southern Trailriders Association
Sharon Houghton	Southern Trailriders Association
Katic Maddox	NRCS
Ted Stansly	NRCS
Invited but Unable to Attend	
Jason O'Donoughue	Division of Historical Resources
Dan Hipes	Florida Natural Areas Inventory
Shaun Kimball	National Wild Turkey Federation
Eric Hinson	Gadsden County Commissioner
Mark Sumner	Department of Environmental Protection
Peter Kleinhenz	Audubon Society
Tommy Merits	Adjacent Private Landowner
Chris Moncus	Ducks Unlimited
FWC Planning Personnel	
Hannah Klein	Land Conservation Planner, Facilitator
Jackie Bucheck	Senior Conservation Planner
Nicholas Coppock	Land Conservation Planner, Recorder

11.4.2 Public Hearing Report

PUBLIC HEARING REPORT

FOR

JOE BUDD WILDLIFE MANAGEMENT AREA (WMA)
MANAGEMENT PLAN

HELD BY THE

JOE BUDD WMA MANAGEMENT ADVISORY GROUP

AND THE

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

MAY 24, 2023 – GADSDEN COUNTY, FLORIDA

The following report documents the public input that was received at the Joe Budd Wildlife Management Area (JBWMA) Management Advisory Group's (MAG) public hearing for the update to the Management Plan for JBWMA that was held at 7:00-9:00 PM, on May 24, 2023, at the Gadsden County Gadsden Board of County Commissioner Chambers in Quincy, Florida.

JBWMA Management Advisory Group Introduction:

The meeting was introduced by Mr. Justin Stiell, a JBWMA MAG participant, who represented the JBWMA MAG. Mr. Stiell indicated that he was one of 11 stakeholders that attended the Florida Fish and Wildlife Conservation Commission (FWC) facilitated JBWMA MAG meeting held on February 15, 2023. Mr. Stiell stated that the elements of the Draft Management Plan were being presented tonight by FWC staff, and that hardcopies of the overview, management prospectus and the JBWMA MAG meeting report were available at the front door for the public's review. Mr. Stiell thanked everyone for attending and then introduced Ms. Jackie Bucheck, Senior Land Conservation Planner, FWC, to facilitate and coordinate the presentation of an overview of JBWMA, FWC's planning process, and the draft components of the JBWMA Draft Management Plan.

Presentation on an Overview of JBWMA and the FWC Planning Process:

FWC member Ms. Bucheck welcomed everyone and thanked the public for their attendance. Ms. Bucheck then went over an orientation of the material and explained that the purpose of the public hearing was to solicit public input regarding the Draft Management Plan for JBWMA, and not hunting and fishing regulations, indicating there is a separate public input process for FWC rule and regulation development. Ms. Bucheck then described the materials that were available

at the door for public review, including the JBWMA Management Prospectus and the MAG Meeting Report. Ms. Bucheck then presented the agenda for the public hearing and facilitated the introduction of all FWC staff in attendance to the audience. Ms. Bucheck then presented an overview and orientation of JBWMA, including a description of the natural communities, data about JBWMA visitation, revenue and economic benefits generated for the state and region by the area, wildlife species, recreational opportunities found on the area, surrounding conservation lands, surrounding Florida Forever Program Land Acquisition Projects, acquisition history, etc. She also explained FWC's planning process for the management of the public conservation land and asked if there were any questions regarding that process.

Questions, Answers and Discussion on the JBWMA Overview and FWC's Planning Process:

Ms. Bucheck facilitated an informal question and answers session where members of the public in attendance, without necessarily identifying themselves, could ask questions of the FWC staff, and discuss the answers. Ms. Bucheck again emphasized that the exclusive purpose for the public hearing was to collect public input regarding the elements of the Draft Management Plan for JBWMA, and not to discuss area hunting, fishing and use regulations since, as was noted earlier, FWC has a separate process for input on hunting and fishing regulations.

Public Question 1: An unidentified member of the audience provided the following comments and questions:

Where are the 33 miles of trails?

FWC Response: Ms. Jackie Bucheck, Senior Land Conservation Planner, responded:

Do you want to speak to that, Justin? Josh? I know it can be confusing because of the intersection with the State Forest.

FWC Response: Mr. Clint Peters, Regional Biologist, responded:

So, how we come up with that 33 number is I think they consider it to be any administratively closed road, or um . . . So, any of the roads that are not considered main roads that are allowed for vehicular traffic, those side roads, and things like that, we consider those trails. And they are for bicycles, hikers—

Public Response: The same unidentified member of the audience continued this line of comments and questions:

So, a lot of those dead-end down into a field?

FWC Response: Mr. Peters, Regional Biologist, responded:

That's right, that's right. That's how they come up with that '33' number. I know it's not what you would traditionally consider a trail where its designated markers, where its maybe a loop or something. And that 33 miles is—

Public Response: The same unidentified member of the audience continued this line of comments and questions:

We were just hoping we missed something really obvious, haha.

FWC Response: Mr. Peters, Regional Biologist, responded:

No, you haven't missed anything. It gets a little bit confusing because that number is made up of all the administrative closed roads, which includes what is on the Florida Forest Service property and the stuff that is the lead-managed portion by the FWC. So, it's a big number, but it's all those sort of administrative closed roads.

FWC Response: Mr. Ben Rangel, Public Access Service Office Representative, responded:

And by 'administratively closed' you mean it's closed to vehicles?

FWC Response: Mr. Peters, Regional Biologist, responded:

That's right. And so, foot traffic, equestrian use, bicycles—

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Things that just say, 'no motorized vehicles past this point'.

FWC Response: Mr. Peters, Regional Biologist, responded:

Right, right. And we'll use them often times to get tractors to some of those small fields, and we'll use them as firebreaks from time to time. . .

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Would that also include firebreaks?

FWC Response: Mr. Peters, Regional Biologist, responded:

I don't think so . . . I think it would maybe—

FWC Response: Mr. Justin VanGorder, Area Manager, responded:

Not all fire breaks are considered trails, but some trails can be used as fire breaks. And I thought PASO only designated trails at the Youth Center as actual. . . they're blazed—

FWC Response: Mr. Peters, Regional Biologist, responded:

And if that was the case, they would be less than three miles, I think, at the Youth Center.

FWC Response: Ms. Bucheck, Senior Land Conservation Planner, responded:

So, what you would traditionally consider a trail is those like a cue-track or a dirt road—

Public Response: The same unidentified member of the audience continued this line of comments and questions:

They're basically your service roads other than the main, other than the main graveled—

FWC Response: Mr. Peters, Regional Biologist, responded:

Right, the ones that are allowed for vehicular traffic, the side roads beyond that are designated as trails.

FWC Response: Mr. Rangel, Public Access Service Office Representative, responded:

We designate them as trails so the public knows that they can hike there and do that sort of thing, they're not just for—

Public Response: The same unidentified member of the audience continued this line of comments and questions:

So, the distinction is marked versus unmarked.

Public Response: Another unidentified member of the audience continued this line of comments and questions:

No, I don't really see anything marked out there.

Public Response: The original unidentified member of the audience continued this line of comments and questions:

The three miles by the rec center aren't marked?

Public Response: The second unidentified member of the audience continued this line of comments and questions:

Oh, yeah, well that is.

Public Response: The original unidentified member of the audience continued this line of comments and questions:

Yeah, that's what I'm talking about.

Public Response: The second unidentified member of the audience continued this line of comments and questions:

Oh ok.

FWC Response: Mr. Peters, Regional Biologist, responded:

Marked as in, when you get to the entrance of where the road shoots off there would be a sign that says, "road closed to vehicular traffic", that's the marking. That tells you that there's a trail there. You know, it's not what you would traditionally consider 'a trail', like the Florida Trail or something like that.

Public Response: The original unidentified member of the audience continued this line of comments and questions:

I'm referring to __ trails, which is state forest marked trails.

FWC Response: Mr. Peters, Regional Biologist, responded:

I think some of that is roads that are marked—

Public Response: The same unidentified member of the audience continued this line of comments and questions:

There is some overlap but there's a lot of single track loops, because a lot of those go down to the hardwoods., but even the roads are marked as trails. With markings, trail markings, so . . .

Public Response: The second unidentified member of the audience continued this line of comments and questions:

So, we think of marked trails as it has a blaze or a map that shows the path, something of that nature, whereas unmarked trails are roads, the fire lanes, the paths and all that that don't have a specific like 'yellow trail' or 'blue trail'.

FWC Response: Mr. Rangel, Public Access Service Office Representative, responded:

So, with PASO when we are making maps that's the same __ we use as well, an unmarked trail it's still a designated trail where you're able to do all those activities except maybe vehicle, but then we'll also say that these are the marked trails that have the blazes. And we'll show those on the maps . . . doesn't mean you can't go on the ones that are un-blazed.

Public Response: Another unidentified member of the audience continued this line of comments and questions:

Do you have any that are blazed?

FWC and Public Response: A mix of both the public and the FWC staff responded:

The one's that are on the Youth Center. Yeah. Yeah.

Public Response: Another unidentified member of the audience continued this line of comments and questions:

So the point is to have it all mapped?

FWC Response: Mr. Peters, Regional Biologist, responded:

I think they're mostly in our brochures on the map.

Public Response: Another unidentified member of the audience continued this line of comments and questions:

I think page 45 of the pack, I think there's a map there with all these little squiggles and the key says trails. They're squiggles, and they're a lot of dead-end squiggles. They look like worms.

FWC Response: Ms. Bucheck, Senior Land Conservation Planner, responded:

If you need a more clear map, I'd be happy to assist you in getting something that is more legible.

FWC Response: Mr. Rangel, Public Access Service Office Representative, responded:

One of the objectives in the new management plan, and this is exactly what I do, is to make a new—there's like this welcome sign at the beginning of the area—to revamp that and the new style of those it will be much clearer as to where the roads are and where the trails are and all that. . . And what's passable, and what is like an unmarked or a marked trail. Right now it has that aerial map, which is not as easy to understand.

Public Response: Another unidentified member of the audience continued this line of comments and questions:

Will there be possibly brochures or something that people can pick up and take with them?

FWC Response: Mr. Rangel, Public Access Service Office Representative, responded:

We'll have to decide that in the management plan if that's something that we will be doing. But, we have developed that for other areas.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

That is something that is suggested as a long term—to do the trail guide brochures. The trails aren't marked. . . pretty hard to tell people to hike.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Ryan over at city-road gave me a GPS compatible pdf that includes the Joe Budd tracks, but I haven't gotten to be in there to actually use it, so I haven't gone in and seen if it actually recognizes the informal trails when you're using the app.

FWC Response: Mr. Rangel, Public Access Service Office Representative, responded:

So we've been developing a new set of trail maps and they do include these unmarked but designated trails on them. So that's our standard moving forward.

FWC Response: Mr. Peters, Regional Biologist, responded:

Are you using Avenza?

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Yes.

FWC Response: Mr. Peters, Regional Biologist, responded:

You can—there is a brochure map the Public areas section puts out, it's the same hunt brochure that has all those designated trails, roads, whatever you – it has that map in there, just like with the map that Ryan sent you, it shows you where you are.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

So when you go in there, they will show up so you can see your blue dot.

FWC Response: Mr. Peters, Regional Biologist, responded:

That's right. And I think it's scalable so as you zoom into it, the dashes won't be the size of your vehicle they will get smaller and so it should be pretty accurate as to where you are.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

I've used it in Fort Braden all the time, and I've used it on the other tracks around the lake, I just haven't had the chance to use it in Joe Budd. This—I think for those informal trails, it would be very helpful because it shows you where you are.

No further questions or comments were received at this stage of the JBWMA public hearing meeting.

Presentation of the JBWMA Draft Management Plan:
At this point, Ms. Bucheck began the presentation of the JBWMA Draft Management Plan. Ms. Bucheck then completed and concluded the presentation of the JBWMA Draft Management Plan.

Questions and Comments on the JBWMA Draft Management Plan Presentation:

Ms. Bucheck asked if there were any comments or questions from the public regarding the Draft Management Plan and encouraged everyone to fill out a speaker card for public testimony. She informed them that all comments, questions, and public testimony will be duly considered equally by FWC.

Public Question 1: An unidentified member of the audience provided the following comments and questions:

So when you said reforestation, are you going to . . . the planted the very nice neat rows? Are you going to stop timbering and planting pines, and make it look natural like it's intended? Or are you going to keep planting pines and harvesting them? Just curious . . . and does all of this include Rocky Comfort?

FWC Response: Ms. Bucheck, Senior Land Conservation Planner, responded:

I will . . . Does somebody want to take on the pine plantation question first?

FWC Response: Mr. VanGorder, Area Manager, responded:

It does include Rocky Comfort. Just the co-lead portions. So, we share lead designation with the Florida Forest Service (FFS) on Rocky Comfort. We do timber management activities, usually those are thinning activities not clearcutting activities and then replanting. We have a lot of older timber that if we did anything, and we have some younger timber that we are going to let get to a certain age before we might do a third row thin on that or a final thinning on that. But, once that stands for us get into that final thinning stage, at that point we are just burning and maintaining hopefully old growth pine stands that are getting burned regularly, are either regenerating on their own naturally, because if we time our burns, we get new pines coming up... or if we need to supplemental plant. But I think what you're talking about is the heavy planting of long-leaf pine, is forestry sections of the WMA. And I don't know if Clint wants to add anything. . .

FWC Response: Mr. Peters, Regional Biologist, responded:

Well, you're seeing two different styles of the same end-goal, which is to restore these ridgetops that higher, dryer ground, to what we all consider to be upland pine. It's a longleaf dominated system. The way the Forest Service goes about it is different than what we do. We would slowly thin timber over time and keep burning, and maintain the ground cover, before we would then start reintroducing longleaf if it wasn't there already. But the way the FFS does it, it's a faster way to get there, I think, maybe? But it just is a little ugly at first, they go in there and cut everything out.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Yes, they do. That's where I was going to go with that. . . because they clear cut, and it looks horrible and then all the shade is gone, and then it takes years.

FWC Response: Mr. Peters, Regional Biologist, responded:

And they go in and plant longleaf in rows, and it's very dense, and it grows up really thick and they have to do a thin. . . And they burn it still, but they have to go in and do a thin and then – anyway, it will eventually look similar to what we are doing on ours, it's just a different approach.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Now when I think of "you're going to reforestation something", it's not going to look like rows and rows of planted pine. It's going to look like a forest.

FWC Response: Mr. Peters, Regional Biologist, responded:

Right

Public Response: A different unidentified member of the audience continued this line of comments and questions:

But you have to use machinery to plant it right?

FWC Response: Mr. Peters, Regional Biologist, responded:

That's what they're doing yes, which you don't have to, I mean you can do it by hand.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

You were doing it by hand?

FWC Response: Mr. Peters, Regional Biologist, responded:

Some do... we have done that before. In fact, some of the stuff on the Little River Tract, where the old area used to be, and it's where our new main office is, a lot of that was planted by hand.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

A lot of state parks are doing that. . . they are going out and clear cutting it and then they go out there and plug trees randomly, they're not doing it in rows. They are doing it randomly, so when they grow up it's going to look like it was meant to look, like it was there all along.

FWC Response: Mr. VanGorder, Area Manager, responded:

Hopefully when they do those things it is done in a strategic way to—where it starts out looking like rows and then it kind of looks more natural as the __ grow.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

I was just curious if you were going to do the whole clear-cut timber thing and then plant rows.

FWC Response: Mr. Peters, Regional Biologist, responded:

Not necessarily, and I think for the most part anything under the—now I will say that the Rocky Comfort Tract is a co-lead area, so we share management responsibilities with the FFS in a 50/50 relationship with them. They have a different strategy like you said, and we have to give them what they feel like is their expertise in that role. They are tree people, they are—their role is forest production of pulp wood and timber, that's the way they think, and we have to work with them and, so it's kind of give and take. They let us do our wildlife surveys, and they kind of handle the timber. In some cases they might go in, and they have done some clear cuts on the Rocky Comfort Tract and gone in and planted long leaf like you're describing, like you've seen there up in the northern part off of Rosedale Road. And they did that 20 years ago, and it looks like its changed a little bit, it's grown up a lot—it looks better now. But it was rough for a while.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

I just wondered what y'all had meant by timber management reforestation—how does that work with you guys. . . way different.

Public Response: A different unidentified member of the audience continued this line of comments and questions:

Is the clearcut only on slash that was planted for timber?

FWC Response: Mr. Peters, Regional Biologist, responded:

Well, no, it's not. And in the cases that—like the clearcuts that you're seeing, have—those areas have, through fire suppression overtime, they've kind of gown up into what we call a 'cultural hardwood forest'. And that is basically—fire has been suppressed, and we get a lot of what we call weedy oak species, like laurel oaks, get mixed in with the pine, and it gets to where you can't burn it anymore and it's not functioning like an upland piney-persisted wood. Gopher tortoises has got nothing to eat, there's no ground cover over there – It's just a mess. So, their solution to get it to the point of where they want to faster, FFS is clearcutting the whole ridgetop and replant it, and hoping that with keeping regular fire in there they will be able to maintain and keep those oaks out.

Public Response: A different unidentified member of the audience continued this line of comments and questions:

Because they'll just take over.

FWC Response: Mr. Peters, Regional Biologist, responded:

They will.

Public Question 2: An unidentified member of the audience provided the following comments and questions:

Is there also a bear density, something that's optimum? Per acre? Per hundred acres? I mean you've got doe density. . .

FWC Response: Mr. VanGorder, Area Manager, responded:

I think the bear populations are assessed regionally and I think there's a optimum goal for the regional population, but at an area level we don't have any kind of goal for density of bear populations.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Do you have any idea what the population of bear is on the tract now?

FWC Response: Mr. Peters, Regional Biologist, responded:

Well, I mean, there is a range that is—I mean, Joe Budd would be a part of a bear's range, but there's not enough room on Joe Budd necessarily to have a long viable bear population. They're moving through and using it from time to time but they're not –

FWC Response: Mr. VanGorder, Area Manager, responded:

I have seen tracks here and there, but I've never actually seen one. We've had—we have game cameras catch pictures, but it's irregular.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

It's nobody's territory.

FWC Response: Mr. VanGorder, Area Manager, responded:

I think we've—some of the landowners, Mr. Tommy at his place, he's got feeders though which I think attract some things.

FWC Response: Mr. Peters, Regional Biologist, responded:

They've turned up on every tract of the area, so I know they're using it. And that's –

Public Response: The same unidentified member of the audience continued this line of comments and questions:

I've seen them at Rocky Comfort, and I know some of the other gals have probably seen them at Joe Budd, seen them at Fort Braden.

No further questions or comments were received at this stage of the JBWMA public hearing meeting.

Public Testimony on the JBWMA Draft Management Plan:
One member of the public audience submitted speaker card(s) indicating their intention to provide formal public testimony. Ms. Bucheck again emphasized that the public hearing was for taking input regarding the JBWMA Draft Management Plan and called the first speaker to the podium.

Public Testimony 1: Nancy Stephens provided the following public testimony:

You mention a day-use parking area that you would like. . Right now across from the checking station, there's that nice open area that has a picnic table. And, we park horse trailers there, we've been doing that for 30-40 years. Would the day use area be a separate area, and could it be, so that we don't have a conflict with horse people showing up and having cars parked in the area? Because, you know, our rigs can't go just everywhere. So, we would like to see separate areas of parking. We like that one, I mean it's not designated ours although we like to see it that way, but certainly if you're going to encourage day parking for those who want to go on trails, we'd like to see separation and designation.

Public Testimony 2: Nancy Stephens provided the following public testimony:

My name is Nancy Stephens, and I'm with the North Florida Backcountry Horsemen as well as the Southern Trail Riders. First thing I want to do is share something, and Cedar heard about this at another meeting, but, Cedar, since then there's actually been some action on it. So—

The Florida Legislature passed and appropriation this Legislative Session that sets up the Florida Equestrian Heritage trail that is going to be a network of trails. And um, you see all those __ trail signs on the roadways? Ok so, there would be an equestrian trail. And, the, the network—obviously you can't go from Point B to Point C, park to park, or Water Management Area to Water Management Area in this state without having—on your horse because of roads and everything. So that's why a network. And in the network will be, um, your lands, Water Management Lands, parks, preserves, county recreation areas, um, all those places that are public lands that set up, uh, either multi-use or equestrian trails. They're currently available or they're going to be developed in the future. And the idea is to have a sign at the trail head that designates it as a Florida Heritage Equestrian Trail. We also want to link the history of the area to this, it would be, the program would be housed at the Florida Department of Environmental Protection, there will be a webpage set up.

And so, the appropriation was we're setting up the webpage designating all the different trail heads, and we contemplate Joe Budd and Rocky Comfort being in the system. And then, the signage for the trailhead signs—so this is kind of an FYI, coming attraction. You'll be hearing more about it, but I wanted you to have that information as you finish out this ten-year plan, so that you'll know we would like for these tracks to be included as part of that trail system.

That's comment number one, that probably took three of my five minutes. The other one has to do with—going back to the trail, trailhead parking for horse trailers. I talked to you about the Joe Budd parking, um, we also have a need at Rocky Comfort. When you enter the Rocky Comfort, and right now when you enter the Rocky Comfort parcel, there's a little outlet, and you can back one or two trailers in there. The rest have to go on the side of the road. If you go to the very end of the lime rock road, there is a turnaround, and you can park a couple more trailers, although I'm thinking that you probably don't want horse trailers traversing that road back and forth. So,

you might want to have them stop there right inside the Rocky Comfort parcel. I'm just thinking about long term maintenance on that road, and the more traffic you have on it—and we've got big horse trailers. So, long-wind ask: if you could consider parking there, also, for horse trailers. And if it had a sign that said, "horse trailer parking", then we would know to stop there and park. So right now, what we do is, we pull in, park alongside the lime rock road, back in if we can to that little outlet, and turn around go out. So, horse trailer parking is the biggest thing. I mean, first we gotta know that we can horseback ride at a location, and then we gotta know that we can park. Nobody likes to get there and then not be able to park somewhere.

So, you talked about working with other trail corridors and connecting trails and everything, so I bring it back to this Florida Equestrian Heritage Trail, I think that that would go a long way towards helping connect with other—you know, whoever manages it.

And then the last thing I would say, is if there is any way to designate, by a marked trail, meaning there are trail markers on the path, more than three miles at Joe Budd, I think that would be great. I think it's a lot easier to get lost at Joe Budd than it is at Rocky Comfort. Rocky Comfort has that road down the middle, and all these things that go off, but you can always come back to the center road. Marked trails are great for equestrians, we appreciate the fact that we've been able to ride there all these years, so we don't want that to change. Marked trails are great, if we can't get more marked trails we understand, but, you know, let us keep riding the trails. Thank you very much!

FWC Response: Ms. Bucheck, Senior Land Conservation Planner, responded:

Thank you for your testimony. I know we don't have any speaker cards, but if anybody would like to make a public testimony, you can still do it, if anyone is interested.

Public Response: Joyce Papp continued this line of comments and questions:

The only thing I would say is thank you for letting us ride there, and for putting up with us and horse poop. You have no idea how many people complain about horse poop.

Well compared to the hogs. . . (laughter) probably an improvement.

Thank you. And anything that we can do to help maintain the trails just let us know. Trails such as they are, but yes, thank you, it's a really nice place to ride.

FWC Response: Ms. Bucheck, Senior Land Conservation Planner, responded:

Well that's great to hear, thank you.

Adjournment:
Ms. Bucheck asked if there were any other members of the public that wished to give public testimony.

Public Question 1: An unidentified member of the audience provided the following comments and questions:

Do you have any questions of us, I mean, a user group?

FWC Response: Mr. Rangel, Public Access Service Office Representative, responded:

I'd like to maybe talk to you after the meeting just to get contact, because PASO, would, you know, we have volunteer groups, so if you're interested in volunteering, we are trying to start a trail maintenance volunteering program across the state for the WMAs. So all I'm trying to do is get contacts, but that's a little outside of the scope of the management plan. If you've got business cards I'll take those.

FWC Response: Ms. Bucheck, Senior Land Conservation Planner, responded:

It's certainly exciting to hear from you, and I'm really happy to hear that that funding went through for the trail system—that's very exciting.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Well, we're hoping the governor doesn't veto it, but other than that we are good to go.

FWC Response: Ms. Bucheck, Senior Land Conservation Planner, responded:

We definitely will reach out as we are finalizing the management plan if there are any ways we can incorporate that, we will discuss after we discuss incorporating.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Well, thanks for the opportunity to be here.

FWC Response: Ms. Bucheck, Senior Land Conservation Planner, responded:

Thank you everyone for coming.

No other speakers offered further comments.

Then Ms. Bucheck declared the public hearing adjourned.

11.5 Plant and Animal Species Lists

Table 9. Wildlife Species Observed.

Common	Scientific
Acadian flycatcher	*Empidonax virescens*
American alligator	*Alligator mississippiensis*
American bittern	*Botaurus lentiginosus*
American crow	*Corvus brachyrhynchos*
American goldfinch	*Spinus tristis*
American kestrel	*Falco sparverius*
American pipit	*Anthus rubescens*
American robin	*Turdus migratorius*
American shieldback	*Atlanticus spp*
American white pelican	*Pelecanus erythrorhynchos*
American woodcock	*Scolopax minor*
Anhinga	*Anhinga anhinga*
Bachman's sparrow	*Peucaea aestivalis*
Bald eagle	*Haliaeetus leucocephalus*
Baltimore oriole	*Icterus galbula*
Barn owl	*Tyto alba*
Barred owl	*Strix varia*
Belted kingfisher	*Megaceryle alcyon*
Black swallowtail	*Papilio polyxenes*
Black vulture	*Coragyps atratus*
Black-and-white warbler	*Coragyps atratus*
Black-throated blue warbler	*Setophaga caerulescens*
Blue grosbeak	*Passerina caerulea*
Blue jay	*Cyanocitta cristata*
Blue-gray gnatcatcher	*Polioptila caerulea*
Blue-headed vireo	*Vireo solitarius*
Bobcat	*Lynx rufus*
Box turtle	*Terrapene carolina*
Broad-headed skink	*Plestiodon laticeps*
Brown thrasher	*Toxostoma rufum*
Brown-headed cowbird	*Molothrus ater*
Brown-headed nuthatch	*Sitta pusilla*
Canada goose	*Branta canadensis*
Carolina chickadee	*Parus carolinensis*
Carolina mantleslug	*Philomycus carolinianus*
Carolina metallic tiger beetle	*Tetracha carolina*

Carolina wren	*Thryothorus ludovicianus*
Cedar waxwing	*Bombycilla cedrorum*
Chicken turtle	*Deirochelys reticularia*
Chipping sparrow	*Spizella passerina*
Chuck-will's-widow	*Antrostomus carolinensis*
Common five-lined skink	*Plestiodon fasciatus*
Common gartersnake	*Thamnophis sirtalis*
Common grackle	*Quiscalus quiscula*
Common ground-dove	*Columbina passerina*
Common musk turtle	*Sternotherus odoratus*
Common yellowthroat	*Geothlypis trichas*
Corn snake	*Pantherophis guttata*
Cotton mouse	*Peromyscus gossypinus*
Coyote	*Canis latrans*
Cuban flat-headed frog	*Eleutherodactylus planirostris*
Dark-eyed junco	*Junco hyemalis*
Downy woodpecker	*Dryobates pubescens*
Dusky pigmy rattlesnake	*Sistrurus miliarius*
Dwarf salamander	*Eurycea quadridigitata*
Eastern bluebird	*Sialia sialis*
Eastern box turtle	*Terrapene carolina*
Eastern coachwhip	*Coluber flagellum*
Eastern coachwhip	*Masticophis flagellum flagellum*
Eastern cottonmouth	*Agkistrodon piscivorus*
Eastern cottontail	*Sylvilagus floridanus*
Eastern diamondback rattlesnake	*Crotalus adamanteus*
Eastern fence lizard	*Sceloporus undulatus*
Eastern glass lizard	*Ophisaurus ventralis*
Eastern gray squirrel	*Sciurus carolinensis*
Eastern kingbird	*Tyrannus tyrannus*
Eastern meadowlark	*Sturnella magna*
Eastern mud turtle	*Kinosternon subrubrum*
Eastern narrow-mouthed toad	*Gastrophryne carolinensis*
Eastern newt	*Notophthalmus viridescens*
Eastern phoebe	*Sayornis phoebe*
Eastern ratsnake	*Pantherophis alleghaniensis*
Eastern ribbonsnake	*Thamnophis sauritus*
Eastern spadefoot	*Scaphiopus holbrookii*
Eastern towhee	*Pipilo erythrophthalmus*
Eastern wood-pewee	*Contopus virens*

Eastern woodrat	*Neotoma floridana*
European starling	*Sturnus vulgaris*
Feral hog	*Sus scrofa*
Field sparrow	*Spizella pusilla*
Fish crow	*Corvus ossifragus*
Five-lined skink	*Plestiodon fasciatus*
Florida black bear	*Ursus americanus floridanus*
Florida cottonmouth	*Agkistrodon conanti*
Four-toed salamander	*Hemidactylium scutatum*
Fox squirrel	*Sciurus niger*
Golden-crowned kinglet	*Regulus satrapa*
Gopher tortoise	*Gopherus polyphemus*
Grasshopper sparrow	*Ammodramus savannarum*
Gray catbird	*Tyrannus dominicensis*
Gray rat snake	*Pantherophis spiloides*
Great blue heron	*Ardea herodias*
Great crested flycatcher	*Myiarchus crinitus*
Great egret	*Ardea alba*
Great horned owl	*Bubo virginianus*
Green anole	*Anolis carolinensis*
Green frog	*Lithobates clamitans*
Green heron	*Butorides striatus*
Green lynx spider	*Peucetia viridans*
Green treefrog	*Hyla cinerea*
Grey-cheeked thrush	*Catharus minimus*
Hairy woodpecker	*Dryobates villosus*
Harlequin coralsnake	*Micrurus fulvius*
Hermit thrush	*Catharus guttatus*
Hispid cotton rat	*Sigmodon hispidus*
Hooded warbler	*Setophaga citrina*
House finch	*Haemorhous mexicanus*
House wren	*Troglodytes aedon*
Indigo bunting	*Passerina cyanea*
Kentucky warbler	*Geothlypis formosa*
Killdeer	*Charadrius vociferus*
Little brown skink	*Scincella lateralis*
Little grass frog	*Pseudacris ocularis*
Loggerhead musk turtle	*Sternotherus minor*
Long-headed toothpick grasshopper	*Achurum carinatum*
Mississippi kite	*Ictinia mississippiensis*

Mole salamander	*Ambystoma talpoideum*
Mole skink	*Plestiodon egregius*
Mole skink	*Plestiodon egregius*
Mourning dove	*Zenaida macroura*
Mouse	*Mouse*
North American racer	*Coluber constrictor*
Northern bobwhite quail	*Colinus virginianus*
Northern cardinal	*Cardinalis cardinalis*
Northern flicker	*Colaptes auratus*
Northern harrier	*Circus cyaneus*
Northern mockingbird	*Mimus polyglottos*
Northern parula	*Parula americana*
Orange-crowned warbler	*Oreothlypis celata*
Osprey	*Pandion haliaetus*
Ovenbird	*Seiurus aurocapilla*
Palm warbler	*Setophaga palmarum*
Phantom crane fly	*Bittacomorpha clavipes*
Pig frog	*Lithobates grylio*
Pileated woodpecker	*Dryocopus pileatus*
Pine siskin	*Spinus pinus*
Pine vole	*Microtus pinetorum*
Pine warbler	*Setophaga pinus*
Pine woods treefrog	*Hyla femoralis*
Prairie warbler	*Setophaga discolor*
Purple finch	*Haemorhous purpureus*
Purple martin	*Progne subis*
Pygmy rattlesnake	*Sistrurus miliarius*
Rainbow scarab beetle	*Phanaeus vindex*
Rat snake	*Elaphe obsoleta*
Red cornsnake	*Pantherophis guttatus*
Red rat snake	*Elaphe guttata guttata*
Red-bellied mudsnake	*Farancia abacura*
Red-bellied snake	*Storeria occipitomaculata*
Red-bellied woodpecker	*Melanerpes carolinus*
Red-breasted nuthatch	*Sitta canadensis*
Red-eyed vireo	*Vireo olivaceus*
Red-headed woodpecker	*Melanerpes erythrocephalus*
Red-shouldered hawk	*Buteo lineatus*
Red-tailed hawk	*Buteo jamaicensis*
Red-windged blackbird	*Agelaius phoeniceus*

Ring-necked snake	*Diadophis punctatus*
River cooter	*Pseudemys concinna*
River frog	*Lithobates heckscheri*
River otter	*Lontra canadensis*
Rough green snake	*Opheodrys aestivus*
Ruby-crowned kinglet	*Regulus calendula*
Ruby-throated hummingbird	*Archilochus colubris*
Savannah sparrow	*Passerculus sandwichensis*
Scarlet kingsnake	*Lampropeltis elapsoides*
Scarlet tanager	*Piranga olivacea*
Scarletsnake	*Cemophora coccinea*
Sherman's fox squirrel	*Sciurus niger shermani*
Shrew	*Blarina sp.*
Six-lined racerunner	*Aspidoscelis sexlineata*
Smooth earth snake	*Virginia valeriae*
Snowy egret	*Chen caerulescens*
Softshell turtle	*Apalone ferox*
Song sparrow	*Melospiza melodia*
Southeastern American kestrel	*Falco sparverius*
Southeastern five-lined skink	*Plestiodon inexpectatus*
Southeastern slimy salamander	*Plethodon grobmani*
Southern bald eagle	*Haliaeetus leucocephalus leucocephalus*
Southern bald eagle	*Haliaeetus leucocephalus leucocephalus*
Southern black racer	*Coluber constrictor*
Southern cricket frog	*Acris gryllus*
Southern fox squirrel	*Sciurus niger*
Southern leopard frog	*Lithobates sphenocephalus*
Southern pine sawyer	*Monochamus titllator*
Southern red salamander	*Psuedotriton ruber vioscai*
Southern toad	*Anaxyrus terrestris*
Southern two-lined salamander	*Eurycea cirrigera*
Southern watersnake	*Nerodia fasciata*
Spring peeper	*Pseudacris crucifer*
Striped bark scorpion	*Centruroides vittatus*
Summer tanager	*Piranga rubra*
Swallow-tailed kite	*Elanoides forficatus*
Swamp sparrow	*Melospiza georgiana*
Three-lined salamander	*Eurycea guttolineata*
Tufted titmouse	*Parus bicolor*
Turkey vulture	*Cathartes aura*

Two-toed amphiuma	*Amphiuma means*
Vesper saprrow	*Pooecetes gramineus*
Virginia opossum	*Didelphis virginiana*
White-breasted nuthatch	*Sitta carolinensis*
White-eyed vireo	*Vireo griseus*
White-tailed deer	*Odocoileus virginianus*
White-throated sparrow	*Zonotrichia albicollis*
Wild hog	*Sus scrofa*
Wild turkey	*Maleagris gallopavo*
Wild turkey	*Meleagris gallopavo*
Winter wren	*Troglodytes troglodytes*
Wood duck	*Aix sponsa*
Wood stork	*Mycteria americana*
Wood thrush	*Hylocichla mustelina*
Worm-eating warbler	*Helmitheros vermivorum*
Yellow-bellied sapsucker	*Sphyrapicus varius*
Yellow-bellied slider	*Trachemys scripta scripta*
Yellow-billed cuckoo	*Coccyzus americanus*
Yellow-breasted chat	*Icteria virens*
Yellow-rumped warbler	*Setophaga coronata*
Yellow-throated vireo	*Vireo flavifrons*
Zebra swallowtail	*Protographium marcellus*

Table 10. Plant Species Observed

Scientific Name	Common Name
Acalypha gracilens	Slender threeseed mercury
Acalypha rhomboidea	Diamond threeseed mercury
Acalypha sp.	Threeseed mercury
Acer rubrum	Red maple
Agalinis fasciculata	Beach false foxglove
Ageratina jucunda	Hammock snakeroot
Ageratina sp.	Snakeroot
Albizia julibrissin	Silktree, Mimosa
Alternanthera philoxeroides	Alligator weed
Ambrosia artemisiifolia	Common ragweed
Ampelopsis arborea	Peppervine
Amphicarpum muehlenbergianum	Blue maidencane
Amsonia tabernaemontana	Eastern bluestar
Andropogon glomeratus var. glaucopsis	Purple bluestem
Andropogon glomeratus var. pumilus	Bushy bluestem
Andropogon gyrans	Elliott's bluestem
Andropogon sp.	Bluestem
Andropogon ternarius	Splitbeard bluestem
Andropogon virginicus var. glaucus	Chalky bluestem
Andropogon virginicus var. virginicus	Broomsedge bluestem
Angelica dentata	Coastal plain angelica
Ardisia crenata	Coral ardisia, scratchthroat
Arenaria lanuginosa	Spreading sandwort
Aristida gyrans	Corkscrew threeawn
Aristida palustris	Longleaf threeawn
Aristida purpurascens var. purpurascens	Arrowfeather threeawn
Aristida sp.	Threeawn
Aristida spiciformis	Bottlebrush threeawn
Aristida stricta	Wiregrass
Aristolochia serpentaria	Virginia snakeroot
Aronia arbutifolia	Red chokeberry
Arundinaria gigantea	Switchcane
Asclepias obovata	Pineland milkweed
Asclepias tuberosa	Butterflyweed
Asimina angustifolia	Slimleaf pawpaw
Asimina spatulata	Pawpaw
Athyrium filix-femina	Southern lady fern
Balduina uniflora	Oneflower honeycomb-head

Baptisia lanceolata	Gopherweed
Baptisia lecontei	Pineland wild indigo
Baptisia simplicifolia	Scare-weed
Baptisia sp.	Wild indigo
Berchemia scandens	Rattan vine
Bidens bipinnata	Spanish needles
Bignonia capreolata	Crossvine
Brickellia cordifolia	Heart-leaf Brickell-bush
Callicarpa americana	American beautyberry
Calycanthus floridus	Sweet shrub
Campsis radicans	Trumpet creeper
Carex corrugata	Eastern narrowleaf sedge
Carex longii	Long's sedge
Carphephorus corymbosus	Coastalplain chaffhead
Carphephorus odoratissimus	Vanillaleaf
Carphephorus paniculatus	Hairy chaffhead
Carphephorus pseudoliatris	Bristleleaf chaffhead
Carphephorus sp.	Chaffhead
Cartrema americanum	Wild olive
Carya glabra	Pignut hickory
Carya sp.	Hickory
Carya tomentosa	Mockernut hickory
Cassytha filiformis	Love vine
Castanea pumila	Chinquapin
Celtis laevigata	Sugarberry
Centella asiatica	Spadeleaf
Centrosema sp.	Butterfly pea
Centrosema virginianum	Spurred butterfly pea
Chamaecrista fasciculata	Partridge pea
Chamaecrista nictitans	Sensitive pea
Chamaecrista sp.	Sensitive pea
Chasmanthium laxum	Slender woodoats
Chasmanthium sessiliflorum	Longleaf woodoats
Chasmanthium sp.	Woodoats
Chrysopsis mariana	Maryland golden-aster
Cinnamomum camphora	Camphor tree
Clethra alnifolia	Coastal sweet pepperbush
Cliftonia monophylla	Black titi
Clitoria mariana	Atlantic pigeon-wing
Cnidoscolus stimulosus	Tread-softly

Coleataenia anceps	Beaked panicum
Coleataenia sp.	Panicum
Conyza canadensis	Canadian horseweed
Cornus florida	Flowering dogwood
Cornus sp.	Dogwood
Crataegus sp.	Hawthorn
Crocanthemum carolinianum	Carolina frostweed
Croptilon divaricatum	Slender scratchdaisy
Crotalaria purshii	Pursh's rattlebox
Crotalaria rotundifolia	Rabbitbells
Crotalaria sp.	Rattlebox
Crotalaria spectabilis	Showy rattlebox
Croton argyranthemus	Silver croton
Croton glandulosus	Vente conmigo
Croton michauxii	Michaux's croton
Croton sp.	Croton
Ctenium aromaticum	Toothache grass
Cuscuta sp.	Dodder
Cynodon dactylon	Bermudagrass
Cyperus compressus	Poorland flatsedge
Cyperus croceus	Baldwin's flatsedge
Cyperus filiculmis	Wiry flatsedge
Cyperus ovatus	Pinebarren flatsedge
Cyperus plukenetii	Plukenet's flatsedge
Cyperus sp.	Flatsedge
Cyrilla racemiflora	Titi
Dalea pinnata var. pinnata	Summer farewell
Desmodium sp.	Tick-trefoil
Desmodium triflorum	Threeflower tick-trefoil
Dichanthelium aciculare	Needleleaf witchgrass
Dichanthelium acuminatum var. acuminatum	Tapered witchgrass
Dichanthelium boscii	Bosc's witchgrass
Dichanthelium commutatum	Variable witchgrass
Dichanthelium ensifolium var. ensifolium	Cypress witchgrass
Dichanthelium ensifolium var. unciphyllum	Cypress witchgrass
Dichanthelium laxiflorum	Openflower witchgrass
Dichanthelium oligosanthes	Heller's witchgrass
Dichanthelium ovale	Eggleaf witchgrass
Dichanthelium portoricense	Hemlock witchgrass
Dichanthelium ravenelii	Ravenel's witchgrass

Dichanthelium sp.	Witchgrass
Dichanthelium sphaerocarpon	Roundseed witchgrass
Dichanthelium strigosum var. strigosum	Roughhair witchgrass
Dichondra carolinensis	Carolina ponysfoot
Digitaria ciliaris	Southern crabgrass
Digitaria filiformis var. filiformis	Slender crabgrass
Diodia teres	Poor joe
Diodia virginiana	Virginia buttonweed
Diospyros sp.	Diospyros
Diospyros virginiana	Common persimmon
Ditrysinia fruticosa	Gulf sebastian-bush
Drosera brevifolia	Dwarf sundew
Drosera capillaris	Pink sundew
Dyschoriste oblongifolia	Oblongleaf twinflower
Edrastima uniflora	Clustered mille graines
Eleocharis baldwinii	Baldwin's spikerush
Elephantopus elatus	Tall elephantsfoot
Elephantopus sp.	Elephantsfoot
Eragrostis elliottii	Elliott's lovegrass
Eragrostis sp.	Lovegrass
Erechtites hieraciifolius	Fireweed
Erigeron strigosus	Prairie fleabane
Eriogonum tomentosum	Dogtongue wild buckwheat
Eryngium yuccifolium	Button rattlesnakemaster
Erythronium umbilicatum	Dimpled dogtooth-violet
Eubotrys racemosus	Swamp doghobble
Eupatorium album	White thoroughwort
Eupatorium capillifolium	Dogfennel
Eupatorium compositifolium	Yankeeweed
Eupatorium mohrii	Mohr's thoroughwort
Eupatorium rotundifolium	Roundleaf thoroughwort
Eupatorium semiserratum	Smallflower thoroughwort
Eupatorium sp.	Thoroughwort
Euphorbia exserta	Coastal sand spurge
Euphorbia floridana	Greater florida spurge
Euphorbia inundata var. garrettii	Spurge
Euphorbia inundata var. inundata	Florida pineland spurge
Euphorbia pubentissima	False flowering spurge
Euphorbia sp.	Sandmat
Eustachys petraea	Pinewoods fingergrass

Euthamia caroliniana	Slender flattop goldenrod
Euthamia sp.	Flattop goldenrod
Galactia elliottii	Elliott's milkpea
Galactia erecta	Erect milkpea
Galactia regularis	Eastern milkpea
Galactia sp.	Milkpea
Galium hispidulum	Coastal bedstraw
Galium pilosum	Hairy bedstraw
Galium sp.	Bedstraw
Gaylussacia dumosa	Dwarf huckleberry
Gaylussacia frondosa	Blue huckleberry
Gaylussacia mosieri	Woolly huckleberry
Gelsemium sempervirens	Yellow jessamine
Geobalanus oblongifolius	Gopher apple
Gordonia lasianthus	Loblolly bay
Gratiola sp.	Hedgehyssop
Gymnopogon ambiguus	Bearded skeletongrass
Hamamelis virginiana	American witchhazel
Helenium sp.	Sneezeweed
Helianthus angustifolius	Narrowleaf sunflower
Heterotheca subaxillaris	Golden aster
Hexastylis arifolia	Heartleaf wild ginger
Hibiscus aculeatus	Comfortroot
Hieracium gronovii	Queen-devil
Houstonia procumbens	Roundleaf bluet
Hypericum brachyphyllum	Coastalplain St. John's wort
Hypericum cistifolium	Roundpod St. John's wort
Hypericum crux-andreae	St. Peter's wort
Hypericum fasciculatum	Peelbark St. John's wort
Hypericum gentianoides	Orangegrass
Hypericum hypericoides	St. andrew's cross
Hypericum microsepalum	Flatwoods St. John's wort
Hypericum mutilum	Dwarf St. John's wort
Hypericum myrtifolium	Myrtleleaf St. John's wort
Hypericum setosum	Hairy St. John's wort
Hypericum sp.	St. John's wort
Hypericum tetrapetalum	Fourpetal St. John's wort
Ilex ambigua	Sand holly
Ilex cassine var. cassine	Dahoon
Ilex cassine var. myrtifolia	Myrtle-leaved holly

Ilex coriacea	Large gallberry
Ilex glabra	Gallberry
Ilex opaca var. opaca	American holly
Ilex vomitoria	Yaupon
Imperata cylindrica	Cogongrass
Itea virginica	Virginia willow
Juncus sp.	Rush
Kalmia hirsuta	Hairy laurel
Kellochloa verrucosa	Warty panicgrass
Kosteletzkya pentacarpos	Virginia saltmarsh mallow
Kummerowia striata	Japanese clover
Lachnocaulon anceps	Whitehead bogbutton
Lachnocaulon sp.	Bogbutton
Lechea minor	Thymeleaf pinweed
Lechea mucronata	Hairy pinweed
Lechea pulchella var. ramosissima	Leggett's pinweed
Lechea sessiliflora	Pineland pinweed
Lechea sp.	Pinweed
Lechea torreyi	Piedmont pinweed
Lespedeza capitata	Roundhead lespedeza
Lespedeza hirta	Hairy lespedeza
Lespedeza sp.	Lespedeza
Leucothoe axillaris	Coastal doghobble
Liatris elegans	Pinkscale gayfeather
Liatris gracilis	Slender gayfeather
Liatris sp.	Blazing star
Liatris tenuifolia	Shortleaf gayfeather
Ligustrum sinense	Chinese privet
Lilium michauxii	Carolina lily
Liquidambar styraciflua	Sweetgum
Liriodendron tulipifera	Tuliptree
Listera australis	Southern twayblade
Lobelia cardinalis	Cardinal flower
Lobelia sp.	Lobelia
Ludwigia maritima	Seaside primrosewillow
Ludwigia sp.	Primrosewillow
Lycopodiella alopecuroides	Foxtail club-moss
Lycopodiella sp.	Club-moss
Lygodium japonicum	Japanese climbing fern
Lyonia ferruginea	Rusty staggerbush

Lyonia fruticosa	Coastalplain staggerbush
Lyonia ligustrina var. foliosiflora	Maleberry
Lyonia lucida	Fetterbush
Lyonia mariana	Piedmont staggerbush
Magnolia ashei	Ashe's magnolia
Magnolia grandiflora	Southern magnolia
Magnolia pyramidata	Pyramid magnolia
Magnolia virginiana	Sweetbay
Malus angustifolia	Crabapple
Matelea flavidula	Yellow-flowered spiny-pod
Matelea floridana	Florida spiny-pod
Matelea gonocarpos	Angle pod
Melothria pendula	Creeping cucumber
Mimosa quadrivalvis	Sensitive brier
Mimosa sp.	Sensitive plant
Mitchella repens	Partridgeberry
Morella caroliniensis	Evergreen bayberry
Morella cerifera	Wax myrtle
Morella inodora	Odorless bayberry
Morella sp.	Bayberry
Nyssa aquatica	Water tupelo
Nyssa biflora	Swamp tupelo
Nyssa ogeche	Ogeechee tupelo
Nyssa sp.	Tupelo
Nyssa sylvatica	Blackgum
Oenothera laciniata	Cutleaf eveningprimrose
Oenothera simulans	Southern beeblossom
Onoclea sensibilis	Sensitive fern
Osmunda cinnamomea	Cinnamon fern
Osmunda regalis	Royal fern
Oxalis corniculata	Common yellow woodsorrel
Oxydendrum arboreum	Sourwood
Palafoxia integrifolia	Coastalplain palafox
Palafoxia sp.	Palafox
Panicum hemitomon	Mountain panic
Panicum sp.	Panic grass
Panicum virgatum	Switchgrass
Paronychia patula	Pineland nailwort
Parthenocissus quinquefolia	Virginia creeper
Paspalum notatum	Bahiagrass

Paspalum setaceum	Thin paspalum
Paspalum sp.	Crowngrass
Passiflora incarnata	Purple passion-flower
Persea borbonia	Red bay
Persea palustris	Swamp bay
Persea sp.	Bay
Physalis sp.	Groundcherry
Pinus echinata	Shortleaf pine
Pinus elliottii	Slash pine
Pinus elliottii var. densa	South Florida slash pine
Pinus palustris	Longleaf pine
Pinus serotina	Pond pine
Pinus sp.	Pine
Pinus taeda	Loblolly pine
Piptochaetium avenaceum	Blackseed needlegrass
Pityopsis aspera	Pineland silkgrass
Pityopsis graminifolia	Narrowleaf silkgrass
Pityopsis sp.	Silkgrass
Platanthera ciliaris	Yellow-fringed orchid
Pleopeltis michauxiana	Resurrection fern
Polygala lutea	Orange milkwort
Polygala nana	Candyroot
Polygala sp.	Milkwort
Polygonum polygamum	October flower
Polypremum procumbens	Rustweed
Prunus angustifolia	Chickasaw plum
Prunus caroliniana	Carolina laurelcherry
Prunus serotina	Alabama black cherry
Prunus sp.	Cherry
Pseudognaphalium obtusifolium	Sweet everlasting
Pteridium aquilinum	Braken fern
Pteridium sp.	Bracken fern
Pterocaulon pycnostachyum	Blackroot
Pycnanthemum sp.	Mountain-mint
Pyrrhopappus carolinianus	Carolina desertchicory
Quercus falcata	Southern red oak
Quercus geminata	Sand live oak
Quercus hemisphaerica	Laurel oak
Quercus incana	Bluejack oak
Quercus laevis	Turkey oak

Quercus laurifolia	Swamp laurel oak
Quercus margarettae	Sand post oak
Quercus marilandica	Blackjack oak
Quercus minima	Dwarf live oak
Quercus nigra	Water oak
Quercus pumila	Runner oak
Quercus sp.	Oak
Quercus stellata	Post oak
Quercus virginiana	Live oak
Rhapidophyllum hystrix	Needle palm
Rhexia alifanus	Savannah meadowbeauty
Rhexia mariana	Pale meadowbeauty
Rhexia nuttallii	Nuttall's meadowbeauty
Rhexia petiolata	Fringed meadowbeauty
Rhexia sp.	Meadowbeauty
Rhododendron canescens	Pink azalea
Rhododendron sp.	Azalea
Rhododendron viscosum	Swamp azalea
Rhus copallinum	Winged sumac
Rhynchosia michauxii	Michaux's snoutbean
Rhynchosia reniformis	Dollarleaf
Rhynchospora baldwinii	Baldwin's beaksedge
Rhynchospora chapmanii	Chapman's beaksedge
Rhynchospora ciliaris	Fringed beaksedge
Rhynchospora colorata	Starrush white-top
Rhynchospora fascicularis	Fascicled beaksedge
Rhynchospora plumosa	Plumed beaksedge
Rhynchospora sp.	Beaksedge
Rubus cuneifolius	Sand blackberry
Rubus flagellaris	Northern dewberry
Rubus pensilvanicus	Sawtooth blackberry
Rubus sp.	Blackberry
Rubus trivialis	Southern dewberry
Rumex hastatulus	Heartwing dock
Sabal minor	Bluestem palmetto
Sabatia brevifolia	Shortleaf rosegentian
Saccharum alopecuroides	Silver plumegrass
Saccharum giganteum	Sugarcane plumegrass
Saccharum sp.	Sugarcane; plumgrass
Sarracenia minor	Hooded pitcher-plant

Sassafras albidum	Sassafras
Sassafras sp.	Sassafras
Schizachyrium scoparium var. scoparium	Little bluestem
Schizachyrium stoloniferum	Creeping little bluestem
Scleria ciliata	Curtiss' nutrush
Scleria sp.	Nutrush
Scleria triglomerata	Whip nutrush
Scutellaria sp.	Skullcap
Serenoa repens	Saw palmetto
Sericocarpus tortifolius	Dixie aster
Setaria parviflora	Knotroot foxtail
Seymeria cassioides	Yaupon blacksenna
Seymeria pectinata	Piedmont blacksenna
Seymeria sp.	Blacksenna
Sideroxylon sp.	Bully
Simarouba glauca	Paradisetree
Smilax auriculata	Earleaf greenbrier
Smilax bona-nox	Saw greenbrier
Smilax glauca	Cat greenbrier
Smilax laurifolia	Laurel greenbrier
Smilax pumila	Sarsaparilla vine
Smilax smallii	Lanceleaf greenbrier
Smilax sp.	Greenbrier
Smilax tamnoides	Bristly greenbrier
Solidago canadensis var. scabra	Canada goldenrod
Solidago fistulosa	Pinebarren goldenrod
Solidago odora	Sweet goldenrod
Solidago sp.	Goldenrod
Sophronanthe pilosa	Shaggy hedgehyssop
Sorghastrum secundum	Lopsided Indiangrass
Sorghastrum sp.	Indiangrass
Spiranthes tuberosa	Little pearl-twist
Sporobolus indicus	Smutgrass
Stachys lythroides	Hyssop-leaved hedgenettle
Stenanthium densum	Crowpoison
Stewartia malacodendron	Silky camellia
Stillingia sylvatica	Queen's delight
Stylisma patens	Coastalplain dawnflower
Stylisma sp.	Dawnflower
Stylosanthes biflora	Sidebeak pencil flower

Symphyotrichum adnatum	Scaleleaf aster
Symphyotrichum concolor	Eastern silver aster
Symphyotrichum dumosum	Rice button aster
Symphyotrichum pilosum	White oldfield aster
Symphyotrichum sp.	Aster
Symplocos tinctoria	Horse sugar
Syngonanthus flavidulus	Yellow hatpins
Telmatoblechnum serrulatum	Toothed midsorus fern
Tephrosia florida	Florida hoary-pea
Tephrosia sp.	Hoary-pea
Tephrosia spicata	Spiked hoary-pea
Tillandsia usneoides	Spanish moss
Tipularia discolor	Crane-fly orchid
Toxicodendron pubescens	Atlantic poison ivy
Toxicodendron radicans	Eastern poison ivy
Tragia smallii	Small's noseburn
Tragia sp.	Noseburn
Tragia urens	Wavyleaf noseburn
Tragia urticifolia	Nettleleaf noseburn
Triadica sebifera	Chinese tallow, Popcorn tree
Trichostema dichotomum	Forked bluecurls
Trillium sp.	Trillium
Uvularia floridana	Florida merrybells
Vaccinium arboreum	Sparkleberry
Vaccinium corymbosum	Highbush blueberry
Vaccinium darrowii	Darrow's blueberry
Vaccinium elliottii	Elliott's blueberry
Vaccinium myrsinites	Shiny blueberry
Vaccinium sp.	Blueberry
Vaccinium stamineum	Deerberry
Verbena brasiliensis	Brazilian vervain
Vernonia angustifolia	Tall ironweed
Viburnum nudum	Possumhaw
Viburnum rufidulum	Rusty blackhaw
Viola lanceolata	Bog white violet
Viola palmata	Early blue violet
Viola primulifolia	Primroseleaf violet
Viola sp.	Violet
Vitis aestivalis	Summer grape
Vitis rotundifolia	Muscadine

Woodwardia areolata	Netted chain fern
Woodwardia sp.	Chain fern
Woodwardia virginica	Virginia chain fern
Xyris ambigua	Coastalplain yellow-eyed grass
Xyris brevifolia	Shortleaf yellow-eyed grass
Xyris caroliniana	Carolina yellow-eyed grass
Xyris elliottii	Elliott's yellow-eyed grass
Xyris flabelliformis	Savannah yellow-eyed grass
Xyris sp.	Yellow-eyed grass
Zephyranthes atamasca	Rainlily

11.6 FNAI Natural Community Descriptions

The primary natural communities found within the JBWMA are floodplain swamp, mesic flatwoods, and wet flatwoods. Little River flows along the west side of the JBWMA and contributes a great deal to the prominent natural communities and resources in the area. The FNAI natural communities and altered landcover descriptions for the JBWMA are as follows:

Natural Community descriptions

Blackwater Stream (1.73 ac, 0.03%)

Blackwater streams originate in deep, sandy lowlands where wetlands with organic soils function as reservoirs, collecting rainfall and discharging it slowly. The acidic, tea-colored waters of blackwater streams are laden with tannins, particulates, and dissolved organic matter. Water temperatures fluctuate seasonally with air temperature but are also dependent upon water depth and shading by adjacent vegetation. Blackwater streams are the most widely distributed and numerous riverine systems in the southeast coastal plain. One blackwater stream, Little River, is mapped at the JBWMA.

Bottomland Forest (1,118.45 ac, 22.15%)

Bottomland forest is a deciduous, or mixed deciduous/evergreen, closed-canopy forest on terraces and levees within riverine floodplains and in shallow depressions. Found in situations intermediate between swamps (which are flooded most of the time) and uplands, the canopy may be quite diverse with both deciduous and evergreen hydrophytic to mesophytic trees. Bottomland forests are often inundated for only a portion of the year.

The canopy and subcanopy are moderate to high in coverage and are typically dominated by mixed hardwoods and pines, including sweetgum (*Liquidambar styraciflua*), water oak (*Quercus nigra*), ogeechee tupelo (*Nyssa ogeche*), swamp chestnut oak (*Quercus michauxii*), live oak (*Quercus virginiana*), southern magnolia (*Magnolia grandiflora*), swamp tupelo (*Nyssa biflora*), Shumard's oak (*Quercus shumardii*), loblolly pine (*Pinus taeda*), tuliptree (*Liriodendron tulipifera*), blackgum (*Nyssa sylvatica*), American elm (*Ulmus americana*), Carolina ash (*Fraxinus caroliniana*), sugarberry (*Celtis laevigata*), sweetbay (*Magnolia virginiana*), laurel oak (*Quercus laurifolia*), and red maple (*Acer rubrum*). Shrub layers are variable in coverage, ranging from none to 100% and are composed of canopy species, as well as American beautyberry (*Callicarpa americana*), sparkleberry (*Vaccinium arboreum*), American holly (*Ilex opaca* var. *opaca*), coastal doghobble (*Leucothoe axillaris*), switchcane (*Arundinaria gigantea*), southern bayberry (*Morella cerifera*), blueberries (*Vaccinium* spp.), bluestem palmetto (*Sabal minor*), fetterbush (*Lyonia lucida*), muscadine (*Vitis rotundifolia*), large gallberry (*Ilex coriacea*), common persimmon (*Diospyros virginiana*), mountain azalea (*Rhododendron canescens*) and the State Listed needle palm (*Rhapidophyllum hystrix*). Herb cover is also quite variable and consists of Virginia chain fern (*Woodwardia virginica*), netted chain fern (*Woodwardia areolata*), longleaf woodoats (*Chasmanthium laxum* var. *sessiliflorum*), woodsgrass (*Oplismenus setarius*), golden ragwort (*Packera aurea*), Christmas fern (*Polystichum acrostichoides*), southern wood fern (*Dryopteris ludoviciana*), downy maiden fern (*Thelypteris dentata*), Virginia snakeroot (*Aristolochia serpentaria*), and panic grasses (*Panicum* spp.).

The bottomland forests on the JBWMA are in relatively good condition, with the exception of light to moderate disturbances due to roads and trails. A small amount of the invasive Japanese climbing fern (*Lygodium japonicum*) occurs in a bottomland forest in the northwestern section of the JBWMA.

Depression Marsh (21.11 ac, 0.42%)
Depression marsh is characterized as a shallow, usually rounded depression in sand substrate with herbaceous vegetation or subshrubs, often in concentric bands. Depression marshes typically occur in landscapes occupied by fire-maintained matrix communities such as mesic flatwoods, dry prairie, or sandhill. The concentric zones or bands of vegetation are related to length of the hydroperiod and depth of flooding. Depression marshes often burn with the surrounding landscape and are seasonally inundated.

Canopy and subcanopy trees in depression marshes on the JBWMA are absent, except in one marsh where coastal plain willow (*Salix caroliniana*) is present. Tall and short shrub layers are sparse to moderate, with species including common buttonbush (*Cephalanthus occidentalis*), fetterbush, red maple, titi (*Cyrilla racemiflora*), and elderberry (*Sambucus nigra* ssp. *canadensis*). Herbaceous cover is high and ranges from 50 to 100%, including smartweed (*Polygonum* sp.), rushes (*Juncus* spp.), sedges (*Carex* spp.), Virginia chain fern, sphagnum moss (*Sphagnum* sp.), maidencane (*Panicum hemitomon*), beakrushes (*Rhynchospora* spp.), and tenangle pipewort (*Eriocaulon decangulare*).

On the JBWMA, fire exclusion has led to severe shrub encroachment on many depression marshes. These marshes may have a canopy of slash pine (*Pinus elliottii*) or water oak. Tall and short shrub layers are high in coverage, ranging from 25-100%. Dominant shrub species include titi, fetterbush, blueberries, black titi (*Cliftonia monophylla*), red maple, southern bayberry, and gallberry (*Ilex glabra*). Herbaceous cover is virtually nonexistent, but occasionally includes Virginia chain fern and cinnamon fern (*Osmunda cinnamomea*).

Dome Swamp (6.26 ac, 0.12%)
Dome swamp is an isolated, forested, depression wetland occurring within a fire-maintained community such as mesic flatwoods. These swamps are generally small but may also be large and shallow. The characteristic dome shape is created by smaller trees that grow in the shallower waters of the outer edge, while taller trees grow in the deeper water in the interior of the swamp. Six small dome swamps were mapped on the JBWMA.

There is a canopy of swamp tupelo surrounded by a dense perimeter shrub layer of southern bayberry, fetterbush, and titi. Herb cover is sparse and limited to the center of the dome where patches of sedge and panic grass dominate.

Floodplain Marsh (4.18 ac, 0.08%)
Floodplain marsh is a wetland community occurring in river floodplains and dominated by herbaceous vegetation and/or shrubs. Floodplain marshes are found along rivers and streams from just below the headwaters to the freshwater portions of tidally influenced river mouths. They also occur in river overflow channels and lakes with both input and output of river flow. Floodplain

marshes are directly influenced by river flooding on an annual or semi-annual basis where most of the marsh is inundated from approximately 120 to 350 days per year (Toth et al. 1998). Soils are typically sand or a thin to thick organic layer over sand and may be saturated for most of the year. Floodplain marsh may burn periodically depending on dominant vegetation.

At the JBWMA floodplain marshes are found scattered amongst the floodplain swamp communities of the Ochlockonee River. This community often contains deep water habitats that have excluded tree establishment. The floodplain marshes typically lack a canopy/subcanopy and are dominated by herbaceous vegetation such as maidencane, pickerelweed (*Pontederia cordata*), and arrowheads (*Sagittaria* spp.).

Floodplain Swamp (455.17 ac, 9.02%)
Floodplain swamp is a closed-canopy forest of hydrophytic trees occurring on frequently or permanently flooded hydric soils adjacent to stream and river channels and in depressions and oxbows within floodplains. Trees are often buttressed, and the understory and groundcover are sparse.

Canopy coverage is generally high (50-100%), with cypress (*Taxodium* spp.) and tupelo (*Nyssa* spp.) being the dominant species. Shrub layers are usually sparse, but occasionally include willows (*Salix* spp.), titi, southern bayberry, common buttonbush, and sweetgum. Herbaceous vegetation is sparse (<25%) and typically includes sedges, panic grasses, lizard's tail (*Saururus cernuus*), and royal fern (*Osmunda regalis* var. *spectabilis*).

Mesic Flatwoods (166.97 ac, 3.31%)
Mesic flatwoods are characterized by an open canopy of tall pines and a dense, low ground layer of low shrubs, grasses, and forbs. Mesic flatwoods are the most widespread natural community in Florida, covering the flat sandy terraces left behind by former high stands of sea level during the Plio-Pleistocene. Soils are acidic, nutrient-poor fine sands with upper layers darkened by organic matter. Leon, Vero, and Smyrna fine sands are common examples (Gilbert et al. 1995). Drainage in this flat terrain can be impeded by a loosely cemented organic layer (spodic horizon) formed within several feet of the soil surface. The soils are alternately droughty during dry periods and saturated, or even inundated, after heavy rains.

Typically, there is a sparse canopy of longleaf pine (*Pinus palustris*) and occasionally slash pine. The tall shrub layer is represented by a few scattered red bay (*Persea borbonia* var. *borbonia*), southern bayberry, or encroaching oaks. The short shrub layer is generally a dense cover of saw palmetto (*Serenoa repens*) and gallberry. Other common shrubs include fetterbush, shiny blueberry (*Vaccinium myrsinites*), huckleberry (*Gaylussacia* spp.), wax myrtle (*Myrica cerifera*), and dwarf live oak (*Quercus minima*). Herbaceous cover within the mesic flatwoods is sparse to moderate (one to 25%) and usually includes wiregrass (*Aristida stricta*), bottlebrush threeawn (*Aristida spiciformis*), bluestem grasses (*Andropogon* spp.), blackroot (*Pterocaulon pycnostachyum*), yellow-eyed grass (*Xyris* sp.), milkworts (*Polygala lutea* and *Polygala nana*), yellow hatpins (*Syngonanthus flavidulus*), and witchgrasses (*Dichanthelium* spp.).

Sandhill (36.60 ac, 0.72%)

Sandhills are characterized as a forest of widely spaced pine trees with a sparse understory of deciduous oaks and a dense ground cover of grasses and herbs on rolling hills of sand. Typical associations or indicator species are longleaf pine, turkey oak (*Quercus laevis*), and wiregrass. Sandhill occurs on crests and slopes of rolling hills and ridges with steep or gentle topography. Soils are deep, marine-deposited, often yellowish sands that are well-drained and relatively infertile. On the JBWMA, sandhill occurs in association with upland pine and upland hardwood forest occurring on the relatively highest lands within the site.

Sandhill at the JBWMA is often found intermixed with upland pine and the separation of these two communities is often based on the presence of turkey oak in the sandhill community. The open canopy includes slash pine, longleaf pine, swamp laurel oak (*Quercus laurifolia*), water oak, and live oak. The subcanopy includes southern red oak (*Quercus falcata*), turkey oak, and sand post oak (*Quercus margarettae*). The shrub layer includes slimleaf pawpaw (*Asimina angustifolia*), American beautyberry, chinquapin (*Castanea pumila*), flowering dogwood (*Cornus florida*), common persimmon, southern bayberry, gopher apple (*Geobalanus oblongifolius*), winged sumac (*Rhus copallinum*), saw palmetto, sparkleberry, shiny blueberry, and deerberry (*Vaccinium stamineum*). Herbs are diverse and variable depending on fire history. They consist of broomsedge bluestem (*Andropogon virginicus*), wiregrass, fernleaf yellow false foxglove (*Aureolaria pectinata*), rabbitbells (*Crotalaria rotundifolia*), pinebarren tick-trefoil (*Desmodium strictum*), eggleaf witchgrass (*Dichanthelium ovale*), queen-devil (*Hieracium gronovii*), pinkscale gayfeather (*Liatris elegans*), shortleaf gayfeather (*Liatris tenuifolia*), pineland silkgrass (*Pityopsis aspera*), narrowleaf silkgrass (*Pityopsis graminifolia*), creeping little bluestem (*Schizachyrium stoloniferum*), whitetop aster (*Sericocarpus tortifolius*), and witchgrass.

Upland Hardwood Forest (887.90 ac, 17.59%)

Upland hardwood forest is a well-developed, closed-canopy forest dominated by deciduous hardwood trees on mesic soils in areas sheltered from fire. It typically has a diverse assemblage of deciduous and evergreen tree species in the canopy and midstory, shade-tolerant shrubs, and a sparse groundcover. Upland hardwood forest occurs on rolling mesic hills, slopes above river floodplains, in smaller areas on the sides of sinkholes, and occasionally on rises within floodplains. Limestone or phosphatic rock may be near the surface. Soils are generally sandy clays or clayey sands with substantial organic and sometimes calcareous components. These soils have higher nutrient levels than the sandy soils prevalent in most of Florida. The moisture retention properties of clays and layers of leaf mulch conserve soil moisture and create decidedly mesic conditions. The dense canopy and multiple layers of midstory vegetation restrict air movement and light penetration, which maintains high relative humidity within the community.

Canopy cover in upland hardwood forest is high, usually ranging from 50-100%. Typical canopy and subcanopy species include swamp laurel oak, American beech (*Fagus grandifolia*), loblolly pine, Florida maple (*Acer saccharum* ssp*. floridanum*), white oak (*Quercus alba*), American hornbeam (*Carpinus caroliniana*), Shumard's oak, tuliptree, sourwood (*Oxydendrum arboreum*), basswood (*Tilia americana*), swamp chestnut oak, white ash (*Fraxinus americana*), two-wing silverbell (*Halesia diptera*), black oak (*Quercus velutina*), southern magnolia, pignut hickory (*Carya glabra*), sweetgum, red maple, sugarberry, black cherry (*Prunus serotina*), flowering

dogwood and the rare pyramid magnolia (*Magnolia pyramidata*). Both tall and short shrub coverage is variable, ranging from one to 50% depending on degree of canopy closure. Species typically include young canopy species, as well as sassafras (*Sassafras albidum*), southern bayberry, American strawberrybush (*Euonymus americanus*), sweetleaf (*Symplocos tinctoria*), American holly, blueberries, southern arrowwood (*Viburnum dentatum*), common persimmon, American beautyberry, red buckeye (*Aesculus pavia*) and the state-listed needle palm (*Rhapidophyllum histrix*). The herbaceous layer is variable as well, but typically in the 10-30% range. Species include sedges, Indiangrass (*Sorghastrum* spp.), longleaf woodoats, Christmas fern, panic grasses, witchgrasses, ebony spleenwort (*Asplenium platyneuron*), longbract wakerobin (*Trillium underwoodii*), littlehead nutrush (*Scleria oligantha*), blackseed needlegrass (*Piptochaetium avenaceum*), early blue violet (*Viola palmata*), Virginia chain fern, cinnamon fern, resurrection fern (*Pleopeltis michauxiana*), shield ferns (*Thelypteris* spp.), and the rare species perfoliate bellwort (*Uvularia perfoliata*) and trout lily (*Erythronium umbilicatum*). Vines such as greenbrier (*Smilax* spp.), muscadine, Virginia creeper (*Parthenocissus quinquefolia*), peppervine (*Ampelopsis arborea*), yellow jessamine (*Gelsemium sempervirens*) and eastern poison ivy (*Toxicodendron radicans*), are common in upland hardwood forests.

Upland Pine (1,550.02 ac, 30.70%)

Upland pine is a woodland of widely spaced pines with a sparse to moderate shrub layer and a dense, species-rich groundcover of grasses and herbs, occurring on gently rolling terrain. Upland pine primarily occurs on the rolling hills of northern Florida north of the Cody Scarp where the soils, classed as ultisols, are composed of sandy loams and loamy sands with clayey subsoils of Miocene and Pleistocene origin (Myers 1990). The presence of clay helps retain soil moisture, creating more mesic conditions than are found on the deep sands that support sandhill.

Upland pine at the JBWMA is characterized by a relatively open to moderate canopy (usually 25-50% coverage) of longleaf pine, with a sparse subcanopy (1-25% coverage) of younger pines, along with southern red oak and mockernut hickory (*Carya tomentosa*). Laurel oak and water oak can invade areas of upland pine that have not burned regularly. At the JBWMA, the canopy is typically classified as older mature (50-70 years), and in two areas, old growth, flat-topped longleaf pines occur. Shrub and herb species diversity in upland pine is usually very high. The tall shrub layer may have young southern red oak and flowering dogwood, and often has invading oak species. The short shrub layer is variable in coverage (10-75%). Short shrub species include shiny blueberry, blue huckleberry (*Gaylussacia frondosa*), runner oak (*Quercus pumila*), dwarf live oak, gallberry, staggerbush (*Lyonia fruticosa*), southern bayberry, paw paw (*Asimina spatulata*), winged sumac, common persimmon, and saw palmetto. The herbaceous layer is also variable in coverage (5-75%), and includes wiregrass, white wild indigo (*Baptisia alba*), Carolina yellow-eyed grass (*Xyris caroliniana*), tall elephantsfoot (*Elephantopus elatus*), sweet goldenrod (*Solidago odora*), shortleaf gayfeather, rabbitbells, pinebarren tick-trefoil, queen-devil, roughhair witchgrass (*Dichanthelium strigosum*), tall elephantsfoot, dogtongue wild buckwheat (*Eriogonum tomentosum*), bearded skeletongrass (*Gymnopogon ambiguus*), roundleaf bluet (*Houstonia procumbens*), panic grasses, witchgrasses, bracken fern (*Pteridium aquilinum*), broomsedge bluestem, slender gayfeather (*Liatris gracilis*), vanillaleaf (*Carphephorus odoratissimus*), roundleaf bluet, oblongleaf twinflower (*Dyschoriste oblongifolia*), fringed nutrush (*Scleria ciliata*),

downy milkpea (*Galactia volubilis*), butterflyweed (*Asclepias tuberosa*), meadowbeauty (*Rhexia alifanus*), and narrowleaf silkgrass.

The upland pine on JBWMA have been managed with frequent (two-to-five-year interval) prescribed fire and are generally in good ecological condition. Despite past disturbances, including logging, clearing for food plots, and the addition of firebreaks, these communities remain in a relatively natural condition. Attention should be given to reducing hardwood encroachment from the upland hardwood community. Continued use of frequent prescribed fire, including summer burns for wiregrass regeneration, is recommended.

Wet Flatwoods (36.08 ac, 0.71%)
Wet flatwoods are flat, poorly drained woodlands of scattered, well-spaced pine trees with a diverse understory of hydrophytic herbs and shrubs. On JBWMA, wet flatwoods communities occur in lower areas within a larger mesic flatwoods matrix and along the upper reaches of drains leading into the upland hardwood and bottomland forests.

The canopy layer for the wet flatwoods community is typically dominated by slash pine and/or pond pine (*Pinus serotina*) and also includes sweetgum, loblolly pine, and water oak. Traditional subcanopy species have been combined in the shrub layer for the wet flatwoods community and includes mountain azalea, sweet pepperbush, titi, gallberry, fetterbush, Piedmont staggerbush (*Lyonia mariana*), southern bayberry, fourpetal St. John's wort (*Hypericum tetrapetalum*), sparkleberry, and highbush blueberry (*Vaccinium corymbosum*). Vines found in the wet flatwoods include muscadine, cat greenbrier (*Smilax glauca*), and laurel greenbrier (*Smilax laurifolia*). The herbaceous layer includes broomsedge bluestem, switchcane, false nettle (*Boehmeria cylindrica*), cinnamon fern, maidencane, and Virginia chain fern.

Altered Landcover Type Descriptions

Artificial Pond (15.36 ac, 0.30%)
On the JBWMA, Joe Budd Pond provides recreation opportunities and education opportunities for the JBYCC, including FWCs summer Fish Camp program.

Clearing/Regeneration (67.66 ac, 1.34%)
Clearing/regeneration areas are dove fields, wildlife food plots, old home sites, or recent or historic clearings that have significantly altered the groundcover and/or overstory of the original natural community.

Developed (19.31 ac, 0.38%)
On the JBWMA, the office compounds at Office Road and Cattle Gap Road, as well as the shop/maintenance yard, log cabin residence, and the JBYCC are the only areas classified as developed.

Linear Feature (3.05 ac, 0.06%)
Linear features can include public roads, long-term unsanctioned two-tracks, off-road vehicle trails, or large trails which do not fit the definition of road or firebreak.

Pine Plantation (45.59 ac, 0.90%)
Pine plantation are areas altered by silvicultural activities. Dense pine plantations typically have sparse to absent herbaceous vegetation due to shading or a cover of deep pine needle duff. These plantations may be very shrubby or vine-dominated or open at ground level. The groundcover in most cases has been severely impacted by mechanical site preparation, such as roller chopping and bedding. However, while perennial grasses such as wiregrass may be greatly reduced, many components of the native groundcover persist even though the relative abundance is altered. On the JBWMA, pine plantation occurs on historic upland pine, flatwoods, and sandhill sites with the goal of restoring these areas to historic natural communities.

Restoration Natural Community (291.98 ac, 5.78%)
Restoration natural community is an altered landcover type where active restoration has been initiated to return the community to its historic state. Examples of restoration activities include pine thinning, longleaf pine planting, groundcover restoration, hydrology restoration, and removal of non-natives and other undesirable vegetation. In historically pyrogenic natural communities, restoration activities are accompanied by the application of prescribed fire. These communities may initially have a high cover of weedy species such as bushy bluestem (*Andropogon glomeratus*), but continued burning and restoration should lead to an increase in higher quality groundcover species such as wiregrass, beakrushes, pitcherplants (*Sarracenia* spp.), etc.

Road (103.90, 2.06%)
Roads are areas that are paved or unpaved and intended for vehicular traffic.

Successional Hardwood Forests (28.13 ac, 0.56%)
Successional hardwood forests are closed-canopied forest dominated by fast growing hardwoods such as laurel oak, water oak, and/or sweetgum, often with remnant pines. These forests are either invaded natural upland habitat (i.e., mesic flatwoods, sandhill, upland pine, upland mixed woodland) due to lengthy fire-suppression or old fields that have succeeded to forest. The subcanopy and shrub layers of these forests are often dense and dominated by smaller individuals of the canopy species. Successional hardwood forests can contain remnant species of the former natural community such as turkey oak, saw palmetto, gallberry, and infrequently wiregrass. Additionally, species such as American beautyberry, muscadine, and sparkleberry are common. Restoration of these forests includes mechanical tree removal and reintroduction of fire. Where characteristic herbaceous species (e.g., wiregrass) have been lost, reintroduction via seed or plants may be necessary to restore natural species composition and community function.

Utility Corridor (22.35 ac, 0.44%)
Electric, gas, and telephone rights-of-way.

Wildlife Food Plot (152.26 ac, 3.02%)
Planted or unplanted areas to benefit wildlife or game species; includes dove fields; if not maintained these areas are often dominated by weedy native and non-native species.

11.7 Soil Series Descriptions

Map Unit Description

Gadsden County, Florida

[Minor map unit components are excluded from this report]

Map unit: 2 - Albany-Blanton complex, 0 to 5 percent slopes

Component: Albany (50%)

The Albany component makes up 50 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Blanton (38%)

The Blanton component makes up 38 percent of the map unit. Slopes are 0 to 5 percent. This component is on knolls on coastal plains, marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 57 inches during January, February, March, April, August, September, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 3 - Albany-Ousley-Pelham complex, 0 to 5 percent slopes, occasionally flooded

Component: Albany (39%)

The Albany component makes up 39 percent of the map unit. Slopes are 0 to 5 percent. This component is on knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Ousley (30%)

The Ousley component makes up 30 percent of the map unit. Slopes are 0 to 5 percent. This component is on stream terraces on marine terraces on coastal plains, flood plains on marine terraces on coastal plains, knolls. The parent material consists of sandy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is occasionally flooded. It is rarely ponded. A seasonal zone of water saturation is at 23 inches during January, February, March, April, May, June, July, August, September, December. Organic matter content in the surface horizon is about 0 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Pelham (16%)

The Pelham component makes up 16 percent of the map unit. Slopes are 0 to 5 percent. This component is on broad flats on flood plains on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 13 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 5w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

Gadsden County, Florida

Map unit: 6 - Blanton sand, 5 to 8 percent slopes

Component: Blanton (80%)

The Blanton component makes up 80 percent of the map unit. Slopes are 5 to 8 percent. This component is on interfluves on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Map unit: 9 - Bonifay-Alpin complex, 0 to 5 percent slopes

Component: Bonifay (52%)

The Bonifay component makes up 52 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Alpin (38%)

The Alpin component makes up 38 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 10 - Bonifay-Albany-Centenary complex, 0 to 5 percent slopes

Component: Bonifay (40%)

The Bonifay component makes up 40 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Albany (25%)

The Albany component makes up 25 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

Gadsden County, Florida

Map unit: 10 - Bonifay-Albany-Centenary complex, 0 to 5 percent slopes

Component: Centenary (20%)

The Centenary component makes up 20 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 51 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 11 - Troup-Bonifay-Fuquay complex, 8 to 15 percent slopes

Component: Troup (35%)

The Troup component makes up 35 percent of the map unit. Slopes are 8 to 15 percent. This component is on side slopes and ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Bonifay (30%)

The Bonifay component makes up 30 percent of the map unit. Slopes are 8 to 15 percent. This component is on side slopes and ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, August. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Fuquay (25%)

The Fuquay component makes up 25 percent of the map unit. Slopes are 8 to 15 percent. This component is on side slopes and ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 54 inches during January, February, March, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 21 - Dothan-Fuquay-Cowarts complex, 8 to 15 percent slopes

Component: Dothan (49%)

The Dothan component makes up 49 percent of the map unit. Slopes are 8 to 15 percent. This component is on side slopes and ridges on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 45 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

Gadsden County, Florida

Map unit: 21 - Dothan-Fuquay-Cowarts complex, 8 to 15 percent slopes

Component: Fuquay (20%)

The Fuquay component makes up 20 percent of the map unit. Slopes are 8 to 15 percent. This component is on side slopes and ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 54 inches during January, February, March, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Cowarts (19%)

The Cowarts component makes up 19 percent of the map unit. Slopes are 8 to 15 percent. This component is on side slopes and ridges on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 45 inches during January, February, March, April, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 23 - Fuquay-Lucy-Orangeburg complex, 0 to 5 percent slopes

Component: Fuquay (40%)

The Fuquay component makes up 40 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridgetops and knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 54 inches during January, February, March, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Lucy (30%)

The Lucy component makes up 30 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridgetops and knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine and fluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Orangeburg (20%)

The Orangeburg component makes up 20 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridgetops and knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

Gadsden County, Florida

Map unit: 32 - Leefield-Bonifay-Dothan complex, 0 to 5 percent slopes

Component: Leefield (44%)

The Leefield component makes up 44 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridgetops and knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 23 inches during January, February, March, August, September, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Bonifay (26%)

The Bonifay component makes up 26 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridgetops and knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Dothan (23%)

The Dothan component makes up 23 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridgetops and knolls on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 45 inches during January, February, March, April, August, September. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 36 - Lucy-Orangeburg-Cowarts complex, 15 to 45 percent slopes

Component: Lucy (49%)

The Lucy component makes up 49 percent of the map unit. Slopes are 15 to 45 percent. This component is on hillslopes on marine terraces on coastal plains. The parent material consists of sandy and loamy marine and fluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Orangeburg (21%)

The Orangeburg component makes up 21 percent of the map unit. Slopes are 15 to 45 percent. This component is on hillslopes on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Cowarts (19%)

The Cowarts component makes up 19 percent of the map unit. Slopes are 15 to 45 percent. This component is on hillslopes on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60

Map Unit Description

Gadsden County, Florida

Map unit: 36 - Lucy-Orangeburg-Cowarts complex, 15 to 45 percent slopes

Component: Cowarts (19%)

inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 45 inches during January, February, March, April, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 41 - Norfolk loamy fine sand, 0 to 2 percent slopes

Component: Norfolk (85%)

The Norfolk component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on interfluves, coastal plains. The parent material consists of marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 1. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Map unit: 46 - Orangeburg loamy sand, 2 to 5 percent slopes

Component: Orangeburg (80%)

The Orangeburg component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on broad interstream divides, coastal plains. The parent material consists of marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Map unit: 47 - Orangeburg-Tifton-Norfolk complex, 5 to 8 percent slopes

Component: Orangeburg (48%)

The Orangeburg component makes up 48 percent of the map unit. Slopes are 5 to 8 percent. This component is on ridges, coastal plains. The parent material consists of loamy and clayey marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Tifton (26%)

The Tifton component makes up 26 percent of the map unit. Slopes are 5 to 8 percent. This component is on ridges, coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Norfolk (19%)

The Norfolk component makes up 19 percent of the map unit. Slopes are 5 to 8 percent. This component is on ridges, coastal plains. The parent material consists of marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 44

Map Unit Description

Gadsden County, Florida

Map unit: 47 - Orangeburg-Tifton-Norfolk complex, 5 to 8 percent slopes

Component: Norfolk (19%)

inches during January, February, March, April, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Map unit: 48 - Fuquay-Orangeburg-Norfolk complex, 8 to 15 percent slopes

Component: Fuquay (45%)

The Fuquay component makes up 45 percent of the map unit. Slopes are 8 to 15 percent. This component is on side slopes and ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 54 inches during January, February, March, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Orangeburg (25%)

The Orangeburg component makes up 25 percent of the map unit. Slopes are 8 to 15 percent. This component is on side slopes and hills on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Norfolk (21%)

The Norfolk component makes up 21 percent of the map unit. Slopes are 8 to 10 percent. This component is on hills on marine terraces on coastal plains, ridges on marine terraces on coastal plains. The parent material consists of loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, April, August, September, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 51 - Plummer sand, 0 to 5 percent slopes

Component: Plummer (85%)

The Plummer component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 8 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 52 - Rains fine sandy loam

Component: Rains (86%)

The Rains component makes up 86 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on

Map Unit Description

Gadsden County, Florida

Map unit: 52 - Rains fine sandy loam

Component: Rains (86%)

coastal plains. The parent material consists of loamy and clayey marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 59 - Troup-Lakeland-Lucy complex, 2 to 8 percent slopes

Component: Troup (50%)

The Troup component makes up 50 percent of the map unit. Slopes are 2 to 8 percent. This component is on ridges on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Lakeland (21%)

The Lakeland component makes up 21 percent of the map unit. Slopes are 2 to 8 percent. This component is on ridges on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Lucy (16%)

The Lucy component makes up 16 percent of the map unit. Slopes are 2 to 8 percent. This component is on side slopes and ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine and fluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 65 - Udorthents, reclaimed

Component: Udorthents (100%)

The Udorthents component makes up 100 percent of the map unit. Slopes are 0 to 3 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of mine spoil or earthy fill. Depth to a root restrictive layer is greater than 60 inches. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet hydric criteria.

Map unit: 66 - Pickney, Dorovan, and Bibb soils, frequently flooded

Component: Pickney (32%)

The Pickney component makes up 32 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on marine terraces on coastal plains, flats on stream terraces on marine terraces on coastal plains, depressions on stream terraces on marine terraces on coastal plains. The parent material consists of sandy marine deposits and/or fluviomarine deposits. Depth to a root restrictive

Map Unit Description

Gadsden County, Florida

Map unit: 66 - Pickney, Dorovan, and Bibb soils, frequently flooded

Component: Pickney (32%)

layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Dorovan (29%)

The Dorovan component makes up 29 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on flood plains on marine terraces on coastal plains. The parent material consists of organic material over sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 50 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Bibb (25%)

The Bibb component makes up 25 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on flood plains on marine terraces on coastal plains. The parent material consists of stratified loamy and sandy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 8 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 69 - Lucy-Bonifay-Orangeburg complex, 5 to 8 percent slopes

Component: Lucy (38%)

The Lucy component makes up 38 percent of the map unit. Slopes are 5 to 8 percent. This component is on side slopes and ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine and fluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Bonifay (28%)

The Bonifay component makes up 28 percent of the map unit. Slopes are 5 to 8 percent. This component is on side slopes and ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Orangeburg (22%)

The Orangeburg component makes up 22 percent of the map unit. Slopes are 5 to 8 percent. This component is on side slopes and ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential

Map Unit Description

Gadsden County, Florida

Map unit: 69 - Lucy-Bonifay-Orangeburg complex, 5 to 8 percent slopes

Component: Orangeburg (22%)

is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 71 - Cowarts-Nankin complex, 2 to 5 percent slopes

Component: Cowarts (41%)

The Cowarts component makes up 41 percent of the map unit. Slopes are 2 to 5 percent. This component is on interfluves on coastal plains. The parent material consists of marine deposits. Depth to a root restrictive layer, densic material, is 30 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Nankin (39%)

The Nankin component makes up 39 percent of the map unit. Slopes are 2 to 5 percent. This component is on interfluves, coastal plains. The parent material consists of marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Map unit: 77 - Bonifay-Fuquay complex, 0 to 5 percent slopes

Component: Bonifay (49%)

The Bonifay component makes up 49 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridgetops and knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Fuquay (40%)

The Fuquay component makes up 40 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridgetops and knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 54 inches during January, February, March, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 79 - Hurricane and Chipley soils, 0 to 3 percent slopes

Component: Hurricane (50%)

The Hurricane component makes up 50 percent of the map unit. Slopes are 0 to 3 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal

Map Unit Description

Gadsden County, Florida

Map unit: 79 - Hurricane and Chipley soils, 0 to 3 percent slopes

Component: Hurricane (50%)

zone of water saturation is at 33 inches during January, February, March, April, August, September, November, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Chipley (41%)

The Chipley component makes up 41 percent of the map unit. Slopes are 0 to 3 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, August, September, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 80 - Foxworth-Lakeland complex, 0 to 5 percent slopes

Component: Foxworth (53%)

The Foxworth component makes up 53 percent of the map unit. Slopes are 0 to 5 percent. This component is on knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 57 inches during January, February, March, April, August, September, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Lakeland (32%)

The Lakeland component makes up 32 percent of the map unit. Slopes are 0 to 5 percent. This component is on knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 83 - Foxworth-Lakeland complex, 5 to 15 percent slopes

Component: Foxworth (47%)

The Foxworth component makes up 47 percent of the map unit. Slopes are 5 to 15 percent. This component is on side slopes, hills on marine terraces on coastal plains, ridges on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 57 inches during January, February, March, April, August, September, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Lakeland (41%)

The Lakeland component makes up 41 percent of the map unit. Slopes are 5 to 15 percent. This component is on side slopes, hills on marine terraces on coastal plains, ridges on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This

Map Unit Description

Gadsden County, Florida

Map unit: 83 - Foxworth-Lakeland complex, 5 to 15 percent slopes

Component: Lakeland (41%)

soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 85 - Bonifay-Leon-Chipley complex, 0 to 5 percent slopes

Component: Bonifay (38%)

The Bonifay component makes up 38 percent of the map unit. Slopes are 0 to 5 percent. This component is on knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Leon (27%)

The Leon component makes up 27 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Chipley (25%)

The Chipley component makes up 25 percent of the map unit. Slopes are 0 to 5 percent. This component is on knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, August, September, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 88 - Rutlege, Bibb, and Surrency soils, frequently flooded

Component: Rutlege (38%)

The Rutlege component makes up 38 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on low stream terraces on marine terraces on coastal plains, flood plains on marine terraces on coastal plains. The parent material consists of sandy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Bibb (27%)

The Bibb component makes up 27 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on flood plains on marine terraces on coastal plains. The parent material consists of stratified loamy and sandy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high.

Map Unit Description

Gadsden County, Florida

Map unit: 88 - Rutlege, Bibb, and Surrency soils, frequently flooded

Component: Bibb (27%)

Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during February. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Surrency (25%)

The Surrency component makes up 25 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on flood plains on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 90 - Hosford and Plummer mucky sands, 2 to 12 percent slopes

Component: Hosford (53%)

The Hosford component makes up 53 percent of the map unit. Slopes are 2 to 12 percent. This component is on lower side slopes and seeps on of uplands marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 12 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Plummer (41%)

The Plummer component makes up 41 percent of the map unit. Slopes are 2 to 5 percent. This component is on slopes of side slopes toes on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, December. Organic matter content in the surface horizon is about 10 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 93 - Foxworth-Blanton-Chipley complex, 0 to 5 percent slopes

Component: Foxworth (45%)

The Foxworth component makes up 45 percent of the map unit. Slopes are 0 to 5 percent. This component is on knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 57 inches during January, February, March, April, August, September, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Blanton (24%)

The Blanton component makes up 24 percent of the map unit. Slopes are 0 to 5 percent. This component is on knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high.

Map Unit Description

Gadsden County, Florida

Map unit: 93 - Foxworth-Blanton-Chipley complex, 0 to 5 percent slopes

Component: Blanton (24%)

Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 57 inches during January, February, March, April, August, September, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Chipley (20%)

The Chipley component makes up 20 percent of the map unit. Slopes are 0 to 5 percent. This component is on knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, August, September, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 94 - Albany-Garcon-Bibb complex, 0 to 5 percent slopes, occasionally flooded

Component: Albany (33%)

The Albany component makes up 33 percent of the map unit. Slopes are 0 to 5 percent. This component is on flats on stream terraces on marine terraces on coastal plains, rises on stream terraces on marine terraces on coastal plains, flood plains on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Garcon (28%)

The Garcon component makes up 28 percent of the map unit. Slopes are 0 to 5 percent. This component is on broad flats on low stream terraces on marine terraces on coastal plains, flood plains on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 23 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Bibb (26%)

The Bibb component makes up 26 percent of the map unit. Slopes are 0 to 5 percent. This component is on flats on flood plains on marine terraces on coastal plains. The parent material consists of stratified loamy and sandy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 8 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 96 - Pelham sand, 0 to 5 percent slopes

Component: Pelham (87%)

The Pelham component makes up 87 percent of the map unit. Slopes are 0 to 5 percent. This component is on flats on marine terraces

Map Unit Description

Gadsden County, Florida

Map unit: 96 - Pelham sand, 0 to 5 percent slopes

Component: Pelham (87%)

on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 13 inches during January, February, March, April, June, July, August, September, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 97 - Eunola, Garcon, and Ousley soils, occasionally flooded

Component: Eunola (45%)

The Eunola component makes up 45 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on marine terraces on coastal plains, rises on stream terraces on marine terraces on coastal plains. The parent material consists of loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Garcon (25%)

The Garcon component makes up 25 percent of the map unit. Slopes are 0 to 2 percent. This component is on broad flats on low stream terraces on marine terraces on coastal plains, flood plains on marine terraces on coastal plains. The parent material consists of sandy and loamy alluvium and/or sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 23 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Ousley (20%)

The Ousley component makes up 20 percent of the map unit. Slopes are 0 to 2 percent. This component is on broad flats on stream terraces on marine terraces on coastal plains, flood plains on marine terraces on coastal plains. The parent material consists of sandy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is occasionally flooded. It is rarely ponded. A seasonal zone of water saturation is at 23 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 0 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 98 - Rutlege and Plummer soils, depressional

Component: Rutlege, depressional (50%)

The Rutlege, depressional component makes up 50 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

Gadsden County, Florida

Map unit: 98 - Rutlege and Plummer soils, depressional

Component: Plummer, depressional (38%)

The Plummer, depressional component makes up 38 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 99 - Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Map unit: 101 - Albany-Ocilla-Chipley complex, 0 to 5 percent slopes

Component: Albany (48%)

The Albany component makes up 48 percent of the map unit. Slopes are 0 to 5 percent. This component is on knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Ocilla (25%)

The Ocilla component makes up 25 percent of the map unit. Slopes are 0 to 5 percent. This component is on knolls on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Chipley (16%)

The Chipley component makes up 16 percent of the map unit. Slopes are 0 to 5 percent. This component is on knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, August, September, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 106 - Plummer-Leon-Sapelo complex

Component: Plummer (49%)

The Plummer component makes up 49 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60

Map Unit Description

Gadsden County, Florida

Map unit: 106 - Plummer-Leon-Sapelo complex

Component: Plummer (49%)

inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 8 inches during January, February, March, April, May, June, July, August, September, October, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Leon (19%)

The Leon component makes up 19 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, July, August, September, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Sapelo (18%)

The Sapelo component makes up 18 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, July, August, September, October, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

11.8 Land Management Review

2019 Land Management Review Team Report for Joe Budd Wildlife Management Area

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1. Introduction

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

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

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

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

1.1. Property Reviewed in this Report

Name of Site: Joe Budd Wildlife Management Area
Managed by: Fish & Wildlife Conservation Commission
Acres: 11,039 **Counties:** Gadsden
Purpose(s) for Acquisition: to protect and restore the natural and cultural values of the property and provide the greatest benefit to the citizens of the state.
Acquisition Program(s): P2000, Pitman-Robertson **Original Acquisition Date:** 1975
Area Reviewed: Entire Property **Last Management Plan Approval Date:** 8/21/2015
Review Date: 7/16/19

Agency Manager and Key Staff Present:

- Clint Peters, Manager
- Justin Davis
- James Alleman
- Philip Manor
- Robert Wielgus

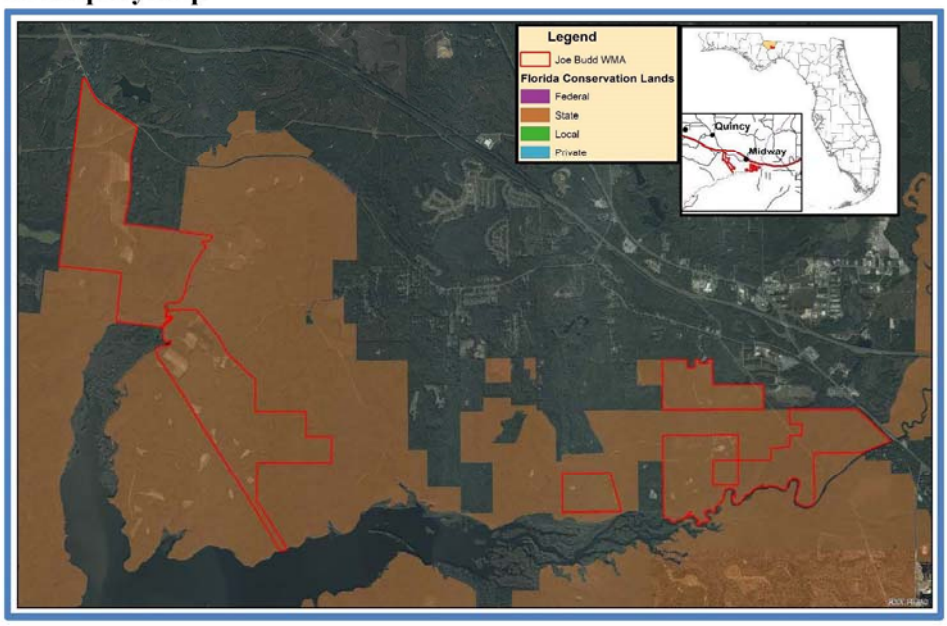
Review Team Members Present (voting)

- DRP District, None
- Pamela Revels, Local Gov't.
- Diana Pepe, FWC
- Mark Gillman, DEP District
- Heather Schmiege, FFS
- Tyler Macmillan, NWFWMD
- Jody Wood-Putnam, Cons. Organization
- Private Land Manager, None

Other Non-Team Members Present (attending)

- Keith Singleton, DEP/DSL
- Dwight Kingsbury, FNPS
- Dylan Imlah, FWC
- Jennifer Paredes, FWC

1.2 Property Map



1.3. Overview of Land Management Review Results

Is the property managed for purposes that are compatible with conservation, preservation, or recreation?

Yes = 6, No = 0

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

Yes = 6, No = 0

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

Table 1: Results at a glance.

Major Land Management Categories	Field Review	Management Plan Review
Natural Communities / Forest Management	4.86	4.49
Prescribed Fire / Habitat Restoration	4.92	4.63
Hydrology	4.44	3.97
Imperiled Species	4.71	4.45
Exotic / Invasive Species	4.64	4.17
Cultural Resources	4.67	4.30
Public Access / Education / Law Enforcement	4.94	4.53
Infrastructure / Equipment / Staffing	4.58	N/A

Color Code (See Appendix A for detail)

Excellent	Above Average	Below Average	Poor

1.3.1 Consensus Commendations for the Managing Agency

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

1. The team commends the Florida Fish and Wildlife Conservation Commission (FWC) staff for managing Joe Budd WMA in a manner to preserve and conserve while providing a suite of recreational and educational opportunities. (6+, 0-)
2. The team commends the FWC for implementing an effective prescribed fire program. (6+, 0-)
3. The team commends the FWC staff for implementing an aggressive feral hog control program which includes trapping. (6+, 0-)

1.3.2. Consensus Recommendations to the Managing Agency

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

1. The team recommends FWC contact Florida Natural Areas Inventory for an updated listed species survey. (6+, 0-)

   Managing Agency Response:

2. The team recommends and encourages regular surveying of listed plant populations. Consider enlisting local Florida Native Plant Survey members and university personnel to assist in surveys. (6+, 0-)

   Managing Agency Response:

3. The team recommends restroom favilities for the youth center to accommodate day students and weekend users. (6+, 0-)

   Managing Agency Response:

4. The team recommends expanding enhancements to the education center, as envisioned in the long range plan. (6+, 0-)

   Managing Agency Response:

2. Field Review Details

2.1 Field Review Checklist Findings

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

1. **Natural communities, specifically blackwater stream, bottomland forest, depression marsh, dome swamp, floodplain marsh, floodplain swamp, mesic/wet flatwoods, upland hardwood forest/slope forest, upland pine forest, and sandhill.**
2. **Listed species, plants and animals in general, and specifically gopher tortoise and slope forest suite.**
3. **Natural resource survey/monitoring resources, specifically sport fish or their habitat monitoring, listed species or their habitat monitoring, other non-game species or their habitat monitoring, fire effects monitoring, other habitat management effects monitoring, and invasive species survey and monitoring.**
4. **Cultural resources, specifically, cultural resource survey and protection and preservation.**
5. **Resource management (prescribed fire), specifically area being burned, frequency, and quality.**
6. **Restoration, specifically upland pine/ground cover.**
7. **Forest management, specifically timber inventory, timber harvesting, reforestation/afforestation, and site preparation.**
8. **Non-native, invasive, and problem species, specifically prevention and control of plants, animals, and pest/pathogens.**
9. **Hydrologic/geologic function, specifically roads/culverts, ditches, dams, reservoirs or other impoundments, and erosion control.**
10. **Ground Water Monitoring, specifically quality, and quantity.**
11. **Surface water monitoring, specifically quality, and quantity.**
12. **Resource protection, specifically boundary survey, gates and fencing, signage, and law enforcement presence.**
13. **Adjacent property concerns, land use, specifically expanding development, and inholdings and additions.**
14. **Public access, specifically roads, parking, and boat access.**

15. **Environmental education and outreach, specifically wildlife, invasive species, habitat management activities, interpretive facilities and signs, recreational opportunities, and management of visitor impacts.**
16. **Management resources, specifically waste disposal, sanitary facilities, buildings, equipment, staff, and funding.**

2.2. Items Requiring Improvement Actions in the Field

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

The review team scores did not identify items requiring improvement in the field.

2.3. Field Review Checklist and Scores

Field Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Blackwater Stream	I.A.1	5	5	5	5	5	5			5.00
Bottomland Forest	I.A.2	5	5	5	5	5	5			5.00
Depression Marsh	I.A.3	3	4	5	5	4	5			4.33
Dome Swamp	I.A.4	3	3	5	5	5	5			4.33
Floodplain Marsh	I.A.5	4	5	5	5	5	5			4.83
Floodplain Swamp	I.A.6	5	5	5	5	5	5			5.00
Mesic Flatwoods/Wet Flatwoods	I.A.7	5	5	5	5	5	5			5.00
Upland Hardwood Forest/Slope Forest	I.A.8	5	5	5	5	5	5			5.00
Upland Pine Forest	I.A.9	4	5	5	5	5	5			4.83
Sandhill	I.A.10	4	5	5	5	5	5			4.83
									Natural Communities Average Score	4.82
Listed species: Protection & Preservation (I.B)										
Animals	I.B.1	5	4	5	5	5	5			4.83
Gopher Tortoise	I.B.1.a	5	5	5	5	5	5			5.00
Plants	I.B.2	3	4	5	5	5	5			4.50
Slope Forest Suite	I.B.2.a	3	4	5	5	5	5			4.50
									Listed Species Average Score	4.71
Natural Resources Survey/Management Resources (I.C)										
Sport fish or their habitat monitoring	I.C.1	5	5	5	5	5	5			5.00
Listed species or their habitat monitoring	I.C.2	3	5	5	5	5	5			4.67
Other non-game species or their habitat monitoring	I.C.3	5	4	5	5	5	5			4.83

Fire effects monitoring	I.C.4	4	5	5	5	5	5			4.83
Other habitat management effects monitoring	I.C.5	4	5	5	5	5	5			4.83
Invasive species survey / monitoring	I.C.6	4	4	5	5	5	5			4.67
Cultural Resources (Archeological & Historic sites) (II.A, II.B)										
Cultural Res. Survey	II.A	4	5	5	5	5	4			4.67
Protection and preservation	II.B	4	5	5	5	5	4			4.67
								Cultural Resources Average Score		4.67
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A.1	5	5	5	5	5	4			4.83
Frequency	III.A.2	5	5	5	5	5	4			4.83
Quality	III.A.3	5	5	5	5	5	4			4.83
								Resource Management, Prescribed Fire Average Score		4.83
Restoration (III.B)										
Upland Pine/Ground Cover	III.B.1	5	5	5	5	5	5			5.00
								Restoration Average Score		5.00
Forest Management (III.C)										
Timber Inventory	III.C.1	5	5	5	5	5	5			5.00
Timber Harvesting	III.C.2	4	5	5	X	5	5			4.80
Reforestation/Afforestation	III.C.3	5	5	5	X	5	5			5.00
Site Preparation	III.C.4	4	5	5	X	5	5			4.80
								Forest Management Average Score		4.90
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.D.1.a	4	4	5	5	5	5			4.67
prevention - animals	III.D.1.b	3	4	5	5	5	4			4.33
prevention - pests/pathogens	III.D.1.c	3	5	5	5	5	5			4.67
Control										
control - plants	III.D.2.a	4	4	5	5	5	5			4.67
control - animals	III.D.2.b	5	4	5	5	5	5			4.83
control - pest/pathogens	III.D.2.c	4	4	5	5	5	5			4.67
								Non-Native, Invasive & Problem Species Average Score		4.64
Hydrologic/Geologic function Hydro-Alteration (III.E.1)										
Roads/culverts	III.E.1.a	5	5	5	5	5	5			5.00
Ditches	III.E.1.b	5	5	5	5	5	5			5.00
Dams, Reservoirs or other impoundments	III.E.1.e	5	3	5	5	5	5			4.67
Erosion Control	III.E.1.f	5	3	5	5	5	5			4.67
								Hydrologic/Geologic function, Hydro-Alteration Average Score		4.83
Ground Water Monitoring (III.E.2)										
Ground water quality	III.E.2.a	4	X	X	x	X	X			4.00
Ground water quantity	III.E.2.b	4	X	X	x	X	X			4.00
								Ground Water Monitoring Average Score		4.00
Surface Water Monitoring (III.E.3)										
Surface water quality	III.E.3.a	4	X	X	5	X	X			4.50
Surface water quantity	III.F.3.b	4	X	X	5	X	X			4.50

									Surface Water Monitoring Average Score	4.50
Resource Protection (III.F)										
Boundary survey	III.F.1	5	5	5	5	5	5			5.00
Gates & fencing	III.F.2	5	5	5	5	5	5			5.00
Signage	III.F.3	5	5	5	5	5	5			5.00
Law enforcement presence	III.F.4	5	5	5	5	5	5			5.00
									Resource Protection Average Score	5.00
Adjacent Property Concerns (III.G)										
Land Use										
Expanding development	III.G.1.a	5	5	5	5	5	5			5.00
Inholdings/additions	III.G.2	5	5	5	X	5	5			5.00
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	5	4	5	5	5	5			4.83
Parking	IV.1.b	5	5	5	5	5	5			5.00
Boat Access	IV.1.c	5	5	5	5	5	5			5.00
Environmental Education & Outreach										
Wildlife	IV.2.a	5	5	5	5	5	5			5.00
Invasive Species	IV.2.b	4	4	5	5	5	5			4.67
Habitat Management Activities	IV.2.c	4	5	5	5	5	5			4.83
Interpretive facilities and signs	IV.3	5	5	5	5	5	4			4.83
Recreational Opportunities	IV.4	5	5	5	5	5				5.00
Management of Visitor Impacts	IV.5	4		5	5	5				4.75
									Public Access & Education Average Score	4.88
Management Resources (V.1, V.2, V.3. V.4)										
Maintenance										
Waste disposal	V.1.a	5	4	5	5	5	5			4.83
Sanitary facilities	V.1.b	4	4	5	4	5	5			4.50
Infrastructure										
Buildings	V.2.a	4	5	5	5	5	4			4.67
Equipment	V.2.b	4	5	5	5	5	4			4.67
Staff	V.3	3	4	4	5	5	4			4.17
Funding	V.4	4	5	5	4	5	5			4.67
									Management Resources Average Score	4.58

Color Code:	Excellent	Above Average	Below Average	Poor	See Appendix A for detail
		Missing Vote	Insufficient Information		

3. Land Management Plan Review Details

3.1 Items Requiring Improvements in the Management Plan

The following items received low scores on the review team checklist, which indicates that the text noted in the Management Plan Review does not sufficiently address this issue (less than 3.0 score on average.). Please note

that overall good scores do not preclude specific recommendations by the review team requiring remediation. The next management plan update should address the checklist items identified below:

The review team scores did not identify items requiring improvement in the management plan.

3.2 Management Plan Review Checklist and Scores

Plan Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Blackwater Stream	I.A.1	4	3		4	4	4			3.80
Bottomland Forest	I.A.2	4	3		5	4	4			4.00
Depression Marsh	I.A.3	4	3		5	4	4			4.00
Dome Swamp	I.A.4	3	3		5	4	4			3.80
Floodplain Marsh	I.A.5	4	3		5	4	4			4.00
Floodplain Swamp	I.A.6	4	3		5	4	4			4.00
Mesic Flatwoods/Wet Flatwoods	I.A.7	4	5		5	4	4			4.40
Upland Hardwood Forest/Slope Forest	I.A.8	4	3		5	4	4			4.00
Upland Pine Forest	I.A.9	4	5		5	4	4			4.40
Sandhill	I.A.10	4	5		5	4	4			4.40
									Natural Communities Average Score	4.08
Listed species: Protection & Preservation (I.B)										
Animals	I.B.1	5	4		5	5	5			4.80
Gopher Tortoise	I.B.1.a	5	5		5	5	5			5.00
Plants	I.B.2	4	3		4	4	5			4.00
Slope Forest Suite	I.B.2.a	4	3		4	4	5			4.00
									Listed Species Average Score	4.45
Natural Resources Survey/Management Resources (I.C)										
Sport fish or their habitat monitoring	I.C.1	4	3		5	4	5			4.20
Listed species or their habitat monitoring	I.C.2	4	4		5	5	5			4.60
Other non-game species or their habitat monitoring	I.C.3	4	3		4	5	5			4.20
Fire effects monitoring	I.C.4	4	4		5	4	5			4.40
Other habitat management effects monitoring	I.C.5	3	4		5	4	5			4.20
Invasive species survey / monitoring	I.C.6	4	4		5	4	5			4.40
Cultural Resources (Archeological & Historic sites) (II.A, II.B)										
Cultural Res. Survey	II.A	4	4		5	4	4			4.20
Protection and preservation	II.B	4	5		5	4	4			4.40
									Cultural Resources Average Score	4.30
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A.1	5	5		5	4	5			4.80

Frequency	III.A.2	5	5		5	4	5			4.80
Quality	III.A.3	4	5		4	4	5			4.40
								Resource Management, Prescribed Fire Average Score		4.67
Restoration (III.B)										
Upland Pine/Ground Cover	III.B.1	5	5		4	4	5			4.60
								Restoration Average Score		4.60
Forest Management (III.C)										
Timber Inventory	III.C.1	5	5		5	5	5			5.00
Timber Harvesting	III.C.2	5	5		5	5	5			5.00
Reforestation/Afforestation	III.C.3	5	5		5	5	5			5.00
Site Preparation	III.C.4	4	4		5	5	5			4.60
								Forest Management Average Score		4.90
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.E.1.a	4	4		5	4	5			4.40
prevention - animals	III.E.1.b	3	3		5	4	4			3.80
prevention - pests/pathogens	III.E.1.c	3	3		5	4	5			4.00
Control										
control - plants	III.E.2.a	4	4		5	4	5			4.40
control - animals	III.E.2.b	4	3		5	4	5			4.20
control - pest/pathogens	III.E.2.c	4	3		5	4	5			4.20
								Non-Native, Invasive & Problem Species Average Score		4.17
Hydrologic/Geologic function, Hydro-Alteration (III.E.1)										
Roads/culverts	III.F.1.a	4	3		5	5	5			4.40
Ditches	III.F.1.b	4	3		5	5	5			4.40
Dams, Reservoirs or other impoundments	III.F.1.e	4	3		5	5	5			4.40
Erosion Control	III.F.1.f	4	3		5	5	5			4.40
								Hydrologic/Geologic function, Hydro-Alteration Average Score		4.40
Ground Water Monitoring (III.E.2)										
Ground water quality	III.F.2.a	4	4		1	4				3.25
Ground water quantity	III.F.2.b	4	4		1	4				3.25
								Ground Water Monitoring Average Score		3.25
Surface Water Monitoring (III.E.3)										
Surface water quality	III.F.3.a	4	4		4	5				4.25
Surface water quantity	III.F.3.b	4	4		4	5				4.25
								Surface Water Monitoring Average Score		4.25
Resource Protection (III.F)										
Boundary survey	III.G.1	5	5		5	4	5			4.80
Gates & fencing	III.G.2	4	5		5	4	5			4.60
Signage	III.G.3	4	4		5	4	5			4.40
Law enforcement presence	III.G.4	5	3		5	4	5			4.40
								Resource Protection Average Score		4.55
Adjacent Property Concerns (III.G)										
Land Use										

Expanding development	III.H.1.a	5	4		5	4	5			4.60
Inholdings/additions	III.H.2	5	4		4	4	5			4.40
Discussion of Potential Surplus Land Determination	III.H.3	5	5		5	4	5			4.80
Surplus Lands Identified?	III.H.4	5	5		5	4	5			4.80
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	4	4		5	5	5			4.60
Parking	IV.1.b	4	4		5	5	5			4.60
Boat Access	IV.1.c	4	4		5	4	5			4.40
Environmental Education & Outreach										
Wildlife	IV.2.a	5	4		5	4	5			4.60
Invasive Species	IV.2.b	4	3		5	4	5			4.20
Habitat Management Activities	IV.2.c	4	4		5	4	5			4.40
Interpretive facilities and signs	IV.3	4	4		5	5	5			4.60
Recreational Opportunities	IV.4	5	5		5	5	5			5.00
Management of Visitor Impacts	IV.5	4	5		3	5	4			4.20
								Public Access & Education Average Score		4.51
Managed Area Uses (VI.A, VI.B)										
Existing Uses										
Apiary Lease	VI.A.1	5	5	5	4	5	5			4.83
Environmental Education	VI.A.2	5	5	5	5	5	5			5.00
Silviculture	VI.A.3	5	5	5	5	5	5			5.00
Hiking	VI.A.4	5	5	5	5	5	5			5.00
Hunting	VI.A.5	5	5	5	5	5	5			5.00
Fishing	VI.A.6	5	5	5	5	5	5			5.00
Wildlife Observation	VI.A.7	5	5	5	5	5	5			5.00
Bicycling	VI.A.8	5	5	5	5	5	5			5.00
Equestrian Use	VI.A.9	4	5	5	5	5	5			4.83
Proposed Uses										
Astronomy	VI.B.1	5	5	5	5	5	5			5.00
IFAS Research	VI.B.2	5	5	5	5	5	5			5.00
Geocaching	VI.B.3	4	5	5	4	5	5			4.67

Color Code:	Excellent	Above Average	Below Average	Poor	See Appendix A for detail
		Missing Vote	Insufficient Information		

Appendix A: Scoring System Detail

Explanation of Consensus Commendations:

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

Explanation of Consensus Recommendations:

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

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

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

Average scores are interpreted as follows:

Scores 4.0 to 5.0 are *Excellent*

Scores 3.0 to 3.99 are *Above Average*

Scores 2.0 to 2.99 are *Below Average*

Scores 1.0 to 1.99 are considered *Poor*

11.9 Management Plan Terms

Management Plan Goals and Objectives
Terms and Definitions

Assessment: Assessment—when a historic resource professional determines the possible effects—positive or negative—that an action or inaction may have on a historical resource (e.g., site, building, object or structures) by analyzing its current condition and documenting any modifications and changes to its original state as well as identifying any potential human or natural threats to its existence.

Capital Improvement: Capital improvement" or "capital project expenditure" means those activities relating to the acquisition, restoration, public access, and recreational uses of such lands, water areas, and related resources deemed necessary to accomplish the purposes of this chapter. Eligible activities include, but are not limited to: the initial removal of invasive plants; the construction, improvement, enlargement or extension of facilities' signs, firelanes, access roads, and trails; or any other activities that serve to restore, conserve, protect, or provide public access, recreational opportunities, or necessary services for land or water areas. Such activities shall be identified prior to the acquisition of a parcel or the approval of a project. The continued expenditures necessary for a capital improvement approved under this subsection shall not be eligible for funding provided in this chapter.

Desired future condition: Desired Future Condition is a description of the land or resource conditions that are believed necessary if management goals and objectives are fully achieved. Desired Future Condition varies by specific habitat and ecosystem. It can also vary, based upon a specific agency's management goals.

Evaluation: Review by a professional in archaeology, history or architecture as to the integrity and significance of the site, building or structure. The criteria of the National Register of Historic Places will be applied.

Facility: all developed structures and improvements provided for a specific purpose or contained within a clearly defined area.

Fire management plan: An element of the land management plan or an independent document that outlines the goals and objectives of a fire management program (prescribed and wildfire) for a predetermined period of time.

Historic: An object, site or structure that is 50 years or older.

Hydrological assessment: A documented, systematic evaluation by a qualified professional of the existing and historical quantity, quality, movement and function of water resources (e.g., computer modeling).

Imperiled species: A species or subspecies that is listed by the U.S. Fish and Wildlife Service as Endangered or Threatened; Florida Fish and Wildlife Conservation Commission (FWC) as Endangered, Threatened, or Special Concern; Florida Department of Agriculture and Consumer Services (FDACS) as Endangered or Threatened; or is tracked by Florida Natural Areas

Inventory (FNAI) as globally or state Critically Imperiled or Imperiled. Imperiled Species does NOT refer to species that are on the FDACS list of commercially exploited plants that are not Endangered or Threatened.

Improve: the enhancement or expansion of facilities, roads and trails.

Maintenance: the daily or regular work of keeping facilities, roads and trails in proper condition.

Monitoring: Periodic examination of the site, building or structure to determine the current condition and threats such as erosion, structural deterioration, vegetation intrusion, poaching or vandalism. An updated Florida Master Site File form is used to complete this assessment.

Natural community/habitat/ecological improvement: Similar to restoration but on a smaller less intense scale. Typically includes small scale vegetation management activities, spot treatments of exotic plants, or minor habitat manipulations. Any habitat alteration that increases the diversity of a habitat or increases the population of a particular species.

Natural community/habitat/ecological restoration: The process of assisting the recovery and natural functioning of degraded natural communities to desired future condition, including the re-establishment of biodiversity, ecological processes, vegitation structure, and physical characters. Activities may include vegetative treatments (e.g., hardwood removal, mechanical treatment, pine tree thinning, etc.), groundcover establishment, non-commercial tree plantings, erosion control, hydrological manipulation(filling ditches), and beach management.

Not in maintenance condition: Species composition and/or structure is outside the targeted range. The natural community is in need of more frequent or recurring management treatments that are beyond maintenance activities. Examples include natural communities with exotic plant or animal infestations that are at levels requiring significant treatment, natural communities that have exceeded maximum targeted fire return intervals, and natural communities in need of restoration treatments.

Poor, fair, good condition: Evaluating the condition of cultural resources is accomplished using a three part evaluative scale, expressed as good, fair and poor. These terms describe the present condition, rather than comparing what exists against the ideal. "Good" describes a condition of structural stability and physical wholeness, where no obvious deterioration other than normal occurs. "Fair" describes a condition in which there is a discernible decline in condition between inspections, and the wholeness or physical integrity is and continues to be threatened by factors other than normal wear. A "fair" assessment is cause for concern. "Poor" describes an unstable condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests immediate action is needed to reestablish physical stability.

Population survey: Using broadly accepted methodologies to detect changes in population trends over time.

Public access: access by the general public to state lands and water, including vessel access made possible by boat ramps, docks, and associated support facilities, where compatible with conservation and recreation objectives.

Recorded: A Florida Master Site File form has been completed and filed with the Florida Department of State, Division of Historical Resources.

Recreational/visitor opportunity: measure of potential number of users based on existing resource conditions and developed facilities.

Repair (major): the restoration of facilities, road and trails to proper condition after damage or failure.

Restoration underway: restoration planning/design, executing, evaluating and reporting.

Restored/Maintenance condition: (refers to natural community) - within the range of target species composition and structure such that no significnat, non-recurring alterations to structure or species composition are needed for ecological restoration. Invasive exotic plants or animals are absent or at at levels requiring minimal recurring treatments, and prescribed fire rotations are within target intervals. Refers to Natural Communities. Includes NCs that meet DFC, and NCs that have received restoration action (such as thinning, clearcut and native species planting) and only require time and recurring maintenance actions such as prescribed fire, maintenance level exotics control, or sustainable forestry practices if applicable.

Road: a paved or unpaved motor vehicle route unless identified and managed as a trail.

Significant: Listed in or determined eligible for listing in the National Register of Historic Places as an individual property, element of a multiple listing or in an historic district. Cultural resource professionals are able to make the determination, but final determination rests with the Director of the Division of Historical Resources.

Sustainable forestry: The stewardship and harvest of forest products in a way, and at a rate, that maintains their biodiveristy, productivitiy, regeneration capacity, vitality, and potential to fulfill, now and in the future, relevant ecological, economic, and social functions at local, national and global levels, and that does not cause damage to other ecosystems.

Systematic survey: A sampling protocol designed to assess the occurrence or population status of a species or a suite of species (e.g., presence/absence, mark and recapture, transect survey, etc.).

Trail: a linear route or path which has been specifically prepared or designed for one or more recreational functions such as hiking, biking, horseback riding or multiple use. In many cases, unimproved service roads are also designated as trails.

Treatment: A mechanical, chemical, biological or manual action that changes the structure or composition of an area in order to facilitate restoration or improvement.

Visitor carrying capacity: An estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site.

Wildlife activities: wildlife-associated recreation such as birdwatching, fishing, hunting, etc.

11.10 FNAI Elemental Occurrence Data Usage Letter

FLORIDA Natural Areas INVENTORY

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

November 15, 2021

Dylan Hasse, Senior Conservation Planner
Land Conservation and Planning Subsection
Florida Fish and Wildlife Conservation Commission
Tallahassee, FL

Dear Dylan,

By virtue of this letter, we are updating and continuing our agreement that it is unnecessary for your office to request FNAI Element Occurrence data for each land management plan you prepare, under the following conditions:

- FNAI will continue to provide our Florida Element Occurrence Map Package to FWC on a quarterly basis
- The FNAI GIS data will be available to FWC staff for reference and incorporation as required in management plan review and preparation with the following restrictions.
- FWC will limit spatial reference to Element Occurrence locations in public documents to the Management Area level (i.e., EOs will not be displayed on public maps to protect sensitive resources, habitats, and data sources)
- For Management Areas less than 160 acres in size, FWC will not list occurrences of resources (i.e., species and natural communities) coded as Data Sensitive. If desired, these sensitive resources can be included in a table as a count of occurrences and resource (e.g., three additional occurrences of two species/resources are coded as sensitive)
- When possible, FWC should use the FNAI provided Element Occurrence polygons, and consider the Representational Accuracy and Locational Uncertainty of each record, when determining which species occur on a Management Area

The FNAI Data Manager currently provides this update to FWC staff on a quarterly basis. Current FWC contacts are Rene Baumstark, Christi Santi, Steven Nicholl, Kristal Walsh, Kristen Sella, and yourself. We are pleased to continue this beneficial collaboration with the Florida Fish and Wildlife Conservation Commission.

Sincerely,

Frank Price
Assistant Director
Florida Natural Areas Inventory

Florida Resources and Environmental Analysis Center
Institute of Science and Public Affairs
The Florida State University

Tracking Florida's Biodiversity

11.11 FWC Agency Strategic Plan

The Florida Fish and Wildlife Commission

Strategic Plan

2020-2024

May 6, 2020

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This plan was written by the FWC 2020+ Strategic Plan Development Team for the dedicated staff of the FWC, specifically designed with leaders and supervisors in mind with the intention of fostering and reinforcing our agency culture, core operations, and strategic approach to our conservation mission.

From the Executive Director

Balancing the needs of Florida's fish and wildlife resources with a diverse, growing population of people can be complicated and challenging. It is our honor to be the agency that is entrusted to take care of these resources on behalf of all Florida residents and visitors. The FWC team strives every day to uphold this public trust.

An important element of effective management and administration is focusing on strategic priorities that are vital in accomplishing our overall mission and adjusting resources accordingly. This reallocation must be done while continuing to attend to day-to-day functions. It is critical to accurately identify these developing issues and set forth a strategy to address them. This formula is the basis for a strategic plan. As with any plan, it works best if it is a collaborative effort, with everyone having the opportunity to provide input in the planning process and identify emerging issues that require strategic solutions. We have put together diverse teams to develop the FWC's strategic plan, to encompass the major issues affecting our agency as a whole.



I also firmly believe that strategic plans are less about a printed document, and more about the process and collaboration necessary to achieve such a plan. The benefits of this process are seen and continued far beyond printing the final draft.

The success of this effort – of our mission – rests upon the shoulders of each and every one of us. Whether you work in the field or in an office, whether you're a scientist, technician, accountant, law enforcement officer, administrative assistant, or programmer, your unique skills and expertise are necessary to continue the good work of conservation that we do every day as well as the strategic work we will be taking up over these next five years. As you read through this plan, I challenge you to look for ways that you can help make a difference. I also ask that you challenge your co-workers to leverage their skills and talents for the good of our mission as well. The future of Florida's fish and wildlife conservation depends on our collective and diverse perspectives, backgrounds, contributions, creativity, and energy.

Respectfully yours,
Eric Sutton

Vision & Values

The mission of the FWC is to manage fish and wildlife resources for their long-term well-being and the benefit of people. Every organization has an identity that is forged not only by what it does, but by how it conducts itself. The values embedded in our mission and expressed in the vision of FWC leadership are to make quality decisions by being dynamic, science-based, efficient, ethical, collaborative, competent, and committed to the vitality of the state and its environment.

We work diligently to conserve fish and wildlife in a manner that honors the public trust that has been vested in us through Florida's constitution. This is based in long-standing law and traditions commonly referred to as the "Public Trust Doctrine." This doctrine is steeped in the principle that fish and wildlife should be managed for the public, and reflects the belief that certain resources are an intergenerational inheritance, held in trust by government for the benefit of all current and future residents and visitors.

We envision...

a Florida where fish and wildlife are abundant and thriving in healthy and connected natural landscapes with vital working lands and waterways; where natural resources are valued and safely enjoyed by all; and wherein natural systems support vibrant human communities and a strong economy.

Consistent with this tradition, we strive to reinforce an inclusive culture that provides for public access, public input, technical assistance groups, stakeholder and public outreach, open communication, work teams, and shared decision making. The FWC encourages scientific inquiry and diversity of thought, and actively promotes these values with our public engagement efforts. The core concepts of these values are derived from a set of nationally accepted Wildlife Governance Principles that have been developed over time and focus efforts on conservation.

Additionally, we strive to make proactive resource decisions based on the best available science, balanced with social, economic and political interests, to create durable solutions with enforcement and managerial practicality. We empower staff to act locally on behalf of the agency to ensure decision making is as close to the issues as possible. We must cultivate a diverse and inclusive culture that

cares and includes values of integrity, professionalism, dedication, and adaptability, and create an environment that is inclusive and supports diverse opinions and voices in decision making at all levels.

Wildlife Governance Principles

Wildlife governance will:

- Be adaptable and responsive to citizens' current needs and interests, while also being forward-looking to conserve options of future generations.
- Seek and incorporate multiple and diverse perspectives.
- Apply social and ecological science, citizens' knowledge, and trust administrators' judgment.
- Produce multiple, sustainable benefits for all beneficiaries.
- Ensure that trust administrators are responsible for maintaining trust resources and allocating benefits from the trust.
- Be publicly accessible and transparent.
- Ensure that trust administrators are publicly accountable.
- Include means for citizens to become informed and engaged in decision making.
- Include opportunities for trust administrators to meet their obligations in partnerships with non-governmental entities.
- Facilitate collaboration and coordination across ecological, jurisdictional, and ownership boundaries.



Our Core Values

Resource Stewardship We are passionate about Florida's natural resources and use our expertise to manage and conserve fish and wildlife.

Service Excellence We are solution-oriented and committed to achieving wildlife and fisheries conservation results, and efficiently meeting the needs of the public and stakeholders.

Teamwork and Collaboration We communicate openly and work together effectively to achieve our common goals. We appreciate the value of diverse backgrounds, expertise, and ideas, and incorporate multiple perspectives into decision making.

Professional Integrity We operate honestly and ethically, and apply our processes, rules, and regulations in a consistent manner that engenders a climate of trust and fairness.

Scientific and Technical Excellence We use our science-based expert knowledge, technology, and other available resources to achieve high-quality work.

Accountability We set challenging goals for our achievement and hold ourselves accountable for the results.



Business Practices

In addition to our core values, we also strive to follow a core business model that addresses how best to deliver our vision, strategy, and mission through key practices. These include:

- Thinking proactively and strategically to anticipate challenges and opportunities while taking actions that contribute to the achievement of long-term interests.
- Coordinating science, resource management, enforcement, and research.
- Providing a safe and healthy environment where the public can enjoy Florida's resources and waterways.
- Providing an excellent experience for our customers.
- Creating and maximizing the use of integrated work and issue teams.
- Continually striving to improve processes and efficiency for the benefit of residents and visitors.
- Leveraging technology.
- Integrating leadership development.
- Optimizing fiscal management.
- Adapting to new and emerging needs for communication.

These core values and business practices are further defined in, and serve as, the foundation of our internal communications programs, hiring practices, and annual employee evaluation process, embedding these principles into the fabric of our organization and making them meaningful to employees in their daily activities.



7

Overview of Strategic Planning

We have been developing strategic and operational plans since the FWC's inception in 1999. Our first planning effort focused on developing the structure and culture of a newly-formed agency. Subsequent plans similarly focused on norms and values, including development of a collaborative and team-based culture. The strategic planning effort that resulted in the "FWC Agency Strategic Plan 2014-2019" was the first time we incorporated a large-scale, highly collaborative process to determine how to focus the strength of the agency on the most essential conservation challenges while ensuring safe and enjoyable public access to Florida's fish and wildlife resources. The 2014-2019 strategic plan identified agency Themes, Goals, and Strategies to define the conservation work required to achieve our mission. Hundreds of staff from across the agency at multiple levels worked in teams to create 109 measurable objectives across each of the five Themes, which were then prioritized by each Regional Leadership Team before being presented to our Commissioners. Executive leadership used that guidance, along with elements from other planning efforts, to develop seven Strategic Initiatives. These initiatives emphasized areas where we wanted to focus attention, discipline, and resources to make significant conservation gains over the subsequent five to 10 years. Strategic work is complex and takes considerable

2014-2019 Strategic Initiatives

Boating as a Gateway to Conservation and the Outdoors: Strengthen and promote the conservation connections of boating while protecting people and natural resources, and improving boating related opportunities.

Conflict Wildlife: Maintain the support and appreciation of fish and wildlife through sustainable coexistence by reducing human-wildlife conflict.

Conservation through Innovation – Marine Fisheries Management: Enhance marine fisheries through the expansion of progressive and collaborative management techniques.

Conservation through Innovation – Private Lands: Partner with private landowners as a key to enhanced conservation.

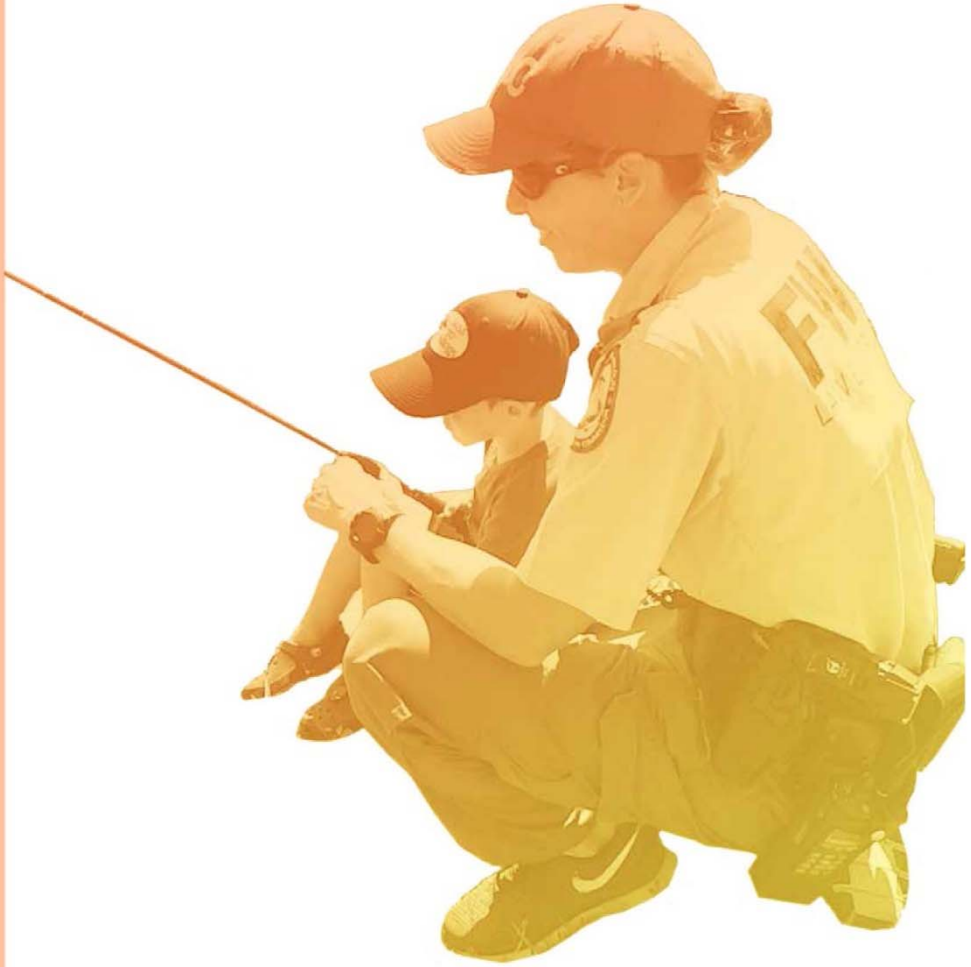
Expanding Participation in Conservation: Expand partnerships and FWC programs to encourage diverse youth and families to be more involved in the future of conservation.

Imperiled Species Management Plan: Improve the status of imperiled species to effectively reduce the risk of extinction.

Running the Business: Establish an internal infrastructure that identifies the areas of business operations and practices that represent high risk, prioritize them, and modify them to address risks.

planning and developmental investment to accomplish. Cross-divisional teams worked together to further define the SIs, develop implementation plans, and operationalize key portions of the initiatives. The work that was accomplished on these seven SIs created a foundation for furthering more effective strategic thinking, planning, and implementation of meaningful and long-lasting conservation efforts for Florida's fish and wildlife resources. The 2014-2019 SIs are now becoming part of the broader conservation work that we do and will continue to influence operational planning moving forward.

The current strategic plan builds upon the knowledge gained and lessons learned from all our prior strategic planning efforts. The purpose of our agency strategic planning is to leverage our values and behaviors as an agency with our operational workforce to produce significant conservation outcomes that align with an ever-changing world to better position ourselves in the future.



Strategic Landscape

We must be strategic in identifying our emerging issues and opportunities to put our agency in the best position to achieve our mission. We must adapt to take advantage of changing technology, seize opportunities to improve our fiscal and operational resources, increase efficiencies, and align priorities across the agency. In order to adapt to a changing environmental, economic, and socio-political landscape, we must first understand and define the environment in which we work. This plan is focused on aligning our agency resources to address our strategic opportunities. The issues, challenges, and risks we face will be addressed in division operational plans and priorities.

Issues We Face

- Maintaining the significance of natural resources as pillars of the community and economy.
- Habitat loss and degradation.
- Climate change impacts.
- Water quality and water quantity issues.
- Changes in public views of wildlife and conservation.
- Impacts from exotic and invasive species on natural systems.
- Natural disasters and disease outbreaks.

Challenges we must address:

- Static revenue streams.
- Increasing program costs and infrastructure improvement needs.
- Loss of institutional knowledge with an unprecedented rate of upcoming retirements.
- Recruiting and retaining qualified employees.
- Leveraging legislative support for agency operations.
- Maintaining an adequate level of research, monitoring programs, and population assessments for fish and wildlife resource management.
- Balancing state and federal regulatory authorities and reducing unneeded regulatory burdens while ensuring sustainable species populations and protecting habitat.
- Securing habitat for fish and wildlife in the face of increasing development pressure.

- Managing aquatic systems and resources without control over water quality, quantity, timing, and distribution.
- Gaining public support for conservation and management.
- Shifts in demographics, changing attitudes toward conservation, and declining percentages of hunters and anglers, which all impact our relevancy to the public.

Meeting the Challenges

We have a broad scope of core work that keeps us focused on our mission. This core work is the foundation of our agency and provides the basis for building a culture of strategic planning and doing. To address the identified challenges through strategic and operational planning, we must invest in the people, programs, and technology that best advance our highest priorities, which requires that we sunset low-priority activities, programs, or services. We must foster an agency culture and capacity to accept, understand, engage, and serve people with different interests and uses of fish, wildlife, and habitats. We must demonstrate fairness, honesty, and compassion; practice dedication and adaptability; and include diverse opinions throughout our decision-making processes.



As demographics change across the state, it becomes increasingly important to develop practices and processes that are responsive to the changing nature-based values of the public. We must focus on providing a safe environment for people to enjoy Florida's natural resources and the outdoors; adapt to the impacts of social media on communication; increase focus, capacity, and use of social sciences into agency conservation and management decisions and public engagement strategies; and foster cultural acceptance of hunting and fishing.

As we maintain a high level of core work and increase strategic planning and doing as part of our foundation, we will have a greater workload than the available resources can address. This will require a priority-based approach, meaning some work will not be completed. We will need to increase efficient use of our existing resources through realignments and decrease work on lower priority activities. We will need to work with our legislative team to secure the resources necessary for agency operations and priority issues, and leverage stakeholder relationships and partnerships to increase capacity for conservation work. We will integrate research, management, and law enforcement to focus on emerging threats, landscape conservation, and a holistic approach to watershed management. This will be accomplished through partnerships, leveraging funding sources, implementing existing plans, and fostering locally-led conservation. Achieving our conservation goals will require us to think strategically across the agency and prioritize our operations to meet the challenges that lie ahead.



Our Organization

The core work of the FWC is broad and forms the basis from which strategic effort springs. Maintaining our core competencies and work is critical to our success and this section contains an overview of the core work areas within the FWC. This is by no means an all-encompassing description of the multi-faceted work conducted throughout the agency. Additional information on each of the divisions, offices, and the institute can be found within the "Programs of the FWC" annual report as well as within each division's operational plans. This agency strategic plan focuses on a small portion of our overall work with the intent of identifying areas of strategic focus, using our existing work as the foundation.

Moreover, it is important to note that our agency's structure is intentionally organized into inter-dependent parts that must work together to achieve our mission. Divisions serve as the main operational elements, while offices provide critical support functions across the entire agency. Regions then serve to ensure geographic continuity of policy and programs across the state. This structure necessitates strong collaboration and teaming amongst all parts of the FWC. We then carry this heavy focus on working together outside of the agency and actively engage partners, stakeholders, and the public in our decision making and implementation.

FWC

Florida Fish and Wildlife Conservation Commission

Mission: Managing fish and wildlife resources for their long-term well-being and the benefit of people.

The FWC consists of more than 3,000 employees, including 848 sworn law enforcement officers. All personnel work together to protect and manage more than 575 species of wildlife, 200 species of freshwater fish, and 500 species of saltwater fish. The FWC works to balance the needs of these fish and wildlife species and the habitats that support them with the needs of Florida's growing population of more than 21 million residents and record numbers of visitors coming to the state – well over 100 million annually.



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The Commissioners

The FWC's seven Commissioners are appointed by the Governor and confirmed by the Florida Senate to five-year terms. Their constitutional duty is to exercise the "...regulatory and executive powers of the state with respect to wild animal life and fresh water aquatic life and shall also exercise regulatory and executive powers of the state with respect to marine life, except that all license fees and penalties for violating regulations shall be as provided by law."

OED

Office of the Executive Director

The Office of the Executive Director provides coordination, oversight, and support for FWC operations. It provides policy guidance, fosters accountability, and promotes continual improvement among the agency's divisions and offices. To address important conservation issues, OED coordinates and supports strong engagement of Commissioners and facilitates effective interaction with agency customers; stakeholders; federal, state, and local elected officials; federal and state agencies; and FWC staff. Further responsibilities include maintaining facilities and infrastructure and leading efforts to strategically focus agency staff and resources on conservation priorities. OED staff work closely with the agency's Senior Leadership Team to ensure effective integration of agency activities and programs across all divisions and offices.



There are multiple functions within OED, with some primary functions including media relations and informing residents and visitors about fish and wildlife resources; quickly and efficiently issuing licenses and permits for recreational fishing and hunting and for commercial saltwater and freshwater fishing; providing oversight for the agency's administrative functions such as disbursements, financial management, procurement, leasing, and property; managing an automated information technology environment that is reliable, secure, cost-effective, and responsive; and working closely with division, regional, and office directors to identify and coordinate programs with boundary-spanning implications that will benefit the FWC.

FWRI

Fish and Wildlife Research Institute

The Fish and Wildlife Research Institute provides timely information and guidance to protect, conserve, and manage Florida's fish and wildlife resources through effective research and technical knowledge.

The work done by the Fish and Wildlife Research Institute reaches far beyond the confines of the FWC. Research conducted on habitats, freshwater and marine fisheries, harvested and imperiled species, and other important plant and wildlife communities in Florida is used by federal, state, and local governments; universities; recreational and commercial fishing interests; recreational hunting and boating interests; nongovernmental organizations; and the public. FWRI integrates its research activities with management efforts of other FWC divisions.



Primary work areas within FWRI include conducting monitoring, assessments, mapping, and research to support development of management practices to protect and improve the quality of habitat and diversity of wildlife on state-managed lands; maintaining an extensive collection of fish and invertebrate specimens and providing data management services and scientific library services; integrating research on predicted or emerging threats to fish and wildlife conservation, such as climate change; and acquiring and distributing biological and ecological information critical for the science-based management, conservation, restoration, and wise use of Florida's fish and wildlife resources.

FFM

Freshwater Fisheries Management

The Division of Freshwater Fisheries Management manages, enhances, and conserves Florida's freshwater aquatic life for public benefit.

The Division of Freshwater Fisheries Management is responsible for directing the management and identifying the research needs of freshwater fisheries within public lakes, rivers, streams, and canals, with efforts focused on improving the fish populations and their habitats to benefit anglers and other stakeholders. This is accomplished through strategies revolving around improving aquatic habitat; increasing access; improving freshwater sport and

commercial fisheries; stocking sportfish; regulations; developing management plans; increasing aquatic stewardship; and building partnerships with state, county, and city governments, industry leaders, and freshwater stakeholders. FFM has developed a private-public partnership through the TrophyCatch conservation and marketing program, which uses citizen science to provide valuable information that contributes to the management of Florida's trophy bass fisheries. Special projects, such as the high school fishing program and kids' fishing clinics, encourage responsible fishing practices and help bolster future generations' understanding of and personal investment in the conservation of fish and wildlife resources.



Primary work areas include evaluating freshwater resources through surveys and inventories of fish populations and angler use; maintaining Fish Management Areas that provide access and promote fishing; developing aquatic habitat enhancement/restoration projects; producing fingerling and sub-adult fish for stocking in public waters to enhance fisheries, provide new opportunities, supplement urban pond populations, and for youth events; and work with communities surrounding major freshwater resources so they appreciate the intrinsic value and economic importance of the resource and the fishery.

HSC

Habitat and Species Conservation

The Division of Habitat and Species Conservation ensures healthy populations of all native wildlife and their habitats on a statewide basis.

The Division of Habitat and Species Conservation integrates scientific data with applied habitat and species management to maintain stable or increasing populations of fish and wildlife. Conservation integration efforts focus on the ecosystem or landscape scale to provide the greatest benefits to the widest possible array of fish and wildlife species. Accomplishing this mission requires extensive collaboration and partnering with local, state, and federal agencies to maintain diverse and healthy fish and wildlife populations for the benefit of all Floridians and visitors, which provides direct ecological, economic, aesthetic, scientific, and recreational benefits.



Primary work areas include managing, maintaining, enhancing, and restoring native natural habitats on 1.4 million acres, assisting cooperators with wildlife management on another 4.5 million acres, and working with partners to connect and expand public conservation lands; providing technical assistance to private landowners to implement wildlife conservation strategies; restoring, enhancing, and managing publicly-owned aquatic resources to improve the ecological health of freshwater, estuarine, and marine habitats; directing, coordinating, and funding control of invasive upland plants on public conservation lands and invasive aquatic plants in public waterways; developing and implementing high-priority conservation activities to improve conditions for native and imperiled wildlife; addressing human-wildlife interactions and managing the impact of native and nonnative fish and wildlife species; reviewing growth management and regulated land and water use project proposals that have potential to impact Florida's fish, wildlife, and habitat resources; and promoting, facilitating, and expanding nature-based tourism, recreational opportunities, and public participation in conservation.

HGM

Hunting and Game Management

The Division of Hunting and Game Management manages and conserves game wildlife for the future, while fostering safe and responsible hunting.



The Division of Hunting and Game Management uses scientifically proven game-management strategies and professional expertise to conserve game wildlife and perpetuate sustainable hunting opportunities on public and private lands statewide. The Division also manages public shooting sports facilities throughout the state and offers hunter safety programs to foster safe, responsible hunting.

Primary work areas include managing Florida's wild game populations using science, leadership, and key partnerships; providing opportunities for responsible and sustainable hunting on public and private lands; working with stakeholders and partners to coordinate support for hunting-related activities; providing hunter safety courses and special events to ensure Florida hunters are well prepared to be safe, responsible, and conservation-minded; and constructing and managing public shooting ranges located throughout the state.

LE

Law Enforcement

The Division of Law Enforcement protects Florida's natural resources and people through proactive and responsive law enforcement services.

The FWC Division of Law Enforcement, comprised of 1,043 members including 848 sworn law enforcement officers, operates in six regions throughout the state. FWC officers are responsible for uniformed patrol and investigative law enforcement services on more than 8,400 miles of coastline, more than 13,000 square miles of offshore waters, and more than 34 million acres of land encompassing a variety of habitats including private lands, wildlife management areas, state parks, and forests.



Primary duties include protecting Florida's fish and wildlife and their habitats, and providing law enforcement services that protect public safety throughout the state of Florida. The division also provides support for state Emergency Operations Center activities and readiness for natural disasters and mutual aid requests. Personnel also engage in targeting illegal black-markets and trafficking in fish and wildlife, conduct federal fisheries enforcement patrols, help to regulate the Florida seafood industry, and enforce rules related to captive wildlife.

Some internal programs undertaken by the division include professional recruitment efforts of new officers; providing world-class training and recruit instruction; conducting progressive advanced training; implementing the division career development programs; and providing intelligence information to officers in the field. The DLE enhances boating safety and waterway experiences through maintenance and repair of approximately 244 boat ramps, construction of new boat ramps, and placement and maintenance of waterway markers.

MFM

Marine Fisheries Management

The Division of Marine Fisheries Management manages Florida's marine fisheries for their long-term sustainability, their economic benefits, and for the enjoyment of the public.

The Division of Marine Fisheries Management works with stakeholders, federal agencies, other states, and regional councils to manage and provide outreach on more than 500 marine fish and invertebrates. The division also provides expertise, monitoring, and grant funding for the deployment of artificial reefs; recovers lost or abandoned lobster and crab traps; conducts wholesale-dealer audits; provides agency comments on proposed development projects that may affect marine resources; and issues special activity licenses for harvest of species for research and educational purposes. This division additionally provides outreach and education to introduce people to the sport of fishing, instill ethical angling values, and ensure comprehension of marine fisheries regulations.



Primary work areas include compiling fishery data, coordinating with other government agencies and research institutions, and soliciting information from the public regarding fishery management strategies for state saltwater fisheries regulations; serving as liaison between the FWC Commissioners, interstate fisheries commissions, and federal fishery management councils that manage marine fish species such as snapper and grouper in federal and interstate waters; promoting responsible recreational and commercial fishing activities; and administering the statewide artificial reef programs.

Approach to the Future

Strategic Framework

Maintaining the FWC's core work is foundational to achieving our mission and continuing our success of achieving conservation. Enforcement and education, public engagement, species and habitat management, comprehensive research, freshwater and marine fisheries enhancement, sustaining game wildlife as a public resource, and operating within responsible business practices are all components of the exceptional work we do every day. These central functions comprise the majority of our time and effort, and continuing to excel in this work is key to successfully conserving Florida's fish and wildlife and their habitats into the future.

Currently, considerable effort is spent responding to urgent challenges. Much of this work is reactive in nature, rapidly consumes resources, and ultimately pulls focus from identified priorities. A refined approach to the future – one that results in a more agile and focused organization – is necessary to minimize time spent reacting and increase time spent making progress toward our strategic priorities. By increasing the portion of work we do that is strategic, focused, and proactive, we can better adapt to our changing environment, integrate strategic solutions into our operations to address specific issues, and position ourselves to successfully conserve fish and wildlife into the future (Figure 1).

The strategic approach presented here is a framework for infusing strategy into our operations and ultimately positioning the FWC to proactively address known challenges, capitalize on opportunities, and continue to successfully fulfill our mission. Investing time in strategic priorities is necessary to sustain the model for fish and wildlife conservation that the FWC has built. The conservation gains realized through focused planning and dedicated action are both worthwhile and essential. When strategic initiatives become fully integrated into the core components of the work we do, we achieve long-term, sustainable success.

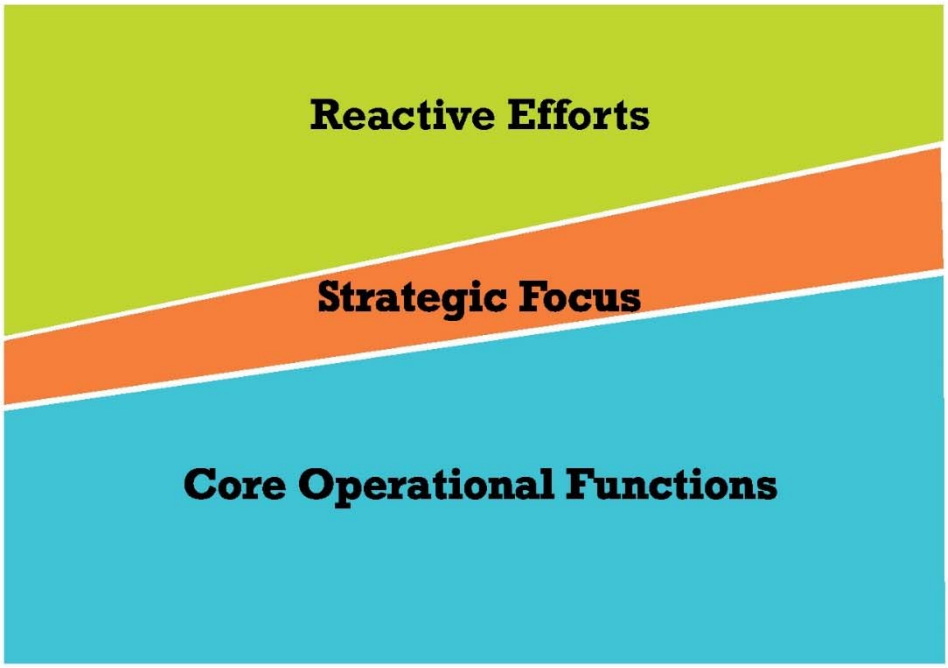


Figure 1. Currently, a significant portion of our effort is spent reacting to urgent issues. With a shift to a more proactive, forward-focused approach, through time we can reduce the overall amount of reactive efforts by using approaches that address future challenges.



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Establishing Dynamic Strategic Initiatives

Identifying strategic priorities at the agency, division, and section/program level is an important component of a future-focused approach. Strategic initiatives are intended to leverage areas of strategic importance and strengthen conservation efforts. SIs are distinguished as proactive, timely, and important topics requiring increased focus and a shift in resources. SIs are not a response to urgent, reactive challenges, nor are they a shift in course due to opportunities to address topics of lower priority. They are those critically important conservation efforts that focus on future opportunity or alignment, require dedicated attention, challenge us to work across organizational lines, and for which a shift in resources or change in operational structure may be required.

Strategic initiatives:

- Realize significant benefits for conservation that otherwise would not occur.
- Are forward-focused instead of reactive.
- Need directed increase in agency focus.
- Span section or division boundaries.
- Require resource reallocation.
- May necessitate realignment or organizational transformation.

Initiatives will be selected through an ongoing process that includes environmental scanning and staff input. Strategic planning will include feedback and ongoing discussion with each division to clarify emerging issues and priorities. A cross-divisional strategic planning team will compile input, identify common themes across the agency, and evaluate potential initiatives. This team will produce recommendations on strategic areas of focus for agency and division-level initiatives to be discussed with each division leadership team and by the FWC's Executive Leadership Team. Collectively, the ELT will determine which issues become agency-level initiatives. Then, with support from the agency's strategic planning team, initiative sponsors will coordinate cross-divisional work to further describe the initiative and develop clear objectives and timelines.

To ensure available resources are fully focused on priorities, no more than three agency SIs will be active at any given time. Limiting the number of topics we are addressing through a strategic shift in resources is intended to yield more progress in each initiative more quickly than when resources are divided among numerous initiatives. Initiatives will develop clearly defined objectives from the onset and will be evaluated annually. Many topics identified through consideration of influences, challenges, and opportunities may be urgent in nature and require cross-divisional coordination at an operational level. While only a subset of these topics will be active as an SI at any given time, we will continue to design our core work to sustainably address urgent needs by working across organizational boundaries. As this intentionally necessitates an adaptive approach, we will reassess this process after another five-year period to improve our development of strategic initiatives moving forward.

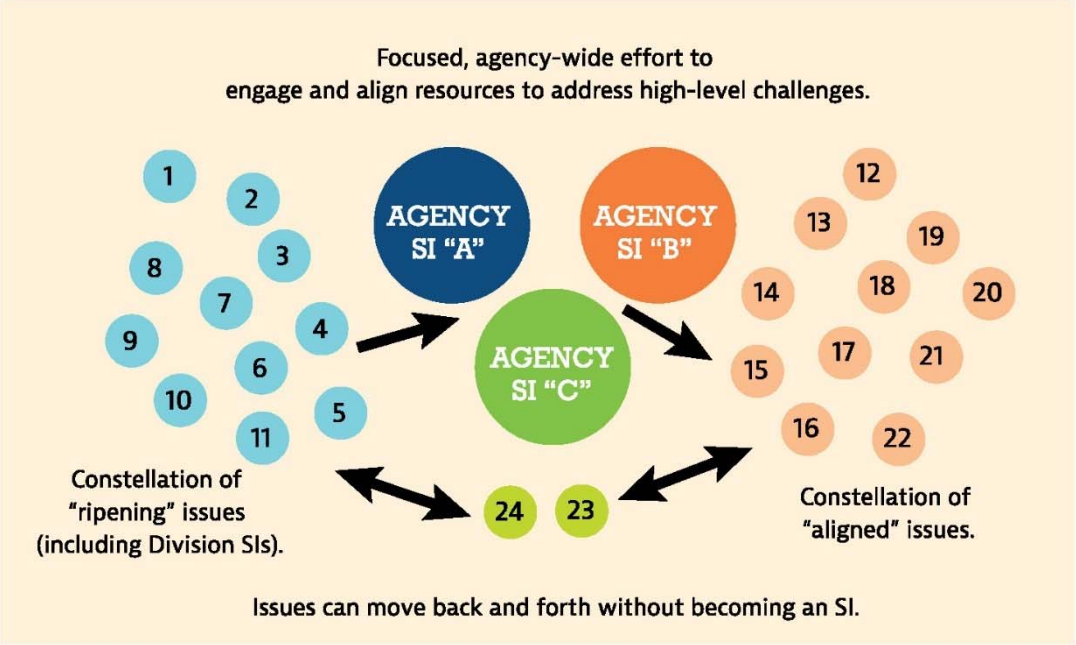


Figure 2. Dynamic Strategic Initiatives for 2020-2024
There will be no more than three agency strategic initiatives at any one time with no more than three strategic initiatives per division. Initiatives can change when special emphasis is no longer needed and they will be tracked as part of the strategic plan framework.

Integrative Work Planning

To help weave strategic thinking into the fabric of the FWC, we will identify initiatives at multiple levels of the agency (e.g., division, section, and program initiatives) to both support agency initiatives and integrate the strategic framework into the structure of our core work. While key issues will be addressed through agency initiatives, division initiatives are also critical to addressing important topics. Sections and programs may also identify initiatives by shifting focus to a refined set of topics. Divisions, sections, and programs are encouraged to apply a framework similar to the one presented here to identify priorities requiring a strategic approach and develop timely initiatives to address them. Like agency-level initiatives, these will have a refined focus, so no more than three initiatives will be active for a division at any given time. Divisions with a significant role in an agency initiative will assume the agency initiative as one of up to three initiatives on which to focus as a division. This framework is founded on each division, section, and program initiating proactive strategies in addition to maintaining operational priorities. To achieve this, divisions may need to identify operational activities that no longer warrant agency focus and evaluate where capacity can be created to refocus on proactive topics. With strategic efforts active at the agency, division, and potentially section and program levels, we will strive to align vertically to leverage resources and coordinate efforts (Figure 3).

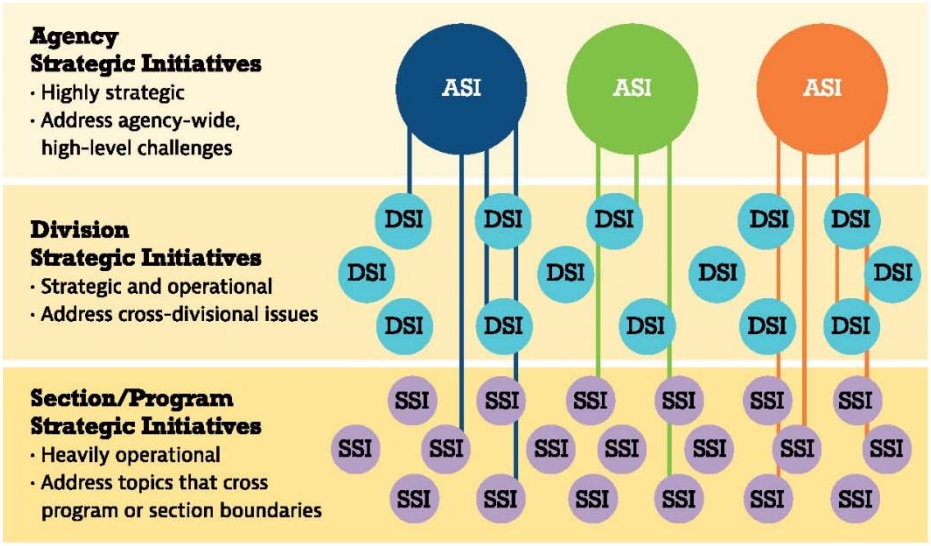


Figure 3. Strategic initiatives at the agency, division, and section or program levels. Vertical alignment of effort and coordination supports progress toward initiatives at multiple levels within the agency.

Future-focused Conservation

FWC's 2020-2024 strategic plan is built upon the idea that we must be intentional in our work to conserve Florida's fish and wildlife resources so they are available for current and future generations. Our success in this arena directly depends on our individual and collective action, and accountability for achieving our mission. Guided by this strategic approach, shaped by our values and fueled by our passion, we will work together to build the Florida we envision: a Florida where fish and wildlife are abundant and thriving in healthy and connected natural landscapes with vital working lands and waterways; where natural resources are valued and safely enjoyed by all; and wherein natural systems support vibrant human communities and a strong economy.



Strategic Initiatives: 2020

Agency Initiatives

From October 2019 through March 2020, the agency strategic planning team worked with division leadership teams to determine the next round of SIs (this process is outlined in Appendix 1). The ELT collectively affirmed the initial three agency SIs and discussed initiative alignment under the new strategic approach. Moving forward, initiative sponsors will coordinate cross-divisional work to establish clear milestones and time frames for achieving objectives under the following areas of strategic focus:

Invest Inward

A strong foundation to maintain our core functions is critical to sustaining the important work we do and achieving our mission. **Investing Inward** means focusing on key challenges within our agency that, when addressed, position us to better accomplish sustainable conservation into the future. These challenges include: 1) staff retention, recruitment, capacity, and distribution; 2) infrastructure improvements, facilities, technology, and equipment; and 3) cultivating a culture that cares through investing in morale, professional development, diversity, and inclusion.

Landscape Conservation

The **Landscape Conservation** initiative will define a unified conservation vision to be implemented at the local level and fit within a broadly agreed-upon conservation target. This conservation vision should be one that can be shared with and implemented by internal and external, public and private partners to achieve broad-scaled, long-lasting conservation outcomes. Conservation delivery at the local level will require that we develop a network of local, state, federal, and private partners to provide technical and financial resources (data, information, assistance, funding opportunities) and a stable communication network.

Relevancy, Engagement, and Support

Recognizing the need to adapt to Florida's changing demographics and values by improving agency engagement and service to broader constituencies, **Relevancy, Engagement, and Support** focuses on the need to enhance conservation through broader engagement, identify available capacity for and challenges to reaching and servicing more constituents, and establish logical steps to helping the public understand the impact that fish and wildlife conservation has on their quality of life and mental and physical well-being. This includes increasing both social and financial support for conservation.

Division Initiatives

The input provided by division leadership to determine agency strategic initiatives was also used to determine division initiatives. As outlined in the strategic framework section, divisions with a significant role in an agency strategic initiative will assume the agency initiative as one of their three division initiatives. The initiatives in Figure 4 were identified as the most timely to address at the agency and division levels. Division initiatives were also affirmed by the ELT. Each initiative will be further described by divisions as part of their workplans.

Many division initiatives align with the broader agency initiatives but will address discrete challenges relevant to the core work of those divisions. This alignment increases the focus and shift of resources towards these topics through both strategic and operational approaches and unifies work across the agency. Some divisions also have initiatives that do not directly align with agency initiatives but do represent important, timely topics that divisions, programs, and sections will strategically address. The constellation of initiatives at the agency and division levels illustrates the alignment of strategic work proposed in Figure 3.

Strategic Alignment

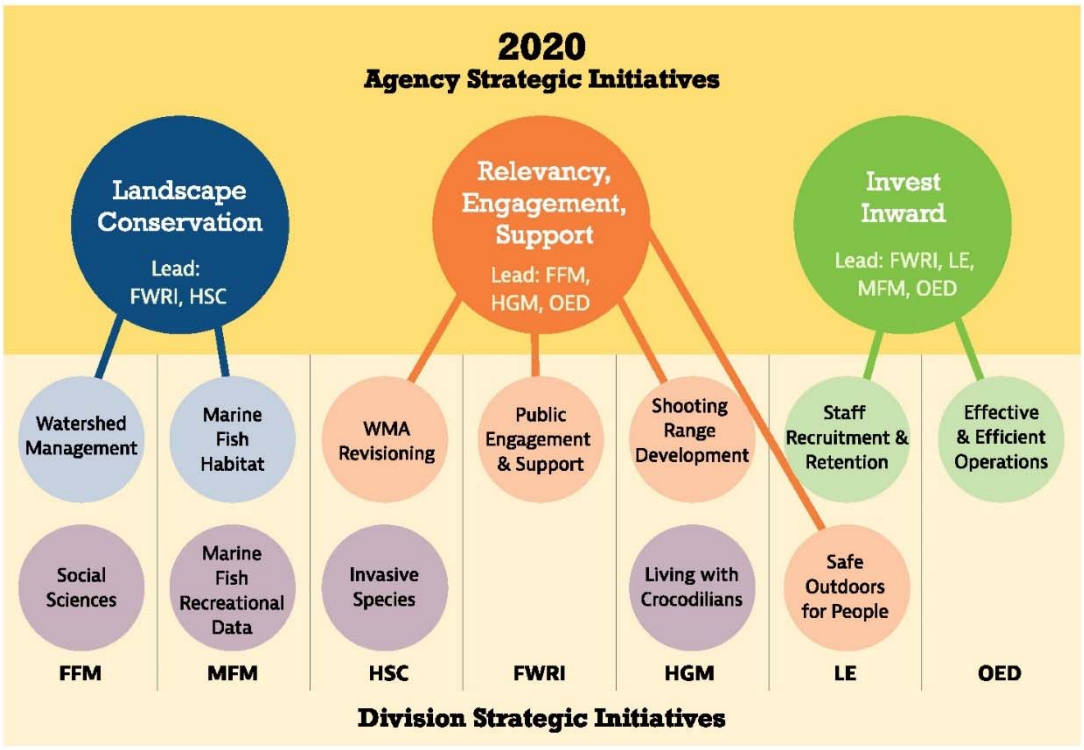


Figure 4. Vertical alignment between the agency and division initiatives shows multiple tiers of support for the broad initiative topics.

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APPENDIX 1

2020 Strategic Initiative Selection Process

Division leadership teams provided input on timely initiatives to the agency strategic planning team throughout the selection process. A number of challenges and opportunities were identified through a questionnaire and follow-up discussions. Common themes emerged among the initiatives proposed by each division, and alignment was strong in several themes. These themes may affect each division in unique ways, but they represent agency-wide challenges that require a directed focus to fully address.

Table 1 on the following page is a process illustration of preliminary initiatives from the first round of data analysis. Development of agency and division initiatives went through several iterations of division-level review through the ELT as concepts evolved and solidified, eventually becoming the 2020 Strategic Initiatives outlined in Figure 4.



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Table 1. Common themes were identified from the initiatives, influences, and challenges put forward by each division. This crosswalk represents proposed initiatives and alignment among agency-wide challenges. This information guided the initiative selection process for 2020.

Proposed Initiatives

	Agency Initiatives	Division Initiatives
FFM	Wildlife conflict Watershed management Social sciences	Lake management plans Chipola and shoal bass Largemouth bass
FWRI	Relevancy Landscape conservation Diversify and modernize revenue K-12 and new resident education	Staff recruitment and retention Integrative research on events Integrate research and management
HGM	Landscape conservation Expand participation in conservation Wildlife conflict	Implement R3 plan Shooting range construction Living with crocodilians campaign
HSC	Infrastructure improvement Landscape conservation Relevancy	WMA re-visioning (relevancy) HSC's role in landscape conservation Invasive species
LE	Invest inward Public service Science and conservation	Reinforce culture that cares Recruit and retain quality staff Safe environment for people
MFM	Invasives Wildlife trafficking Corals Invest inward	Maximize productivity, capacity Marine fish habitat Marine fish recreation data collection
OED	Internal focus/invest inward Human dimensions and social science Effective, efficient operations	OED organizational management Connectivity with other D/Os

Common Themes

Invest Inward
- Staff: recruitment, retention, pay, capacity, distribution
- Infrastructure: facilities, technology
- Funding: stable sources
- Culture that cares: training, morale, professional development, diversity

Landscape Conservation
- Watershed management
- Integrate science with management
- WMA re-visioning
- Landscape conservation prioritization
- Marine and freshwater habitat

Relevancy, Engagement, and Support
- For fish and wildlife conservation
- For FWC as an agency
- Safe environment for people
- EPIC, R3, K-12 education
- Public service (good work)

Social Science and Human Dimensions
- Apply to management decisions
- Increase capacity to gather social science
- Increase value in FWC
- Use to influence behaviors
- Maintain focus on relevancy

Wildlife Conflict and Invasives
- Native species conflict
- Nonnative wildlife
- Invasive plants
- Aquaculture
- Trafficking and trade
- Living with crocodilians

Operational: Proactive Research and Development/Other
- Climate change
- Marine fish recreational data
- Largemouth bass
- Corals
- Shooting range construction

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11.12 FWC Apiary Policy

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Apiary Policy

Division of Habitat and Species Conservation

Issued by:
Terrestrial Habitat Conservation and Restoration Section
9/1/2010

Enclosed is the HSC/THCR Apiary Policy for all Florida Fish and Wildlife Conservation Commission's Wildlife Management Areas and Wildlife and Environmental Areas.

1

DIVISION OF HABITAT AND SPECIES CONSERVATION POLICY

Issued September 2010

SUBJECT: APIARY SITES ON FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION WILDLIFE MANAGEMENT AREAS AND WILDLIFE AND ENVIRONMENTAL AREAS

STATEMENT OF PURPOSE: It is the intent of this policy to determine which Florida Fish and Wildlife Conservation Commission (FWC) Wildlife Management Areas or Wildlife and Environmental Areas (WMA/WEA) may have apiary sites, and provides direction on site location, management and administration of said apiaries.

Definitions

Apiary – A place where bees and beehives are kept, especially a place where bees are raised for their honey.

Apiary Site – An area set aside on a WMA/WEA for the purpose of allowing a beekeeper to locate beehives in exchange for a fee as established by contract between the beekeeper and FWC.

Apiary Wait List – An apiary wait list will be maintained by the Terrestrial Habitat Conservation and Restoration (THCR) Section Leader's Office based on applications received from interested beekeepers. Only qualified apiarists will be added to the list. To become qualified the new apiarist must submit an application form and meet the criteria below under the section titled "Apiary Wait List and Apiary Application."

Beekeeper/Apiarist – A person who keeps honey bees for the purposes of securing commodities such as honey, beeswax, pollen; pollinating fruits and vegetables; raising queens and bees for sale to other farmers and/or for purposes satisfying natural scientific curiosity.

Best Management Practices – The Florida Department of Agriculture & Consumer Services (FDACS; Division of Plant Industry (DPI), Apiary Inspection Section, P.O. Box 147100, Gainesville, FL 332614-1416) provides Best Management Practices (BMP) for maintaining European Honey Bee colonies and FWC expects apiarists to follow the BMP.

Hive/Colony – Means any Langstroth-type structure with movable frames intended for the housing of a bee colony. A hive typically consists of a high body hive box with cover, honey frames, brood chambers and a bottom board and may have smaller super hive boxes stacked on top for the excess honey storage. A hive/colony includes one queen, bees, combs, honey, pollen and brood and may have additional supers stacked on top of a high body hive box.

Establishment of Apiary Sites on WMA/WEA

During the development of an individual WMA/WEA Management Plan, apiaries will be considered under the multiple-use concept as a possible use to be allowed on the area. "Approved" uses are deemed to be in concert with the purposes for state acquisition, with the Conceptual State Lands Management Plan, and with the FWC agency mission, goals, and objectives as expressed in the agency strategic plan and priorities documents. Items to consider when making this determination can also include:

- Were apiaries present on the area prior to acquisition?
- Are there suitable available sites on the WMA/WEA?
- Will the apiary assist in pollination of an onsite FWC or offsite (adjacent landowner) citrus grove or other agricultural operation?

For those WMA/WEAs that have not considered apiaries in their Management Plan, upon approval of this policy Regional Staff will work with the Conservation Acquisition and Planning (CAP) staff and THCR Section leadership to determine if apiaries are an approved use on the area. If apiaries are considered an approved use then a request will be made to the Division of State Lands to allow this use as part of an amended Management Plan. This request will be made through the THCR's Section Leader's office and coordinated by the CAP.

Determination of apiary site locations on WMA/WEAs should be done using the following guidelines:

- Apiary sites should be situated so as to be at least one-half mile from WMA/WEA property boundary lines, and at least one mile from any other known apiary site. Exceptions to this requirement must be reviewed by the Area Biologist and presented to the THCR Section Leader for approval.

- Site should be relatively level, fairly dry, and not be prone to flooding when bees would normally be present.

- Site should be accessible by roads which allow reasonable transfer of hives to the site by vehicle.

- If a site is to be located near human activity, such as, an agricultural field, food plot, wildlife opening, campsites, etc., or if the site may be manipulated by machinery at a time when bees would be present, then the apiary site should be located at a minimum of 150 to 200 yards from the edge of that activity. This will ensure minimal disturbance to the bees and minimize incidents with anyone working in the area.

- It is preferable to have apiary sites located adjacent to or off roads whenever possible. If traditional apiary sites were located on roads and the Area Biologist determines that the site will not impact use of the road by visitors then it will be allowed.

- FWC Area Biologist shall select apiary site(s) and the site(s) selected should not require excessive vegetation clearing (numerous large trees, dense shrubs) or ground disturbance (including fill).

WMA/WEA Staff Responsibilities

Area Biologist on WMAs/WEAs with approved apiary sites will forward a GIS shapefile depicting all the apiary site polygon(s), including a name or number with coordinates for each apiary site, to the THCR Contract Manager.

Area Biologist will monitor each apiary site no less than once a year to determine if the beekeeper is abiding by the contract requirements. If violations are noted, staff should bring them to the attention of the beekeeper for correction. If violations continue staff should notify the THCR Contract Manager who will determine if or what additional action is warranted.

Area Biologist will establish and maintain firelines around the apiary site to ensure the apiary site is ready when a planned burn is scheduled.

Area Biologist will advise the beekeeper of burn plans, road work, gate closures, or other site conditions and management activities that may affect the beekeeper's ability to manage or access the apiary site.

Area Biologist is not responsible to ensure access roads are in condition suitable for beekeepers to access their hives with anything other than a four wheeled drive vehicle. (The site of the apiary may be high and dry, but the roads accessing them may be difficult to impossible to get a two wheeled drive vehicle into during extreme weather, e.g., heavy rainfall events.)

Apiary Wait List and Apiary Application

An electronic waiting list for apiary sites will be maintained by the THCR's Contract Manager for each WMA/WEA. To be placed on the waiting list an interested beekeeper must submit an apiary application form to the contract manager (See Enclosed Application Form). Each applicant will be considered based on the following criteria:

- Proof of a valid registration with the FDACS/DPI.
- Proof of payment of outstanding special inspection fees for existing sites.
- A validated history of being an apiary manager.
- Three references that can attest to the applicant's beekeeping experience.

If an apiary site is becomes available on a WMA/WEA and there are beekeepers on the waiting list interested in that particular area, those individuals meeting the criteria above will be given preference. If there is more than one beekeeper meeting the criteria with their name on the list then a random drawing will be held by the THCR Contract Manager to determine who will receive the site. Beekeepers on the waiting list will be notified in writing of the random drawing's date/location and will be invited to attend. The individual's name selected during this drawing will be awarded the contract.

Apiary agreements are non-transferable. Each agreement serves as a contract between a specific individual or company and FWC, and the rights and responsibilities covered by an individual agreement cannot be transferred.

Contracts

Apiary contracts are for five (5) years and renewals are contingent upon a satisfactory performance evaluation by Area Biologist and concurrence of the THCR Section Leader. Approval is based on apiarist performance, adherence to rules and regulations and general cooperation. If an Area Biologist decides an apiarist whose contract is expiring is unacceptable he may recommend not approving the new contract. If this transpires then the wait list process using random selection will be used. If there is no apiarist on a current wait list then the apiarists who are in good standing with existing contracts will be notified to see if any want to be put on the wait list for the drawing. If none are interested then the site will be put on hold pending a valid request.

Pricing of Apiary Site(s)

Cost of each apiary site will be $40 annually which will include up to 50 beehives. Additional beehives will be charged at the rate of $40 per 50 beehives.

Pricing examples:

- A beekeeper is leasing 2 apiary sites with up to 100 beehives - the fee per year is $80.
- A beekeeper is leasing 3 apiary sites with up to 200 beehives - the fee per year is $160.

Note: The maximum number of hives/colonies allowed on an apiary site will be at the discretion of the apiarist. However, the apiarist is strongly recommended to follow the BMP as recommended by the FDACS/DPI. In addition to providing the BMP, FDACS/DPI's management has recommended 50 hives per site in pineland communities and no more than 100 hives per site in areas with bountiful resources. However, FWC will not dictate the number of hives on a site unless they create land management issues.

Bear Depredation Control at Apiary Site(s)

Beekeepers are required to consult with the WMA/WEA Area Biologist to see if electric fencing is required for their apiary sites. If the Area Biologist requires electric fencing then the

Beekeeper shall construct and maintain electric fences for each apiary site. Numerous electric fence designs have been used to varying success and FWC as a courtesy provides an electric fence technical information bulletin with each Agreement. This bulletin is attached in order to assist the Beekeeper and/or provide a design that has been proven to be reasonable effective.

SUBJECT MATTER REFERENCES

Apiary Inspection Law - Chapter 586, Florida Statutes (see http://www.leg.state.fl.us/Statutes/), Rule Chapter 5B-54, Florida Administrative Code (see www.flrules.org).

The Board of Trustees of the Internal Improvement Trust Fund – Recommended Apiary Agreement Guidelines For Apiaries & Revisions to an Agreement for Apiary Activities on State Lands on September 23, 1986
S:\HSC\THCR\APIARY.BACKUP.POLICY\dlissupport@dos.state.fl.us_20100903_111446.pdf

Senate Resolution 580, September 21, 2006: http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_bills&docid=f:sr580ats.txt.pdf

Attachments

Sample Apiary Agreement W/Attachments (Map Placeholder & Electric Fence Bulletin)

Sample Apiary Site Application Form W/Mission Statement

Best Management Practices for Maintaining European Honey Bee Colonies

Sample of Random Selection Process Procedure

APPROVED:

_____

Division Director or Designee

DATE: _____

APIARY AGREEMENT

AGREEMENT FOR APIARY ACTIVITIES ON STATE LANDS

THIS AGREEMENT is made by and between the Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, FL 32399-1600, hereinafter known as "the COMMISSION," and (Insert Name and Address of Apiarist Here), telephone number (Insert Phone Number of Apiarist Here), hereinafter known as "the USER."

WITNESSETH

In consideration of the mutual promises to be kept by each and the payments to be made by the USER, the parties agree as follows:

1. TERM: This Agreement will begin (Insert date here) or the date signed by both parties, whichever is later, and will end five (5) years from the date of execution. Issuance of a new five (5) year Agreement is contingent upon satisfactory performance evaluation by the Area Biologist and approval of the THCR Section Leader.

2. The COMMISSION Agrees:

    a. To provide apiary sites on state lands, which will be identified by the COMMISSION staff and located on the property identified in (4)(f) below.

    b. To provide technical assistance for bear-proofing, if required by Area Biologist, of sites made available under this Agreement.

    c. To allow the USER to place a total number of (insert number of hive boxes here) hive boxes on the COMMISSION-managed property at the apiary site(s).

3. The USER Agrees:

    a. To pay (Insert Total Dollars Here) on or before the execution date of this Agreement and each year thereafter on or before anniversary date of the original contract execution date, with check or money order payable to the Florida Fish and Wildlife Conservation Commission. All payments shall be remitted to The Florida Fish and Wildlife Conservation Commission, Finance and Budgeting, Accounting Section, PO Box 6150, Tallahassee, FL 32399-6150, and a copy of the check to The Florida Fish and Wildlife Conservation Commission, Terrestrial Habit Conservation and Restoration Section, Attn: Section Leader, 620 South Meridian Street, Tallahassee, Florida 32399-1600.

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b. To have no more than (Insert Number of Hive boxes here) hive boxes on the property at one time.

c. To comply with the Florida Honey Certification and Honeybee Law, Chapter 586, Florida Statutes, and Rule 5B-54, Florida Administrative Code, and all other applicable federal, state, or local laws, rules or ordinances.

d. To not damage, cut or remove any trees in the course of preparing for or conducting operations under this Agreement.

e. To repair within 30 days of occurrence any damage to roads, trails, fences, bridges, ditches, or other public property caused by USER'S operations under this Agreement based on discretion of the COMMISSION to ensure the WMA/WEA management goals are met. All repairs will be coordinated with the Area Biologist to ensure management goals are met. If USER does not comply within the 30 day requirement, then the COMMISSION may use a third party to perform the repairs and charge the USER accordingly.

f. To report any forest fires observed and to prevent forest fires during the course of operations under this Agreement.

g. To abide by all WMA/WEA rules and regulations in addition to items in this Agreement.

h. To notify the Area Biologist within 24 hours when a bear depredation event occurs.

i. To post their name in an agreed upon location at each site covered by this Agreement or otherwise use an identifying system that is approved by the Area Biologist.

j. To furnish proof of general liability insurance prior to starting apiary activities on state property or within 30 days of execution of this Agreement, whichever is earlier, and proof of annual renewal of the general liability insurance policy prior to or upon expiration date of the policy. The USER shall maintain continuous general liability insurance throughout the term of this Agreement for no less than $300,000 for bodily injury and $100,000 for property damage for each occurrence. Such a policy shall name the COMMISSION as the Certificate Holder. The USER's current certificate of insurance shall contain a provision that the insurance will not be canceled for any reason during the term of this Agreement except after thirty (30) days written notice to the COMMISSION.

k. To be liable for all damage to persons or property resulting from operations under this Agreement, and to release, acquit, indemnify, save and hold harmless the COMMISSION, its officers, agents, employees and representatives from any and all claims, losses, damages, injuries and liabilities whatsoever, whether for personal injury or otherwise, resulting from, arising out of or in any way connected with activities under this Agreement or activities occurring from any other source not under this Agreement and the USER further agrees to assume all risks of loss and liabilities incidental to any natural or artificial condition occurring on state lands cover by this Agreement.

l. To construct and maintain electric fences, if required by the Area Biologist at the Area Biologist's discretion, to provide protection of apiaries from black bear depredation consistent with the technical information bulletin attached to this agreement, and, if so required, to maintain an open buffer around the fencing of five (5) feet or more. (See Attachment 1)

m. To remove all personal property from the site within thirty (30) days of termination or expiration of this Agreement. The USER understands that after this time, all the USER'S personal property remaining on the WMA/WEA shall be deemed abandoned and become the property of the COMMISSION, which will be utilized or disposed of at the sole discretion of the COMMISSION, and that reasonable storage and/or disposal fees and/or costs may be charged to the USER.

4. The parties mutually agree:

a. This Agreement is not transferable.

b. The USER's failure to submit payment by the due date established herein may result in cancellation of the Agreement by the COMMISSION.

c. The USER's failure to submit proof of general liability insurance or proof of annual renewal in compliance with (3) (j) above may result in cancellation of this Agreement by the COMMISSION.

d. This Agreement shall be in effect for a period of five (5) years and issuance of a new agreement will be contingent upon a satisfactory performance evaluation and approval of the Area Biologist and THCR Section Leader.

e. Each apiary site shall be situated so as to be at least one-half (1/2) mile inward from state property lines and there shall be at least one (1) mile separation between sites. Exceptions to this rule must be reviewed by Area Biologist

presented to and approved by the Terrestrial Habitat Conservation and Restoration Section Leader.

f. The property covered by this Agreement is described as follows: That the property sites (Insert Area Name) Wildlife Management Area are represented by Attachment 2.

g. In accordance with Section 287.134, Florida Statutes, an entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal or reply on a contract to provide goods or services to any public entity; may not submit a bid, proposal or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant with any public entity; and may not transact business with a public entity.

h. As part of the consideration of this Agreement, the parties hereby waive trial by jury in action brought by either party pertaining to any matter whatsoever arising out of or in any way connected with this Agreement. Exclusive venue for all judicial actions pertaining to this Agreement is in Leon County, Florida.

i. This Agreement may be terminated by the COMMISSION upon thirty (30) days written notice to the USER in the event the continuation of the apiary activities are found to be incompatible with the COMMISSION'S management plans or for any other reason at the sole discretion of the COMMISSION.

This Area Intentionally Left Blank

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year last below written.

_____
USER SIGNATURE

Date: _____

_____
Witness

_____
Witness

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

_____
Mike Brooks, Section Leader
Terrestrial Habitat Conservation and Restoration

Date: _____

Approved as to form and legality

_____
Commission Attorney

Date: _____

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AGREEMENT
ATTACHMENT 1

Use of Electric Fencing to Exclude Bears And Prevent Property Damage

Florida Fish and Wildlife Conservation Commission
Technical Information Bulletin (2001)

Electric fencing has proven effective in deterring bears from entering landfills, apiaries (beehives), livestock pens, gardens, orchards, and other high-value properties. Numerous electrical fence designs have been used with varying degrees of success. Design, quality of construction, and proper maintenance determine the effectiveness of an electric fence. The purpose of this technical bulletin is to assist the property owner in understanding and implementing electrical fencing as a tool to exclude and prevent damage caused by black bears.

Understanding Electric Fencing

Electric fencing provides an electrical shock when an animal comes into contact with the electrically charged wires of the fence. People unfamiliar with electric fencing often are afraid that it will injure, permanently damage, or kill an individual or pet that contacts the fence. **This is not true!** A properly constructed electric fence is safe to people, pets, and bears.

Components of Electric Fencing

An electric fence is composed of four main elements: a charger, fence posts, wire, and the ground rod.

Fence Charger. On a small scale electric fence (like that typically needed for bear exclusion), the largest cost is normally the fence charger. A fence charger's job is to send an electrical pulse into the wire of the fence. Contrary to popular belief, there is not a continuous charge of electricity running through the fence. Instead the charger emits a short pulse or burst of electricity through the fence. The intensity and duration of the electrical pulse varies with the type of charger or controller unit. Chargers with a high-voltage, short duration burst capacity are the best because they are harder to ground out by tall grass and weeds. These types are also the safest, because, even though the voltage is high (5 kilovolts) the duration of the burst is very short (2/10,000 of a second) (FitzGerald, 1984).

Two basic energy sources for chargers are batteries (12-volt automotive type) and household current (110 volt). Battery-type chargers are typically cheaper to purchase but require more maintenance because of the necessity of charging the battery. The advantage of a battery powered charger is that it can be used in a remote location where 110-volt current is not available. Most units that are powered by a fully charged 12-volt deep-cycle batteries can last three weeks before needing a charge. Addition of a solar trickle charger will help prolong the duration of effective charge in 12-volt batteries.

Fence Posts. On small scale fences, the posts are normally the second largest expense involved in construction. Therefore, when planning an electric fence it is a good idea to utilize existing fencing in order to save money. If no existing fence is available, posts will need to be placed around the area needing protection. Posts may be wood, metal, plastic, or fiberglass. Wood and metal posts will need to have plastic insulators attached to them which prevent the electric wire from touching the post causing it to ground out. Plastic and fiberglass posts do not need insulators, the wire may be affixed directly to these posts. Wood and metal posts are typically more expensive and require the added expense of insulators, however, they are more durable and generally require less maintenance.

Wire. Fourteen to seventeen gauge wire is the most common size range used in electric fencing. Heavier wire (a lower gauge number) is more expensive but carries current with less resistance and is more durable (FitzGerald, 1984).

The two most common types of wire are galvanized and aluminum. Galvanized wire is simply a steel wire with a zinc coating to prevent rust, which makes the wire last longer. Some wire is more galvanized than others. The degree or amount of zinc coating that is around the core steel wire is measured in three classes. A class I galvanization means the wire has a thinner coating of zinc than a class II galvanization. Class III galvanized wire has the heaviest zinc coating and will last longer than the class I and class II wire (FitzGerald, 1984). In general, the cost of galvanized wire increases as the class or amount of galvanization increases.

Aluminum wire is typically more expensive than the galvanized wire. Some advantages of aluminum wire are: it will not rust, it conducts electricity four times better, and it weighs one-third less than steel wire.

The Ground Rod. The ground is an often overlooked, but critical part of an electric fence. Without a good ground, electricity will not flow through the wire. When an animal touches a charged wire, the body of the animal completes the electrical circuit and the animal feels the “shock”. The current must travel from the charger through the wire to the animal and then back through the ground to the charger if the animal is to feel the shock. The soil acts as the return “wire” (ground) in the circuit. However, if a

bird was to land on a charged wire without touching the soil the bird would not complete the circuit and would be unaffected (FitzGerald, 1984). Some fence configurations use actual grounded wires within the fence to enhance the grounding system.
The ground may be a commercial ground rod or a copper tube or pipe driven six to eight feet in moist soil. Copper is expensive, so a copper coated steel pipe or any other good conducting metal pipe will work also. Very dry soil can effect the ability to create a good ground and has sometimes been a problem during drought conditions. Pipe may be a better choice than a solid rod during drought conditions, because water may be poured down the ground pipe to improve the ground. Some fence configurations use wires as the grounding system, rather than relying solely on the soil as a ground.

Recommended Electric Fence to Deter Black Bears

Conditions at fence sites will vary and will determine what the most effective fence configuration will be. Commission biologists welcome the opportunity to visit sites and provide custom tailored advice on constructing an effective electric fence. The following recommendation will cover most situations with low to moderate pressure from black bears. Use a five strand aluminum wire fence that is 40 inches high with wire spacing every eight inches apart using the previously mentioned wired grounding system (see Figure 1). The wire closest to the ground level (the lowest wire) should be a charged or "hot" wire. The second wire should be grounded. The third wire should be hot. The fourth wire should be grounded and the fifth wire should be hot. If using metal or wood posts, insulators must be used to keep the hot wires from grounding out. The cost of this type of electric fence utilizing fiberglass posts and a 110 volt fence charger is approximately $200 for a 40' x 40' area (160 linear feet of fence).

Materials:
1 - 1, 312 foot roll (1/4 mile) 14 gauge aluminum electric fence wire
1 - 50 foot roll 12 gauge insulated wire
20 - 5 foot 5/8 inch dia fiberglass fence posts
5 - plastic gate handles
1 - 110 volt fence charger
1 - 10 foot ground pipe
4 - plastic electric fence signs

Installation. These instructions are for a square shape fence exclusion, but the process would be very similar for other applications. Drive 4 corner posts 1-foot deep into ground and stake with guy wires. Clip, rake, and keep clear any vegetation in a 15-inch wide strip under the fence and apply herbicide. Attach and stretch the aluminum wire at 8-inch increments starting 8 inches from ground level. A loop of wire should be left on each wire at the first corner post. Once the wire has been stretched around the outside of all the corner posts back to the first post a plastic gate handle should be attached to each wire and the gate handles should be attached to each

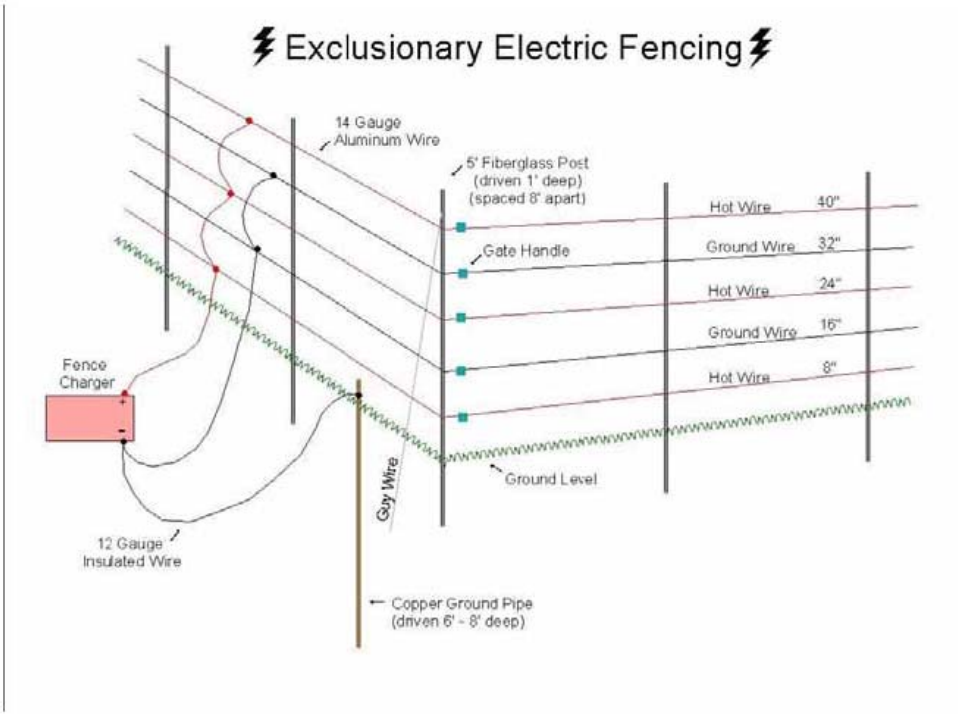
corresponding loop on the first corner post. Drive in the remaining 16 posts to the same depth at 8-foot intervals between corner posts. Secure each of the five wires to each of the posts with additional wire. Attach four plastic electric fence signs (one on each side) to the top wire of the fence. Attach a 12-gauge strand of insulated wire to the positive terminal of the fence charger and attach it to the first, third, and fifth wires of the fence. Attach another 12 gauge insulated wire to the negative terminal of the charger and attach this wire to the ground pipe which has been driven into the ground 6 to 8-feet deep. Attach another 12 gauge insulated wire from the negative terminal of the charger to the second and fourth wires on the fence. Plug the charger into a 110 volt power supply and the fence is in operation.

Tips to improve the effectiveness of your electric fence to deter black bears:

1. If using a 12-volt fence charger, ensure that the battery is charged; check every two weeks.
2. Make sure terminals on the charger and battery are free of corrosion.
3. Make sure hot wires are not being grounded out by tall weeds, fallen tree branches, broken insulators, etc.
4. If fence wires have been broken and repaired, make sure wires are corrosion free where they have been spliced together. Also, tighten the fence at each corner post as wires that have been spliced and are loose make poor connections.
5. Be sure to rake vegetation from under and around the outside of the fence as this may act as an insulator.
6. To improve the ground around the perimeter of the fence add a piece of 24 inch chicken wire laying on the ground around the outside of the fence. This should be connected to ground.
7. During periods of drought pour water down the ground pipe and around the ground pipe to improve the ground. Digging a 6 inch deep 6 inch diameter hole around the ground pipe and back filling with rock salt will also improve the ground. Additional ground pipes may also be added to portions of the fence farthest from the charger.
8. To ensure that the bear solidly contacts the charged portion of the fence, a bait like bacon strips, a can of sardines, or tin foil with peanut butter may be attached to one of the top hot wires. Make sure these do not contact the ground, thus shorting out the fence.
9. When protecting a specific structure (like a shed or rabbit hutch), the fence should be placed 3 to 5 feet away from the structure (rather than on it) so that the bear encounters the fence before reaching the attractant.
10. Protect the fence charger from the elements by covering it with a plastic bucket or a wooden box.
11. Place plastic electric fence signs around the perimeter of your fence to improve visibility and to warn other people.

LITERATURE CITED

FitzGerald, James (1984), *The Best Fences*. Storey Publishing Bulletin A-92, Pownal, Vermont. p. 14-16.



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AGREEMENT
ATTACHMENT 2

Place Holder for Map

Of

Apiary Locations

At

WMA/WEA

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APIARY SITE APPLICATION FORM

Florida Fish and Wildlife
Conservation Commission

RETURN TO: The Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, FL 32399-1600. Please print or type all information. Attach additional sheets if necessary.

Name _____ Telephone Number _____

Mailing Address _____

City or Town_____ County _____ Zip Code _____

Physical Address (If Different from Mailing Address) _____

Company Name: _____

Email Address _____

Requested Wildlife Management or Wildlife and Environmental Area(s)(see attached list of WMA/WEAs with apiary sites):

WMA/WEA _____ County_____ # of Sites_____

WMA/WEA _____ County_____ # of Sites_____

WMA /WEA_____ County_____ # of Sites_____

WMA /WEA_____ County_____ # of Sites_____

Planned Number of Hives Per Site: _____ Permanent: ____ Seasonal: _____

Member of Beekeepers Association: Yes____ No____

Number of Years a Member_____

Name of Beekeepers Association:_____

Are you registered with Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI):_____Yes _____No _____N/A If yes, please provide proof.

Are you current with any and all special inspection fees:_____Yes _____No _____N/A. If yes, please provide proof.

Do you follow all recommended Best Management Practices from FDACS/DPI?:_____Yes _____No

If no, then please explain on a separate piece of paper.

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Please provide below a chronological history of your beekeeping experience. If you need more space, please provide additional sheets:

References: If a new apiary contractor, please provide on a separate piece of paper at least 3 references who can verify your apiary experience. Provide each reference's name, address, phone number and email address (if applicable). Please attach reference sheet to this document and submit.

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MISSION STATEMENT

Management

Of

Florida Fish and Wildlife Conservation Commission's

Wildlife Management Areas

And

Wildlife and Environmental Areas

The mission of the Florida Fish and Wildlife Conservation Commission (FWC) is to manage fish and wildlife resources for their long-term well-being and the benefit of the people. To aid in accomplishing this mission, one of FWC's management goals is to manage fire-adapted natural communities on our Wildlife Management and Environmental Areas (WMA/WEA) to support healthy populations of the plants and animal's characteristic of each natural community. In order to achieve this goal various habitat management techniques are used. These include prescribed burning, applications of herbicides and mechanical treatment of vegetation. These management efforts will take place at various times and locations on each of the FWC's WMA/WEAs. Staff on each WMA/WEA will work with and make users aware of these activities when necessary. Users must be aware and accept that these activities are necessary for the proper management of the area.

Note: This document is included as an attachment with each Application and executed Contract.

FDACS/DPI's BMP

Florida Department of Agriculture & Consumer Services

BEST MANAGEMENT PRACTICES FOR

MAINTAINING EUROPEAN HONEY BEE COLONIES

1. Beekeepers will maintain a valid registration with the Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI), and be current with any and all special inspection fees.

2. A Florida apiary may be deemed as European Honey Bee with a minimum 10% random survey of colonies using the FABIS (Fast African Bee Identification System) and/or the computer-assisted morphometric procedure (i.e., Universal system for the detection of Africanized Honey Bees (AHB) (USDA-ID) or other approved methods by FDACS on a yearly basis or as requested.

3. Honey bee colony divisions or splits should be queened with production queens or queen cells from EHB breeder queens following Florida's Best Management Practices.

4. Florida beekeepers are discouraged from collecting swarms that cannot be immediately re-queened from EHB queen producers.

5. Florida Beekeepers should practice good swarm-prevention techniques to prevent an abundance of virgin queens and their ready mating with available AHB drones that carry the defensive trait.

6. Maintain all EHB colonies in a strong, healthy, populous condition to discourage usurpation (take over) swarms of AHB.

7. Do not allow any weak or empty colonies to exist in an Apiary, as they may be attractive to AHB swarms.

8. Recommend re-queening with European stock every six months unless using marked or clipped queens and having in possession a bill of sale from an EHB Queen Producer.

9. Immediately re-queen with a European Queen if previously installed clipped or marked queen is found missing.

10. Maintain one European drone source colony (250 square inches of drone comb) for every 10 colonies in order to reduce supercedure queens mating with AHB drones.

11. To protect public safety and reduce beekeeping liability, do not site apiaries in proximity of tethered or confined animals, students, the elderly, general public, drivers on public roadways, or visitors where this may have a higher likelihood of occurring.

12. Treat all honey bees with respect.

RANDOM

SELECTION PROCESS

FOR VACANT APIARY SITE

When an apiary site becomes available the following procedure is used to randomly select the next apiarist (beekeeper) for an available apiary site on a WMA or WEA. Only those who have been evaluated and deemed qualified to be an apiarist on a WMA/WEA through the Apiary Application process will be eligible for this selection process. The steps below will be followed by the THCR Contract Manager when a site becomes available to be filled by a qualified apiarist:

1. The THCR Contract Manager will maintain an "Apiary Wait List Folder" on the THCR SharePoint for each WMA/WEA with apiary sites.
2. A wait list is either created or updated when an Apiary Application(s) is received by the THCR Contract Manager from a qualified apiarist.
3. Upon receipt of an apiary site application, the THCR Contract Manager will review the WMA/WEA folder to see if there is an "Apiary Wait List".
4. If a list exists then the qualified applicant will be added to the list.
5. When an apiary site becomes available if there are more than one qualified apiarist then these apiarists will be contacted by certified letter to determine their interest.
6. The letter will request a response within 10 working days to make them eligible for the random drawing.
7. If there is no response or is negative then that apiarist will not be included in the random drawing and the name will be removed from the waiting list*.
8. If only one apiarist responds positively to the certified letter then the available site will be awarded to that interested apiarist.
9. If there are no apiarists on a wait list or all responses are negative then apiarists who currently have site(s) under Agreement and where not on the waiting list will be contacted to see if any have interest in the available site. If more than one responds then the random drawing process will be used to determine who will be awarded the site.

10. Steps to be performed by the THCR Contract Manager to execute the random selection for an available apiary site are listed below:

    a. The names of each interested apiarist will be noted on a 1" X 2" piece of paper and folded in half.

    b. The pieces of paper will be inserted into a "black film canister" which has a snap top and placed into a container and stirred up prior to the selection.

    c. A non-biased person will be selected to reach into the bowl (which will be held above the selection person's eyesight) and randomly select one of the canisters.

    d. The canister will be opened by the person performing the selection and the name is read aloud for those in attendance. Everyone in attendance will sign a witness sheet.

    e. The apiarist whose name is selected will be awarded the available site.

    f. A new Agreement will be developed by the THCR Contract Manager.

*A new apiary application must be submitted once requestor's name is removed from a waiting list.

11.13 Prescribed Burn Plan

JOE BUDD WILDLIFE MANAGEMENT AREA
CONCEPTUAL PRESCRIBED BURN PLAN



I. INTRODUCTION

A. Purpose

The purpose of this document is to develop a conceptual prescribed burn plan for those portions of Joe Budd Wildlife Management Area (WMA) in which the Florida Fish & Wildlife Conservation Commission serves as lead agency. Fire is an indispensable component in the proper functioning of many natural ecosystems and substantially improves diversity of various wildlife habitats. As such, prescribed burning is recognized as a valuable tool in the overall management of the Joe Budd WMA.

B. Area Description

The 11,039 acre Joe Budd WMA is located in the southeast portion of Gadsden County, Florida along the north shore of Lake Talquin. The area lies approximately six miles southeast of Quincy and seven miles west of Tallahassee. This area consists of a multitude of different types of land acquisitions and management authority. The 794 acre Budd and the 927 acre Little River Tracts were purchased directly by the Commission via its land acquisition trust fund. Another 1,032 acres, known as the Davis Tract, was the Commission's very first acquisition under the Preservation 2000 Inholdings and Additions Program. Combined, these properties constitute about 25% of Budd and include the portion of the WMA in which the Commission serves as sole lead agency with full management responsibilities, including prescribed burning. Consequently, it is these tracts for which this conceptual prescribed burn plan applies. The remaining three-fourths of the property consists primarily of previous Florida Power Corporation land in which the Florida Division of Forestry (DOF) serves as lead agency along with the 2,018 acre Rocky Comfort Tract where both the Commission and the Division of Forestry shares lead agency responsibilities 50:50, both of which make up a portion of the Lake Talquin State Forest.

The various tracts on which the Commission serves as lead agency consist of a wide variety of vegetative types. The Little River Tract was formerly part of the old Joyceland Dairy. The northern portion of the area consists of old abandoned pasture land, some of which has been

planted in Loblolly Pine by the previous owner. Restoration of some of the pasture back to Longleaf Pine is also being attempted as part of a Wildlife Habitat Incentive Program (WHIP) grant from the Natural Resource Conservation Service. There are also some hardwood ravines draining to Richlander Creek. The southern portion of the area is in the floodplain of the Little River and was once cleared for agriculture but is slowly recovering. Approximately 311 acres of this 927 acre tract, or about 34%, is in pine plantations or old fields and considered burnable and included in this burn plan.

The Budd Tract is characterized by a substantial amount of quality mesic flatwoods/upland pine. Averaging 50 to 70 years old, this predominately longleaf pine stand has been regularly burned and contains good quality understory commensals. This tract is also bisected by several shallow creek drains and also contains some high quality slope forest along it's boundary with the Little River. Mature pine make up approximately 452 acres of this 794 acre tract, or about 57%, and is included in this burn plan.

The Davis Tract is located in Zone F and actually consists of four separate parcels totaling 1,032 acres. The southeastern most tract is located in the floodplain of the Ochlockonee River and consists primarily of cutover, second growth bottomland hardwoods. It has also been impacted by mining for Fuller's earth and contains little or no burnable acres. The central and northern parcels are very similar, having been logged by the previous owner and replanted in Slash and Loblolly Pine plantations. They are currently only about eighteen or nineteen years old and just beginning to get large enough to begin conducting prescribed burns. The central tract also contains a large clay pit along with some hardwood areas along the south boundary. Finally, the westernmost parcel of the Davis Tract is unique in that it is the only one not logged by the previous owners. It contains some relatively mature Longleaf Pine, primarily in the northern portion of the area, while hardwoods dominate the southern portion near Lake Talquin. Eliminating hardwoods, creek drains, clay pit, and other nonburnable areas, approximately 497 of the 1,032 acres, or 48%, is deemed burnable and included in this plan.

Out of the 2,753 acres of Joe Budd WMA in which the FWC has sole management responsibility, a total of 1,260 acres, or about 46%, is considered burnable and addressed in this conceptual prescribed burn plan.

C. Objectives

Prescribed fire will be utilized on Joe Budd WMA as one of many techniques for manipulating and managing various wildlife habitats to accomplish a variety of objectives. One of the primary objectives for the use of prescribed fire on Budd is the restoration and/or maintenance of fire-dependent native vegetative communities, as well as setting back succession. This will not only serve to promote native plant communities but insure that plant and wildlife diversity is increased by maintaining an early successional component to the habitat. Prescribed burning will be utilized almost exclusively in stands dominated by pines. So long as crown density is kept low enough so as not to inhibit understory growth, fire is one of the best tools available for controlling hardwood encroachment into pine stands and keeping the understory structure where it can provide the most benefits to a wide variety of wildlife species, such as browse for deer, brood habitat for turkeys, and habitat for gopher tortoises and fox squirrels, for example.

Many other secondary objectives are also accomplished via prescribed burning as follows:

1) Reduction of fuel loads which help to prevent or mitigate the effects of wildfires.
2) Control of invasive exotic plant species.
3) Site Prep prior to forest regeneration.
4) Disease control such as brownspot in longleaf.
5) Improved aesthetics and public access.
6) Reduces competition and helps release longleaf pine seedlings, improving the success of regeneration efforts.

II. BURN TIMING AND FREQUENCY

Prescribed burning is generally broken down into two temporal categories. Dormant or winter burns are conducted during the cooler period of the year. Most plants are not actively growing at this time, making them less susceptible to damage from fire. The cooler temperatures also help protect plants, resulting in less heat damage such as needle scorch. The numerous cold fronts during the winter in North Florida provide ideal burning weather with low humidities and consistent winds for a couple of days

following the front. All this makes prescribed burning during the dormant season much easier and more forgiving. However, results are somewhat less dramatic and are especially poor in accomplishing adequate hardwood control. In North Florida, this period is generally considered to be from October through March.

Summer or growing season burns are conducted during the warmer months of the year and are often referred to as lightning season fires. This is because these burns more closely mimic a natural fire regime that is most often started by lightning, which occurs frequently during the numerous thunderstorms this time of year. It is believed that the fire-dependent native plant communities in this area adapted at least partially to not only withstand but thrive when exposed to these commonly occurring natural fires. Consequently, growing season burns are important in maintaining these types of communities. For example, hardwood encroachment is much better controlled with prescribed burns this time of year. However, because the weather pattern is more tropical in nature, fronts are much less common than during the winter, resulting in high temperatures and humidities with much less predictable or consistent winds. It is therefore much more difficult to burn at this time and care and planning must be exercised to avoid undesireable consequences. In North Florida, growing season burns are generally considered to include burns conducted in April through September.

It is not the intent of this conceptual plan to discuss specific burn compartments. Suffice it to say that the vegetative structure and composition will be considered for each individual compartment when deciding upon the best time to burn to achieve specific objectives for that stand. For example, dormant season burns may be initially employed to reduce heavy fuel loads. Then summer burns may be conducted to achieve desired community structure and composition. Once accomplished, dormant season burns may again be utilized with occassional growing season burns for maintenance of the stand.

Substantial effort will be made to maximize diversity by incorporating both growing season as well as dormant season burns well-interspersed throughout the area wherever possible. The same is true of the frequency of burning, referred to as the burn rotation, or the length of time between burns. For example, it is commonly accepted that good quail management requires frequent prescribed burns, often annually. This creates a very early successional stage dominated by annual herbaceous plants that are prolific seed producers. It also provides a relatively

open vegetative structure necessary for these small birds to navigate while foraging. Conversely, prescribed burns conducted primarily for deer are generally on a longer three to five year rotation to permit a slightly more woody component and increased biomass to maximize browse availability. Since deer are the featured species on Joe Budd WMA, most burn rotations will be in the three to five year range. The only exception are the pasture compartments in the Little River Tract, which are generally on a shorter one to two year rotation to take advantage of the more open nature of the vegetation and where quail densities are the highest. As with the timing of burning, varying the frequency of burning among adjacent compartments will help maximize the spatial distribution and juxtaposition within the area and achieve a well-distributed mosaic of various habitat types.

Another consideration regarding the timing of burns on the Joe Budd WMA is that, due to it's small size and the intensive use the area receives by hunters, prescribed burning must be avoided during scheduled hunts. This includes Saturdays and Sundays from October through January and again in mid-March through late April. Fridays during December and January must also be avoided. In addition, even though it is not a hunt day, Thursdays during December and January must usually be avoided as well due to the need to conduct the drawing prior to every archery and archery/muzzleloading gun hunt and the high numbers of hunters on the area preparing for the weekend hunt. Consequently, in December and January, only three days a week, Monday through Wednesday, will be available for burning. In fact, because of the need to complete track counts, training of OPS check station operators, supervision of hunts and Christmas holidays, rarely will prescribed burning be conducted in December.

III. FIRING TECHNIQUES

A. Methods

Various methods and techniques for setting prescribed fires exist such as back fires, flanking fires, and head fires. Back fires are those in which the fire burns into the fuel and against the wind. These types of fire burn slowly and are much easier to control with typically low flame heights. Head fires are set in such a manner that

the wind 'pushes' the fire into the fuel. These fires can burn very quickly, depending on the wind speed, and flame heights are much higher, resulting in a much greater liklihood of damage to overstory trees. A strip head fire is similar to a head fire except it is set only a short distance from the previous fire instead of completely on the upwind side of the entire compartment in order to minimize the time the fire can gain in intensity before encountering the previously burned area. Flanking fires are set parallel to the prevailing wind and fall somewhere between back and head fires in intensity.

At all times on the Joe Budd WMA, prescribed burns will begin with a back fire to secure the baseline. The baseline is the road, firebreak, or natural boundary of a compartment furthest from the direction the wind is coming from. In this way, a low, more easily controlled fire can be used to increase the safety zone away from adjacent downwind stands to minimize the potential for spotovers. In addition, the burn crew can concentrate along this boundary during the beginning of a burn to be available to react to any potential problems. Once the fire backs away from the baseline a sufficient distance, other firing methods can be considered. The exact method employed will depend greatly on the density and height of the fuel in relation to the overstory, the consistency and strength of the wind, fuel moisture, temperature, and objectives of the burn. If fuels are light, the stand has been burned regularly, and the trees are relatively mature, a flanking or strip head fire can be utilized without too much danger of damaging the overstory. On the other hand, if the fuels are heavy and the overstory young, the back fire may be allowed to completely traverse the stand in order to minimize it's intensity. Head fires will likely only be used on the pasture compartments on the Little River Tract due to the lack of overstory. The point is that the specific conditions and objectives for each individual stand will be considered before selecting the method of burning.

B. Equipment

Due to the small size and wide distribution of burn compartments, aerial ignition will not likely be used for conducting prescribed burns on the Joe Budd WMA. A combination of hand-held drip torches and ATV-mounted drip torches will be the primary means of ignition. ATV mounted

torches will be utilized wherever possible due to their speed and efficiency. A small dozer with root rake and/or a farm tractor and disc as well as a 500 gallon pumper truck will be on standby during the majority of burns.

IV. FIRELINES

Adequate firelines are essential for controlling prescribed burns. On the Joe Budd WMA, it is the policy to utilize existing service as well as public roads and natural barriers, such as creeks, whenever possible to minimize erosion. In addition, plowed lines will be avoided due to their propensity to form ditches which are especially prone to erosion. Instead, light discing with a farm tractor will be employed and only where absolutely necessary. Even so, a total of approximately 12 miles of disced firelines are required to safely contain burns on all compartments on Joe Budd. This is in addition to approximately 18 miles of service and public roads and another 11 miles of natural boundaries such as creeks.

V. BURN UNITS

A. Size & Distribution

The Commission-managed portion of Joe Budd WMA has been divided into a total of 29 prescribed burn compartments (see Figure 1.). Given the total of 1,260 acres considered burnable, this yields an average of 43.4 acres per burn unit and ranges from 17.6 to 91.8 acres. Due to Budd's relatively small size, a concerted effort was made to keep the burn units small compared to most other WMA's in order to increase habitat diversity over short distances. Size was also determined to a large degree by available roads and other natural fire boundaries so as to minimize the need to install disced firelines to the extent feasible. However, the fact that the Commission-managed areas are disjunct and scattered among the DOF managed property as well as private property created the need for more firelines to protect adjacent properties than would normally be the case.

Table 1 illustrates the prescribed burn compartments that are scheduled for burning during the 2007-2008 fiscal

year. In addition, Table 1 also describes the recent burn history of each unit. The average number of acres burned for the previous six year period is about 329 which is just over one-fourth of the burnable acreage during that time. Consequently, the 468.5 acres scheduled for burning this fiscal year is an aggressive goal of 37.2 percent, or over one-third of the currently burnable acreage.

B. Smoke Management

The Joe Budd Wildlife Management Area has 32 separate burn units, each of which has it's own burn parameters and difficulties. Some of the burn units can only be burned on a wind containing a northerly component, while other burn units can be safely burned on any consistent wind direction. The area's smoke management plan changes from unit to unit depending on it's location within the area and the proximity to State and county highways, residential and other smoke sensitive areas.

The smoke management plan and map are included in each unit's burn prescription, detailing the required burn parameters, including wind direction, and predicted conditions for each burn. All smoke sensitive issues will be addressed.

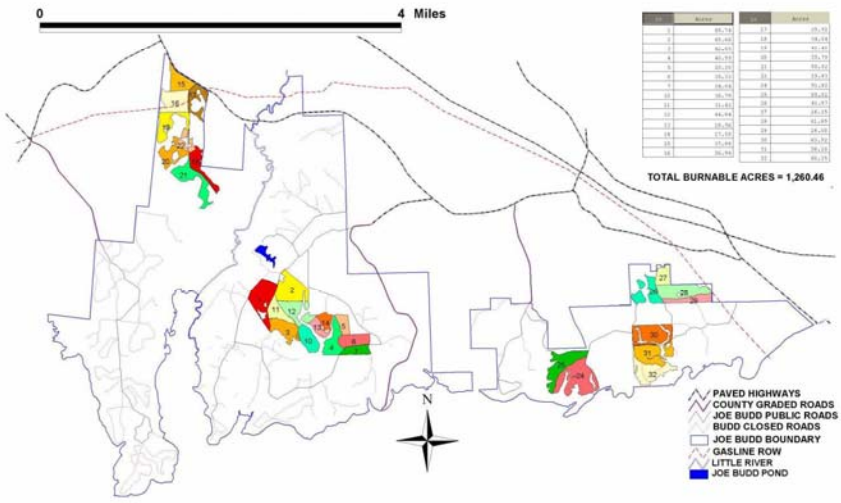


FIGURE 1. Joe Budd Wildlife Management Area Prescribed Burn Compartments on property where the Fish & Wildlife Conservation Commission serves as lead agency.

TABLE 1. Joe Budd Wildlife Management Area Recent Prescribed Burn History and 2007-2008 burn plan.

MANAGEMENT UNIT	BURN COMPARTMENT NUMBER	SEASON ACTUALLY BURNED 00-01	01-02	02-03	03-04	04-05	05-06	06-07	PROPOSED 07-08
1	15				37.9 01-13-04			37.9 02-07	37.9 01-08
	16	57.0 02-01			57.0 01-13-04			57.0 02-07	57.0 01-08
	17					29.5 02-05	29.5 02-09-06		
2	No burnable acres								
3	18		34.0 02-12-02			34.0 12-15-04		34.0 02-23-07	
	19	41.4 02-01		36.4 01-15-03		36.4 03-24-05		15.0 02-23-07	
	20		35.8 02-12-02		35.8 01-20-04		35.8 02-10-06	35.8 02-07	35.8 01-08
	21	55.9 02-01		50.9 01-15-03			50.9 02-13-06	50.9 02-27-07	
	22	19.8 02-01	19.8 02-12-02	19.8 01-15-03	19.8 12-22-03	19.8 12-15-04	19.8 02-01-06	19.8 02-23-07	
4	No burnable acres								
5	5*				20.2 04-14-04			20.2 05-07	20.2 08-07
	6*	35.3 05-01	36.3 05-02	35.3 04-02-03			35.3 05-04-06		
	7*	24.0 04-01	24.0 04-02	24.0 05-03	24 07-16-03		24.0 07-30-06		24.0 04-08
6	4	41.0 01-01	41.0 01-02	41.0 02-13-03			41.0 03-02-06		
	13							18.6 03-06-07	
	14*	17.6 04-01	17.6 02-02	17.6 02-12-03				17.6 03-06-07	
7	2				69.7 02-04-04				69.7 08-21-07
	12				44.8 03-02-04				
8	1*	69.7 04-01	69.7 08-22-01		69.7 09-09-03		69.7 08-01-06		
	11*	31.4 05-01	31.4 05-02	31.4 04-01-03		31.5 06-21-05			31.4 04-08
9	3	42.6 02-01	42.6 02-02	42.6 02-12-03			42.6 03-07-06		
	10					36.8 01-19-05			36.8 02-08
10	24*	91.8 05-01	91.8 05-02	91.8 03-12-03		91.8 04-21-05		91.8 04-07	91.8 04-08
11	25					65.0 02-10--05		65.0 01-15-07	
12	26								
13	27								
	28								
	29								
14	30				63.9 03-08-04				63.9 02-08
15	31					58.2 01-25-05			
	32				40.0 02-17-04	22.0 03-29-05			
16	No burnable acres								
TOTAL ACRES		0.0	159.3	366.8	482.8	395.5	347.6	220.9	468.5

Indicates a growing season burn

Indicates a compartment planned but not burned.

B. Burn Prescription

Appendix 1 contains an example burn prescription. A burn prescription will be prepared for every prescribed burn that is conducted. It will contain such information as the name of the area, which unit is to be burned and it's size in acres, the landowner number, the date of the burn and burn permit number, the county and location data expressed as section, township, and range. It will also include a stand description providing information on the overstory size and species composition, primary understory species present, subjective estimate of fuel load and topography and primary soil type/association. The methods section will describe the purpose or objective of the burn, the personnel and equipment required, which firing techniques will be used, identifies smoke sensitive areas, and finally any special precautions specific to that compartment that should be considered. The environmental and fire behavior parameters section identifies a range of values for various conditions that should be met prior to beginning the burn. These include such items as the date and time for the burn, days since rain, transport and surface winds, temperature, relative humidity, fuel moisture, flame height, and rate of spread. There is also a notification list of any agencies or adjacent landowners which should be advised of the burn. A preliminary evaluation section provides some basic information regarding the immediate results of the burn such as the firing technique, personnel, and equipment actually used, smoke dispersion, percent crown scorch, char height, and percent of area burned. Finally, the plan also includes the individual who prepared the plan and their burn certification number.

VI. POST BURN MONITORING

As stated in the previous section, a portion of the burn prescription describes the immediate results following the burn. Any additional monitoring of the burn is usually made on a subjective basis. Some photo monitoring has taken place in the past on the Joe Budd WMA but this was conducted primarily for providing illustrations of the effects of prescribed fire for presentations and other educational purposes.

APPENDIX 1

PRESCRIBED BURN PLAN & PRESCRIPTION

The Joe Budd WMA Conceptual Prescribed Burn Plan is included as a part of this Prescription by Reference.

Area Name:	Joe Budd WMA	**Burn Unit/Compartment:**	1	**DOF Customer #**	1308613
Acres:	69.7	**Landowner #:**	8126	**Burn Date:**	**Permit #:**
County:	Gadsden	**Township:**	1N	**Range:** 3W	**Section (s):** 15
Agency:	Florida Fish & Wildlife Conservation Commission			**Ph. #:**	(850) 627-1773
Address:	5300 High Bridge Road Quincy, Florida 32351				

STAND DESCRIPTION

Overstory: 80% mature Longleaf Pine with a few scattered live oaks. 20% small oak saplings and larger hardwoods in the southern portion of the unit.

Understory: Primarily gallberry and oak brush with various *Vaccinium spp.* Scattered saw Palmetto, *smilax spp.*, wiregrass, and other *ILEX spp.*

Fuel Load: moderate

Topography and Soil: Flat but gently sloping towards the south as you approach Lake Talquin. Soils are primarily Blanton Fine Sand with scattered areas of Rutledge Fine Sand and some Lakeland Sand.

PLANS and CONSIDERATIONS

History of Burn Unit: This compartment has been on a growing season rotation and was last burned in September 2003.

Purpose/Objective: To reduce 70% of the fuel load and to top kill 50% of the juvenile Hardwoods. Also to promote herbaceous growth in the Longleaf understory.

Smoke Sensitive Areas: On any south wind I-10 and County Rd 268 would become smoke sensitive so south winds should be avoided.

Public Relations: Surrounding rural community to the northwest of burn unit but should not be affected by smoke or fire.

Personnel and Equip. Minimum req.- two experienced burn personnel, tractor and harrow, 1 Hand held drip torch, 1 ATV mounted drip torch, 1 brush truck, and fire line hand tools.

Firing Technique: Perform a small test fire, if acceptable proceed with burn. Secure baseline With back fire- Small flanking fires and spot strip head fires may be uses if conditions permit.

Special Precautions: All boundaries (roads/firelines) of compartment are disced and surround the entire burn unit. However they can be very muddy and can only be traversed with four-wheel drive vehicles especially along the east boundary of the unit. There are several dead pine trees and snags along southwest boundary that require monitoring.

Mop up Standards: All material remaining burning following intial firing will be extinguished within 50 feet of any exterior fireline or natural boundary, plus all burning trees, snags, etc. that lie within 1.5 times their height to these boundaries will be extinguished and/or felled to remove the hazard.

Contingency Plan: In the event of a spot over or fire leaving the burn unit to an adjacent area, all firing will cease, and the escaped fire will be suppressed immediately with the 500 gallon brush truck, tractor plow or disk unit, ATV 's with water spray tanks, and hand tools. If initial suppression efforts fail, but the fire escapes to an adjoining burn unit and the weather conditions are safe to do so, Division of Forestry will be called to modify the existing burn permit to include the unit containing the spot over, instead of plowing any new fire lines.
If the escaped fire is on private property, public property managed by other agencies, or in a burn unit that can not be safely burned at that time, Division of Forestry will be called for assistance.

Emergency numbers:

Florida Division of Forestry	850-488-1871
City of Midway Fire Department	850-574-2355 ext-29
City of Quincy, Fire Department	850-627-7111
Gadsden County Sheriff	850-627-9233
Florida Fish and Wildlife –Dispatch	850-245-7716

FIRE BEHAVIOR, WEATHER, & ENVIRONMENTAL PARAMETERS

Prescription Parameter	Acceptable Range		Day of Burn
	Low	High	
Date:	June 1	Oct 1	
Start Time:	0900	1230	
Days Since Rain:	1	30	
Weather			
Temperature:	40	95	
Relative Humidity:	35%	70%	
Wind Direction:	northwest	northeast	
Transport Wind:	6 mph	20 mph	
Wind Speed Mid Flame:	2 mph	6 mph	
Cloud Cover:	0%	50%	
Dispersion Index:	30	70	
Environmental Conditions			
Soil moisture:	Moderate	High	
1 Hr./Fine Fuel Moisture:	7	13	
KBDI	1	500	
Fire Behavior			
Burn Technique:	Spot	Head	
Rate of spread:	3 chains/hr	20 chains/hr	
Flame Length:	3 Ft	6 ft	

Notification List

Div. of Forestry: 488-1871 **FWC Dispatch:** 850-245-7716

Other:

Burn Participants: David Mcduffie, Don Francis and Nathan Bunting

PRELIMINARY EVALUATION

Firing technique:

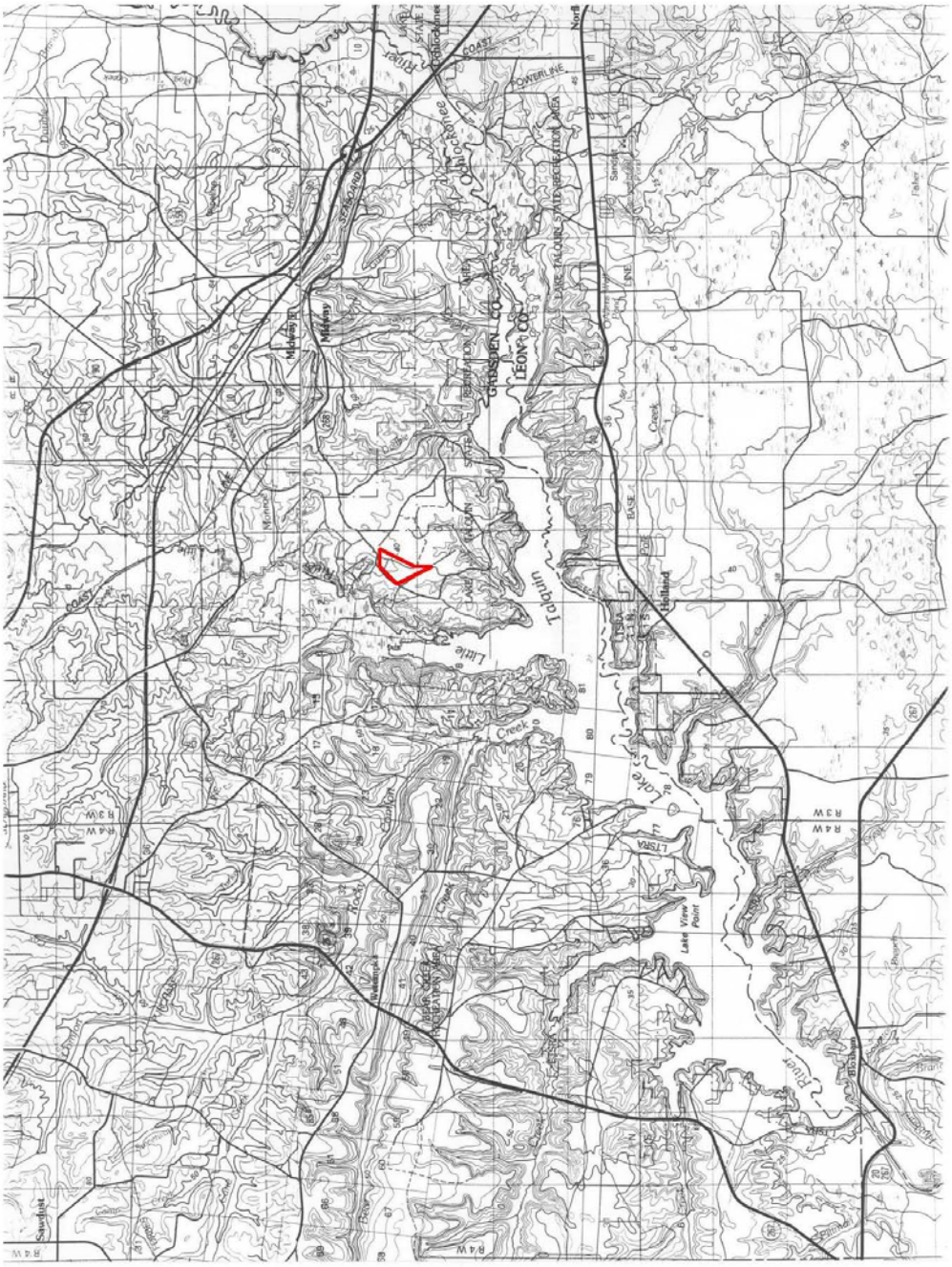
Smoke Dispersion:

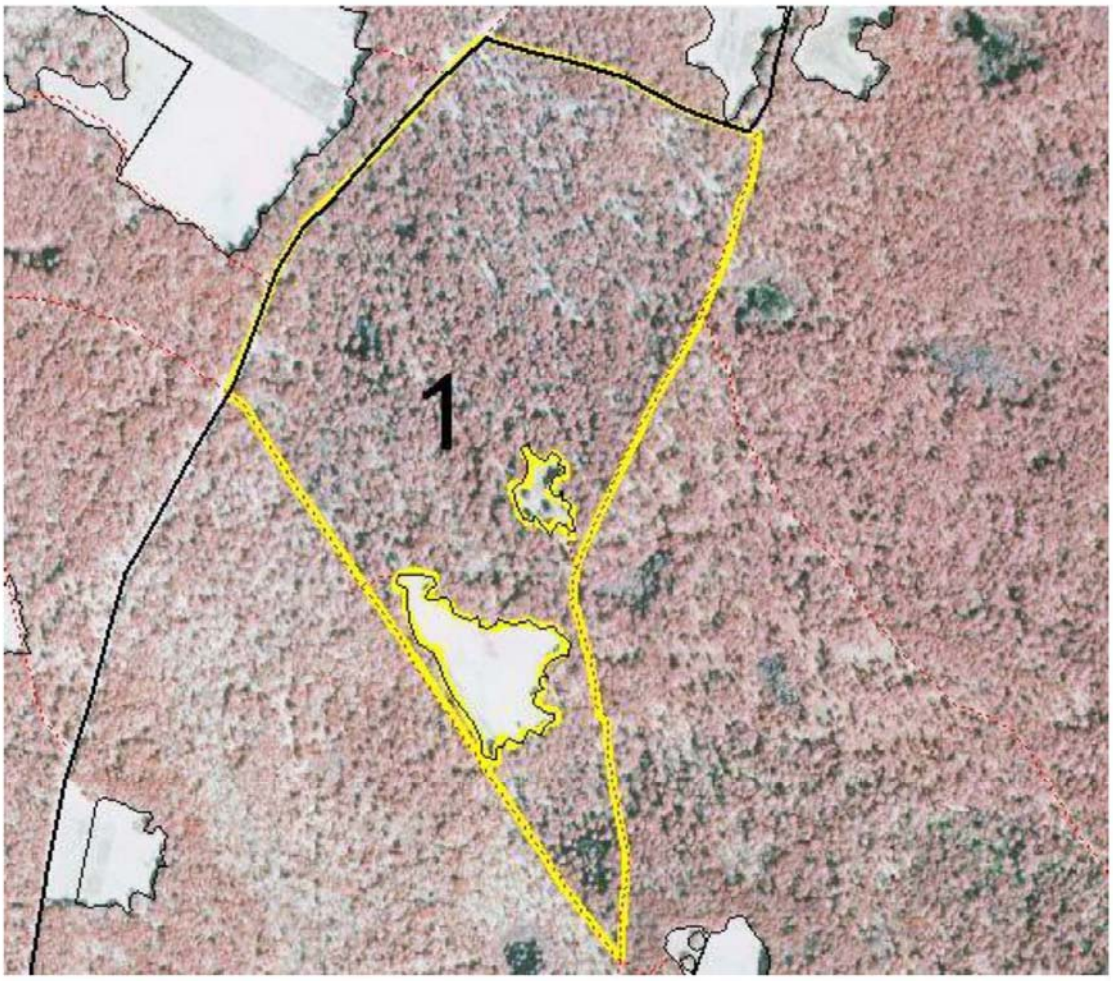
Mop up:

% Crown Scorch: **Char Height:** **% Area Burned:**

NOTES/COMMENTS

Plan Prepared By: David McDuffie **Date:** July 29, 2006


Tolquin
Lake
Creek
Holland
Midway
Sawdust
R4W
R3W


1

11.14 Timber Management Plan

TIMBER MANAGEMENT PLAN FOR
1,009 ± Acres
Of The
Joe Budd Wildlife Management Area (JBWMA)
Gadsden County, Florida, USA
FWC 14/15-85

Submitted to:

Florida Fish & Wildlife Conservation Commission
Morgan Wilbur, Project Manager
3911 Highway 2321 Road
Panama City, FL 32409

Submitted by:



Larson & McGowin, Inc.
10 North Florida St.
Mobile, AL 36607

May 15, 2015

EXECUTIVE SUMMARY

The Joe Budd Wildlife Management Area (JBWMA), located in Gadsden County, Florida, is a unique area that contains special communities, flora and fauna, and natural history. The Florida Fish & Wildlife Conservation Commission (FFWCC), charged with the protection and conservation of areas for the betterment of citizens, is undertaking the conversion of a portion of JBWMA from a former intensively managed forestry property along with older natural pine areas to a diverse array of communities more representative of the historical and natural landscape. This restoration is being taken through careful, integral steps founded in science that gradually restore target diversity, structure, and function.

The project area discussed in this timber management plan covers approximately 1,009 ± acres of pine timberland on JBWMA. Fifty-five percent of the project area (559 ± acres) contains mature natural pine stands over 75 years of age composed of loblolly, longleaf, and slash pine. These areas have been frequently burned over the last few decades and have substantial components of key understory guilds. The remaining 45% (450 ± acres) are planted loblolly, longleaf, and slash pine stands between 14 and 29 years of age.

This timber management plan presents a two-pronged silvicultural process by which the project area will be modified through time to longleaf pine communities guided by natural processes. The first approach is to promote natural longleaf pine regeneration in the older, naturally regenerated stands with selective harvesting, augmented with artificial regeneration if needed. The second approach, applicable to the planted pine stands, entails a series of overstory removals and artificial regeneration that gradually moves these stands to an all-aged longleaf pine community. The plan includes a 15-year schedule for timber harvesting and artificial and natural regeneration.. Herbicide operations are discussed in this plan but should only be used as a measure of last resort. Activity planning by year will aid the manager is making critical planning and management decisions. Justifications for each operation as well as for the need for adaptive management to provide flexibility in implementation are presented.

Judicious use of frequent prescribed fire will play an intrinsic and vital role in the success of this timber management plan. In addition, longleaf pine is a key species of implementation for the forested communities, and we present methods and justification through which critical components of its impact on the area at large may be restored. Using this timber management plan as a guide will enable those tasked with implementation to begin the gradual conversion of the project area to a natural assemblage of endemic communities across the landscape that meet long-term goals set by FFWCC.

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I. Project Background

Historical Context

Ecosystem restoration goals require comprehensive and adaptive approaches to successfully meet objectives. In many cases, the zeal to restore a forest back to its pre-settlement, "natural" state results in the complete removal of an undesired species and the artificial regeneration of the desired species. This has been the case across the southeastern US as declines in pulp prices among other reasons have caused landowners to look towards a longer-term financial horizon with less inherent risk and greater market flexibility (Johnson and Gjerstad 2006). Changes in management objectives have also evolved to where many show interest in restoring certain plants back to areas where it had been extirpated.

One plant species that receives more prominent attention than ever is longleaf pine (*Pinus palustris* Mill). Longleaf pine was once the king of the southeastern US forests, spanning 90 million acres from Virginia to Texas (Noss 1989, Ware et al. 1993). The longleaf pine ecosystem is the most diverse in the Western Hemisphere outside of the South American tropical rainforest (Noss 1989), and it owes much of this complexity to the interplay of fire and unique vegetative assemblages across the landscape. In addition, the longleaf pine ecosystem affords a greater hunting experience, wildlife diversity, and higher valued timber than that of many other pine species in the region.

When the Europeans arrived in the southeastern US they discovered a vast expanse of trees, an open understory allowing for unfettered travel, and a diverse animal population (Ware et al. 1993). Over the next several hundred years longleaf pine trees were harvested for use in ship masts, the turpentine industry, housing, naval stores, and many other needs. Fire was removed from the landscape largely for liability reasons and for agriculture, and over time the once prolific longleaf pine ecosystem was relegated to 3-4% of its original range (Noss 1989). In addition, longleaf pine was well known to exhibit slower juvenile growth than that of slash (*Pinus elliottii* Engelm.) or loblolly pine (*Pinus taeda* L.); eventually these 2 pine species became the standard of the pine timber industry in the southeastern US. That, coupled with the lack of understanding of regeneration dynamics and the role of natural disturbances, served to reduce the seemingly inexhaustible longleaf pine forests to relatively few, fragmented areas across the landscape.

Longleaf pine forests evolved over the millennia through stochastic natural disturbances that differed greatly over time and space. The most common disturbance in the longleaf pine ecosystem by far was the single lightning strike (Palik and Pederson 1996), which killed a single tree or small group of trees and, in some cases, caused fires that ranged from a few square feet to hundreds of thousands of acres. Light would penetrate the canopy to the ground, and the lower overstory competition would promote survival and growth of longleaf pine seedlings in canopy gaps. Fire—more than any other disturbance—would push back the ecosystem's successional clock, allowing the understory to greatly diversify and create more conducive conditions for longleaf pine seedlings to regenerate and mature. Other small-scale but frequent disturbances would occur over the landscape and open up slightly more of the canopy.

Large-scale, infrequent disturbances would occur every few years to decades apart, opening large swaths of the canopy and creating tremendous amounts of dead material that would be consumed

by fire or decompose over time. Under these conditions, mass regeneration events would create expansive areas of single-aged trees. Hurricanes and flooding, especially near the coasts, changed the composition of the landscape at a different scale than that of fires. The direction and intensity of interactions among disturbances were ultimately dependent on biotic and abiotic factors. *The net result of these interactions was a fire-climax ecosystem that was composed of a tree matrix varying in age and structural composition and a highly diverse understory.*

The low-intensity fires that mostly sustained the longleaf pine ecosystem are also part of the larger picture that impacts many of the communities in the project area and its surrounding forests. For example, wet prairies require very frequent (1-3 years) fire to hold off the invasion of hardwoods such as titi (*Cyrilla racemiflora* L.) and wax myrtle (*Myrica cerifera* L.). Mesic flatwoods, the most common upland community in Florida, is a major component of the area and is maintained by frequent fire every 1-8 years (FNAI 1990). Upland pine forests and sandhills, two other communities prevalent on the project area, have more xeric soils and oak components maintained by frequent fires. Bereft of fire the aforementioned communities are quickly invaded by wax myrtle and other hardwoods.

A discussion of the background of the longleaf pine ecosystem is not complete without an examination of the other flora and fauna that make up the landscape. The longleaf pine ecosystem contains the richest assemblage of plant and animal species in the western hemisphere outside of the tropical rainforest of South America (Noss 1989). Many of these species evolved with those segments of the ecosystem that make it so unique. The frequent fire which kept the understory in an early seral stage allowed for robust animal and insect populations with abundant food sources and cover close to the ground. The stochastic disturbances that helped create the variable overstory opened the canopy to many types of avian species. The subsequent configuration of the canopy created microsites suitable for a dizzying array of species that served as predator and prey, cover and perch. Many of the primary animal species are found throughout the southeast, even across the continent. These animals, including the white-tailed deer (*Odocoileus virginianus* Zimm.), wild turkey (*Odocoileus virginianus* Zimm.), and migratory birds are common across wide swaths of environmental and ecosystem gradients—grander in scale, covering hundreds of millions of acres across North America.

However, some species are adapted to a much narrower range of ecosystems. These specialists are only able to tolerate specific and sometimes very narrow conditions in order to survive. Most of these conditions occur naturally with time through climate and weather events, but humans have altered the impact of these events, for better and for worse. The gopher tortoise (*Gopherus polyphemus* Daudin) is a prime example of a species adapted to pine forests of the southeastern US, requiring relatively open forests with ground-level food sources and deep, sandy soils. Though long associated with the longleaf pine ecosystem, the gopher tortoise can be found in forests dominated by other pine species. Its preference for frequently burned longleaf pine forests with well-drained soils has been documented for decades. The population of the gopher tortoise has been on the decline for many years due to habitat loss, human and animal predation, and disease. It was listed as a threatened species under the Endangered Species Act (ESA) in 1987 in part of its range and has

received special protection in other regions where it is found. The gopher tortoise is known as a keystone species, with more than 350 documented animal and insect species using its burrows. There are several dozen additional species that are listed as threatened, endangered, or in peril that are associated with the longleaf pine ecosystem.

Of all the animal species that capture the essence of the longleaf pine ecosystem, the red-cockaded woodpecker (*Picoides borealis* Vieillot) stands alone. Unlike the gopher tortoise that can survive in young as well as old pine forests, the red-cockaded woodpecker (RCW) *requires* mature pine trees, with a strong preference for longleaf pine. It is a unique bird species in that it is one of only two woodpeckers protected under the ESA and the only woodpecker species that nest in live pine trees. It was listed as an endangered species in 1970, three years prior to the passing of the ESA. Once plentiful as recently as 1900, recent estimates of RCW populations are 12,000-15,000 birds in about 6,000 families in an exceedingly limited range. It lives in small families called clusters that contain one breeding pair and up to 4 male helpers (USFWS 2003).

While RCWs do make cavities in slash or loblolly pines (especially outside of longleaf pine's natural range), they favor relatively open, older longleaf pine forests for several reasons:

1. Older trees—RCW nests are carved out of living pines that contain a fungus causing red heart rot. This condition makes the wood softer and easier to excavate. RCW are able to actually detect trees that have cavities created by red heart rot (Rudolph et al. 1995). Once they have created a cavity about 20-50 feet above the ground that can take several years to complete, the RCW will call that place home for many years, maintaining the opening by pecking small holes in the wood below the opening (Conner and O'Halloran 1987). Since pines in the southeastern US are resinous species, these small injuries cause the tree to excrete a resin that retards other animals from scaling the tree and capturing the cavity for their use or predation. Over time the repeated excretions create a whitish hue surrounding the tree. Longleaf pines are well known for their relatively high resin content compared to slash or loblolly pine; therefore, the RCW prefers a pine that can secrete large amounts of resin to protect their nest. Red heart rot occurs in older pines and as young as 40 years of age. Additionally, longleaf pine can live more than twice as long (up to 500 years) as slash and loblolly pine, so the probability of a longleaf pine cavity tree dying is less than other pine species. There are, however, many instances of RCW creating cavities in older slash and loblolly pines, lending credence to utilization of these species for RCW management.

2. Open forests—RCW clusters can cover wide areas (up to 60 acres), but their foraging area can be far greater (up to 200 acres). The optimal habitat for RCW clusters is a sparsely spaced longleaf pine forest with a basal area of about 40 ft^2/ac with very little to no midstory, especially hardwoods. Reasons that the RCW prefers this open habitat include the overstory trees being likely larger with greater crowns and root systems, which usually equals greater resin flow; younger potential cavity trees; and greater wind resistance.

3. Frequent fire—Similar to that observed with the open habitat, frequent fire results in higher groundcover plant mass which is concomitant with higher insect populations, specifically arthropods (Collins 1998). The open stands also can carry more frequent fire than closed-canopy forests, which perpetuates many of the amenities the RCW so heavily depends upon (USFWS 2003). Frequent fire also helps to maintain the hardwood populations, keeping them at low stature.

At the time of the first drafting of the recovery plan for the RCW in 1979, it was recognized that public agencies would play a crucial role in the initial steps needed to rebuild RCW populations in areas where it had been extirpated or reduced. Notwithstanding the role that private landowners have played with respect to safe harbor agreements and direct involvement with habitat conservation, public lands will continue to be important for helping to meet downlisting and eventual delisting goals.

Ecological Restoration Context

In the effort to restore areas currently used as short-rotation, pine plantations back to communities of pyrogenic longleaf pine savannas many land managers have clearcut thousands of acres of slash pine and loblolly pine, planted longleaf pine, and called it restored. However, consideration must be made for the judicious modification of structure (i.e., assemblages of species, canopies, or fuel loads) and function (i.e., nutrient cycling and regeneration or fire dynamics) while mimicking natural disturbance regimes and acknowledging the inimitable role of time (Mitchell et al. 2006, Palik et al. 2002).

The objectives for the project area lead to several tenets that will be used in this timber management plan. First, the utilization of existing overstory species can reduce some regeneration and management costs. Second, cultural approaches available to the land manager, e.g., prescribed fire, can mimic natural disturbances in a way that begins to restore function. Third, conducting silvicultural operations over an extended period allow the system to recover, provide a worthwhile revenue stream, and offer a more conservative hedging of bets against climate and market conditions. These tenets work in tandem through time and act as a bridge to restoration of communities and ecosystems (Kirkman et al. 2007). Also, use of loblolly and slash pine overstory as that bridge in areas being restored to longleaf pine has much merit (Knapp et al. 2013, Kirkman et al. 2007).

For the JBWMA, the objective of a comprehensive and prescriptive timber management plan must include an examination of core strata as they relate to the overall objectives of property stewardship.

II. Project Objectives

Overall Management Objectives

The management objectives for the project area include:

- Identify silvicultural systems and prepare management prescriptions detailing treatment regimes at the Management Unit (MU) and stand level
- Identify silvicultural systems that will achieve restoration goals and provide measured revenue from forest products where possible
- Use growth and yield models to estimate future stand development and managed stand yield tables
- Compare predicted results from models with alternative management regimes
- Follow treatments through the rotation of current stands, regeneration harvests, and replacement of timber stands

Short-term Objectives

The project area has a wide range of pine plantations as well as natural pine and mixed pine areas. As a result stand- or management unit-based approaches must reflect the individuality of a starting point for a stand or management unit and take several factors into account such as:

1. Site characteristics
2. Current and historical cover type
3. Tree size and stocking distributions
4. Understory components, including species richness and/or dominance
5. Management history, including prescribed burns, logging, site preparation, etc.
6. Extent of longleaf pine regeneration

Gradually driving stands toward composition that is primarily longleaf pine can be met using several processes. There are numerous removal options available to a land manager including clearcuts, partial removals through modified shelterwoods, single-tree selection, group selection, or any combination of these. Generally speaking, because of the removal of overstory fine fuel sources the deployment of clearcuts in a restoration area should only be used as a measure of last resort. Open or fallow fields not currently included in the timber GIS inventory can be utilized to help meet restoration goals. However, newly planted stands will need to be treated differently in the first 10-20 years of a restoration schedule than those areas with existing pine overstory. Specifically, restoration stands starting literally at "year zero" may require additional inputs to rehabilitate the understory populations and reintroduce a regular prescribed burn regime.

A cookie cutter approach across all sites, although easy to implement, is not always financially or biologically sound. Short-term objectives should be to 1) slowly remove non-target pine and hardwood overstory, 2) establish longleaf pine in the understory through artificial or natural means and move these towards release after future harvests, 3) maintain a prescribed burning regime (not part of this timber management plan), and 4) use targeted, "last-resort" herbicide applications to augment non-target species control and promote development of target species.

Desired Future Conditions

An ecosystem can mean different things to each person. Thus, management approaches to restore and maintain an ecosystem can vary widely among and within properties. Typically the *structure*—that which is seen—is what most people consider as the primary determinant of a community. However, the ability of this structure to sustain and renew itself through natural processes, i.e., its *function*, is no less vital. This management plan enjoins structure and function so that upon full implementation the land manager will achieve their long-term management objectives.

The role of fire and the opening of overstory through harvesting that allow establishment of new cohorts of longleaf pine and increased resiliency of the native populations cannot be overstated for this project area. In fact, this approach is in line with the desired future conditions outlined by FFWCC. In the case of frequent, prescribed fire the intention is to mimic natural process that occurred across the project area historically. By conducting these operations the groundcover is kept low in stature with herbs, grasses, and forbs dominant. Also, hardwoods which can directly impact growth of pine regeneration will be of lower prominence. Thus fire—more than any other disturbance—pushes the ecosystem's successional clock back, allowing the understory to greatly diversify and create more conducive conditions in target areas for pine seedlings to establish.

Some understory species, especially that of the legume family, only flower under certain seasons in which fire occurs (Hiers et al. 2000). In addition, the prevalence of grasses such as wiregrass (*Aristida stricta* Michx.) which, coupled with the overstory pine needlefall, creates a highly pyrogenic fuel and allows fire to move across the landscape in a variety of weather conditions. Even in areas that have been used for industrial forestry means can still have an adequate seed bank of understory plants, so long as some fire has been used (Kirkman et al. 2006, 2007). Bluestem grasses (*Andropogon* spp.) dominate the understory of longleaf pine forests in the western portion of its natural range (Grelen and Duvall 1966), which includes portions of the western Florida panhandle and the project area.

The long-term restoration targets set forth by FFWCC for the project area bring the natural processes found in the longleaf pine ecosystem to bear:

1. *"Creation of spatially heterogeneous management units that include irregular, uneven- or all-aged stands"* – The pre-European longleaf pine landscape was that of an expansive matrix of multi-aged stands, created by stochastic disturbances and masting events (seedfall) that varied in time and space. Mass regeneration of longleaf pine occurred naturally approximately every 7-15 years across the entire range (Boyer 1990). That, coupled with infrequent landscape-scale events such as hurricanes, floods, and tornadoes, served to create stands of varying extent, age, and composition.

2. *"Differentiation into distinct crown classes, size classes and distributions of trees"* – Unlike the large-scale (but infrequent) disturbances noted previously, the more prevalent lightning strike, windthrow, and microburst weather events resulted in the mortality of single or small numbers of trees (Palik and Pederson 1996). These created natural gaps about 0.1-0.2 acres

in size among the matrix of larger openings. The structure of longleaf pine ecosystems are so diverse that it has even been described as consisting of "gaps in a gappy forest" (McGuire et al. 2001). In frequently burned areas, seedlings in gaps further from the edge are selected due to an interaction between fire, light, and competition above- and belowground (Palik et al. 1997, Battaglia et al. 2003, Palik et al. 2003, Pecot et al. 2007, Jack et al. 2010, Iacona et al. 2012). As a result, crown differentiation begins as early as the juvenile ("rocket") stage and allows gaps to naturally fill over time. Regeneration beneath the overstory matrix also serves as advanced regeneration when small-scale, frequent disturbances occur. As a result of these effects, over time the diameter distribution of older natural longleaf pine forests resembles a reverse j-shaped curve with a slight hump in the smaller diameter trees (Boyer 1990).

3. *"Conversion of pure stands to ones of mixed species, composed primarily of longleaf pines"* – One will notice immediately in a natural longleaf pine ecosystem that, while the vast majority of the overstory is longleaf pine, it is by no means exclusive. Hardwoods, for example, are well known to occur in the midstory—sometimes in the overstory—and provide a valuable wildlife food source or cover. Though frequent fire keeps many hardwoods low in stature, niche differentiation belowground between the understory and hardwoods as well as altered microsite fire regimes allows them to persist across the landscape (Jacqmain et al. 1999). In areas that consist of other pine species, e.g., slash pine, the gradual conversion to longleaf pine ecosystems can occur through prescribed fire, selective harvest methods, artificial regeneration, and mechanical and chemical control of hardwoods (Kirkman et al. 2007, Boyer 1993). Through the retention of a pine overstory over time, an adequate fuel supply is maintained to sustain fire and the understory plant stature and diversity. An important caveat to remember throughout this timber management plan is <u>there is no analogue for time</u>. Thus, the measured change in species composition from one pine species to longleaf pine occurs over an extended period, requires patience and planning, and uses existing pine and understory species where possible to sustain fire. The basal area of the original pine species is reduced with further timber harvesting, allowing the longleaf pine regeneration to take its place and the prescribed fire regime to persist.

4. *"Perpetual regeneration of fire-maintained forest stands"* – Longleaf pine masting events can be quite prolific. Estimates as high as 435,000 seedlings per acre have been documented (*K. Larson, personal communication*). However, the successful regeneration of longleaf pine can be sustained with frequent fire that exposes the mineral layer of the soil prior to seedfall, keeps the understory low in stature, and controls disease that in some cases can injure or kill seedlings. The grass stage can vary from 2 to as long as 20 years, with an average of 5 to 7 years (Boyer 1990). The time variation in the length of the grass stage is due to site, overstory abundance, abiotic factors, fire, etc. Once established competition with other seedlings, overstory, hardwoods, and understory can impact survival and growth with the highest growth response in relatively open areas, i.e., gaps (Brockway et al. 2005, Palik et al. 2003, McGuire et al. 2001). However, facilitation with the overstory during drought has been known to occur (Pecot et al. 2007). Thus, a dynamic balance between seedling growth and survival constantly takes place in longleaf pine forests and is driven by overstory abundance

and structure as well as fire. Though large-group selection or clearcuts may technically result in the highest growth per seedling (relative to areas with higher overstory basal area), one must consider the ramifications of this approach on fire, hardwood competition, and understory dynamics.

The restoration of critical ecosystem components in longleaf pine forests must include a sustained measure of prescribed fire operations. In many areas prescribed fire has continued relatively unabated for decades. In some regions human development and population growth has increased the pressure on the ability to conduct regular prescribed burns. In areas that have been long unburned, the reintroduction of fire must be met with extreme caution and undying patience. A slow, methodical addition of fire regimes to a site will reduce the acute physiological stress that can occur in mature root systems (O'Brien et al. 2010). Fortunately, much of the subject area on JBWMA has, for the most part, had a more active burn regime relative to similar sites across the southeastern US.

With reference sites demonstrating desired future conditions (DFC) located on Apalachicola National Forest, management approaches taken in the first decade of the management plan can be easily quantified in terms of success. There are numerous examples of restoration and conservation in the immediate geographic area surrounding JBWMA. Active programs to restore longleaf pine communities have been in place on the 632,000-acre Apalachicola National Forest for several decades. Other programs are occurring at the 68,000-acre St. Mark's Wildlife Refuge, the 11,200-ac Box-R WMA, and the 86,140-ac Apalachicola River Wildlife and Environmental Area (ARWEA). Both properties implemented management plans in 2010 and 2014 respectively that are very similar in approach to that of the subject area. Lessons learned from restoration processes on Box-R WMA and ARWEA should serve as an immediate and effective guide to management objectives implemented on JBWMA.

Using dynamic frameworks to assess goals and work completed is crucial when conducting restoration, especially on sites where the reference condition itself continues to evolve (Kirkman et al. 2013). In other words, in tracking the restoration progress of a longleaf pine ecosystem it is critical to understand that spatial and temporal variation is occurring in the reference condition itself. The DFCs in each of the critical communities on JBWMA for this management plan will have unique combinations of management objectives, costs, and flexibility that must be closely tracked vis-à-vis their reference sites to measure success.

A "restored" longleaf pine ecosystem includes components that lend to its structure *and* function so that management approaches mimicking natural disturbances retain it. In addition, many of the components being sought can also be used to maintain or promote RCW habitat. The following are general attributes of what could be considered a fully functioning longleaf pine ecosystem; each natural community provides "ecological sway" with respect to each component. It is important to note that some conditions listed below may vary slightly if RCW management is included. Variation in these conditions will impart slightly different management approaches in areas designated as

RCW foraging area. Based on Larson & McGowin's experience, the following criteria can be used as attributes of a well-functioning, naturally sustainable longleaf pine ecosystem:

1. Structure
    a. A relatively open overstory, primarily longleaf pine of different age and size class with the *majority* of stands between 30-70 ft^2/ac of overstory basal area depending on site and local conditions but also containing other sparse pine species
    b. Midstory composed of longleaf pine growing into the overstory and very sparse hardwoods
    c. A diverse understory made of grasses, forbs, legumes, hardwoods, and longleaf pine regeneration (Kirkman et al. 2004)
    d. All structural components vary across time and space, creating a matrix of ages, size, and density
2. Function
    a. Management that uses frequent fire (approximately every 1-3 years, depending on site) to retain the understory, prevent the progression of hardwoods into the midstory, and create ample suitable sites for longleaf pine regeneration after masting events or planting
    b. Management in any wet prairies that utilize very frequent (1-3 years) fire to hold off the invasion of hardwoods such as titi (*Cyrilla racemiflora* L.) and wax myrtle (*Myrica cerifera* L.)
    c. Management approaches that use mechanical or chemical means to control hardwoods used extremely judiciously to prevent damage to the understory and regeneration
    d. A prevalent, grass-dominated understory that, along with other plants and longleaf pine needlefall, contributes to a continuous movement of fire across the landscape
    e. Legumes that allow for N fixation to replenish N volatilized in aboveground plant material after fire
    f. Understory and midstory that creates suitable wildlife cover and food sources for ground-nesting animals and mammals
    g. Retention of unique longleaf pines, e.g., those that contain "witch brooms", to create wildlife cover in the overstory canopy
    h. The buffering of natural disturbances across the landscape, i.e., one disturbance does not destroy an entire forest

Adaptive Management Principles

As part of this timber management plan alternatives are always at the ready should conditions change on the ground. As an example, the ability for a management unit or stand to be harvested may depend on regional factors (hurricanes, drought, mill supply and demand) or local factors (accessibility of the area to be logged, hunting season) that change through space and time. Adaptive management, i.e., learning by doing, is necessary for the effective implementation of forest management. It will be critical that persons responsible for plan execution be aware of any

contingencies. Adhering *only* to the proposed activity schedule may invite issues with long-term objectives and restoration targets. In other words, it is paramount that scheduled activities be put in context of on-the-ground conditions.

The caveat to this entire timber management plan is that while operational costs may remain fairly static across the 15-year operational window presented, any income through harvesting may vary widely with market conditions. Moreover, yield estimates and financial analyses presented are only valid for a particular stand *at that moment in time*. Altering the harvest schedule across years would require further analysis to pinpoint any changes in price assumptions or yield estimates.

III. The Property

Description

All subsequent descriptions of JBWMA in this timber management plan refer to the 1,009 ± acres of pine-dominated forest stands found within the property (Tables 1-3; Figures 1 and 2). Historically the area was likely dominated by longleaf pine in the flatwoods and uplands and cypress, bay, tupelo, and other hardwoods in the wetter sites. In the 19th and early 20th century much of the region was logged for longleaf pine and bald cypress (*Taxodium distichum* [L.] Rich.). Some of the remaining longleaf pine likely supported the naval stores and turpentine industries that remained active in the area until the mid-20th century. Like much of the region, after these anthropogenic disturbances the natural fire intervals were altered such that hardwoods invaded some areas formerly maintained by frequent fire. That, coupled with the shift to more intensive, short-rotation forestry and a general lack of understanding of longleaf pine dynamics, caused a decline in longleaf pine forests on the property and across the entire southeastern US.

American Indian history is rich in the area, with the region being possibly used by the Apalachicolas, Ais, Chatot, and Tawasa tribes among others. An Indian mound village known as "The Pace Site" was found on JBWMA several years ago. The Weedon Island Indians also settled the site.

The property's proximity to major cities (Tallahassee, FL), important natural areas such as Apalachee Bay and Apalachicola National Forest, and its multiple uses creates an arrangement of sites suitable to anglers, hunters, hikers, cyclists, birdwatchers, and many other interests.

Historical Property Management

The original property (794 ± acres) was purchased in 1975 from a shade tobacco farmer (Joseph T. Budd, Jr.), who owned "Florida Queen" brand of cigars. An additional 400 ± acres was leased from Florida Power & Light, a company founded in 1925. Several years later the 400 acres were purchased by the state of Florida. The property is held in fee simple title and subject to any mineral holdings owned by previous ownership.

Current Property Conditions

Year-round access is allowed for hiking, biking, horseback riders, boats, etc. The property is managed as a wildlife management area focused on nature-based recreation for public use. Though the property has been extensively logged over the last 100 years it is nonetheless undeveloped from a modern standpoint and unique among many other forests in Florida.

The project area includes a significant acreage of older stands containing longleaf, loblolly, and slash pines. These stands are fairly unique to FFWCC ownership because of their current stand conditions. They have extensive and vibrant understory populations, large pine trees, and a prescribed burn program that has maintained these stands in a fire-climax seral stage. Very little to no overstory harvesting has occurred in these older pine stands; to wit, FFWCC wishes to receive a timber resource management approach to address some components of these stands that to date have received little logging activity. This will be covered in this timber management plan.

According to a recent Florida Natural Areas Inventory (FNAI) survey and spatial analysis using aerial photographs from the early 1950's, nine historical plant communities currently exist on the project area on JBWMA: baygall, depression marsh, dome swamp, floodplain forest, mesic flatwoods, sandhill, upland hardwood forest, upland pine forest, and wet flatwoods. FNAI (1990) provides an excellent source of information regarding these communities. In many of these communities fire is a keystone process that maintains ecotones. However, other factors influence these boundaries including climate, hydrology, soils, species composition, and man-made structures such as roads and firebreaks.

In the context of the timber management objectives and long-term restoration guidelines, the current plant communities are a basis for moving back to the natural communities that may have occurred on the property prior to anthropogenic forces. Five of these communities make up 98% of the project area: mesic flatwoods (21%), sandhill (8%), upland hardwood forest (6%), upland pine forest (60%), and wet flatwoods (3%). The remaining natural communities occur in isolated pockets totaling less than 20 acres and include baygalls, depression marshes, dome swamps, and floodplain forests. Each of these plant communities has numerous unique characteristics (FNAI 1990). Obviously, any active management must acknowledge the role these benchmark communities have on the property to best meet long-term restoration objectives.

The focus of this management plan is on restoration of historical flatwood, sandhill, and upland forest sites to all-aged longleaf pine communities, comprising the vast majority of the acreage on the subject property area. *In all restoration efforts prescribed fire will play a crucial role in restoration and maintenance that cannot be overstated moving forward through time.* Other major communities are related in substantive and functional ways to these key natural communities and could be restored indirectly as a result of work performed to restore these benchmark communities.

The reader is referred to the JBWMA prescribed burn plan for details on objectives and implementation of burning operations. Any discussion of prescribed fire in this timber management

plan is only intended to provide an ecological and silvicultural context for management operations specifically covered in this plan.

IV. Project Methodologies

Project Area Description

The project area covers approximately 1,009 ± acres in 18 stands scattered across the larger 11,585-acre JBWMA. The core areas included in this plan are currently designated as pine timberlands in various stages of development and composition. They are divided into two general strata, natural and planted pine stands, as a starting basis of this timber management plan. Within the natural pine stratum a further delineation into substrata based on overstory basal area is necessary for restoration purposes; this will be covered in full under Silvicultural Recommendations. The natural pine stratum is found on 55% of the project area with the remaining 45% in the planted pine stratum. General attributes for each timber strata is provided in Table 1. Spatially, the project area is divided into 15 management units (Figure 1). A summary table of management units provided by FFWCC with the total and pine acreage, cover type, and general observations is provided in Table 2. A map of current cover types on the subject property is provided in Figure 2.

The project area includes pine stands between 14 and 88 years of age. The natural pine stands (stratum 1) are all between 76 and 88 years of age with pockets of younger and smaller trees. Species composition in the natural pine stands vary from entirely longleaf pine (stand 2) to varying proportions of longleaf, loblolly, and slash pines (stands 4-11). The planted pine stands (stratum 2) range from 14 to 29 years of age. Species composition in planted pine stands range from entirely loblolly (stands 1, 1a, 2a, 3a) or longleaf pine (stand 3) to a mix of loblolly and slash pines (stands 12-15). Planted loblolly pine-dominated stands are found on 21% of the project area with a range of ages from 17 to 29 years. One natural loblolly pine-dominated stand is found in the project area, and it is 4 ± acres in size. Access to the project area is fairly good with an extensive road network. Burn units are established with roads used as fire breaks, augmented with fire lanes when necessary.

The understory is robust in the project area and is made up of many species of hardwoods, shrubs, forbs, grasses, and herbs. Swamp titi (*Cyrilla racemiflora* L.), wax myrtle (*Myrica cerifera* L.), live oak (*Quercus virginiana* Mill.), needle palm (*Rhapidophyllum hystrix* ([Pursh] H.Wendl. & Drude), red maple (*Acer rubrum* L.), swamp bay (*Persea palustris* [Raf.] Sarg.), and sweetgum (*Liquidambar styraciflua* L.) are many of the plant associates in the under- and midstory of the area. The upland and well-drained sites have a greater proportion of scrub oaks, including southern red oak (*Quercus falcata* L.), turkey oak (*Quercus laevis* Walter), and water oak (*Quercus nigra* L.). Saw palmetto (*Serenoa repens* [Bartram] J.K. Small), fetterbush (*Lyonia lucida* [Lam.] K. Koch), Virginia creeper (*Parthenocissus quinquefolia* [L.] Planch.), gopher apple (*Licania michauxii* Prance), and many forbs, shrubs, grasses, and herbs occupy the understory.

Prescribed fire has been maintained across the project area for many decades. We applaud the property manager's efforts to prescribe burn as much of the pine stands as possible.

Many of the existing planted pine plantations were planted at about 600-650 trees per acre. Natural pine stands are likely regenerated from trees left when timber companies had clearcut much of the region in the late 1800s to early 1900s. This unintentional effect has resulted in tens of thousands of acres across the FL/AL/GA region with 75- to 90-year-old longleaf and mixed pine stands. These areas may have burned naturally prior to the current owner, but were likely burned at reasonably frequent intervals the last 50 years.

The soils of the project area vary across the entire acreage. There are approximately 18 different soil series on the project area. Half of these comprise 95% of the project area acreage and include the Hurricane, Foxworth, Chipley, Albany, Troup, Sapelo, Alpin, Leefield, and Orangeburg soil series. These range in drainage from excessively drained (Alpin) to well drained (Orangeburg and Troup) to moderately well drained (Foxworth) to poorly drained (Sapelo) to somewhat poorly drained (Albany, Chipley, Hurricane, and Leefield). Soil textures range from sandy to coarse loamy to loamy and fine loamy. The project area on the whole is well suited for longleaf pine as it grows across this range of soil types.

Data Provided by FFWCC

The following spatial and/or tabular data were provided by FFWCC in a supplemental CD and used by Larson & McGowin for development of this timber management plan:

1) *FNAI Community Mapping data* – Two sets of community data were provided. The first was a map (and associated data) of natural community boundaries and extents using aerial photographs from 1953. Second was a survey of current community boundaries.
2) *Inventory of Project Area*-these data were collected and compiled recently by The Forestry Company. A 10x10-chain grid (660x660 feet) was established across all pine stands in order to measure all pine trees greater than or equal to 4 inches diameter at breast height (dbh) or greater. A 10 basal area factor (BAF) prism with variable plot radius was used to tally every tree within each plot. Each tree was assigned an end product (pulpwood, chip-n-saw, sawtimber, or poles). In addition, a $1/100^{th}$ acre plot was established at plot center to measure the number of "free to grow" stems. Submerchantable trees, i.e., 3.5" dbh and smaller were tallied and heights estimated. Finally, reproduction was tallied for all loblolly and slash pine stems between 1 and 4.5 feet in height and all longleaf pine stems less than 4.5 feet in height. Site index was measured on every 5th plot. The survey was completed in May 2014 and exported to a final shapefile for use by FFWCC staff and this timber management plan.
3) *Management Unit Map of Property*-these data included specific information about each management unit on the property.
4) *Management Unit Table of Property*-similar to the management unit map, but in shapefile format.

Data Acquired by Larson & McGowin

The following data sources were accessed by Larson & McGowin during the normal course of preparation of this timber management plan:

1) *Soils Data*-from the Soil Data Mart, USDA-NRCS
2) *Topographic Images*-from USDA NRCS
3) *Aerial Imagery*-USDA NAIP imagery, 2013
4) *Miscellaneous Information*-general history of the property from FFWCC internet sources and FFWCC employees

Timeline

This project was conducted in several phases and began in mid-March 2015.

Phase 1 (Data QA/QC and Integration) – In the first phase we compiled all available information on the supplemental CD and conducted an initial data quality assurance/quality control (QA/QC) check. This included confirmation of spatial and tabular data integrity, area calculations, and map projections using ArcView 9.3.1. All data was then brought into a Geographic Information System (GIS). Remaining tabular data were checked with their respective application (Excel, Word, etc.). A Larson & McGowin employee interviewed local timber market experts to gauge regional market strength and gather local market pricing information. Of course, timber markets are somewhat cyclical and experience seasonal variation so actual sales prices may differ from our assumptions on a year-to-year basis.

Phase 2 (Growth & Yield Analysis and Harvest Scheduling) – A Geospatial Analyst was assigned the duty of examining cruise data in depth and analyze growth and yield data. All assumptions were quantified that were used in growth and economic analysis. Upon data review and clarification of current and future management the analysis phase of the project began. A determination was made of the most appropriate harvest schedule modeling technique and additional data required to provide reliable results. The data used to make these analyses were derived from several recent inventory sources of the project area provided by FFWCC.

Phase 3 (Output Generation) – Harvest analysis, stand tables, and activity scheduling spreadsheets were created at a stand and management unit level. A series of maps were created that detailed overstory harvest, prescribed burn, and artificial regeneration activities. These data were used in development of this management plan.

Geospatial Analysis

Stand-level polygon vector data were combined with pre-compiled cruise data, both provided by FFWCC, in order to fine tune starting inventory estimates and confirm site index (base age 25 years for planted pine, 50 years for natural pine) estimates. In addition, GIS analysis was performed to determine if any existing stands should be split into new polygons based on available data. None were found for the project area so GIS stand data boundaries were left intact.

Growth and Yield/Harvest Scheduling

Harvest Scheduling - Automated growth and yield methods were applied to predict economically optimized planted slash, loblolly, and longleaf pine thinning regimes in order to provide income for other management activities while meeting final stand density constraints for a 15-year conversion period. This growth and yield protocol (Pienaar et al. 1996) is a stand-level method that uses input stand tables, except in pre-merchantable stand situations, and generates grown stand tables. In defining input stand tables at the stand level for the plantations to be modeled, plot locations were tied back to individual plantation stands using ArcMap and the inventory information was recompiled to create these input tables.

The merchandizing protocol is one that handles numerous products. In this case, five categories were used (pulpwood, chip-n-saw, small sawtimber, large sawtimber, and poles) corresponding to the planted pine products used in the cruise supplied by FFWCC. The per-ton prices associated with these products were initialized at $13.77 for pulpwood, $21.17 for chip-n-saw, $28.12 for sawtimber, and $60.00 for poles (Timber Mart-South estimate, 1stQ 2007-1stQ 2014, accessed March 29, 2014). Based on conversations with a regional expert in wood markets (*Ben Powell, The Woodland Company, pers. comm.*) and internal expertise, Larson & McGowin made the decision to use these start prices at year 0 with a return to long-term averages over the first 5 years of the harvest schedule, with subsequent years static in price. The percent price increases for years 1-5 of the harvest schedule were 1.01% for pulpwood, 2.12% for chip-n-saw, and 2.71% for sawtimber. Pine pole markets are typically stochastic, so the price throughout the 15-year window of the harvest schedule was kept at $60/ton. A discount rate of 7% was also used. Actual pricing may likely differ from our estimates based on sale timing and the cyclical nature of the markets.

A schedule of timber harvests using a combination of species-centric tree growth models, harvest regime and pricing parameters, spatial analysis, and linear or nonlinear problem solving is often referred to as a "harvest schedule". In general, a harvest schedule model:

- Inputs the current attributes for a set of stands;
- Simulates growth over time without any timber harvests as a management baseline;
- Simulates growth over time with a matrix of timber harvests (modulated by time, removal pattern, pricing, and costs);
- Calculates the financial value of a timber stand at a consistent point in time (net present value or NPV) with all timber harvesting matrices;
- Optimize on any input constraint, be it NPV, timber harvests, management costs, endangered species management, ecological attributes, etc. using a linear/nonlinear problem solver; and
- Output an annual schedule of timber harvests that estimate growth and removals based on all aforementioned inputs

Larson & McGowin uses a custom solution developed within the company for generating a harvest schedule. This approach, called "THOR" (The Harvest Optimizer), uses published growth models

within open-source programming languages (R[1] and GLPK[2]) to analyze the data and prepare a harvest schedule.

Upon review of the GIS and inventory data we determined that dividing the dataset into 2 strata would allow us to make reliable and precise estimates of growth and yield as well as harvest and activities schedules. We separated the JBWMA dataset into older natural pine stands (9 stands totaling 559 ± acres) into analysis stratum 1 and the younger planted pine stands (6 stands totaling 450 ± acres) into analysis stratum 2 (Table 2). In both strata the objective was to gradually favor regeneration of longleaf pine, either through artificial or natural means.

Stratum 1 (Older Natural Pine Stands) – In the natural pine stands (stratum 1) we favored a less complex approach that provided more flexibility with regards to overstory removals than that of strata 2. Seven of the 9 stands used this approach, with 2 of the stands (stands 2 and 10) already at basal area targets and required no planned harvests over the 15-year period (Table 3). Overall FFWCC has not performed much overstory harvesting in these stands but have maintained their understory well with frequent prescribed fire. Overstory basal area of 4 stands in stratum 1 (stand 5, 7, 8, and 9) is greater than 60 ft^2/ac. In our experience these relatively higher basal areas would necessitate some kind of thinning activity. It is important to note that there is little longleaf pine regeneration in all stands of stratum 1. In frequently burned stands with a substantial longleaf pine component this can simply be due to not timing burning activities with natural seed mast events. Discussion of ways to promote natural regeneration will be discussed in later sections.

Stands in this stratum have fewer trees per acre than that of the planted pine stratum, but the dbh distribution is wider with numerous large trees, i.e., greater than 16" dbh. For the 7 stands analyzed we targeted each species (longleaf, loblolly, or slash pine) based on thinning a stand to a total residual basal area of 30-50 ft^2/ac. Each stand in this stratum was processed individually. By estimating the annual growth rate for each stand we were able to project stand basal area changes over time and make reliable, conservative estimates of residual basal area. The weighted mean annual growth rate for the older pine stands was 1.38% (range of <1% to 2.5%). Based on Larson & McGowin's experience this growth rate is in line with stands of similar composition, age, and soil type. Table 3 presents the attributes of this stratum by stand.

For this stratum we ran an iterative analysis to determine the most appropriate combination of individual species removals with respect to residual basal area. The highest priority species retained was longleaf pine followed by loblolly pine and slash pine, respectively. In many cases by simply retaining all longleaf pine as well as the largest (greater than 16" dbh) loblolly and slash pine we were able to meet residual basal area targets over the initial 15-year window.

Stratum 2 (Younger Planted Pine Stands) – For analysis stratum 2 we implemented a custom application (THOR) developed by Larson & McGowin to provide growth and yield estimates and

[1] R is maintained by CRAN (Comprehensive R Archive Network)
[2] GLPK (GNU Linear Programming Kit) is written in C and maintained by the GNU Project

generate a harvest schedule using linear programming methods. A total of 6 stands covering 250 acres were analyzed through THOR. Three planted stands (1a, 12, and 13) covering 200 ± acres were not run in any model or harvest schedule as the overstory basal was low enough to justify longleaf pine underplanting in the near future. These 3 stands were included in the planting schedule.

Two sets of regimes were defined and tested for the longleaf pine restoration objective using the planted pine data. In this dataset, the plantation data allowed for various thinning options in a 15-year window of interest (to 70 ft^2/ac or 30 ft^2/ac of residual basal area) in order to meet management plan objectives and allow for interplanting of longleaf pine seedlings post-harvest. For stands between ~35 and 70 ft^2/ac of basal area 16 regimes were tested. For stands >=70ft^2/ac 31 separate thinning regimes were tested.

Using the aforementioned thinning regimes applied to each pine stand in conjunction with the 15-year term and the economic values given, the regime/stand combination that produced the highest Net Present Value (NPV) was designated as optimal and output for planning considerations. This "unconstrained" model provided a starting point to determine where any constraints on harvesting activities would be beneficial operationally. A second approach to maximize NPV taking into account associated costs and allowing for the stands to run to financial maturity (not restricted to the conversion window) was generated. In stratum 2 the unconstrained model thinned heavily in the first few years. This approach was not operationally feasible, so we further constrained the linear programming model. Constraining slightly smoothed the number of acres—and thus tons removed from thinning—over the key time period of interest.

Operational Activities GIS Merge – To assign operationally feasible harvest prescriptions we examined the harvest schedule results spatially in the GIS. Though not part of this timber management plan we accounted for the need to perform prescribed burn operations in areas scheduled for thinning and planting. Using our best judgment we modified thinning schedules so that adjacent stands were not thinned too close together in time and not so far off that a general prescribed burn schedule would be impacted. A similar approach was used with assigning planting years. This would provide flexibility to the property manager so that underplanting could occur after one or more prescribed burn operations. By delaying planting operations a year or two the site could have additional time to recover with respect to groundcover and overstory fuel sources.

15-Year Schedule of Activities

A 15-year schedule of activities was created for the project area using the harvest schedule outputs and finalized GIS data that covered up to two thinning operations and planting of containerized longleaf pine seedlings. Operational costs were based on Larson & McGowin's knowledge of standard forestry practices in the region, including $200/ac for planting operations for containerized longleaf pine seedlings. Justification and detailed descriptions for silvicultural operations are provided in the section entitled "Silvicultural Recommendations". In all cases the cost assumption is that the respective contractor(s) will be fully insured and adequately trained for the task at hand.

Depending on labor, equipment used, complexity, and year this cost may vary. Estimates of cash flow should be considered a general guide for use in management planning. Actual income and cost estimates will vary depending on the specific timber stands being harvested, market conditions at the time the sale is negotiated, and other factors.

Silvicultural operations were assigned to individual stands so that total prices could be estimated for development of the 15-year activities schedule. Scheduled planting acres were multiplied by the respective operational cost to determine the total cost by year and then summed.

V. Silvicultural Objectives

Operations Employed

In this section the silvicultural options to be used in this timber management plan are discussed to provide a framework and justification for specific operations at the management unit and stand level. Each of these options lends themselves to the long-term objectives as set by FFWCC.

Overstory Harvesting – The long-term restoration targets are the same in all stands because of the longleaf pine restoration objective; however, the speed and intensity of the change will vary across the project area. The "Silvicultural Recommendations by Strata" section provides more detail for each stand. In general, overstory harvesting in planted pine stands will contain partial removals of mature trees to a specific residual basal area. The older natural pine stands on JBWMA are more specific with respect to actual percentages of tree basal area *removed* rather than what *remains*. This was intentional by design due of the importance of these stands as already having several of the characteristics of the objective community.

Harvesting Older Natural Pine – The harvesting of the older, natural pine stratum will consist of selective harvests that favor longleaf pine and larger loblolly and slash pines (Tables 5 and 6, Figure 8). The pinpointing of retained trees will be of paramount importance in the 7 stands selected for harvest during the 15-year period of this plan. As previously mentioned longleaf pine should be favored unless they are of such poor vigor that survival to the next harvest is not expected. Large, still-standing dead pines can be left as a snag to enhance wildlife value. With respect to loblolly and slash pine, retaining large trees >16" dbh will assist in keeping fine fuel sources and potential cavity trees for RCW should that desire arise by FFWCC in the future. The main difference in approach between this stratum and the younger stratum is that even more importance is placed on the trees that are retained. The manager should bear in mind that removal of any tree through harvesting will create an opening in the overstory. This will affect fuel sources, potential sites for natural regeneration, woody plant populations, and wildlife value. Thinking critically about these impacts before a tree is marked for removal will promote a conservative approach to managing these older pine stands.

Lastly, the manager should always bear in mind that any removal in these older stands should not result in gaps that are so large that fire continuity would be greatly affected. For this reason alone we caution the persons implementing this harvest schedule to balance our suggested removals for each

species against what is observed on the ground. This could potentially alter the suggested removal goals; however, maintaining or enhancing ecological attributes of a fire-climax system is more important for the project area than extracting financial value from a harvesting operation.

It is not important that the individual stand removal patterns in this stratum be adhered to strictly. If a removal target for a stand results in overstory gaps greater than ~0.5 acre in size, the person marking the timber should either look for another area in the stand that could help meet target basal area guidelines, or even consider delaying harvest for one or more years. While this would likely change the expected value of a thinning operation it is far better to err on the side of removing too *little* than too *much* basal area, regardless of overstory species. Gaps created through selective thinning operations will play a pivotal role in promoting longleaf pine regeneration be it natural or artificial. Put another way, removal of one tree can have ripple effects in older stands that persist through time. This will be discussed in later sections of this plan.

Future harvest operations in this stratum should occur at a minimum of 10-15 years from the date of the last thinning operation. This serves several purposes. First, the duration allows adequate time for the groundcover and fine fuel sources to recover. Second, it provides ample opportunity to potentially capture any natural regeneration of longleaf pine and promote establishment of this free seed source. Third, artificial regeneration can be timed during any years that natural regeneration is expected to be low or to augment areas where natural regeneration has not been as successful. This is covered in detail in the section "Silvicultural Recommendations by Strata".

Harvesting Younger Planted Pine - The harvesting of the planted pine strata (14-29 years of age) will consist of overstory thinnings that will either result in one or two thinning operations over time. In general (specific recommendations are at the stand level), the approach for the pine plantations is to conduct a row-thin, marked, or operator-select thinning that reduces the basal area back to ~70 ft^2/ac and/or a second marked or operator-select cut to reduce the basal area to ~30 ft^2/ac. In harvesting operations longleaf pine should *always* be retained if present. This serves to create a more heterogeneous stand of target overstory species and provide a free, natural seed source. A yearly summary of estimated acres and revenue for overstory harvesting operations is provided in Table 4. A summary of each stand to receive harvesting treatments are provided in Tables 7 and 8, and maps are provided in Figures 9 and 10.

Harvests to 70 ft^2/ac of residual basal area can be accomplished through third-row thinning with operator-select between the rows or by marking individual trees for removal. With both approaches the gradual movement towards multiple age cohorts can begin. However, by marking specific trees for removal at this thin operation one can remove trees of poor vigor. This raises the overall health of the residual stand and helps with fire continuity. In addition the person marking the timber may begin to plan for the next thinning at this time by choosing areas to be opened where fine fuel sources are in relatively good shape. As seedlings are not planted after this thin operation the key is to not make harvested areas too large such that fire continuity is affected. One wants to be able to continue to burn in these stands until the 30 ft^2/ac basal area thinning operation.

Harvests to 30 ft^2/ac of residual basal area should occur over the entire stand's area and allow for generally circular overstory gaps that are no larger than approximately 0.3 acres with no less than 100 feet of intact canopy between openings. In general the optimal size would be in the 0.1-0.25 acre range (~75-120 feet in diameter). Gaps are planted such that advanced regeneration establishes (see section on planting operations for details). Any existing mature longleaf pine should always be favored as they can provide a source of natural regeneration which reduces planting costs. The person who marks the trees to be removed can also use single-tree in addition to small group selection. This would need to be made on a case-by-case basis. Single-tree selection can make large enough overstory gaps to allow for seedling development. This type of selection also has the added positive effect of keeping fire continuity high relative to larger group selection or clearcuts.

With subsequent thinning operations the gaps can be widened slightly provided enough longleaf pine regeneration is present. This can be accomplished with single-tree selection along the gap perimeter. The property manager should use a threshold of ~400 surviving trees per acre (approximately 10' by 10' spacing) of longleaf pine regeneration as the marker for enlarging an existing opening. This is not a hard-and-fast threshold; experience should always guide whether more or less regeneration is suitable for a particular site. If there is not a suitable level of regeneration present in a gap at that time it is suggested to 1) enlarge a different gap with adequate regeneration or 2) create a small opening somewhere else in the stand, followed by planting in these areas. For gaps without adequate regeneration we suggest augmenting these areas with seedlings when the next planting operation occurs. Planting is only described here for clarity; details will be covered in a later section.

In general harvests to 70 ft^2/ac total residual basal area may be easier than that of 30 ft^2/ac because there is higher stocking available for manipulation. Reducing the basal area to 30 ft^2/ac should only occur when groundcover and advanced regeneration is adequate to maintain fire continuity. Marking a stand to this basal area can be accomplished either through operator-select methods or by the property manager.

The person responsible for marking the timber should know the long-term objectives of the project area which include creating horizontal and vertical structure. In many cases this can simply be done by choosing a variety of tree sizes that will create a more uneven-aged structure, evidenced by a reverse J-shaped diameter distribution curve. As stand age increases the final objective over many decades is to have a reverse J-shaped diameter distribution curve with a slight rise in mid-diameter tree densities. Creating this heterogeneous structure will create a more variable climate suitable for wildlife, prescribed fire, and many other factors. It is worth noting again that the size of the gap is critical in these areas, as larger openings greater than 1 acre (and sometimes even 0.5 acre) can create issues with hardwood encroachment, lower fire intensity, and need for chemical or mechanical treatment. This can further reduce native biodiversity and set back restoration goals.

Summary of overstory harvesting operations

- Older natural stands (stratum 1) will be selectively harvested with paramount importance on retention of longleaf pine and larger loblolly and slash pine (Table 4, 5, and 6; Figure 8)

- Younger stands (stratum 2) will be thinned once or twice depending on objective, age, and basal area (Tables 4, 7, and 8; Figures 9-10)
- Stands thinned to 70 ft^2/ac basal area will include a row, marked, or operator-select thinning, with no planting (Table 7, Figure 9)
- Stands thinned to 30ft^2/ac residual basal area will have an operator-select thinning to leave target basal area, creating openings suitable for longleaf pine planting post-harvest (Table 8, Figure 10)
- Any longleaf pine should be retained in thinning operations
- Any harvest should be delayed if openings larger than 0.5-1 acre in size are being created through marking without adequate natural or artificial regeneration present or fire continuity comes into question

Artificial Regeneration – Upon completion of thinning operations that result in an overstory basal area of 30 ft^2/ac as well as stands ready for planting without any immediate thinning operations, containerized longleaf pine seedlings should be underplanted at a loose 14' by 7' spacing, or 444 trees per acre. In some areas a higher seedling density (up to 622 trees per acre, or a 10' by 7' spacing) may be desired if groundcover is not as dense to help with fire continuity. Stands already at target basal areas (~40 ft^2/ac or less) should be scheduled in the next few years using the spacing guidelines mentioned above. All planting operations should be conducted during the winter. Table 9 and Figure 11 provide additional detail on planting at the stand level.

In addition to the core stands of the project area there are several currently open/fallow areas not included in this plan that could be replanted with containerized longleaf pine at 622 TPA (10' by 7' spacing). These can be planted in rows using a regular planting crew. Typically these stands would be allowed to grow until about age 14 when they can be first thinned to about 60-70 ft^2/ac. These stands can be thinned using a third-row thinning with operator-select between rows. Future thinning operations would then mark candidate openings to promote natural regeneration similar to that of stratum 2.

The property manager should bear in mind that planting costs may be far lower than presented if using natural longleaf pine regeneration, especially in stratum 1. If cone crops are monitored and prescribed burning scheduled around those events, artificial regeneration may only be needed to augment those areas that do not have adequate densities of longleaf pine regeneration. Or, the property manager may wish to wait until the next cone crop. It is quite common for a manager of natural longleaf pine forests to not use planted seedlings at all.

Where artificial regeneration is used some leeway can be given to the planting crews to create a less uniform arrangement of trees. In other words, it is not necessary to create perfect lines of planted seedlings, only to keep the density at about at the purchased TPA. Most planting crews are trained to plant in a straight line for future access; however, in this case the objective is to create spatial variation. The planting crews should be specifically told that a straight line is not necessary and to look for good microsites. The use of containerized, i.e., not bare-root, longleaf pine seedlings is

strongly recommended. Though slightly higher in price, containerized seedlings have a higher rate of survival than that of bare-root stock due to more planting uniformity and less planting error, quicker establishment across many sites, and higher vigor. Planting errors can occur, and the contractor may need to correct an issue provided it is included in the written contract. Some areas may need to be replanted if climatic conditions dictate, e.g., drought or flooding.

Seedlings should, if at all possible, be planted at least 5 feet away from mature pines while meeting the density objective for 2 main reasons. First, planting them some distance away from pines that will be harvested in the future better protects them from any logging damage that might occur. Second, fire intensity and proximity to a pine stem are positively related due to increased fuel loads near the base of a pine tree (Williamson and Black 1981). Though instructions such as these may increase planting costs and require more training and supervision of crews, long-term success of planting operations will be higher.

Based on current data and experience the expectation should be to pay no more than $200/ac for planting of this type. Again, this cost is relatively high because of the use of high-quality, containerized seedlings and specific planting instructions (loose planting spacing and planting at least 5 feet from mature pines). This cost is well justified given long-term objectives.

Prescribed burning operations should be conducted no further than one growing season prior to planting of seedlings. The optimal time to burn is immediately, e.g., days, *before* planting; this allows the seedlings to establish the fastest with the least understory competition. Prescribed burns are typically conducted the winter or spring prior to planting operations.

Upon planting there should generally be a 2-3 year window at which prescribed burning is not conducted in the planted site. The rule of thumb for determination of burn survivability is that seedling root-collar diameters must be 0.2 inches or larger. This burn window can slightly vary and depends on site conditions, but based on Larson & McGowin's knowledge of the project area should not be more than 3 years. Some sites could be burned the next year, but that should be determined by the property manager and only if the seedlings are large enough in root-collar diameter (and fuel loads would support it). One must take several factors into account, including weather conditions, occurrence of drought, understory fuel loads, current and future silvicultural operations, presence of brown-spot needle blight (*Scirrhia acicola* [Dearn.] Siggers), etc. when considering a time to conduct prescribed burns.

The most successful type of a first burn post-planting is a faster-moving strip headfire. This minimizes heat that occurs around the seedling root collar and terminal bud and combust much of the understory that grows above the seedling. A backfire should never be used in the first burn operation after planting because of fire temperatures that can be lethal to a seedling. The morphology of longleaf pine seedlings provides some protection to the terminal bud as they transfer heat above and away from the center of the stem. Usually after this first burn post-planting longleaf pine will commence height growth (another rule of thumb is when the seedlings are 1-inch in root-collar diameter), allowing the maintenance fire interval to be restored. When longleaf pines

commence height growth, i.e., the "rocket stage", they are somewhat susceptible the first year to a headfire. However, longleaf pine can survive even near total crown scorch provided the terminal buds on young seedlings are not affected. Seedling survival should be monitored for several years and augmented with additional seedlings if needed.

Natural Regeneration – As noted in the harvesting operations, preference should also be given to any longleaf pine overstory to ensure natural regeneration can take place. Natural regeneration, however, should not be expected to be successful on a large scale without frequent prescribed burns. Natural seed sources can greatly offset planting costs and help create the variation in canopy structure required for long-term restoration objectives. Typically the determination of a cone crop can be made the year before seedfall occurs by counting the cones in a mature, dominant tree. The number and vitality of cones varies among trees and sites. The USFS releases a regional cone crop survey annually which can be another source of planning for natural regeneration.

If there are candidate longleaf pine seed sources in a stand, and cone counts indicate that adequate seedfall will occur, the area should be burned in the months prior to seedfall which occurs in late October and November. In this case, some find that a growing season burn clears the site best for the bare mineral soil that is required by longleaf pine seed to germinate. As any longleaf pine in the project area should be protected from harvesting in general, consideration should also be made for opportunities of new cohorts of natural regeneration to take place. One then uses the same approach post-establishment as that of planted seedlings with respect to prescribed fire.

As this management plan is implemented, future harvesting operations on these sites would focus on 1) removing more overstory in other parts of the matrix and in underplanted sites, being careful to not damage the seedlings and 2) expanding underplanted sites by removing border trees and planting the edges with more longleaf pine at about 500-600 trees per acre. If the overstory above the seedlings is still present, it is critical to train harvesting crews to avoid seedlings to minimize damage. Alternatively, harvesting can be delayed until the seedlings are tall enough to be recognized by persons working heavy logging machinery.

Summary of planting operations

- Plant containerized longleaf pine seedlings in post-thin stands (to 30 ft^2/ac basal area) at a loose 444-622 TPA (14' by 7' to 10' by 7' spacing) the winter following the last prescribed burn (Table 9, Figure 11)
- Future planting in areas where the overstory gap is widened should be at about 500-600 TPA with augmentation of poor survival in the gap centers as necessary
- Burn the site no later than one growing season *prior* to burning, preferably a growing-season burn
- Monitor seedling survival in first year
- Protect from fire for 2-3 years, then conduct a fast-moving strip headfire across the stand
- Natural regeneration, especially in older natural stands, may substantially reduce planting costs

Prescribed Fire – The reader is referred to the prescribed burn plan for this property. A discussion is only included to provide some context to the timber management plan. Other than the obvious objective of fuels reduction to minimize wildfire risk, prescribed burning promotes the production of many herbaceous plants and native groundcover. Burning can improve nutrient cycling, lower the stature of hardwood components, increase flowering of understory plants, increase visibility through the area for visitors and workers, and increase the hunting experience. As the property is managed as a wildlife management area for nature-based recreation, all of these aspects are important.

Based on historical data and discussions with the property manager the project area has been burned fairly regularly for many years. *It is very strongly suggested that fire be conducted on a biennial basis in the project area with a range of 1-3 years, contingent on other objectives.* Considering the long-term restoration goals that includes establishment of natural, uneven-aged longleaf pine forests and concomitant maintenance of variation in canopy structure, prescribed burning operations should be conducted no more than 4 years apart in any given management unit. Prescribed burn schedules were not developed for this timber management plan.

In general, slightly longer burning cycles, i.e., 3-4 years, might be suitable in some areas where longleaf pine seedlings are slow in becoming established or where a relatively larger component of hardwoods may be desired. However, the manager must bear in mind that extending the fire interval 5 years or longer will likely result in the need to conduct more intensive burns, mechanical operations to sever larger hardwoods, chemical applications, or all of the above. This can set back management operations for both the longleaf pine restoration and wet prairie restoration sites. The tenet to remember is that *frequency* and not *seasonality* of prescribed burning operations is of primary importance when conducting prescribed burning on the project area. By maintaining a frequent operational burn interval of 1-4 years, with the objective of biennial burns, the land manager will have the flexibility to conduct prescribed burn operations that comport with this timber management plan.

Herbicide Applications – In some cases, prescribed burning operations will not fully reduce fuel loads. This, in conjunction with dense midstory populations of waxy-leaf hardwoods, may make burning operations and accessibility difficult. For herbicide applications the use of a backpack or skidder-type application of triclopyr is well suited for this operation. Triclopyr is a systemic foliar herbicide marketed under the trade name Garlon and many others. It is commonly used for control of waxy-leaved hardwoods such as titi, wax myrtle, baygall, etc. as well as other non-target perennials and annuals. This herbicide also has the indirect effect of promoting several grasses and herbaceous plant species through control of target species.

The use of herbicides, in Larson & McGowin's opinion, is not needed over most of the project area. Many sites may be suitably controlled with frequent prescribed burning. However, in some stands and management units the judicious use of triclopyr or other herbicides labeled for waxy-leaf hardwoods prior to prescribed burns may greatly speed up hardwood control. Larson & McGowin forest managers have observed that a single application of triclopyr (at about $150/acre) can lead to

better control of understory hardwoods than several years of prescribed fire. Prices will vary depending on the type of herbicide used, labor costs, and the method of application. Any areas where management desires to retain hardwood populations should be protected from triclopyr or other herbicides labeled for hardwood control.

Chemical applications can greatly impact native vegetation, so consideration must be made where any herbicides are deployed. The suggestion is to only use this as a last resort in the event that prescribed fire operations after a clearcut (if used at all) do not provide adequate hardwood control. As hardwoods are usually the initial and most significant seral indicator of moving away from a fire-climax community, these sites should be monitored frequently and be given any priority for herbicide (and prescribed fire) application.

Summary of herbicide operations

- Prescribe herbicide application operations judiciously using triclopyr or other herbicide labeled for hardwood and waxy-leaf plant control
- Apply herbicide with backpack or skidder-type operation
- Allow site to "brown up" prior to burning
- Only used as a last resort if hardwoods are not controlled with other means

VI. Silvicultural Recommendations

The previous section discussed the general guidelines that should be followed to meet project area management objectives. In this section specific recommendations for strata, management units, and stands are presented. Table 4 summarizes financial costs by year and silvicultural operation. Tables 5 through 10 provide stand-level detail on all silvicultural recommendations for the 15-year operational window. Figures 8 through 11 provide specific maps concerning harvesting and planting activities by year for the project area.

Recommendations by Strata

Stratum 1: Longleaf Pine Restoration Objective in Older Natural Pine Stands – The 9 stands that comprise this stratum are similar in age (76-88 years) and prescribed burn history with very little harvesting in recent years. These stands have been maintained well by FFWCC and have many of the existing components of the objective community. Wiregrass is found in abundance on some sites of this stratum and is often considered a key indicator of a lack of intensive agriculture, i.e., plowing. Within its natural range, the presence of wiregrass can also be an indicator of a vibrant understory system. Lastly, wiregrass is a superb fuel source and catalyst for frequent prescribed burns because of its ability to create vertical variation in the understory, helping fine fuels dry quickly.

Though present in some localized cases, these stands are relatively low in advanced natural regeneration of longleaf pine. This could be due to the timing and intensity of previous prescribed burning operations, poor seed crop years, high woody populations in some areas, or any combination of these. Since little overstory harvesting has been performed in these stands recently it may not be due to impacts by operational machinery. Based on our observations the most likely reason is simply the timing of burn operations with seedfall during masting events. This is a common occurrence in many older natural pine stands within the longleaf pine range. Some old-growth longleaf pine forests in the Red Hills region of north Florida and south Georgia have very little natural longleaf pine regeneration due to frequent (even annual) prescribed burning for bobwhite quail management. Fortunately, subtle changes in overstory structure in addition to actively planning prescribed burns around 1) longleaf pine masting events and 2) targeted underplanting of containerized longleaf pine seedlings will move stands in this stratum much closer to the objective attributes laid out by FFWCC.

The primary differences among stand attributes of this stratum are found in overstory basal area along with species and size variation. Seven of the 9 stands have an overstory basal area >50 ft^2/ac. Two stands have an overstory basal area <50 ft^2/ac (Table 3). Though variations exist among stands of this stratum, for the purposes of this timber management plan we focused primarily on basal area and within-stand species composition. This approach necessitates the designation of substratum vis-à-vis specific silvicultural approaches. Therefore we divided Stratum 1 into two substrata based on the 2014 inventory data:

- **Substratum 1a**: current overstory basal area below 50 ft^2/ac; long-term focus is on monitoring seed crops, promotion of natural longleaf pine regeneration, and releasing advanced regeneration with adaptive prescribed burn schedules; little to no overstory harvesting proposed within the time parameters of this timber management plan
- **Substratum 1b**: current overstory basal area above 50 ft^2/ac; long-term focus is on targeted removal of loblolly and slash pines in addition to longleaf pines of poor vigor, monitoring seed crops; promotion of natural longleaf pine regeneration and targeted planting of containerized longleaf pine seedlings with adaptive prescribed burn schedules; overstory harvesting using single-tree or small group selection to gradually arrive at target stocking of 30-50 ft^2/ac of basal area

The primary management focus of these substrata is to actively monitor seed crops of longleaf pine and schedule prescribed burn operations around these. Artificial regeneration of longleaf pine can augment natural seed crops to meet restoration objectives. We will now turn to a discussion on natural regeneration of longleaf pine. Artificial regeneration will be covered in turn.

Substratum 1a: This substratum includes stands 2 and 10. The overstory of stand 2 is entirely longleaf pine (total basal area 40 ft^2/ac). Stand 10 has a total of 47 ft^2/ac of overstory basal area with 57%, 28%, and 15% of this total in longleaf pine, loblolly pine, and slash pine, respectively (Table 3). This substratum is already at a basal area range and age that is quite conducive to regenerating longleaf pine naturally over time. There should be no immediate plans, i.e., the next 15-20 years, for

harvesting in stands 2 and 10 of JBWMA. However, if weather conditions dictate a salvage cut such as post-hurricane damage the property manager can refer to the guidelines for stratum 1 to provide working parameters for harvesting and planting. In 15-20 years harvests can be conducted in these stands to promote additional longleaf pine regeneration (either natural or artificial).

Substratum 1b: This substratum includes stands 4 through 9 and 11. These stands all have overstory basal area above 50 ft^2/ac and varying proportions of longleaf, loblolly, and slash pines (Table 3). The goal of this substratum is to perform targeted removals of any of the 3 pine species to arrive at the 30-60 ft^2/ac stand basal area while managing gap size and spatial arrangement. In general, the following priorities should be used when marking any mature trees for removal:

1. Longleaf pine should always be retained except in circumstances where residual gap size may be too large and impact fire continuity or relic tree retention objectives
2. Slash or loblolly pine >16" dbh should be retained insofar as target basal areas are attained; these will serve as relic trees, potential RCW habitat, fuel source, and provide spatial heterogeneity

The summary of harvesting activities for this stratum is provided in Tables 5 and 6.

As all stands in this stratum are, in essence, 70 years ahead of the rest of the project area with respect to restoration goals, the potential to do the most good—and the most harm—is always present. Taking a light-footed approach in these stands, where ample consideration is given to every tree marked and every opening created, will promote long-term success. Another way to approach stands in this strata are to "throw out" the concept of *rotation age* and even *rotation* altogether. By doing so the property manager is freed from the paradigms of traditional southern forestry taught today and is able to work with biology and wider concepts of space and time. This gives the property manager the wherewithal to pause at every decision to mark a tree based on the consideration, "What impact will removing *this single* tree have on the canopy, the understory, the wildlife, and the stand in general?"

Again, we cannot stress enough that if the person marking the timber in this stratum feels that openings being made will negatively impact fire continuity (in the absence of advanced regeneration) they should find another area of the stand to meet harvesting guidelines or delay harvests. There is no rush in this stratum to force anything too quick; time is a luxury that has been purchased for stands in this stratum with a lot of hard work and patience over the past several decades.

Stratum 2: Longleaf Pine Restoration Objective in Younger Planted Pine Stands – The approach to this stratum, which include planted and natural stands of varying ages, densities, and thinning requirements, will be to perform thinning activities to leave a set residual basal area. This stratum moves towards the establishment of longleaf pine in the understory as a new age component to the current stand. This approach will be used in the vast majority of the plantation strata.

Figures 9 and 10 are maps providing detail of where thinning operations will occur in these areas, and Figure 11 shows where longleaf pine planting will occur. The property manager should keep in mind that suggested burning schedules should revolve around potential longleaf pine seed crops and schedule burns around those events.

The *gradual* movement from the current species to longleaf pine includes thinning and planting within the matrix. Plantations that can be thinned fall into 2 categories: those that can be thinned twice (to 70 ft^2/ac, and then 30 ft^2/ac later) and those that should be thinned once (to either 70 ft^2/ac or 30 ft^2/ac). Only 3 stands in the 15-year operational window will be thinned to 70 ft^2/ac residual basal area (Table 7). Three other stands are scheduled to be thinned to leave 30 ft^2/ac of overstory basal area over the 15-year operational window (Table 8). Several of the stands to receive the heavier thinning already have a high overstory basal area. The reason these were slated for a heavier thinning is due to the harvest scheduler maximizing NPV and an attempt to create suitable sites for longleaf pine restoration quickly. As there is valid concern over fire continuity, if it is determined that too much overstory is removed the suggestion is to take an adaptive management approach to thinning stands with high overstory basal area. If the subsequent thinning of one stand results in problems with carrying prescribed fire, less timber can be removed from other stands with similar site attributes and other factors. Though this may change the value of the thinning, it will allow the manager to make the best determination of what basal area will carry prescribed fire on that particular site.

Overstory harvesting during the 70 ft^2/ac thinning can be accomplished with several approaches, including selection of rows, groups of trees, or individual selection. Overstory harvesting during the 30 ft^2/ac thinning should try to leave openings no more than 0.25 acres in size, or about 120 feet in diameter (Pecot et al. 2007, Palik et al. 2003, McGuire et al. 2001) and planting containerized longleaf pine with a 14' by 7' spacing (444 TPA; South 2006) within these gaps and scattered in the matrix. It is not recommended to make gaps greater than 0.5 acres. Based on the long-term objectives larger gaps can increase woody encroachment and actually lower survival of longleaf pine during drought periods (Pecot et al. 2007). Tables 7 and 8 provide stand-level detail for recommendations of 70 and 30 ft^2/ac residual basal area thinning operations, respectively.

Future harvests in these stands beyond the 15-year window covered in this timber management plan can focus on creation or expanding of gaps within the matrix and planting containerized longleaf pine seedlings or promoting natural regeneration as stand cohorts mature. Stand reentry for harvesting can be expanded gradually from 8-10 years to 10-12, and finally to 12-15 years. Over several decades the original target basal area of 30 ft^2/ac will be replaced by multiple age cohorts of maturing longleaf pine. The decision to leave these original loblolly or slash pines can be left to the property manager at the time but could be left as dominant trees in the forest. These will die by age 200 or so, replaced eventually by the much longer-lived longleaf pine.

Clearcuts-especially in the context of long-term objectives of the project area-extend the time required to build adequate fuel loads and increase the probability of woody invasion. These can

result in the need for herbicide operations to reduce hardwood fuel loads. None are specifically recommended for this stratum due to potential issues with burning. For recently cleared areas, the recommendation is to conduct a pre-harvest prescribed burn the year prior to or year of liquidation, plant containerized longleaf at the previously described density, and conduct a fast-moving prescribed burn operation 2 years post-planting. If herbicide operations are needed for adequate control of hardwoods these should be conducted prior to planting operations to prepare the site.

The need for herbicide application in stands will depend on site conditions. It is our suggestion that the manager wait at least 1 burn cycle to determine the extent to which hardwoods have been controlled. It is not in the best interest of the project area to recommend herbicide operations on any particular management unit or stand. It will be determined by the success of prescribed burn operations. Larson & McGowin is able to assist in making these determinations as needed.

Understanding the Nexus between Silviculture and Biology

This section is intended as a primer for the reader to understand what occurs in natural longleaf pine stands when overstory gaps are created. It is a synthesis of many years of research of longleaf pine and fire ecology as well as decades of experience. This section has the goal of providing a context of how selection methods impact regeneration processes. While the discussion focuses on natural regeneration, there is a direct analogue to that of artificial regeneration that the property manager can use when planning harvests in longleaf pine stands of any age and stocking. As this is only an introduction the reader is referred to the Literature Cited section for more information.

Though longleaf pine masting events can occur annually, it is well known that high seed dispersal occurs on average between 7 and 15 years. These masting events, also referred to as bumper crops, are known the year before seedfall because of the 2-year cycle of cone maturity. A bumper crop is classified as a regional cone crop average of 100 cones per tree or greater. The US Forest Service has maintained a database since the late 1960s of cone counts across the natural range of longleaf pine. Interestingly, bumper crops tend to be regional in scope with local variation. This means that a bumper crop year in general results in significantly higher seed production from Virginia to Texas. This synchronization can be independent of local climate, i.e., droughts and floods. However, being an average of 10 sites across 6 states one would expect a range of values. For example, 2014 was cited as a "very good" year for a regional cone crop with a mean of 98 cones per tree, far ***above*** the long-term average, with a range of 7-223. An average of 100 cones per tree or greater is considered a bumper crop. Incidentally the 2 ***lowest*** reported cone counts for 2014 were both in proximity to the project area[3]. The most recent report states that in 2015 and 2016 cone counts are expected to be ***below*** the long-term average, i.e., a poor crop. Thus, while the USFS report is valuable for observing long-term trends, it is suggested that monitoring of longleaf pine cone crops be performed annually in the project area for the next year's planning of burn and planting operations. Any longleaf pine selected for cone crop monitoring should be mature (>40 years in age) occupying a dominant or

[3] 14 cones/tree at Tall Timbers Research Station and 7 cones/tree at Apalachicola National Forest; http://www.srs.fs.usda.gov/longleaf/2014_Cone_REPORT.pdf

codominant canopy position with a wide crown not affected by other trees. At least 3 should be selected to get a reliable average, and these *same* trees monitored annually. The FFWCC may have current staff qualified to make this determination. Fortunately, assessing potential longleaf pine cone crops is an easy skill to master provided the viewer has good eyesight, binoculars, and patience.

When it is known that the project area may have a bumper crop the next year there is adequate time to plan for a *growing-season* prescribed burn in late spring or summer prior to seedfall, which occurs around November. The objective of this prescribed burn is to create as many microsites for seedling germination as possible as longleaf pine seedlings must contact bare soil to germinate. A hot fire afforded by a growing-season burn removes much of the aboveground understory and can remove non-target pine regeneration. If there is a justifiable reason for not using growing-season fire in a stand the year of seedfall, a dormant-season prescribed burn is a viable alternative to not burning at all.

The year after seedfall will reveal a range of longleaf pine seedling densities. After a bumper crop year it is not uncommon to have seedling densities that are orders of magnitude larger than that of planted seedlings: seedling densities of 435,000/ac or more, resembling a "green carpet", have been reported by several managers of natural longleaf pine forests after a bumper crop (*K. Larson, personal communication*). If this occurs the property manager can rest assured knowing there will be adequate regeneration. The more likely observation will be pockets of regeneration in the overstory gaps and may include slash and loblolly pine seedlings. The property manager should then begin monitoring these areas as they will be the next cohort of trees, adding age diversity to the stand.

Prescribed burning operations should not be held the following year in a burn unit or stand where natural regeneration of longleaf pine is being actively managed. A general rule is that when the root-collar diameter of naturally regenerated longleaf pine seedlings are about 0.2 inches and still in the grass stage prescribed fire can be applied again. The first prescribed fire applied can vary depending on objectives. Since the primary objective is to promote longleaf pine seedlings, a strip headfire with about 60-70 feet between strips will allow a fire to move quickly through an area and not get excessively hot. Slow-moving backfires or a single headfire are not suggested unless other stand objectives dictate it. Because these seedlings will be in the grass stage the terminal bud on the most vigorous seedlings will be protected from lethal heat. Prescribed fire can be applied every 2-3 years thereafter.

There may be concern about excessive regeneration of loblolly and slash pine seedlings as most stands in this stratum contain significant amounts of these species. Though loblolly and slash pines can create a plethora of seedlings, they can be effectively controlled with prescribed burn operations when they are very small. Hence the prescribed burn manager may wish to target certain areas for a stronger headfire or slower backfire provided that the loss to longleaf pine regeneration will not outweigh the benefits. Loblolly and slash pine seedlings can become very difficult to control with fire alone once reaching about 5 feet in height. Using mechanical controls, i.e., mowing or logging equipment during future harvests may be one option to control these non-target species.

Natural longleaf pine seedlings will typically remain in the grass stage between 1 and 7 years after germination, with some excessively xeric sites extending the grass-stage period to 20 years. Longleaf pine regeneration usually exits the grass stage when the root-collar diameter is about the width of a thumb, or about 1 inch. The property manager should monitor the percentage of seedlings exiting the grass stage into the "rocket stage", where substantial height growth occurs over 1-2 years. This growth pattern follows long-term flame heights from an evolutionary perspective. At the grass stage the terminal bud is *below* the highest fire temperatures, and the rocket stage allows the terminal bud to grow *above* the highest fire temperatures. Longleaf pine seedlings are most susceptible to fire damage at germination and when growing between these phenology patterns.

When longleaf pine saplings begin to differentiate in size one can begin to appreciate the impact of the overstory, the understory, and belowground competition on longleaf pine survival. The classic bell-shaped curve to longleaf pine seedlings under an overstory gap is an interaction between light and nutrient availability, root competition, and fire dynamics. This is the period where the tradeoff between survival and growth can be seen most forcefully. In essence, longleaf pine is a paradoxical species by displaying biological responses that to a land manager seem both shade-tolerant *and* shade-intolerant. Longleaf pines, like all C_3 plants, respond positively with increasing light up to a threshold. Since natural plant systems are not in a vacuum but rather in a complex assemblage of species across spatial scales one must take into account all factors acting on a regenerating seedling. To provide context, assume the following general observations between the base of a mature longleaf pine tree and the groundline extent of its crown, i.e., its dripline:

1. Fire temperature and intensity decreases
2. Available light intensity increases
3. Belowground overstory competition decreases
4. Understory and woody competition increases

These 4 parameters can account for much of the variation one sees across overstory gaps in longleaf pine forests. The intricate balance between competition (above- and belowground) and fire explain the trade-offs in longleaf pine seedling response with overstory gaps in fire-climax pine forests. Pecot et al. (2007) and Knapp et al. (2013) examined these factors in longleaf pine seedling survival and growth under longleaf pine and loblolly pine stands, respectively. In essence, as overstory gaps increase in size longleaf pine seedlings *increase in growth* but *decrease in survival* due to the competitive interactions of light, nutrient availability, and fire. Larger overstory gaps increase light availability, but fire intensity decreases dramatically because of less prevalent pyrogenic fuel sources and more prevalent hardwoods that do not carry fire well spatially. Negligible gaps or intact canopy may *increase survival slightly* but *decrease growth substantially*. Thus, there are 3 tenets with respect to overstory basal area to consider when creating any overstory gaps (including marking a single tree for removal) for longleaf pine regeneration:

1. Overstory basal area >60 ft^2/ac results in low seedling survival and low growth, fire intensity highest
2. Overstory basal area 30-60 ft^2/ac results in higher seedling survival but lower growth

3. Overstory basal area <30 ft^2/ac results in lowest seeding survival but higher growth, fire intensity lowest

This is the classic competition-facilitation paradox observed in natural longleaf pine systems maintained by prescribed fire. These patterns are seen with natural or planted longleaf pine. In our experience the most appropriate gap size when managing for FFWCC restoration objectives will be created with single-tree selection or judicious small group selection that creates a stand-level average of 30-60 ft^2/ac and with gaps between 0.1-0.25 acres. The objective of this approach is to promote longleaf pine regeneration first. Once advanced regeneration is present then consideration could be made to remove target trees to expand gaps with subsequent seed crops. However, these relic trees will serve as nests for wildlife, potential RCW cavity trees, provide a long-term fuel source, etc.

This marking and harvesting approach is not for the untrained, and it is strongly suggested that persons doing any future marking of trees for removal in these stands be sufficiently knowledgeable of longleaf pine ecosystems and JBWMA in general in addition to having experience in marking timber using single-tree selection. Additionally, any harvesting crews operating heavy machinery in these stands should be clearly told to be aware of longleaf pines growing in open areas. Operators tend to cross gaps because of there are no trees to avoid. This practice must be monitored closely and discouraged. One suggestion is to flag around these areas very well and to include language in written contracts stating needs and penalties for substantial damage to longleaf pine regeneration. To fully describe the approaches used is beyond the scope of this timber management plan. The reader is urged to consult the Literature Cited section for additional resources.

Role of Adaptive Management

Any recommendations provided in this timber management plan are tempered with the fact that on-the-ground conditions change regularly. Fluctuations in wood markets and seasonal weather conditions are two large-scale factors that can impact operations. However, variations within the project area can alter operations at the management unit and/or stand levels. Increases in fuel loads, weather events, pests and disease, hunting, wildfires, etc. can all impact when any of the outlined silvicultural operations can commence on an individual site.

Any recommendations provided should serve as a template or guide to moving the project area towards a long-term, sustainable paradigm. Tantamount to this success is being able to practice adaptive management whereby a buffering in management strategy creates a hedge against uncontrollable factors that may occur.

Though this timber management plan provides an activity schedule used to guide efforts across the project area, there should be an underlying tolerance to modify operations a year or two if need be. It is recommended that, in the interest of long-term objectives, that prescribed fire operations be closely adhered to as much as feasible. Harvesting, regeneration, and chemical applications are more flexible with the caveat that volume and yield estimates will only be accurate for the years presented. Finally, financial assumptions presented in this management plan may change over the course of the

activity window; up-to-date estimates of costs will assist the land manager and make financial planning easier. Considering all of these factors we recommend that an annual review of plan objectives be conducted and subsequent year adjustments made as necessary.

VII. Activity and Harvest Schedule

Tables 4 through 9 and Figures 8 through 11 specify the operation and year that silvicultural operations will occur in each stand. An annual summary of estimated revenues and costs are provided in Table 4.

VIII. Conclusions

The JBWMA property is a unique area of Florida that has many special communities and characteristics. The project area contains a significant portion of acreage (55%) that is in older, naturally regenerated pine stands. In most of these there is sufficient evidence that these stands are nearing the objective attributes of the restored longleaf pine community. The remaining 45% are in younger planted pine stands where the long-term goal is to move these areas back to communities more representative of the historical landscape. It is expected that it will take many years for portions of the project area to resemble a fire-maintained, longleaf pine ecosystem. Other portions of the project area are very nearly there and with minimal effort will reach objective attributes in the next 10-20 years. Some operations will have a relatively immediate effect while others will be extremely subtle. *The expectation should not be of an immediate response of the project area to the silvicultural operations.* The restoration of structure and function, though different in their scales and impacts, will occur with the guidelines presented here. Attaining long-term objectives laid out by FFWCC will be the result of a culmination of these efforts consistently applied through time.

Using the guidelines presented in this timber management plan within an adaptive management paradigm gives the land manager the flexibility given variable market forces, weather conditions, and on-the-ground conditions. It is recommended that the property manager consult other FFWCC employees, an expert, the literature, or all of these should questions arise in the future regarding cause and effect relationships brought forth by any of the silvicultural operations.

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Table 1. Summary and proportions of timber strata across project area for JBWMA, Gadsden County, Florida, including approximate acres estimated by GIS. All GIS acres are approximate.

	Project Area Acres				
Cover Type	*Slash Pine Acres*	*Loblolly Pine Acres*	*Longleaf/Mixed Pine Acres*	Total Acres	Percent Of Project Area
Pine Plantation	109	318	23	**450**	**45%**
Natural Pine	0	0	559	**559**	**55%**
TOTAL	**109**	**318**	**582**	**1,009**	**100%**

Table 2. Summary of Timber Management Units (TMUs) for JBWMA, Gadsden County, Florida. Source: request for proposal, FFWCC, March 2015.

Management Unit #	TMU Acreage	Timber Stand Acreage	Thinned Acres	Unthinned Acres	FFWCC Comments	Analysis Stratum
1	183	98	98	0	3rd row thin.	2
2	827	23	0	23		1
3	228	28	6	22	3rd row thin.	2
4	129	4	0	4		1
5	82	79	0	79		1
6	84	71	0	71		1
7	132	107	0	107		1
8	108	96	0	96		1
9	87	75	0	75		1
10	100	79	0	79		1
11	35	27	0	27		1
12	110	45	45	0	3rd row thin and within row thinning of leave rows.	2
13	127	107	107	0	3rd row thin and within row thinning of leave rows.	2
14	119	60	60	0	3rd row thin and within row thinning of leave rows.	2
15	340	109	109	0	3rd row thin and within row thinning of leave rows.	2
Total	**2691**	**1008**	**425**	**583**		

Table 3. Stand attributes and proportions of older pine stands (stratum 1) used for projection of growth and harvest scheduling on JBWMA. All estimates are approximate.

Stand	Age	Total acres ±	Total basal area (ft^2/ac)	Longleaf pine basal area (*% of total*)	Loblolly pine basal area (*% of total*)	Slash pine basal area (*% of total*)	Projected growth rate (%)
2	75	21	40	40 (*100*)	--	--	2.5
4	80	4	60	20 (*33*)	40 (*67*)	--	1.6
5	85	79	66	51 (*77*)	15 (*23*)	--	1.4
6	80	71	59	28 (*47*)	25 (*43*)	6 (*10*)	1.6
7	80	107	84	76 (*91*)	4 (*4*)	4 (*5*)	0.7
8	80	96	77	67 (*87*)	3 (*3*)	7 (*10*)	0.9
9	87	75	66	32 (*48*)	23 (*34*)	11 (*17*)	1.2
10	75	79	47	27 (*57*)	13 (*28*)	7 (*15*)	2.3
11	77	27	53	16 (*30*)	33 (*62*)[1]	4 (*8*)	2.1
TOTAL		**559**					

[1] Includes 4 ft^2/ac of planted loblolly as stated in the 2014 inventory

Table 4. Summary of income and expenses for silvicultural operations on JBWMA, 2016-2030. Costs are in parentheses. All GIS acres and costs are approximate. Planting costs and net revenue may be substantially lower if natural regeneration is used.

	Selective Thinning, Natural Stands (Stratum 1)		Thinning to 70 or 30 BA, Pine Plantations (Stratum 2)		Planting		Total Revenue	Total Cost	Net Revenue
Year	Acres	Income ($)	Acres	Income ($)	Acres	Cost ($)	$	$	$
2016	-	$ 0	-	$ 0	-	$ 0	$ 0	$ 0	$ 0
2017	107	$113,078	-	$ 0	-	$ 0	$113,078	$ 0	$113,078
2018	-	$ 0	-	$ 0	21	$ (4,121)	$ 0	$ (4,121)	$ (4,121)
2019	96	$128,158	-	$ 0	-	$ 0	$128,158	$ 0	$128,158
2020	-	$ 0	50	$ 80,727	-	$ 0	$ 80,727	$ 0	$ 80,727
2021	75	$ 68,954	-	$ 0	107	$(21,332)	$ 68,954	$(21,332)	$ 47,622
2022	-	$ 0	-	$ 0	281	$(56,189)	$ 0	$(56,189)	$(56,189)
2023	75	$ 84,360	-	$ 0	-	$ 0	$ 84,360	$ 0	$ 84,360
2024	79	$ 75,069	60	$ 48,832	50	$ (9,981)	$123,902	$ (9,981)	$113,920
2025	27	$ 28,660	115	$ 68,430	75	$(15,058)	$ 97,090	$(15,058)	$ 82,032
2026	-	$ 0	2	$ 5,499	96	$(19,200)	$ 5,499	$(19,200)	$(13,701)
2027	-	$ 0	-	$ 0	106	$(21,239)	$ 0	$(21,239)	$(21,239)
2028	-	$ 0	-	$ 0	136	$(27,162)	$ 0	$(27,162)	$(27,162)
2029	-	$ 0	23	$ 61,528	109	$(21,884)	$ 61,528	$(21,884)	$ 39,644
2030	-	$ 0	-	$ 0	-	$ 0	$ 0	$ 0	$ 0
TOTAL	**460**	**$498,279**	**250**	**$265,017**	**981**	**$(196,165)**	**$763,297**	**$(196,165)**	**$ 567,131**

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Table 5. Selective thinning operations for older pine stands (stratum 1) for 2016-2030 on JBWMA, by stand. All GIS acres are approximate. Stands 2 and 10 are not included as they are already at target basal area levels.

Year	Stand	Acres
2017	7	107
2019	8	96
2021	4	4
2021	6	71
2023	9	75
2024	5	79
2025	11	27
	TOTAL	**460**

Table 6. Overstory harvesting schedule for older pine stands (substratum 1b), including approximate basal area removals of overstory by species on JBWMA. All estimates are approximate.

Stand	Current basal area (ft^2/ac)	Scheduled Harvest (year)	% BA removal, longleaf pine	% BA removal, loblolly pine	% BA removal, slash pine	Post-harvest basal area (ft^2/ac)
4	61	2021	5	50	0	42
5	67	2024	10	95	95	49
6	60	2021	5	75	90	35
7	84	2017	33	95	95	52
8	78	2019	35	0	0	51
9	67	2023	20	50	85	40
11	54	2025	5	50	90	34

Table 7. Thinning operations to 70 ft²/ac of planted pine (stratum 2) for 2016-2030, by stand. All GIS acres are approximate.

Year	Stand	Acres
2025	3a	6
2026	2a	2
2029	3	23
	TOTAL	**31**

Table 8. Thinning operations to 30 ft²/ac of planted pine (stratum 2) for 2016-2030, by stand. All GIS acres are approximate.

Year	Stand	Acres
2020	1	50
2024	14	60
2025	15	109
	TOTAL	**219**

Table 9. Longleaf pine planting schedule and costs for the years 2016-2030, by year and stand. All GIS acres and costs are approximate. Costs may be far lower in older stands (stratum 1) if using natural regeneration of longleaf pine.

Year	Stand	Acres	Cost ($)
2018	2	21	$4,121
2021	7	107	$21,332
2022	1a	48	$9,616
2022	2a	2	$328
2022	10	79	$15,855
2022	12	45	$8,910
2022	13	107	$21,480
2024	1	50	$9,981
2025	4	4	$805
2025	6	71	$14,253
2026	8	96	$19,200
2027	5	79	$15,817
2027	11	27	$5,422
2028	9	75	$15,078
2028	14	60	$12,084
2029	15	109	$21,884
	TOTAL	**981**	**$196,165**

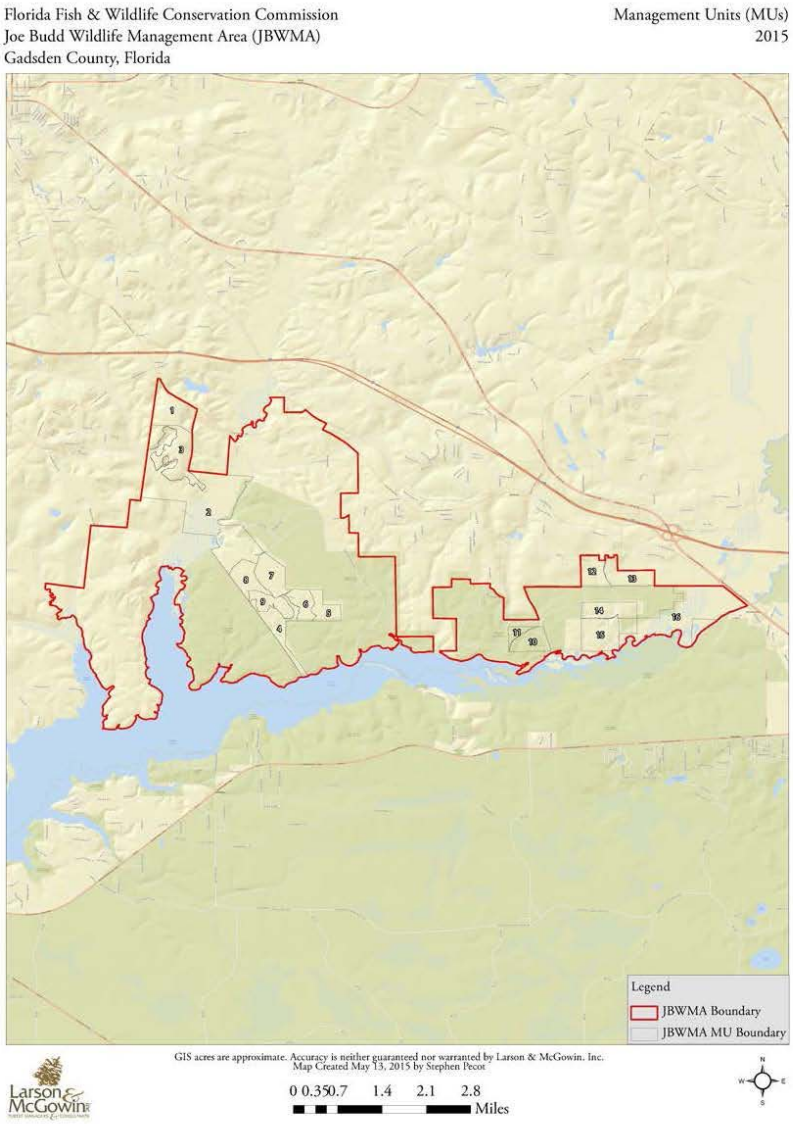


Figure 1. Map of JBWMA Management Units (MUs) as part of the 2016-2030 management plan, Gadsden County, Florida.

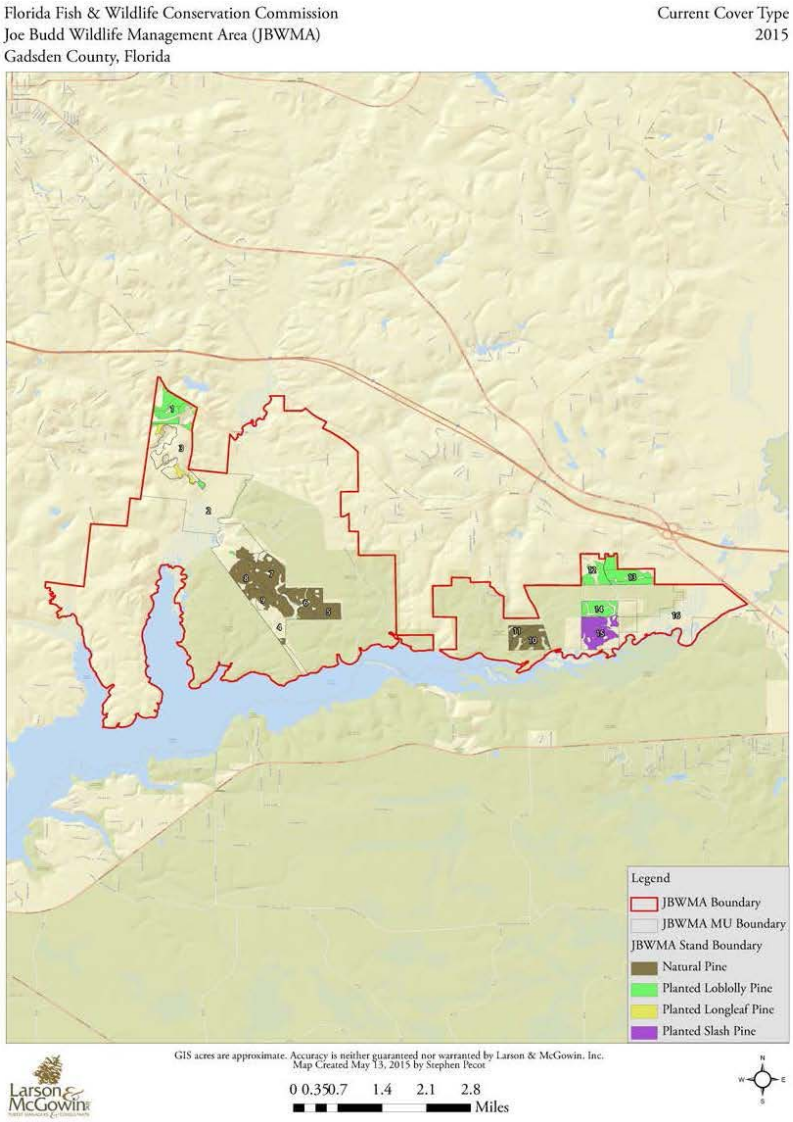


Figure 2. Map of current timber cover types of JBWMA as of 2015, Gadsden County, Florida.

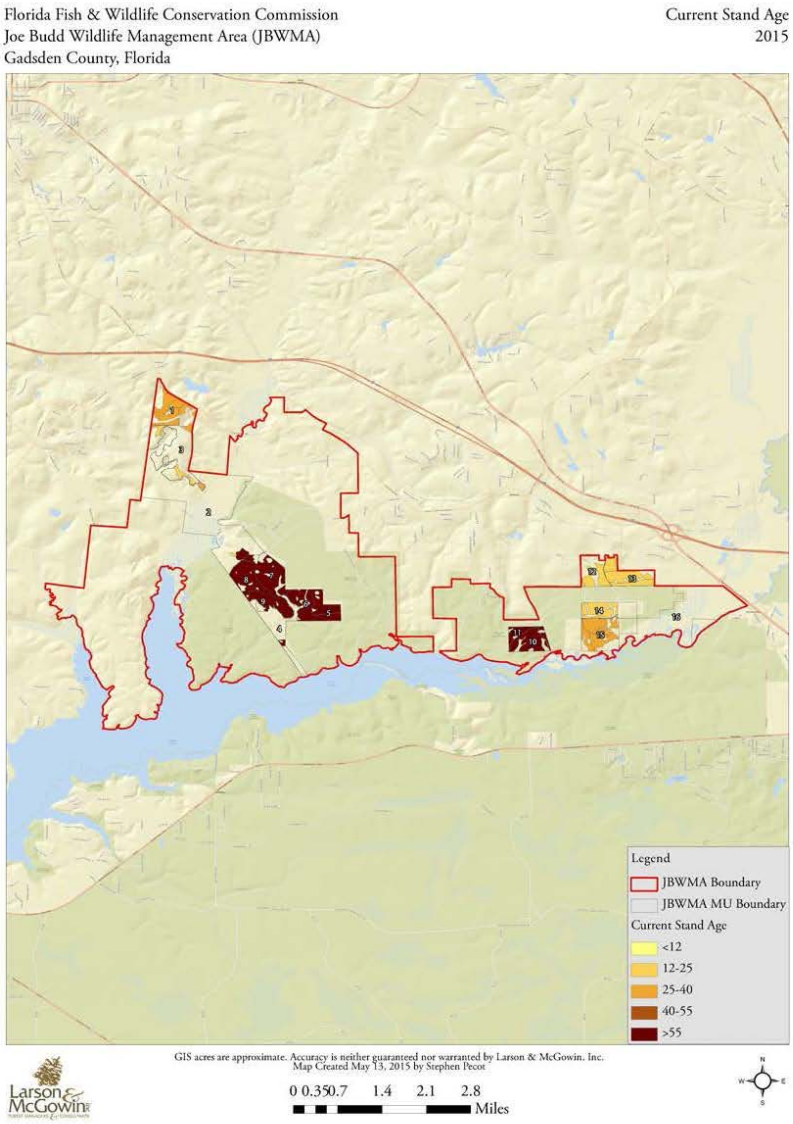


Figure 3. Map of current stand ages of JBWMA as of 2015, Gadsden County, Florida.

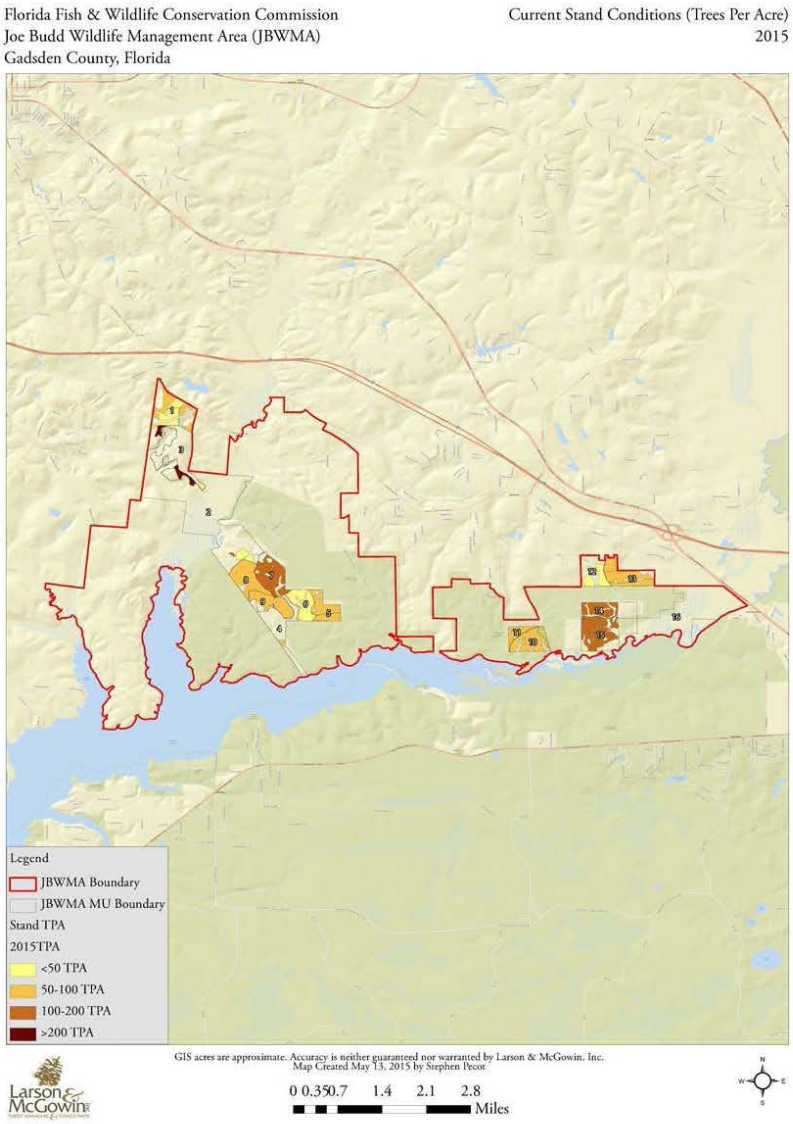


Figure 4. Map of current trees per acre ranges of JBWMA as of 2015, Gadsden County, Florida.

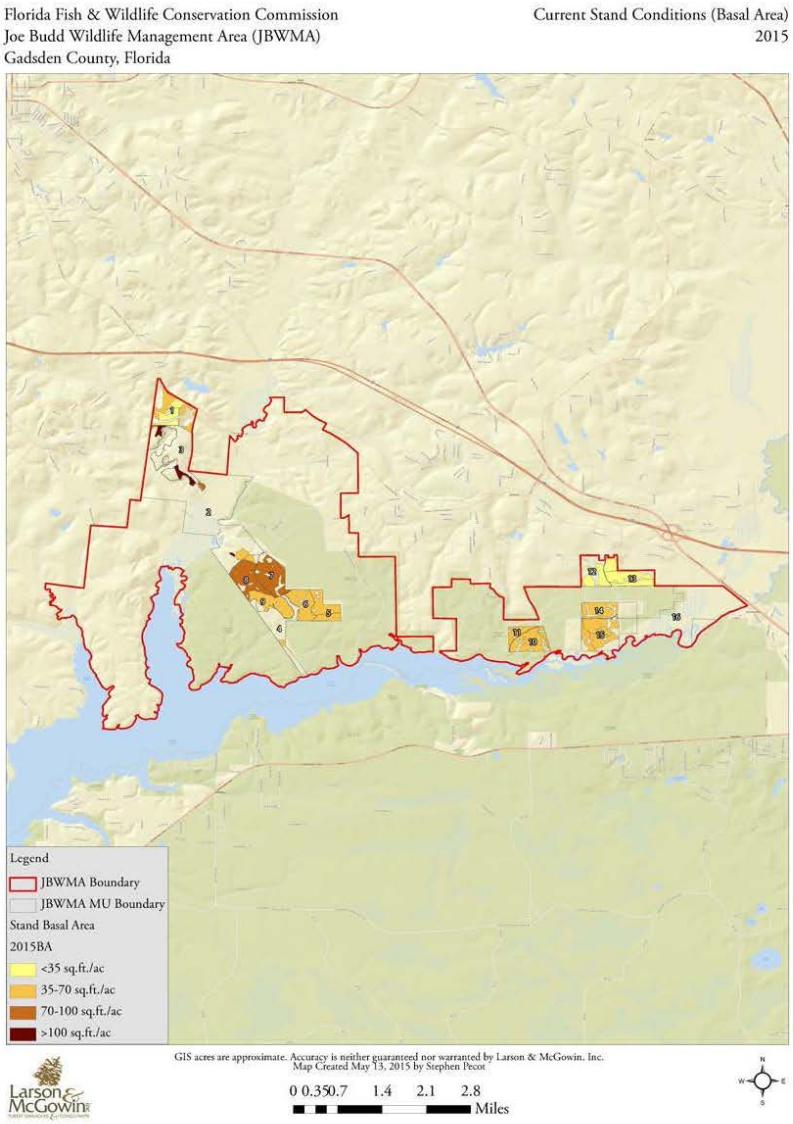


Figure 5. Map of current basal area (ft^2/ac) of JBWMA as of 2015, Gadsden County, Florida.

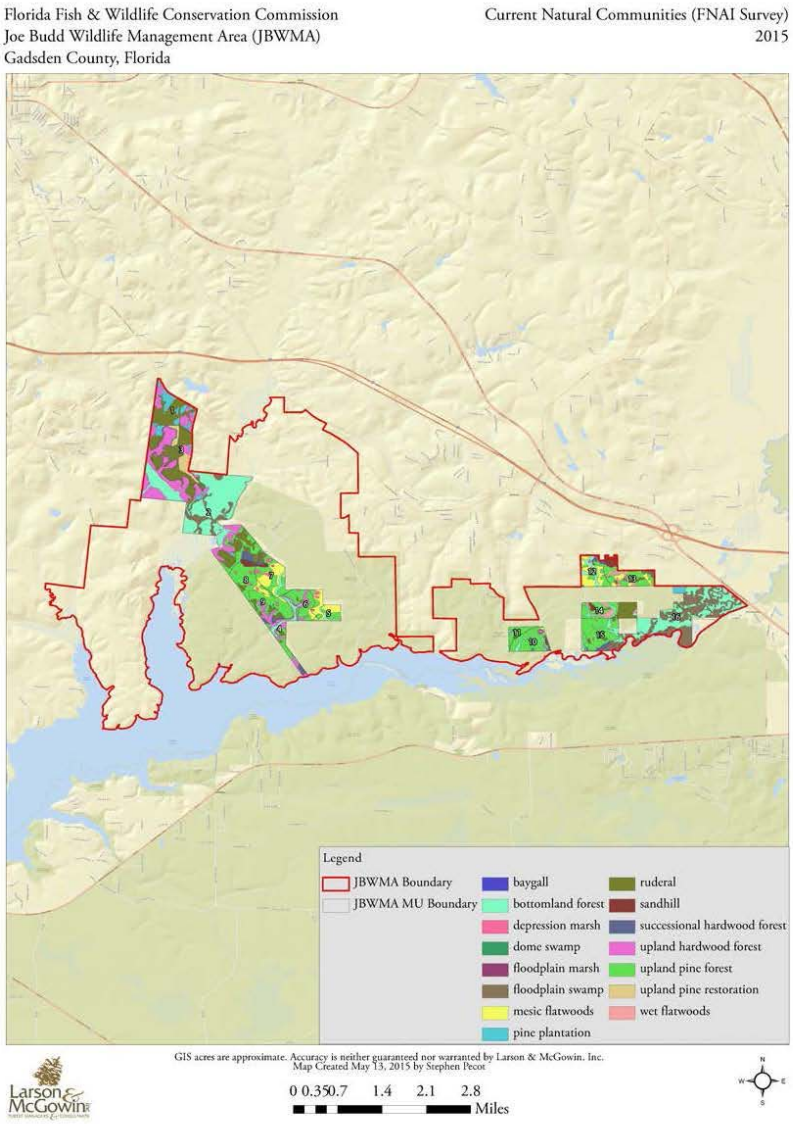


Figure 6. Map of current communities on timber stands of JBWMA, Gadsden County, Florida.

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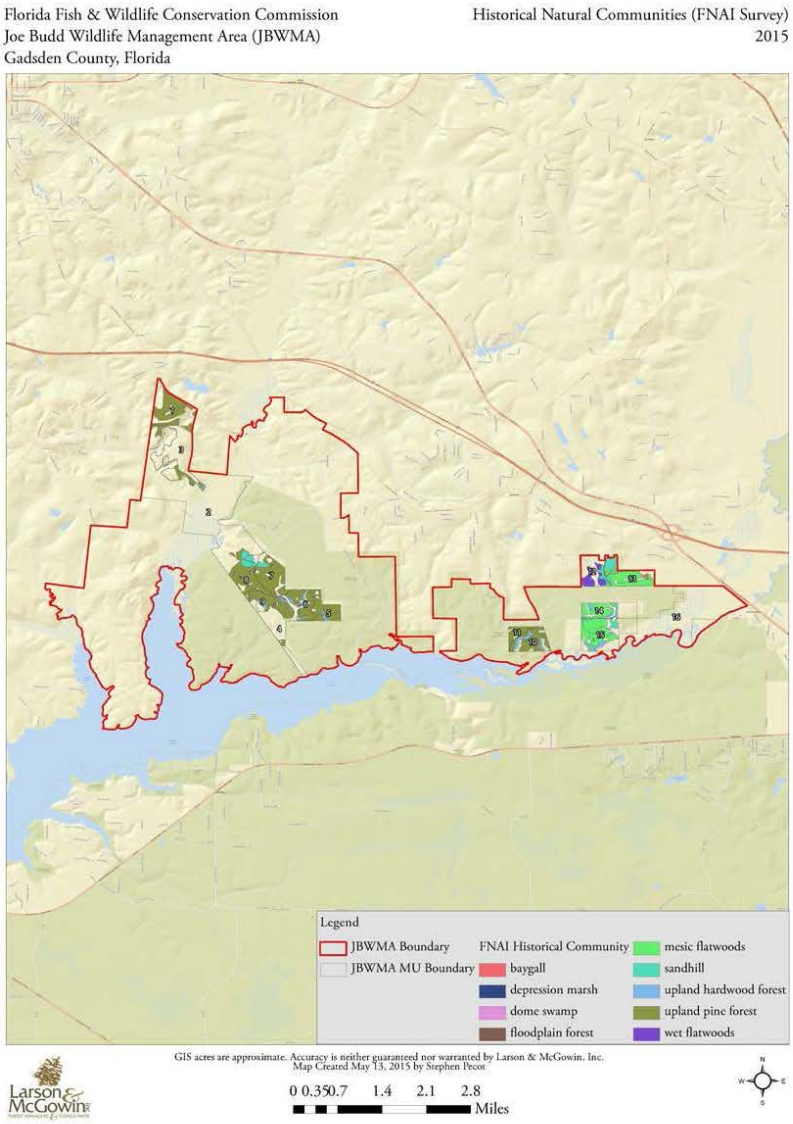


Figure 7. Map of objective communities on timber stands of JBWMA, Gadsden County, Florida.

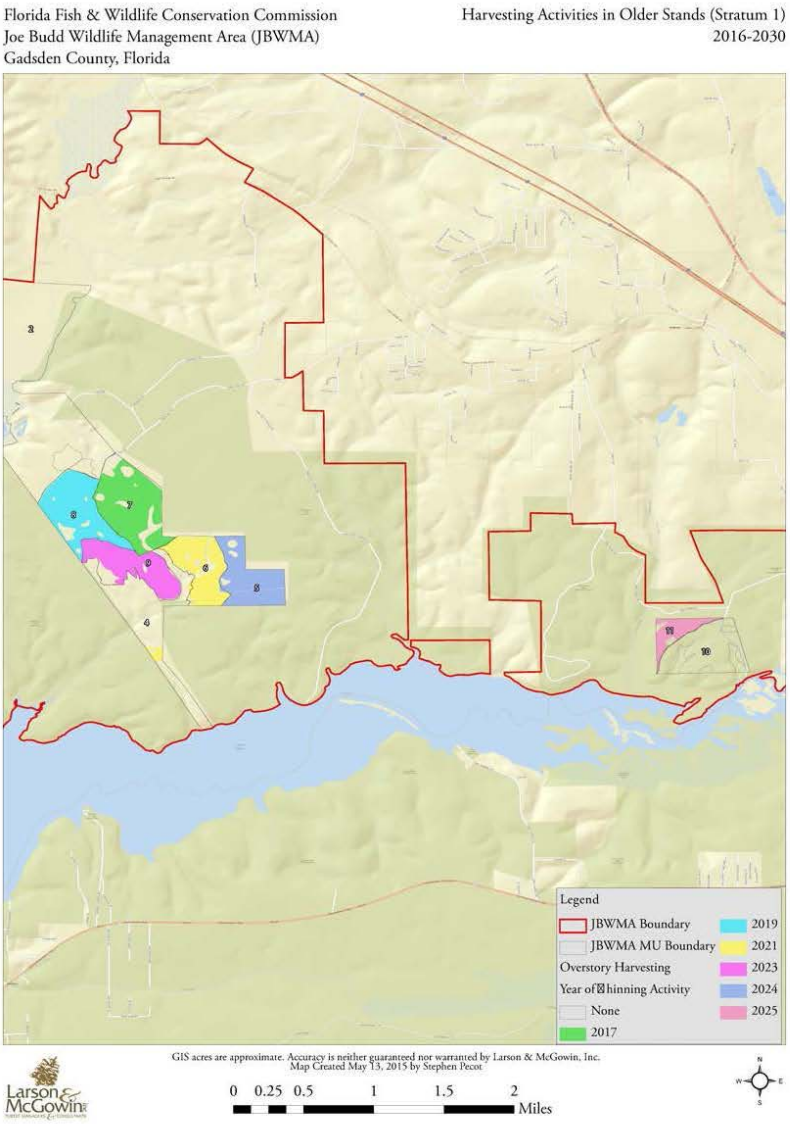


Figure 8. Map of thinning activities (selective harvests on natural stands stratum 1) on JBWMA, 2016-2030, Gadsden County, Florida.

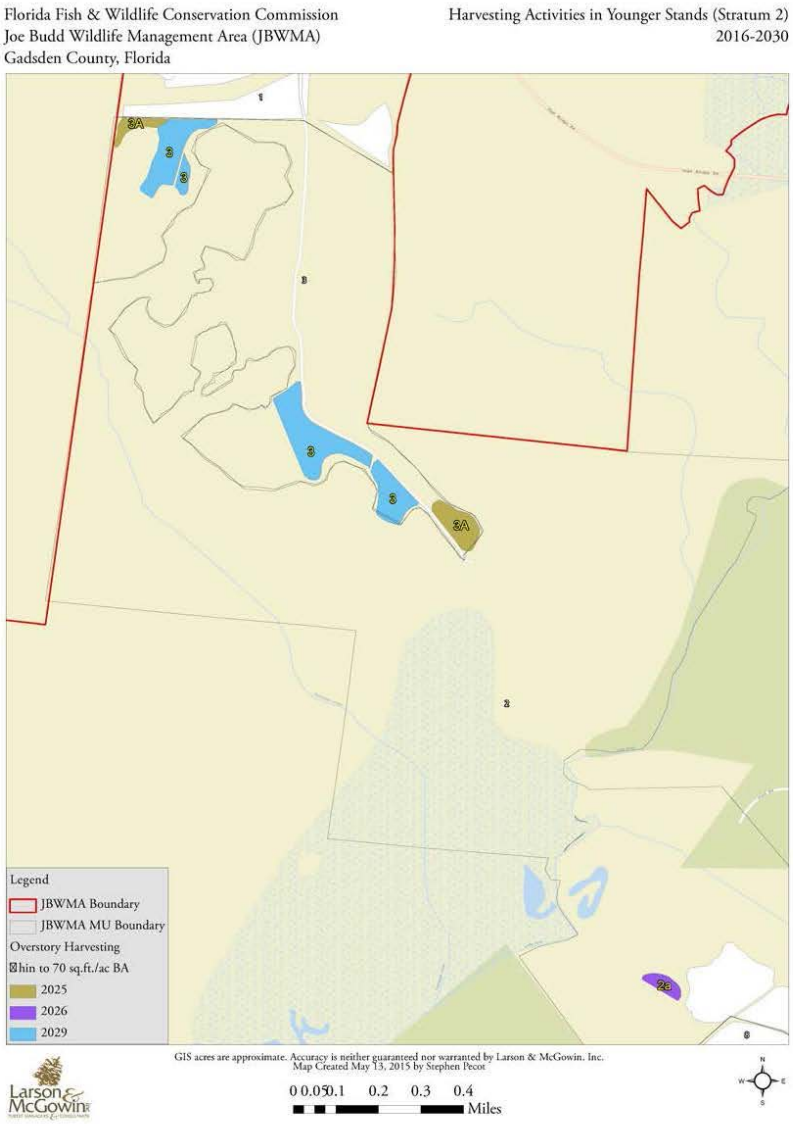


Figure 9. Map of thinning activities (to 70 ft^2/ac of residual overstory basal area for stratum 2) on JBWMA, 2016-2030, Gadsden County, Florida.

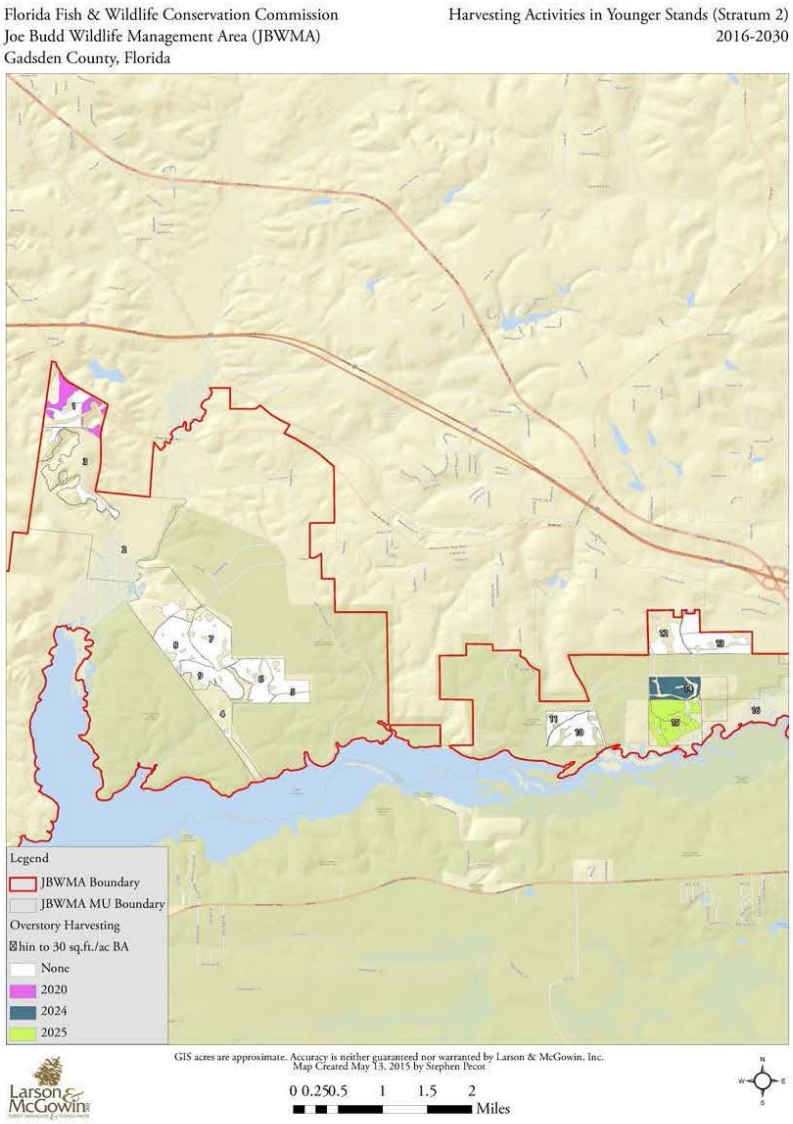


Figure 10. Map of thinning activities (to 30 ft^2/ac of residual overstory basal area for stratum 2) on JBWMA, 2016-2030, Gadsden County, Florida.

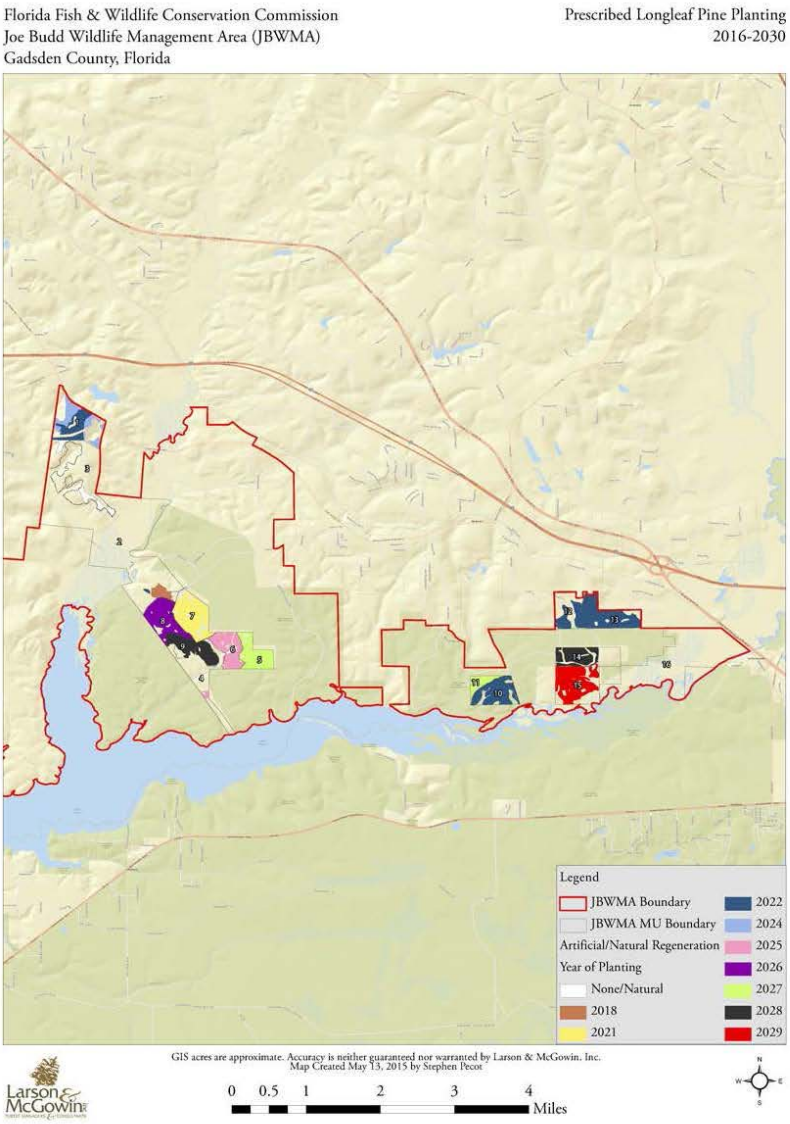


Figure 11. Map of longleaf pine planting activities on JBWMA, 2016-2030, Gadsden County, Florida. Note: planting may not be necessary for older, natural pine stands if sufficient natural regeneration is attained.

11.15 Wildlife Conservation and Prioritization and Recovery Program Strategy (WCPR)

Joe Budd Wildlife Management Area

Species Management Strategy

June 2014

Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Wildlife and Habitat Management Section

A product of the Wildlife Conservation
Prioritization and Recovery Program

Executive Summary

The Florida Fish and Wildlife Conservation Commission's (FWC) Wildlife and Habitat Management Section (WHM) takes a proactive, science-based approach to species management on lands in the Wildlife Management Area system (WMA/WEA). This approach uses information from statewide models, in conjunction with input from species experts and people knowledgeable about the area, to create site-specific assessments of a number of focal species. Staff combines these assessments with management considerations to develop a wildlife management strategy for the area. The FWC intends for this Strategy to: 1) provide land managers with information on actions that should be taken provided the necessary resources are available, 2) promote the presence and ensure the persistence of focal wildlife species on the area, and 3) provide measurable species objectives that can be used to evaluate the success of wildlife management on the area.

This document presents the results of a science-based process for evaluating focal species needs using an ecosystem management approach on the Joe Budd Wildlife Management Area (JBWMA). Natural community management designed for a set of focal species benefits a host of species reliant upon the same natural communities. Monitoring select species verifies whether natural community management is having the desired effect on wildlife. To maximize the potential wildlife conservation benefit, staff considers the role of the WMA in regional and statewide conservation initiatives throughout the process.

Section 1 informs the reader about the process used to generate this document.

Section 2 describes the historic and ongoing management actions on the property.

Section 3 provides a list of the focal and listed species on the area, and an assessment of each species' level of opportunity and need. This includes species-specific objectives for the gopher tortoise, Bachman's sparrow, brown-headed nuthatch, and bald eagle.

Section 4 describes specific land management actions recommended for focal species. This section also discusses management considerations necessary to ensure continued persistence of focal species.

Section 5 describes species-specific management and monitoring that is prescribed for the area, and identifies any research that would be necessary to guide future management efforts. We did not identify any species management needs for this area. Monitoring is recommended for the gopher tortoise, Bachman's sparrow, brown-headed nuthatch, and bald eagle. We also recommend documentation of opportunistic encounters with other focal species.

Section 6 identifies coordination that will assist in conserving the area's focal species. We identify coordination with 7 other units in FWC and inter-agency coordination with 3 other entities.

Section 7 describes efforts that are prescribed to occur "beyond the area's boundaries" to ensure conservation of the species on the area.

Continuation of current funding and staff levels would be required to provide for most of the land management recommended in this document. Some of the monitoring recommendations may require additional resources, while FWC can accomplish others with continuation of existing resources.

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Acronym List

ANF	Apalachicola National Forest
ARCI	Avian Research and Conservation Institute
BMPs	Best Management Practices
CCA	Candidate Conservation Agreement
CPS	Conservation Planning Services (section; formerly Habitat Conservation Scientific Services)
DEP	Florida Department of Environmental Protection
DFC(s)	Desired Future Condition(s)
FFS	Florida Forest Service (formerly Division of Forestry)
FNAI	Florida Natural Areas Inventory
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Fish and Wildlife Research Institute (division)
FWLI	Florida Wildlife Legacy Initiative
GCR	Ground Cover Restoration (program)
HGM	Hunting and Game Management (division)
ISMP	Imperiled Species Management Plan
JBWMA	Joe Budd Wildlife Management Area
MU	Management Unit
OBVM	Objective Based Vegetation Management
PVA	Population Viability Analysis
PLCP	Public Lands Conservation Planning (tool)
SaMP	Survey and Monitoring Protocol
SCP	Species Conservation Planning (section)
SGCN	Species of Greatest Conservation Need
SHCA	Strategic Habitat Conservation Area
SAP	Species Action Plan
SMA	Strategic Management Area
USFWS	United States Fish and Wildlife Service
WHCNinFL	Wildlife Habitat Conservation Needs in Florida
WHM	Wildlife and Habitat Management (section)
WCPR	Wildlife Conservation Prioritization and Recovery (program)
WMA/WEA	Wildlife Management Area/Wildlife Environmental Area

Statewide Species Prioritization Parameters

This table provides the values for the 6 prioritization parameters for the focal species. Parameters that are "triggered" (exceed the threshold) are in **bold**. Typically, the more parameters a species triggers, the higher the statewide prioritization.

Species Common Name	Millsap et al[1]		State Wildlife Action Plan[2]		Population Viability Analysis (PVA) on managed lands	
	Biological Score[3]	Supplemental Score[4]	Population Status[5]	Population Trends[6]	Probability of a 50% decline[7]	Populations persisting (to 80 or 100 years)[8]
Gopher Frog	24.6	12	medium	**declining**	0	**9% (to 80)**
Florida Pine Snake	23.7	**15**	medium	**declining**	0	**31% (to 80)**
Gopher Tortoise	**27.3**	**17**	medium	**declining**	0	**55% (to 100)**
American Swallow-Tailed Kite	25.7	13	**low**	**unknown**	**20%**	**50% (to 100)**
Bachman's Sparrow	16.0	12	medium	**declining**	0	**49% (to 80)**
Brown-Headed Nuthatch	17.0	13	medium	**declining**	0	**25% (to 80)**
Cooper's Hawk	15.0	12	not a SGCN[9]	not a SGCN[9]	**96%**	100% (to 100)
Louisiana Waterthrush	17.6	13	**unknown**	**unknown**	**28%**	100% (to 97)
Northern Bobwhite	11.0	14	**low**	**declining**	0	100% (to 100)
Red-Cockaded Woodpecker	**27.6**	14	**low**	**declining**	0	**45% (to 100)**
Southern Bald Eagle	21.3	10	medium	increasing	0	100% (to 100)
Wading Birds	23.7	13	varying	varying	0	100% (to 100)
Florida Black Bear	**32.7**	13	medium	stable	**5%**	100% to (100)
Fox Squirrel	24.0	**17**	**low**	**declining**	0	**28% (to 80)**
Southeastern Myotis	22.6	**16**	medium	stable	**5%**	100% (to 100)

[1] scores derived from Millsap et al (1990), "Setting priorities for the conservation of fish and wildlife species in Florida", as updated by staff of the FWC. We used the most recent updates to score.

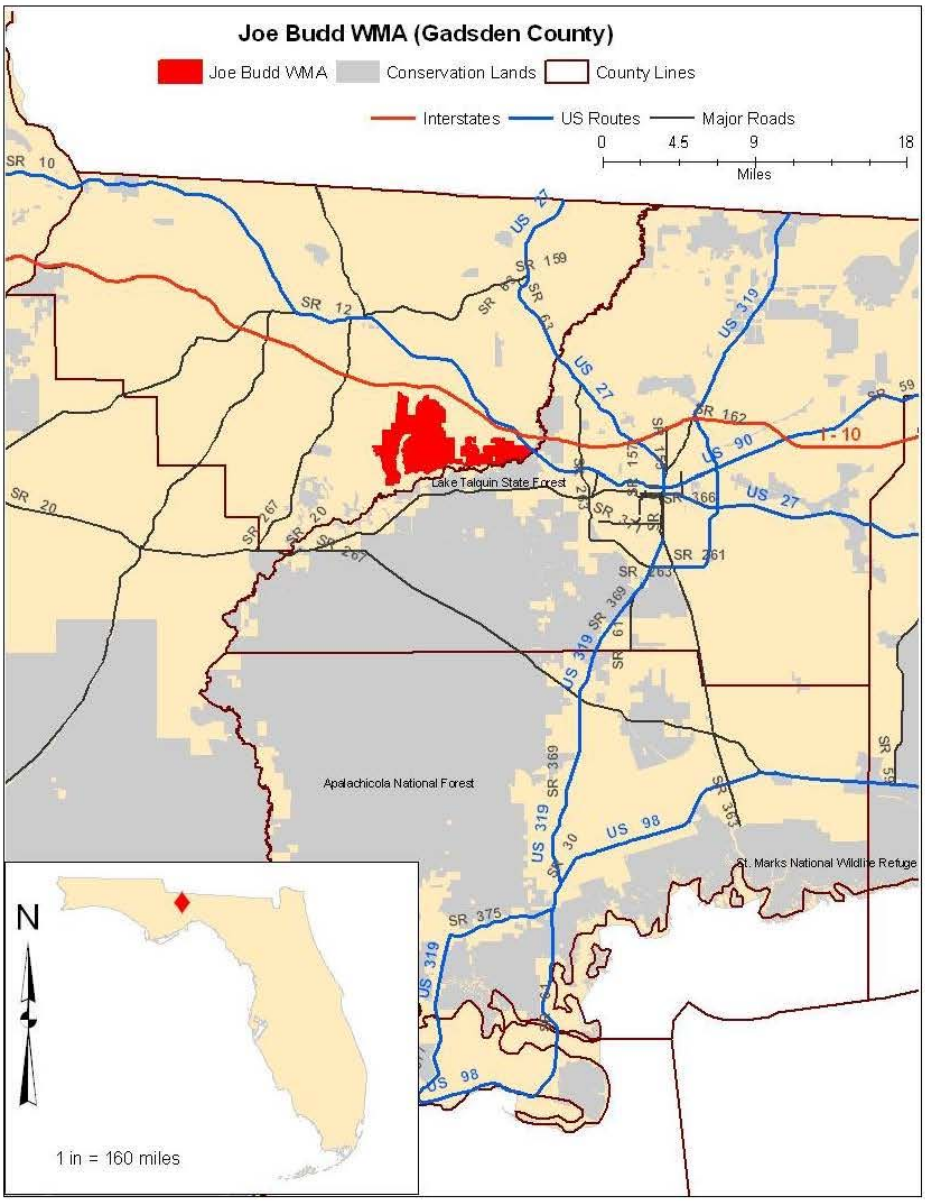
[2] Florida's State Wildlife Action Plan

[3] Species trigger this parameter if the score is ≥ 25.9

[4] Species trigger this parameter if the score is ≥ 15

[5] Species trigger this parameter if the score is low or unknown
[6] Species trigger this parameter if the score is declining or unknown
[7] Species trigger this parameter if the score is > 0
[8] Species trigger this parameter if the score is ≤ 75%
[9] SGCN = species of greatest conservation need

Locator Map


Joe Budd WMA (Gadsden County)
Joe Budd WMA
Conservation Lands
County Lines
Interstates
US Routes
Major Roads
0
4.5
9
18
Miles
Lake Talquin State Forest
Apalachicola National Forest
St. Marks National Wildlife Refuge
N
1 in = 160 miles

Section 1: Introduction

The FWC manages the lands in the Wildlife Management Area system using a proactive approach, which includes an understanding of natural communities of plants and animals. As applied by FWC, natural community management starts by classifying lands into distinct natural communities managed in a way that maintains or enhances their unique structure and function. This ecological management of natural communities improves and restores the habitats upon which wildlife depends. Natural community management that has a positive influence on the natural community condition benefits the wildlife living in these habitats.

Another important aspect of FWC's management approach is ensuring that it is science-informed and meets the needs of Florida's wildlife. The agency's Wildlife Conservation, Prioritization, and Recovery Program (WCPR) created this Species Management Strategy for JBWMA to inform and guide management on the area, and to verify that area management is meeting the needs of wildlife. The FWC intends for this Strategy to: 1) provide land managers with information on management actions that should be taken provided the necessary resources are available; 2) promote the presence and facilitate the persistence of wildlife species on the area; and 3) provide measurable objectives that can be used to evaluate the success of wildlife management on the area.

When developing a Strategy, WCPR staff utilizes concepts that facilitate the analysis and evaluation of an area's opportunities to manage for wildlife. The focal species concept is an approach to identify the needs of wildlife collectively by strategically focusing on a subset of wildlife species. The subset of species FWC selected as focal species includes umbrella species, keystone species, habitat specialist species, and indicator species. Other concepts in a Strategy include Objective Based Vegetation Management and Strategic Management Areas. Objective Based Vegetation Management (OBVM) is a method used to assess if vegetation management within natural communities is achieving the desired conditions. A Strategic Management Area (SMA) is a specially designated piece of land where additional management actions are required to address a particular species' needs.

In addition to the concepts discussed above, we use specific definitions in a Strategy. *Goals* are broad statements of a condition or accomplishment to be achieved; goals may be unattainable, but provide direction and inspiration. *Objectives* are a measurable, time-specific statement of results responding to pre-established goals. *Imperiled Species* refers to any plant or animal federally listed under the Endangered Species Act or state-listed by the FWC or the Department of Agriculture and Consumer Services.

Creating the JBWMA Strategy involved a number of steps. First, WCPR staff assessed the results of species-specific habitat models and statewide potential habitat maps for focal species to determine which focal species had potential habitat on JBWMA. WCPR staff then used knowledge from FWC staff, species-expert opinions, and area-specific natural community maps to modify the statewide models and create area-specific potential habitat

maps for each focal species. Next, WCPR staff conducted a workshop at which area managers, species experts, and section leaders discussed and evaluated JBWMA's potential role in the conservation of focal species. For each species, workshop participants determined the status of the species on the area; evaluated the opportunities for management on the area; specified appropriate monitoring and research actions; and identified beneficial coordination and 'beyond the boundary' considerations. Using the information from the workshop, staff drafted the Strategy document and sent it to species experts and other professionals for review. Following the review, the Strategy was finalized and staff initiated implementation of actions in the Strategy.

Staff considered the goals and objectives in JBWMA's Management Plan (formerly known as Conceptual Management Plan) when discussing and assessing the species; therefore, this Strategy supports the goals of the Management Plan. Management plans are on a 10-year revision cycle. During the next revision of the Management Plan, staff will incorporate the objectives in this Strategy into the Management Plan, and append this Strategy to the revised Management Plan.

While this Strategy focuses on JBWMA, it considers the role of the area within the larger state or regional context. Similarly, while the Strategy has species-specific objectives and actions, it does not endorse single-species management. Natural community management is the core of FWC's ecological management approach, and by paying special attention to the needs of focal and imperiled species, we verify that our management actions are having the desired effect. By implementing the actions in the Strategy, the FWC believes our management will keep common species common, aid in the recovery of listed species, and benefit the largest suite of native wildlife.

Section 2: Current and Historic Management on Joe Budd Wildlife Management Area

2.1: Location, Acquisition, and Influences on Current Condition

Joe Budd Wildlife Management Area (JBWMA) is located in southeast Gadsden County on the northern shore of Lake Talquin and consists of 11,133 acres cooperatively managed by FWC and the Florida Forest Service (FFS). FWC is the lead managing agency on 2,778 acres of JBWMA. This acreage is comprised of the original 794-acre Budd Ranch parcel, the 927-acre Little River Ranch parcel, the 1,032- acre Davis parcels, and the 25-acre Anderson parcel (Figure 1). FFS is the lead managing agency on 6,341 acres with FWC as a cooperating manager. The FWC and FFS equally share management responsibilities on the 2,014-acre Rocky Comfort parcel so both agencies are designated as co-lead managers. In this document, we refer to these 3 portions of JBWMA as the FWC-lead, FFS-lead, and co-lead, respectively.

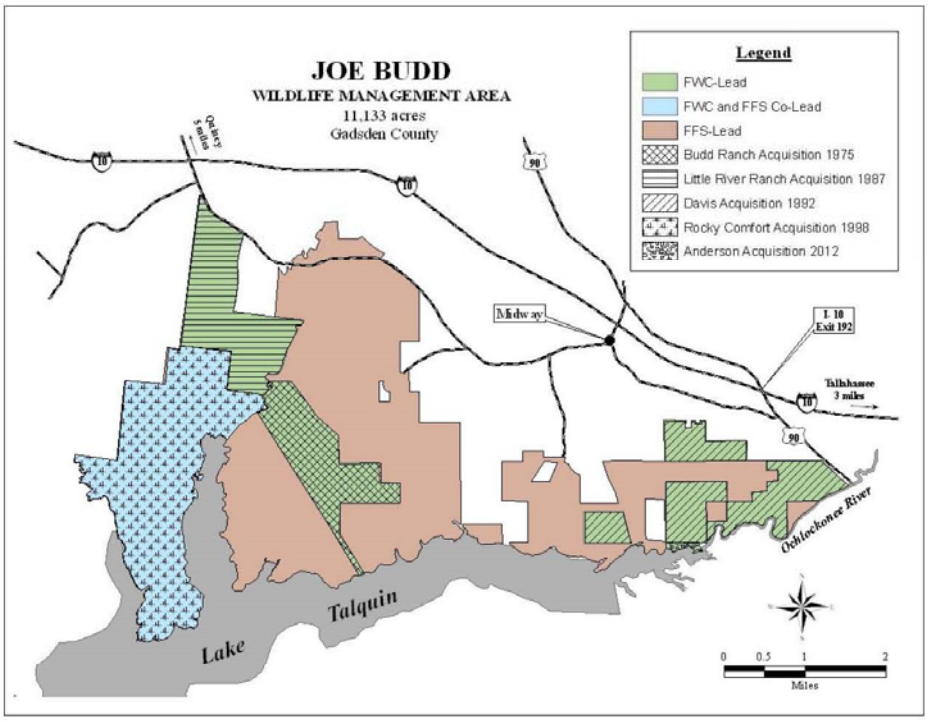


Figure 1. JBWMA lead management authority and acquisition history.

JBWMA is the northernmost parcel in a corridor of conservation lands that extend to the south and along the coast (Locator Map). From north to southeast, the most prominent of these lands include Lake Talquin State Forest, Apalachicola National Forest (ANF), St. Marks National Wildlife Refuge, Tate's Hell State Forest, Apalachicola River Wildlife and Environmental Area (WEA), and Box-R WMA. The city of Midway lies to the northeast of JBWMA and there are unincorporated private lands to the west, including an adjacent hunt club.

FWC manages JBWMA to conserve and restore natural wildlife habitat while also providing wildlife-based recreation opportunities. JBWMA was first established in 1975 when FWC, then known as the Florida Game and Fresh Water Fish Commission, purchased the 794-acre Budd Ranch from the estate of Mr. Joseph T. Budd, Jr. using funds matched 3:1 through the Pittman-Robertson Act (Figure 1). At the time of this transaction, all hunting, fishing, and grazing rights held by the estate on approximately 3,500 acres adjacent to Budd Ranch were relinquished to Duke Energy (then known as Florida Power Corporation). These rights were in turn granted to FWC until 1977, when Duke Energy deeded their lands to the State with the Department of Environmental Protection (DEP; then known as the Department

of Natural Resources) designated as the managing authority. Subsequently, DEP issued a 10-year lease to the FFS (then known as the Division of Forestry), for reforestation and other restoration work. The FFS in turn issued a special use permit to FWC to continue operating the area as a WMA. This 3,500-acre tract plus the 794-acre Budd Ranch parcel comprised the main tract of the original JBWMA.

An additional 2,000 acres (originally acquired by FFS from Duke Energy in the 1977 transaction but not included in the WMA), were included as part of JBWMA in a 1981 agreement between FFS and FWC. FWC purchased the 927-acre Little River Ranch in 1987, which contained the current office site and surrounding land, using funds returned through the Pittman-Robertson Act. FWC purchased 4 separate inholdings totaling 1,032 acres (known as the Davis parcels) in 1992 using funds provided under the Preservation 2000 Inholdings and Additions program. FWC and FFS jointly acquired the 2,014-acre Rocky Comfort parcel in 1998 using this same Preservation-2000 funding source. In 2012, FWC acquired the 25-acre Anderson parcel from Florida Gas Transmission Company as mitigation for construction of a gas line.

Prior to acquisition, the area was used for agriculture, silviculture, and hunting. The previous owners used the main tract (Budd Ranch and the surrounding property) as an exclusive hunting club. Watermelon was the primary agricultural crop grown on the area during this time. When Little River Ranch was managed as part of the Joyceland Dairy Farm, the uplands were cleared and planted with bahiagrass (*Paspalum notatum*) and Bermuda grass (*Cynodon dactylon*) to support cattle grazing. The Davis parcels were managed for revenue from timber and hunting rights. Within the Davis parcels, a 40-acre sand mine was leased to a local construction company as a source of sand and fill, resulting in a large borrow pit. The Rocky Comfort parcel was managed as a private hunting club and for timber. Most of the uplands were logged and replanted with loblolly (*Pinus taeda*) and slash pine (*Pinus ellioti*), although longleaf pine (*Pinus palustris*) was planted in some areas.

One challenge of species conservation on JBWMA is the lack of continuity between FWC-lead parcels. Due to the history of acquisition, parcels where FWC is the lead management agency are fragmented across separate zones by FFS-lead areas and private lands. The network of lands surrounding JBWMA also represents a patchwork of ownership and management priorities, and areas to the east are at an increased risk of development from the nearby community of Midway. Some wide-ranging species that use JBWMA require contiguous tracts of habitat to establish a viable population, and area staff has a limited ability to influence the condition of adjacent parcels. FWC area managers can work cooperatively with partners in the FFS to coordinate land management actions that benefit a suite of non-game species. Due to the emphasis on wildlife recreation at JBWMA, however, non-game species will continue to be managed in a way that is compatible with ongoing public use.

2.2: Management Since Acquisition

JBWMA provides high-quality hunting opportunities that attract hunters from throughout the state. Area staff maintains approximately 275 acres of wildlife openings, of which about 74% are planted in crops and the remaining 26% (71 acres) are not actively cultivated. These uncultivated openings of native vegetation are managed primarily by mowing, along with some disking and burning. Table 1 provides a breakdown of the acreage of wildlife openings by management authority. JBWMA is divided into 7 hunting zones (Figure 2), which were partitioned to spread hunting effort across the area. Hunting zones are referenced in the focal species assessments (Section 3.2) to identify specific locations within JBWMA. The zones cross the "lead" management divisions, with different zones (or portions of zones) being managed by different agency leads. Other recreational uses of the area include campsites along Lake Talquin, equestrian trails, and the Joe Budd Aquatic Education Center, which is used for youth environmental education programs.

Table 1. Number of acres and percentage of area in wildlife openings by lead management status on the JBWMA.

Lead Status	# of Total Acres	Size of Openings (Acres)	# of Openings	Average Opening Size (Acres)	Percent of Total Opening Acreage	Percent of Area in Openings
FWC-Lead	2,778	138	43	3	50%	5%
FFS-Lead	6,341	119	99	1	43%	2%
Co-Lead	2,014	18	15	1	7%	1%
TOTAL	11,133	275	157	2	100%	3%

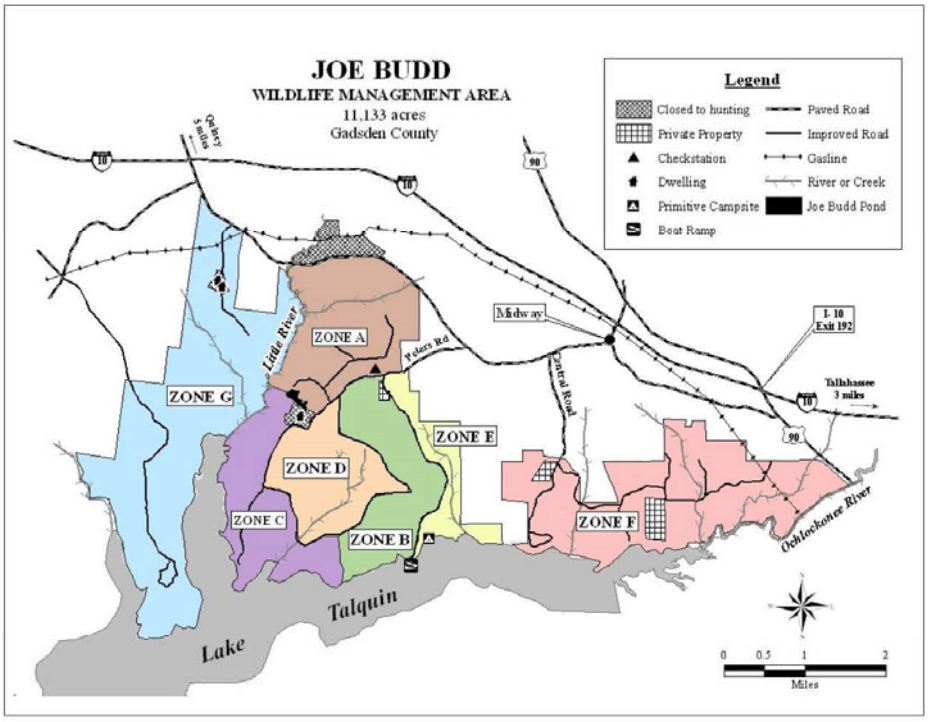


Figure 2. JBWMA with designated hunt zones.

In addition to maintaining wildlife openings, area staff maintains and restores natural communities on the FWC-lead (Table 2) through the use of prescribed fire, timber management, ground cover restoration, and control of exotic plant species. Staff maintains 1,272 acres (100% of the total burnable acres) within a 1–4 year fire return interval. Approximately 45% of the actively managed natural communities are in maintenance condition. Exceptions include portions of the upland pine and upland hardwood forests in Zone G that were converted to pasture by the previous landowners, and portions of the mesic flatwoods in Zone F that were acquired as pine plantation.

Table 2. Mapped acreage of current and historic communities on the FWC-lead portion of JBWMA, including management status and number of focal species that use the community.

Community Type	Estimated current acreage	Estimated historic acreage	# of focal species that use the NC
Baygall	2	17	3
Bottomland Forest	692	0	7
Depression Marsh	22	19	3
Dome Swamp	6	1	5
Floodplain Forest	0	563	7
Floodplain Marsh	5	0	2
Floodplain Swamp	283	184	5
Mesic Flatwoods[1]	184	290	10
Pine Plantation	83	0	8
Ruderal	424	0	8
Sandhill[1]	40	141	12
Successional Hardwood Forest	59	0	5
Upland Hardwood Forest	344	466	5
Upland Pine Forest[1]	716	1063	11
Upland Pine Restoration[1]	42	0	11
Wet Flatwoods[1]	32	94	6
TOTAL ACRES[2]	2,934	2,838	

[1] Communities that are actively managed and monitored via the OBVM process; other communities are managed but not monitored via OBVM.

[2] The total acres identified in the lease differs from the total acres identified during the mapping effort. This is possibly due to a combination of digitizing error and complications in determining actual boundaries.

In 1998, FWC received a 5-year Wildlife Habitat Incentive Program grant from the Natural Resource Conservation Service to restore 25 acres of pasture in Zone G at 5-acre per year increments. Staff used this funding to plant longleaf pine throughout the 25 acres and attempt to re-establish native warm-season grasses in one of the 5-acre treatments. The Ground Cover Restoration (GCR) Plan details the management actions staff conducts to restore approximately 40 additional acres of the pasture. Actions on this site since its establishment in 2006 include: mechanical and herbicide treatments on all 40 acres, planting wiregrass on all 40 acres, planting longleaf pine on 15 acres, and conducting 9 prescribed burns. Actions to restore the mesic flatwoods in Zone F include timber thinning and prescribed fire.

Area staff uses herbicide treatments to control invasive exotic plants on the FWC-lead and co-lead. Ongoing treatments on the FWC-lead target Japanese climbing fern (*Lygodium japonicum*), kudzu (*Pueraria lobata*), Chinaberry (*Melia azedarach*), Chinese wisteria (*Wisteria sinensis*), Japanese mimosa (*Albizia julibrissin*), and Chinese privet (*Ligustrum*

sinense). In addition to these species, a number of invasive exotics occur on the co-lead including cogongrass (*Imperata cylindrica*), coral ardisia (*Ardisia crenata*), tree-of-heaven (*Ailanthus altissima*), and nandina (*Nandina domestica*). Invasive feral hogs (*Sus scrofa)* also occur on JBWMA and pose challenges to management. On JBWMA, hogs are legal to hunt during most seasons. There is no possession or bag limit for feral hogs, and staff has previously hosted special opportunity hunts for hogs.

Ongoing wildlife monitoring on JBWMA focuses on game species. Area staff has conducted annual track counts for white-tailed deer (*Odocoileus virginianus*) since 1980 to determine trends in the population and assist in making decisions regarding habitat management and hunting pressure. Staff operates a check station on all hunts to collect information on hunting pressure and harvest. Check station data are collected for deer, hog, mourning dove (*Zenaida macroura*), duck (Multiple spp.), eastern cottontail (*Sylvilagus floridanus*), raccoon (*Procyon lotor*), grey squirrel (*Sciurus carolinensis*), eastern wild turkey (*Meleagris gallopavo*), and northern bobwhite (*Colinus virginianus*). Staff also traps and collects data on mourning dove for a United States Fish and Wildlife Service (USFWS) study to monitor harvest levels and population trends of doves across the eastern United States.

Area staff does not currently conduct monitoring for non-game species on JBWMA; however, FWC and the University of Florida have conducted numerous monitoring and research projects in the past. Past upland bird surveys include annual Breeding Bird Censuses conducted from 1993-1999, which counted 31 species in longleaf pine flatwoods, including Bachman's sparrows (*Peucaea aestivalis*) and brown-headed nuthatches (*Sitta pusilla*). Similar results were documented during a 1997-1998 winter bird population study of the same area. A Lake Talquin wading bird survey documented great egrets (*Ardea alba*), little blue herons (*Egretta caerulea*), snowy egrets (*Egretta thula*), tri-colored herons (*Egretta tricolor*), white ibis (*Eudocimus albus*), and wood storks (*Mycteria americana*) while attempting to correlate lake draw-downs to brood success. Drift fence surveys for herpetofauna in Zone F from 1996-1997 captured 52 separate species, including one Florida pine snake (*Pituophis melanoleucus mugitus*). Surveys in 2002 and 2003 for flatwoods salamanders did not detect any focal or imperiled species. A 2007 restocking survey of gopher tortoise (*Gopherus polyphemus*) burrows documented an upper density of 1.7 tortoises per acre on JBWMA. The 2012 Southeastern Bat Diversity Network's Bat Blitz documented southeastern myotis (*Myotis austroriparius*) on JBWMA, and unsuccessful aural surveys for gopher frogs (*Lithobates capito*) were conducted in 2013.

Section 3: Focal Species

The FWC's management approach focuses on maintaining and restoring the ecological form and function of natural communities. However, in some instances, it is important to consider the needs of specific wildlife species and to monitor the influences of natural community management on these species. To achieve a science-informed approach

to species management, the FWC uses the focal species concept embraced by the Wildlife Habitat Conservation Needs in Florida (WHCNiFL) project. This concept allows area staff to identify the needs of wildlife collectively by strategically focusing on a subset of wildlife species. The subset of species selected includes umbrella species, keystone species, habitat specialist species, and indicator species.

The Public Lands Conservation Planning (PLCP) project, an expansion of the WHCNiFL project, added a few species and provided potential habitat modeling on public lands. For the PLCP, the FWC selected 60 focal species (including 1 group of species, the wading birds) for which statewide potential habitat maps were generated using each species' potential habitat model.

The FWC's 2003 landcover data served as the base layer for all potential habitat models, and staff selected additional layers considering the particular natural history of each species (e.g., species' range, known occurrence records); as such, each model is species-specific. Once statewide potential habitat maps were completed, a Population Viability Analysis (PVA) was conducted for each focal species.

The statewide landcover-based habitat models identified 15 of the 60 focal species to have potential habitat on JBWMA (Section 3.1). For all focal species modeled to have potential habitat on JBWMA, staff created area-specific potential habitat maps by using the same statewide models but replacing the landcover data with area-specific natural community data. The resulting area-specific potential habitat maps were then refined based on the input of local managers and species experts.

The WCPR Workshop for JBWMA held July 17, 2013, brought decision makers together to assess species' opportunities and needs, identify measurable objectives, outline necessary coordination efforts, and determines required actions such as monitoring and species management. To facilitate informed discussion of the species, WCPR staff compiled a workbook that contained information on the focal species. Participants at the workshop discussed the "level of opportunity and need" for each species. This included considering the number of statewide prioritizations the species triggered (Statewide Species Prioritization Table), the species' listing status, and the long-term security of the species (i.e., examining PVA results). Other factors considered were the species' use of actively managed communities (Table 2), species' response to management, and any local overriding factors (e.g., status of species in the region, local declines or extirpations). A brief summary of the opportunity and need assessments for each focal species is available in Section 3.2.

3.1: Joe Budd Wildlife Management Area Focal Species List

Workshop participants assessed 15 species for their level of opportunity or need on JBWMA. In the following species list, we use a [1] to denote species for which a measurable objective is identified, a [2] for species for which some level of monitoring is recommended, a [3] for species for which a SMA was recommended, and a [4] for species for which species

management is recommended. Occasionally, statewide models indicate a species has potential habitat on the area, but the local assessment indicates there is little opportunity to manage for these species. These limited opportunity species are denoted with an *. Except for those species identified with a superscript number, workshop participants and expert reviewers determined that ongoing management would meet the needs of the species. For species with no numerical superscripts, participants and reviewers agreed there is no need for measureable objectives, monitoring, SMAs, or species-specific management.

Gopher frog (*Lithobates capito*)*

Florida pine snake (*Pituophis melanoleucus mugitus*)
Gopher tortoise (*Gopherus polyphemus*)[1, 2]

American swallow-tailed kite (*Elanoides forficatus*)
Bachman's sparrow (*Peucaea aestivalis*)[1, 2]
Brown-headed nuthatch (*Sitta pusilla*)[1, 2]
Cooper's hawk (*Accipiter cooperii*)
Louisiana waterthrush (*Seiurus motacilla*)
Northern bobwhite (*Colinus virginianus*)
Red-cockaded woodpecker (*Picoides borealis*)*
Southern bald eagle (*Haliaeetus leucocephalus*)[1, 2]
Wading birds (Multiple species)

Florida black bear (*Ursus americanus floridanus*)
Fox squirrel (*Sciurus niger*)
Southeastern myotis (*Myotis austroriparius*)

3.2: Focal Species Opportunity/Needs Assessment

This section provides an assessment of the opportunities for management, and the needs of each of the focal species. The assessment considers a number of attributes, including the status of a species, the number of prioritization parameters it triggers, the species' response to management, and the amount and spatial arrangement of the species' potential habitat available on the area. Because all federally-listed wildlife species are FWC-listed, we will provide only the federal listing status for federally listed species. When a species is not federally listed but is FWC-listed, we will provide the FWC listing status. The FWC has management plans for FWC-listed species in the form of Species Action Plans (SAPs). Staff will review these plans and incorporate the recommended conservation actions into the Strategy.

Unless otherwise noted, all reported acres of potential habitat are the result of using the area-specific natural community data in the species' potential habitat model. These

estimates include all the area mapped in a natural community identified as potential habitat, including patches that may not be contiguous with other suitable habitat. During the workshop, participants considered the spatial arrangement and habitat patch size when assessing the potential role JBWMA plays in the conservation of each species. For species that require larger habitat patches, we considered the continuity and condition of habitat on lands adjacent to the WMA. To determine the restoration potential, we inserted the historic natural community data into the potential habitat models and generated the acres of potential habitat that could be obtained if all natural communities are restored.

3.2.1: Florida Pine Snake

The Florida pine snake is rarely observed on JBWMA; however, this species is not as conspicuous as most of the other focal species. Staff captured a pine snake in Zone F during a drift fence survey conducted from September 1996 through July 1997 (Figure 2). Additional observations occurred along the entrance road to the office and in Zone C. There are a few records from the surrounding landscape, the majority of which are from ANF to the south of JBWMA.

The Florida pine snake is an FWC-listed species that triggers 3 of 6 prioritization parameters (priorities table). Upon approval of the Imperiled Species Management Plan (ISMP), the Florida pine snake will be listed as Threatened. Specific habitat requirements of this species are not well defined, although this species is closely associated with upland pine and sandhill communities. Pine snakes typically occupy locations with sandy soils dominated by pines and a well-developed grassy understory. Southeastern pocket gophers (*Geomys pinetis*) are a preferred prey item; however, the absence of pocket gopher burrows does not preclude pine snakes from using an area. Florida pine snakes are commonly found in pocket gopher burrows, but may also be found in stump holes and gopher tortoise burrows. Given this species' dependence on managed communities and the amount of suitable habitat available, there is a moderate to high level of opportunity to influence the pine snake on JBWMA.

According to the literature, pine snakes and eastern indigo snakes (*Drymarchon couperi*) have similar home range sizes, and approximately 2,500 acres of suitable habitat are required to support a viable population of pine snakes. There are 4,261 acres of potential habitat modeled for the pine snake on JBWMA: 1,188 acres on the FWC-lead, 1,020 acres on the co-lead, and 2,053 acres on the FFS-lead. If management could restore all natural communities to their historic condition, models indicate 4,285 acres of potential habitat could become available to pine snakes: 1,187 acres on the FWC-lead, 998 acres on the co-lead, and 2,100 acres on the FFS-lead. There is enough potential habitat on the FWC-lead, co-lead, and FFS-lead combined to support a population on JBWMA; however, this habitat is not entirely contiguous. Large-bodied snakes are often vulnerable to habitat isolation and high road densities; therefore, the lack of continuity between suitable habitat patches may

influence whether or not the area can support a viable population. Area staff should cooperate with FFS to ensure habitat on the FFS-lead is managed in a condition suitable for pine snakes. Area staff should work with Conservation Planning Services (CPS) to encourage neighboring land owners to use management practices that are compatible with the needs of pine snakes. Through environmental commenting, CPS staff can make recommendations for compatible uses of lands adjacent to JBWMA, including potential expanding development from Midway.

Although southeastern pocket gopher burrows are not evident on the area, the condition of potential habitat on JBWMA is suitable for pine snakes. The SAP for this species calls for increasing the amount of public land maintained with an appropriate fire regime, and restoring degraded upland habitats to a natural plant community structure. Current and planned management on JBWMA that will maintain and enhance habitat for this species includes timber management to meet target basal areas (Table 3), and the frequent application of prescribed fire (≤3 year rotation) in upland pine and sandhill communities. Continued efforts to restore upland pine in Zone G will also benefit pine snakes. Section 4.3.1 describes additional land management recommendations, such as retaining stumps and coarse woody debris as refuge sites.

Due to the wide home-range and low detectability of this species, no species-specific monitoring is recommended at this time. We recommend opportunistic monitoring for this species and area staff should document all sightings (Section 5.2.4). If resources become available, future drift-fence surveys should include upland snake traps to improve the chances of detecting pine snakes.

The goal is to maintain habitat in a condition that benefits Florida pine snakes on JBWMA. Staff will achieve the goal by applying prescribed fire and other management actions that maintain upland pine and sandhill communities, and by retaining coarse woody debris when feasible. Florida pine snakes will likely persist on JBWMA under current and planned management to restore natural communities. However, the lack of contiguous suitable habitat on the area and the potential for expanding development from Midway may influence the persistence of pine snakes on JBWMA. Since habitat models suggest that there is only enough habitat to support a viable population when including potential habitat on the FFS-lead, coordination with FFS is important (Section 6.2).

3.2.2: Gopher Tortoise

Gopher tortoises are common on JBWMA and area staff has observed hatchling and juvenile tortoises on the area. Gopher tortoises also occur on the co-lead, FFS-lead, and private lands in the surrounding landscape. Area staff surveyed portions of the FWC-lead in 2007 as part of the statewide restocking initiative. Based on the results of this survey, JBWMA was not identified as a priority area for accepting translocated tortoises.

The gopher tortoise is an FWC-listed threatened species and a candidate for federal listing. The species triggers 4 of 6 prioritization parameters (priorities table), making it a high priority species statewide. The gopher tortoise is often considered a keystone species because many other species use tortoise burrows. Additionally, the gopher tortoise is a management-dependent species that can serve as an indicator of properly managed upland pine or grassland communities. FWC approved the Gopher Tortoise Management Plan in 2012, which emphasizes increasing the number of tortoises on public lands.

Gopher tortoises require open-canopy forests with diverse groundcover. There are 5,446 acres of potential habitat modeled for the gopher tortoise on JBWMA: 1,430 acres on the FWC-lead, 1,020 acres on the co-lead, and 2,996 acres on the FFS-lead. Models indicate 5,530 acres of habitat if management could restore all natural communities to their historic condition: 1,476 acres on the FWC-lead, 998 acres on the co-lead, and 3,056 acres on the FFS-lead. The USFWS recommends 250 acres for identifying potential viable populations. This suggests that the FWC-lead has enough potential habitat to support a viable population of gopher tortoises on its own; however, the lack of continuity between suitable habitat patches may isolate groupings of tortoises across the WMA. There is a high level of opportunity to affect the gopher tortoise on JBWMA given its dependence on actively managed natural communities and the amount of suitable habitat available.

Potential habitat on JBWMA is currently in a condition that can support a population of tortoises, and Zones C and D likely contain the best habitat on the FWC-lead to support the highest numbers of tortoises (Figure 2). Current and planned timber management to achieve target basal areas (Table 3), and the frequent application of prescribed fire (≤3 year rotation) in upland pine, sandhill, and mesic flatwoods will maintain and enhance suitable habitat for this species. Continued upland pine restoration in the Ground Cover Restoration Plan will benefit gopher tortoises. Additionally, the numerous wildlife openings maintained on JBWMA will continue to provide suitable habitat for tortoises on the area. Section 4.3.2 contains additional land management recommendations for this species, including consideration for protecting burrows during mechanical treatments.

In 2008, FWC entered into a Candidate Conservation Agreement (CCA) with several other government agencies and private organizations responsible for managing gopher tortoises. The purpose of the CCA is to implement proactive and coordinated activities that can prevent the need to federally list the tortoise. As part of this agreement, participants in the CCA will implement a standardized monitoring protocol across the tortoise's range using a line transect distance sampling design and burrow-scoping cameras. Future gopher tortoise monitoring on JBWMA will use the methods outlined in this range-wide protocol (Section 5.2.1). Staff should coordinate with FFS to ensure that surveys include suitable habitat on the FFS-lead and co-lead.

The goal is to maintain a viable population of gopher tortoises on JBWMA. Staff will achieve this goal mainly through the use of prescribed fire to maintain habitat in a condition that will support the species. This species will likely persist on JBWMA under current and

planned management. The amount and quality of habitat on surrounding private and conservation lands will also contribute to the persistence of the gopher tortoise on the area. The measurable objective is to:

1.) By 2016, conduct a baseline survey to determine an estimate of the gopher tortoise population that occurs on JBWMA.

3.2.3: American Swallow-Tailed Kite

American swallow-tailed kites are commonly observed on JBWMA. Sightings reported to the Center for Birds of Prey from 2007-2012 show many swallow-tailed kite records in the vicinity. The Avian Research and Conservation Institute (ARCI) documented swallow-tailed kite nests in the panhandle from 1996-1999; the closest nests to JBWMA were approximately 30-35 miles away in Liberty and Wakulla Counties. However, the regular presence of this species on JBWMA during the breeding season suggests it could nest either on or near the area.

The American swallow-tailed kite triggers 4 of 6 statewide prioritization parameters (priorities table). Swallow-tailed kites are habitat generalists that use a variety of natural communities containing tall trees for nesting and open areas for foraging. Most nest trees are species of pine or cypress that are taller than surrounding trees. Shrub height and density tend to be higher around nest sites. There are 7,630 acres of potential habitat modeled for the swallow-tailed kite on JBWMA: 2,344 acres on the FWC-lead, 1,480 acres on the co-lead, and 3,806 acres on the FFS-lead. If management could restore all natural communities to their historic condition, models indicate 7,650 acres of potential habitat on JBWMA: 2,223 acres on the FWC-lead, 1,458 acres on the co-lead, and 3,969 acres on the FFS-lead.

Despite the amount of potential habitat, it is unlikely that JBWMA can independently support a population of this wide-ranging species. However, JBWMA can help support the regional population by providing foraging habitat and nest sites. Current and planned timber management for mature stands, and the application of prescribed fire, will continue to provide suitable habitat for kites. Additionally, the numerous wildlife openings maintained on JBWMA will continue to provide foraging habitat for kites. Section 4.3.3 contains additional land management recommendations for this species. It is important to protect potential nest trees from direct disturbance during management, as kites exhibit high nest-site fidelity. Nest sites should be documented so that they can be protected from disturbance (Section 5.2.4), and staff should share any records of nests with ARCI (Section 6.3).

The goal is to provide suitable foraging and nesting habitat for swallow-tailed kites that will allow individuals using JBWMA to function as part of a regional population. Staff will achieve the goal by maintaining wildlife openings, protecting nest sites from disturbance, and using prescribed fire and other management actions that maintain natural communities. While the continued presence of this species depends on conditions that

influence the regional population, swallow-tailed kites will likely persist on JBWMA given the amount of suitable habitat on the area as well as on surrounding conservation lands.

3.2.4: Bachman's Sparrow

Bachman's sparrows occur on JBWMA but their relative abundance on the area is unknown. A 1993 Breeding Bird Census reported the species to occur at a high density in Zone D (Figure 2). The nearest records from surrounding areas are from a Breeding Bird Survey route and e-bird records on ANF. Bachman's sparrows also likely occur on private lands in the surrounding landscape.

The Bachman's sparrow triggers 2 of 6 prioritization parameters (priorities table) and is currently experiencing range-wide population declines. This species is a habitat specialist that prefers mature pine forests with a low basal area and herbaceous groundcover. Literature suggests that Bachman's sparrows require a minimum of 519 acres of suitable habitat to support a viable population. There are 4,856 acres of potential habitat modeled for the Bachman's sparrow on JBWMA: 981 acres on the FWC-lead, 1,016 acres on the co-lead, and 2,859 acres on the FFS-lead. Models indicate 5,530 acres of habitat if management could restore all natural communities to their historic condition: 1,476 acres on the FWC-lead, 998 acres on the co-lead, and 3,056 acres on the FFS-lead. The FWC-lead has enough potential habitat to support a viable population of Bachman's sparrows on its own, and the co-lead and FFS-lead add to this acreage. Given its dependence on managed communities, the amount of suitable habitat available, and the amount of habitat to be gained with restoration, there is a high level of opportunity to affect Bachman's sparrows on JBWMA.

The potential habitat in and surrounding Zone D is currently suitable for Bachman's sparrows. Portions of Zone G and Zone F need additional management to improve habitat suitability. Suitable habitat for this species will be maintained and enhanced by current and planned natural community management that includes timber management to meet target basal areas (Table 3), and the frequent application of prescribed fire (≤3 year rotation) in upland pine, sandhill, and mesic flatwoods. Continued upland pine restoration outlined in the Ground Cover Restoration Plan will also enhance habitat for Bachman's sparrows. Section 4.3.4 contains additional land management recommendations for this species.

As Bachman's sparrows can be indicators of well-managed pinelands, we recommend monitoring this species to ensure management is having the desired effect. Managers can use spring call counts to track changes in presence and distribution over time. Staff will use a standardized playback method to document Bachman's sparrows in all suitable habitat during the breeding season (Section 5.2.2). Staff should coordinate with FFS to ensure that surveys include suitable habitat on the FFS-lead and co-lead. Surveys should be conducted once every 3 years in conjunction with brown-headed nuthatch surveys.

The goal is to support a viable population of Bachman's sparrows on JBWMA. Staff will achieve this goal through the use of prescribed fire, timber management, and upland pine

restoration. In addition, monitoring will determine the extent of the sparrow's occurrence across FWC-lead, FFS-lead, and co-lead areas of JBWMA and provide managers with an approximation of the population's size. Given the amount of potential habitat on JBWMA and surrounding areas, Bachman's sparrows should persist under current and planned management. The measurable objective is to:

1) Conduct an initial survey for Bachman's sparrows in all suitable habitat by spring 2015, and repeat every 3 years.

3.2.5: Brown-Headed Nuthatch

Brown-headed nuthatches are common on JBWMA. A 1993 Breeding Bird Census and a 1997-1998 winter bird population study documented this species in Zone D (Figure 2). Staff also hears nuthatches in other areas of JBWMA. There are brown-headed nuthatch sightings confirmed on ANF from Breeding Bird Survey route and e-bird records. Brown-headed nuthatches also likely occur on private lands in the surrounding landscape.

The brown-headed nuthatch triggers 2 of 6 prioritization parameters (priorities table) and is currently experiencing range-wide declines due to habitat loss and degradation. This species depends on open stands of mature pine interspersed with snags for excavating nesting cavities. Nuthatches prefer older, decaying hardwood snags with a diameter at breast height of <10 inches. Older pine forests (>35 years for longleaf and slash pine) and stands with basal area between 35–50 ft^2/ac (8-11 m^2/ha) are preferred, although nuthatches can use pine stands with younger trees and higher basal areas.

Literature suggests that this species requires 1,000 acres of suitable habitat to support a viable population. There are 5,221 acres of potential habitat modeled for the brown-headed nuthatch on JBWMA: 1,096 acres on the FWC-lead, 1,016 acres on the co-lead, and 3,109 acres on the FFS-lead. Models indicate 5,757 acres of habitat if management could restore all natural communities to their historic condition: 1,570 acres on the FWC-lead, 998 acres on the co-lead, and 3,189 acres on the FFS-lead. The potential habitat acreage on the FWC-lead, the co-lead, and the FFS-lead, exceeds the estimated amount of suitable habitat required by this species, indicating that JBWMA can likely support a viable population of brown-headed nuthatches. There is a high level of opportunity to influence this species on JBWMA given its dependence on managed communities, the amount of suitable habitat available, and the amount of habitat to be gained with restoration.

The potential habitat in and surrounding Zone D is currently suitable for brown-headed nuthatches. Portions of Zone G and Zone F would need additional ground cover restoration and timber management to increase habitat suitability for this species. The Ground Cover Restoration Plan outlines actions that will improve habitat for this species. The frequent application of prescribed fire (≤3 year rotation) in upland pine, sandhill, and mesic and wet flatwoods will also maintain and enhance suitable habitat for brown-headed

nuthatches. Section 4.3.5 contains additional land management recommendations for this species, including consideration for protecting current and potential nest sites.

As brown-headed nuthatches can be indicators of well-managed pinelands, we recommend monitoring this species to ensure management is having the desired effect. Spring-time call counts can track changes in presence and distribution over time. Staff will use a standardized playback method to document brown-headed nuthatches in all suitable habitat during the breeding season (Section 5.2.2). Staff should coordinate with FFS to ensure that surveys include suitable habitat on the FFS-lead and co-lead. Surveys should be conducted once every 3 years in conjunction with Bachman's sparrow surveys.

The goal is to enhance and maintain the suitability of habitat to support a viable population of brown-headed nuthatches on JBWMA. Staff will achieve this goal through the use of prescribed fire, timber management, groundcover restoration, and protection of snags. Brown-headed nuthatches will likely persist on the area under current and planned management. The measurable objective is to:

1) Conduct an initial survey for brown-headed nuthatches in all suitable habitat by spring 2015, and repeat every 3 years.

3.2.6: Cooper's Hawk

The Cooper's hawk is commonly observed on JBWMA, although nesting has not been documented. Cooper's hawk's nests are cryptic, and there is a high possibility that nesting is occurring on the property. Staff has incidentally captured Cooper's hawks in mourning dove traps during USFWS harvest studies. The nearest occurrence records from surrounding areas are from e-bird records near the Lake Talquin dam and a WildObs record from Leon County.

The Cooper's hawk triggers 1 of 6 prioritization parameters (priorities table) and the species is not considered management dependent. Commonly associated with woodlands, this species will nest in a variety of habitats including swamps, floodplain and bottomland forests, sand pine scrub, and baygalls. Cooper's hawks primarily feed on other birds and are found nesting in areas managed for upland game birds, such as the northern bobwhite. Nests usually are placed near the crown of a tree close to an edge in dense stands of oaks. Cooper's hawks use a variety of natural communities and most of JBWMA is modeled as potential habitat. There are 10,276 acres of potential habitat modeled for the Cooper's hawk on JBWMA: 2,840 acres on the FWC-lead, 2,064 acres on the co-lead, and 5,372 acres on the FFS-lead. Models indicate 10,125 acres of habitat if management could restore all natural communities to their historic condition: 2,674 acres on the FWC-lead, 2,064 acres on the co-lead, and 5,387 acres on the FFS-lead.

Despite the amount of potential habitat, it is unlikely that JBWMA can independently support a population of this wide-ranging species. However, JBWMA can help support the regional population by providing areas for Cooper's hawks to hunt, as well as areas for

roosting, and possibly nesting. Cooper's hawks often predate on upland birds, and will therefore benefit from management for northern bobwhite. Managing timber for mature stands and applying prescribed fire to maintain natural community structure and function will continue to provide suitable habitat for this species. Additionally, the numerous wildlife openings maintained on JBWMA will continue to provide suitable areas for this species to hunt. Section 4.3.6 contains additional land management recommendations, including nest protection guidelines.

Given the high mobility of this species, it is not appropriate to monitor as an indicator of the effects of management actions. Initially, staff will document any opportunistic observations of Cooper's hawks to determine the species' occurrence on the area. After reducing this initial effort, staff should continue to opportunistically document Cooper's hawk nests in order to protect them from land management activities during the April-June nesting season (Section 5.2.4).

The goal is to provide suitable foraging and nesting habitat for Cooper's hawks that will allow individuals using JBWMA to function as part of a regional population. While the continued presence of this species depends on conditions that influence the regional population, Cooper's hawks will likely persist on JBWMA given the amount of suitable habitat on the area as well as on surrounding private and conservation lands.

3.2.7: Louisiana Waterthrush

The Louisiana waterthrush has been documented on JBWMA, although abundance and breeding status are unknown. There have been no attempts to monitor the species on JBWMA using survey techniques. The nearest records from surrounding areas include an e-bird record from the Lake Talquin dam and a Breeding Bird Survey route on ANF.

This species triggers 3 of 6 prioritization parameters (priorities table). Louisiana waterthrushes are neo-tropical migrants that arrive earlier (as early as March 1) and nest earlier than most other migrant songbirds. Nests are frequently located under stream overhangs in exposed roots of fallen trees. There are 588 acres of potential habitat modeled for the Louisiana waterthrush on JBWMA: 295 acres on the FWC-lead, 50 acres on the co-lead, and 243 acres on the FFS-lead. If natural communities could be restored to their historic condition, models indicate 518 acres of potential habitat on JBWMA: 225 acres on the FWC-lead, 50 acres on the co-lead, and 243 acres on the FFS-lead. This species prefers large tracts (>247 acres) of mature deciduous and mixed-deciduous forests along deep ravines with running water. The steep-sided rivers and creeks preferred by waterthrushes occur on JBWMA; however, it's possible that stream-flow may be too intermittent to support enough aquatic prey to sustain a breeding population.

Research suggests that the Louisiana waterthrush is sensitive to deforestation and habitat fragmentation. Waterthrushes are also negatively affected by low aquatic insect populations resulting from poor water quality. Waterthrushes do not use actively-managed

natural communities; therefore, it is unlikely that current and planned management actions will negatively impact waterthrushes on JBWMA. If conducting management activities along wooded streambanks, however, staff should follow FFS Silviculture Best Management Practices (BMPs) to protect habitat for the Louisiana waterthrush (Section 4.3.7).

Workshop participants agreed that a formal monitoring program is not necessary since it is unlikely that the waterthrush will be affected by current and planned management actions. Therefore, monitoring for Louisiana waterthrushes on JBWMA will be opportunistic (Section 5.2.4). If opportunities arise where researchers develop a monitoring protocol for the Louisiana waterthrush, we encourage staff to work with partners to conduct a baseline survey for waterthrushes on JBWMA.

The goal is to provide suitable habitat to ensure the continued persistence of the Louisiana waterthrush on JBWMA. Staff will accomplish this goal by following BMPs if conducting management activities in potential waterthrush habitat. Louisiana waterthrushes using JBWMA will benefit from the protections to water quality provided by having conservation land bordering the rivers and creeks in which they feed. Due to the amount of contiguous conservation lands in the area, JBWMA will likely support regional populations of the Louisiana waterthrush with current and planned management.

3.2.8: Northern Bobwhite

The northern bobwhite is occasionally observed on JBWMA and nesting has been documented. Bobwhites are most frequently observed around the office and other portions of Zone G (Figure 2). Staff has also heard bobwhite in other areas throughout JBWMA. This species also occurs on private lands in the surrounding landscape.

The northern bobwhite triggers 2 of 6 prioritization parameters (priorities table) and is an important game species in Florida. This species has experienced significant range-wide population declines since the 1980s and is currently a focus of many conservation initiatives. FWC approved the Strategic Plan for Northern Bobwhite Restoration in Florida in 2007, which calls for identifying areas across the state where habitat restoration can help achieve a sustainable harvest for northern bobwhite.

Northern bobwhite are typically associated with open-canopy forests and grassland communities that contain native warm-season grasses, legumes, and patchy bare ground. The species uses weedy areas for raising broods and foraging, and shrubs or other thickets as roosting habitat or escape cover. Literature suggests that this species requires 2,000-4,000 acres of suitable habitat to support a viable population. There are 5,474 acres of potential habitat modeled for northern bobwhite on JBWMA: 1,454 acres on the FWC-lead, 1,020 acres on the co-lead, and 3,000 acres on the FFS-lead. Models indicate 5,530 acres of habitat if management could restore all natural communities to their historic condition: 1,476 acres on the FWC-lead, 998 acres on the co-lead, and 3,056 acres on the FFS-lead. This suggests that the FWC-lead likely cannot support a viable population on its own, but there is enough potential habitat available when including the co-lead and FFS-lead.

The frequent use of prescribed fire can create the mosaic of vegetation conditions this species requires to meet its life history needs. Current and planned management that includes application of prescribed fire in a 2-3 year rotation for upland pine, sandhill, and mesic flatwood communities will maintain and enhance suitable habitat for this species. Continued upland pine restoration efforts in the areas outlined in the Ground Cover Restoration Plan will benefit northern bobwhite. Additionally, the numerous wildlife openings maintained on JBWMA will continue to provide habitat for this species. Section 4.3.8 contains additional land management recommendations for this species.

There is a moderate to high level of opportunity to influence this species on JBWMA given its dependence on managed communities and the amount of suitable habitat available. Due to higher priorities for monitoring identified elsewhere in this document, monitoring for northern bobwhite on JBWMA is not recommended at this time. Northern bobwhite and Bachman's sparrows have similar habitat requirements and monitoring Bachman's sparrows every 3 years will also indicate habitat quality for bobwhite. Also, by monitoring check station data for "harvest per unit effort," staff can gain information about bobwhite persistence on the area.

The goal is to enhance and maintain the suitability of habitat to support northern bobwhite on JBWMA. Staff will achieve the goal through the use of prescribed fire, groundcover restoration, and maintaining wildlife openings. Bobwhite will likely persist on JBWMA under current and planned management. Due to the large amount of potential habitat on the FFS-lead areas, coordination with FFS is important to supporting a viable population of northern bobwhite on JBWMA (Section 6.2).

3.2.9: Southern Bald Eagle

Bald eagles are commonly observed on JBWMA. One nest was last documented as active in 2003 near Lake Talquin between Zones B and C (Figure 2), and has since been destroyed by a storm. Area staff suspects there may be a roost site or another nest in Zone D because they frequently hear eagles calling in this area. The closest known active nests occur on ANF, to the south of JBWMA.

The bald eagle does not trigger any of the prioritization parameters, but is protected at the federal level under the Bald and Golden Eagle Protection Act and at the state level by species-specific rule. FWC approved the Bald Eagle Management Plan in 2008 to ensure the continued recovery of this species in Florida. This plan designated 16 Core Nesting Areas, which are defined as areas containing high densities of bald eagle nesting territories. Regionally, JBWMA and the greater complex of surrounding conservation lands are located near the St. Vincent and St Marks National Wildlife Refuge Core Nesting Areas.

Bald eagles use a number of natural communities with the best nesting habitat occurring in forested areas close to open water. Much of JBWMA is modeled as potential eagle habitat due to its proximity to Lake Talquin. Models estimate 7,832 acres of potential

habitat modeled on JBWMA: 1,886 acres on the FWC-lead, 2,046 acres on the co-lead, and 3,900 acres on the FFS-lead. Models indicate 8,252 acres of habitat if management could restore all natural communities to their historic condition: 2,156 acres on the FWC-lead, 2,050 acres on the co-lead, and 4,046 acres on the FFS-lead.

Despite the amount of potential habitat, it is unlikely that JBWMA can independently support a population of this wide-ranging species. However, JBWMA can help support the regional population by providing roost sites, loafing sites, and possibly nest sites for bald eagles. Additionally, the protections to water quality provided by conservation lands bordering Lake Talquin will benefit eagles that feed in that area. Current and planned actions that include managing timber for mature stands, and applying prescribed fire to maintain natural community structure and function, will continue to provide suitable habitat for eagles. However, when conducting land management activities, staff should follow nest protection guidelines to the greatest degree practicable. Section 4.3.9 contains land management recommendations for this species, including the protection of current and potential nest trees.

The bald eagle is not appropriate to monitor as an indicator of the effects of management actions given that it is highly mobile and not dependent on actively managed communities. However, we recommend documenting nests through aerial surveys so that they can be adequately protected (Section 5.2.3). Aerial surveys are the preferred method because nests are more easily located from the air than from the ground. JBWMA staff will coordinate the timing of surveys with staff from Aucilla WMA and the Fish and Wildlife Research Institute (FWRI), as both currently conduct aerial surveys for eagle nests. Documented nests will be reported to FWRI. Section 6.1.1 and Section 6.1.3 describe coordination recommendations.

The goal is to provide suitable foraging and nesting habitat for bald eagles that will allow individuals using JBWMA to function as part of a regional population. To meet this goal, staff will continue to conduct timber management and prescribed burns to maintain habitat in a condition that will support the species. Staff will also protect bald eagle nests during management activities and follow the recommendations in the Bald Eagle Management Plan. While the continued presence of this species depends on conditions that influence the regional population, eagles will likely persist on JBWMA given its proximity to Lake Talquin. The measurable objective is to:

1) Conduct an initial aerial survey for bald eagle nests by 2015, and repeat the survey at least every 3 years.

3.2.10: Wading Birds

All focal species of wading birds except the roseate spoonbill (*Platalea ajaja)* and reddish egret (*Egretta rufescens*) were documented on Lake Talquin during surveys conducted from 1995-2000. During that time, FWC staff annually surveyed the lake by helicopter during the winter and by boat during spring and fall to document potential impacts

of a reservoir draw-down on bird use. Great egrets (*Ardea alba*) and little blue herons (*Egretta caerulea*) were commonly observed during this survey, and snowy egrets (*Egretta thula*), tri-colored herons (*Egretta tricolor*), white ibis (*Eudocimus albus*), and wood storks (*Mycteria americana*) were rarely observed. While nesting colonies of focal wading bird species have not been documented on Lake Talquin, a statewide wading bird breeding survey conducted by FWRI in 1999 documented 3 colonies composed of non-focal species, including great blue herons (*Ardea herodias*), anhingas (*Anhinga anhinga*), and double-crested cormorants (*Phalacrocorax auritus*). Additionally, there are 2 known wood stork colonies in Leon County within 5 miles of JBWMA. An aerial survey in May 2013 documented approximately 150 nests in one of the colonies; the other colony was inactive.

Statewide, this group of species is a moderate priority (priorities table). Several species are state-listed and the wood stork is federally listed as Endangered. The Millsap biological scores for the little blue heron and wood stork are high. The snowy egret and little blue heron have declining Legacy population trends, while the tricolored heron and white ibis have unknown trends.

Potential habitat for wading birds on JBWMA consists primarily of the river floodplains and a few isolated wetlands. There are 2,590 acres of potential habitat modeled: 1,041 acres on the FWC-lead, 460 acres on the co-lead, and 1,089 acres on the FFS-lead. Models indicate 2,429 acres of habitat if management could restore all natural communities to their historic condition: 877 acres on the FWC-lead, 460 acres on the co-lead, and 1,092 acres on the FFS-lead.

Since the documented colonies occur on or near Lake Talquin, current and planned management actions are unlikely to affect them. Additionally, conservation of these species is largely influenced by water levels and other conditions occurring at the regional level. As such, the opportunity to influence wading birds on JBWMA is low. However, if colonies are ever documented in areas where they could be negatively affected by management actions, staff should establish buffers around the colonies to protect them from disturbance (Section 4.3.10). Wading birds using JBWMA will benefit from the protections to water quality provided by having conservation lands bordering Lake Talquin and other nearby water bodies.

Monitoring wading birds to measure the effects of management actions is not appropriate given their low management opportunity and high mobility. However, staff will document nests opportunistically to ensure their protection (Section 5.2.4). Workshop participants agreed that monitoring through aerial surveys should not be a requirement of the Strategy since staff can likely detect colonies from the ground. Additionally, colonies will most likely occur in areas that will not be impacted by management actions. However, JBWMA staff may choose to coordinate with staff from Aucilla WMA to conduct aerial surveys, if feasible.

The goal is to provide suitable habitat on JBWMA that will allow individuals of this focal species group to function as part of a regional population. Staff will achieve this goal

by protecting nesting colonies from disturbance. Wading birds using JBWMA will also benefit from the protections to water quality provided by bordering conservation land. While the continued presence of these species depends on conditions that influence regional populations, wading birds will likely persist on JBWMA given its proximity to Lake Talquin.

3.2.11: Florida Black Bear

JBWMA staff commonly observes bear tracks while monitoring transects used for deer track counts. Bear tracks are most frequently observed in Zone F (Figure 2), as the tracks of a sow and 3 cubs were observed in this zone. Additionally, a wildlife camera documented a bear in Zone G near the office in March 2013. Located within the East Panhandle Bear Management Unit, JBWMA is within the secondary range of the Apalachicola subpopulation and falls just outside this subpopulation's primary range boundary. If observations of females with cubs become more frequent, JBWMA may be included within the primary range of this subpopulation in the future. From a regional perspective, the WMA is part of a large complex of conservation areas that provide habitat and dispersal corridors for this species (Locator Map).

The Florida black bear triggers 2 of 6 prioritization parameters (priorities table) and FWC approved the Florida Black Bear Management Plan in 2012 to ensure the continued recovery of this species. The bear is a wide-ranging species capable of significant dispersal. Because females tend to establish a home range near where they were born, this species is slow to colonize new breeding territory and tends to grow out from existing populations. Home range sizes vary according to resource availability and the level of habitat fragmentation on the landscape. A mosaic of flatwoods, swamps, scrub oak ridges, bayheads, and hammocks provide adequate den sites, diverse food sources, and cover for bears.

There are 6,978 acres of potential habitat modeled for the Florida black bear on JBWMA: 2,095 acres on the FWC-lead, 1,049 acres on the co-lead, and 3,834 acres on the FFS-lead. Models indicate 6,549 acres of habitat if management could restore all natural communities to their historic condition: 1,734 acres on the FWC-lead, 1,066 acres on the co-lead, and 3,749 acres on the FFS-lead. Though the models indicate a loss of 429 acres with continued restoration, this is a product of the modeling as upland pine is not mapped as potential habitat. The majority of the acreage loss is in Zone G that is currently mapped as ruderal, but historically considered upland pine. Bears would still use this habitat if restored to its historic condition, despite the stated habitat loss in of potential habitat models.

JBWMA contains a variety of natural communities (Table 2) that are currently suitable for Florida black bears. Current management actions to restore natural community structure and function include timber management to meet target basal areas (Table 3). In addition, the frequent application of prescribed fire in fire-maintained natural communities will sustain or improve forage for bears; whereas, natural communities that remain in fire

shadows or are not maintained by fire, will provide den sites and escape cover. Section 4.3.11 contains additional land management recommendations for this species.

Monitoring on a local scale is not appropriate given the wide-ranging and generalist nature of Florida black bears. However, staff will document dens if encountered so that they can be protected during management activities. Also, staff will document cubs and cub sign to aid in defining the primary range boundary (Section 5.2.4). Sections 6.1.3 and 6.1.5 describe coordination recommendations for this species.

The goal is to provide suitable habitat for Florida black bears that will allow individuals using JBWMA to function as part of a regional population. Staff will achieve this goal through management actions, such as the application of prescribed fire to promote a mosaic of vegetation structure across the landscape. While the continued presence of this species depends on conditions that influence the regional population, bears will likely persist on JBWMA given the amount of suitable habitat on the area, adjacent private lands, and nearby conservation lands. Additionally, the proximity of JBWMA to other large tracts of conservation lands will contribute to the persistence of bears on the area.

3.2.12: Fox Squirrel

It is unclear which subspecies of fox squirrel occurs on JBWMA, the southeastern fox squirrel (*Sciurus niger niger)* or state-listed Sherman's fox squirrel (*Sciurus niger shermani*). The Sherman's fox squirrel range stretches from the Aucilla River east to Nassau County, south to the Caloosahatchee River in southwestern Florida, and to Miami-Dade County along the east coast. Some researchers extend the range westward to the Apalachicola River, although this extension is not universal. The SAP for Sherman's fox squirrel calls for genetic research to help define the boundaries of its range. Researchers at the University of Florida are currently using genetic markers to refine the distribution of fox squirrel subspecies (Section 5.3.1). Depending on how the range is defined, JBWMA may be too far west to support Sherman's fox squirrels. However, to address the needs of all subspecies present on JBWMA, workshop participants chose to include fox squirrels in this assessment regardless of taxonomy.

Fox squirrels are common on JBWMA and area staff suspect that reproduction occurs on the area. Fox squirrels are also commonly observed on a hunt club that is adjacent to the co-lead. The Sherman's fox squirrel is an FWC-listed species of special concern that triggers 4 of 6 prioritization parameters (priorities table). Suitable habitat for fox squirrels includes longleaf pine sandhills or flatwoods with a mixture of pines and oaks, and a sparse to moderate shrub layer. Fox squirrels appear to do best in mature longleaf pine stands maintained with fire that results in an open understory with an oak component. Mast-producing hardwoods, especially large mature oaks, are often used by fox squirrels for nest sites and daytime refugia. In addition, acorns provide a major part of their diet. Mature longleaf pines that produce seed-bearing cones are also an important energy-rich food source,

particularly during summer. A mosaic of habitat conditions across the landscape, including a variety of oaks, ensures a year-round supply of food items that vary seasonally.

Literature suggests that this species requires approximately 2,000-9,000 acres of suitable habitat to support a viable population. There are 7,935 acres of potential habitat modeled for the fox squirrel on JBWMA: 1,858 acres on the FWC-lead, 1,604 acres on the co-lead, and 4,473 acres on the FFS-lead. Models indicate 8,003 acres of habitat if management could restore all natural communities to their historic condition: 1,926 acres on the FWC-lead, 1,604 acres on the co-lead, and 4,473 acres on the FFS-lead. This suggests that JBWMA can support a viable population of fox squirrels across the lead, co-lead, and FFS-lead areas. JBWMA contains a variety of natural communities that include the longleaf pine and oak component required by fox squirrels, and the habitat is currently suitable to support this species. There is a moderate to high level of opportunity to affect this species on JBWMA given its dependence on managed communities and the amount of available habitat that is in a suitable condition.

Current and planned timber management for mature stands of site-appropriate species, and the frequent application of prescribed fire (≤3 year rotation) in upland pine, sandhill, and mesic flatwoods will maintain and enhance suitable habitat for this species. Based on the habitat models, the FWC-lead may not be able to support a viable population of fox squirrels on its own but there is likely enough modeled habitat available when including the co-lead and FFS-lead. Therefore, it is important for both FWC and FFS to follow the additional land management recommendations in Section 4.3.12, which include retaining some oaks during timber operations.

We do not recommend monitoring because this species naturally occurs at low densities and can be difficult to detect. Additionally, the species is common on JBWMA so opportunistic monitoring is not necessary. Research is necessary to determine the subspecies that persists on JBWMA in order to designate proper management actions Section 5.3.1.

The goal is to enhance and maintain the suitability of habitat to support fox squirrels on JBWMA. Staff will achieve this goal through the use of prescribed fire and timber management that maintains open conditions and an oak component in suitable habitat. Under current and planned management, fox squirrels will likely persist on JBWMA. The amount and quality of habitat on surrounding private and conservation lands will also contribute to the persistence of this species on the area.

3.2.13: Southeastern Myotis

The southeastern myotis occurs on JBWMA but its abundance is unknown. The Southeastern Bat Diversity Network's Bat Blitz, which was co-sponsored by FWC, documented this species on JBWMA in May of 2012. During this Bat Blitz, southeastern myotis were also documented on ANF. The closest known maternity colonies occur

approximately 10 miles east of JBWMA in storm drains located under the Tallahassee Mall and north of Interstate-10 near Meridian Road.

This species triggers 2 of 6 prioritization parameters (priorities table) and is a moderate statewide priority. The southeastern myotis forages primarily over rivers, creeks, and lakes, but will also forage along hammock edges and in flatwoods. Roosting habitat varies seasonally. Outside the breeding season, individuals may roost in caves, culverts, bridges, hollow trees, and occasionally houses. During the maternity season (April-May), most known maternity roosts in Florida occur in caves where females gather to rear young. Hollow trees and manmade structures also serve as maternity sites, but the prevalence and importance of these to the population is not fully understood. Models estimate 8,002 acres of potential habitat modeled for the southeastern myotis on JBWMA: 1,901 acres on the FWC-lead, 2,046 acres on the co-lead, and 4,055 acres on the FFS-lead. If management could restore all natural communities to their historic condition, models indicate 8,509 acres of habitat could exist on JBWMA: 2,217 acres on the FWC-lead, 2,050 acres on the co-lead, and 4,242 acres on the FFS-lead.

Southeastern myotis using JBWMA forage over Lake Talquin, rivers, and creeks on the area. The floodplain forest and swamps may provide roost sites. The protections to water quality provided by conservation lands bordering JBWMA will benefit bats that feed in the area. Current management actions that maintain or enhance habitat for southeastern myotis on JBWMA include the use of prescribed fire along habitat edges to prevent shrubby encroachment. Section 4.3.13 contains additional land management recommendations for this species including the protection of roost sites.

Before removing or destroying potential roosts such as large hollow trees, culverts, or old buildings, staff should check first to ensure southeastern myotis are not using them. We recommend opportunistic documentation of roost sites and subsequent protection (Section 5.2.4). Staff should coordinate with the Species Conservation Planning (SCP) section and FWRI for maternity roost protections and further monitoring actions (Section 6.1.1 and Section 6.1.3).

The goal is to provide suitable habitat for southeastern myotis that will allow individuals using JBWMA to function as part of a regional population. Staff will achieve this goal through the use of prescribed fire to maintain natural communities, and by documenting and protecting roosts. While the continued presence of this species depends on conditions that influence the regional population, southeastern myotis will likely persist on JBWMA due to the availability of water bodies for foraging and conservation lands that provide forested corridors to these foraging sites.

3.2.14: Limited Opportunity Species

Using statewide data, 2 focal species (gopher frog and red-cockaded woodpecker) were modeled to have potential habitat on JBWMA; however, the area-specific assessment

concluded that the opportunity to affect these species on the area is limited. Staff will opportunistically document any observations of these species (Section 5.2.4). If gopher frogs or red-cockaded woodpeckers are documented on JBWMA in the future, the area's role in the conservation and recovery of these species will be re-visited.

Gopher frog - Despite survey efforts, gopher frogs have not been documented on JBWMA. Gopher frogs were not captured in drift fence arrays during a herpetological inventory in Zone F (Figure 2) from September 1996 through July 1997. In 2002 and 2003, FWC staff dip-netted 18 ponds for flatwoods salamanders (*Ambystoma* spp.); no gopher frogs were detected during these surveys. In March and April of 2013, area staff conducted calling surveys at potential gopher frog breeding ponds but did not detect any gopher frogs. The only gopher frog record from Gadsden County is from along the banks of the Ochlockonee River and its accuracy is disputed. Other than this occurrence, the nearest records are from Leon and Liberty Counties.

The gopher frog is currently state-listed as a species of special concern, but is proposed for delisting upon approval of ISMP. The gopher frog triggers 2 of 6 statewide prioritization parameters (priorities table). Gopher frogs breed in seasonally flooded grassy ponds that lack predatory fish. After breeding, frogs move into uplands and often occupy gopher tortoise burrows; however, they also use rodent and crayfish burrows, stump holes, and hollow logs. Gopher frogs are rarely found more than 1 mile from breeding habitat. The use of prescribed fire in isolated wetlands, and in upland habitat within 1 mile of potential breeding ponds will maintain or enhance habitat for this species. Firebreaks should not be placed along wetland ecotones because they can alter or destroy the herbaceous component of pond margins preferred by this species and other amphibians. Minimizing soil disturbance within 500 yards of potential breeding ponds will also maintain the ponds.

There are currently 1,728 acres of potential gopher frog habitat modeled to occur on JBWMA: 283 acres on the FWC-lead, 0 acres on the co-lead, and 1,445 acres on the FFS-lead. Models indicate 2,003 acres of habitat if all natural communities could be restored to their historic condition: 540 acres on the FWC-lead, 0 acres on the co-lead, and 1,463 acres on the FFS-lead.

Due to the lack of documented gopher frogs on JWBMA and surrounding areas, there is limited opportunity for JBWMA to contribute to the conservation this species. The SAP for this species includes recommendations to restore degraded upland xeric habitat and maintain the suitability of that habitat with the frequent application of fire. Current and planned natural community management that includes timber management to meet target basal areas (Table 3) and the frequent application of prescribed fire (≤3 year rotation) in sandhill, and mesic and wet flatwoods will maintain and enhance suitable habitat for gopher frogs despite their absence from the area. Additionally, ongoing GCR and upland pine restoration will improve potential gopher frog habitat.

Red-cockaded woodpecker - Red-cockaded woodpeckers have not been documented on JBWMA. Area staff spends considerable time working in Zone D (Figure 2), which contains the best potential red-cockaded woodpecker habitat, but have never observed the species or its' cavity trees. The nearest known population occurs on ANF, <5 miles south of JBWMA across Lake Talquin and Lake Talquin State Forest. Lake Talquin presents a significant barrier to dispersal and red-cockaded woodpeckers from ANF are unlikely to disperse across such a wide, open area to colonize JBWMA. Red-cockaded woodpeckers are also unlikely to colonize from the north, as the nearest known grouping is part of the Red Hills Metapopulation and is separated from JBWMA by >30 miles of development and agriculture.

The red-cockaded woodpecker is a federally Endangered species that triggers 4 of 6 prioritization parameters (priorities table), making it a high statewide priority. A FWC Management Plan and USFWS Recovery Plan have been developed for this species. However, neither of these plans identifies JBWMA as a priority area for red-cockaded woodpecker conservation. Models estimate 5,221 acres of potential red-cockaded woodpecker habitat on JBWMA: 1,096 acres on the FWC-lead, 1,016 acres on the co-lead, and 3,109 acres on the FFS-lead. Models indicate 5,757 acres of habitat if all natural communities could be restored to their historic condition: 1,570 acres on the FWC-lead, 998 acres on the co-lead, and 3,189 acres on the FFS-lead. Only a small percentage of the potential habitat is currently suitable to support red-cockaded woodpeckers and much of this acreage is fragmented by natural hardwood streams and separate across lead-area boundaries. Red-cockaded woodpeckers prefer large stretches of contiguous habitat and are unlikely to persist on JBWMA even if there is colonization.

Due to the absence of recorded sightings, a lack of immigration potential, and because recovery plans do not identify a role for the area, there is limited opportunity for JBWMA to contribute to the conservation of red-cockaded woodpeckers. Current and planned natural community management that includes timber management for mature stands and the frequent application of prescribed fire (≤3 year rotation) in upland pine, sandhill, and mesic and wet flatwoods will maintain and enhance suitable habitat. As habitat conditions improve, future Strategies may need to re-evaluate the role of JBWMA for this species. If the status of this species on JBWMA were to change within the lifetime of this Strategy, staff should update this assessment to provide appropriate goals and recommended actions.

3.3: Other Listed or Locally Important Species

While natural community management focused on a set of focal species provides benefits to a host of species reliant upon these natural communities, species that are imperiled sometimes require specific attention. Further, subsection 253.034(5) of the Florida Statutes (F.S.) requires all land management plans to include an analysis of the property to determine if significant natural resources, including listed species, occur on the property. If

significant natural resources occur, the plan shall contain management strategies to protect the resources. The Florida Forever Act (s. 259.105, F.S.) adds that all State lands that have imperiled species habitat shall include restoration, enhancement, management, and repopulation of such habitats as a consideration in the management plan. In this subsection, we discuss listed or locally important species that are not PLCP focal species.

It is possible other imperiled species occur on JBWMA, and if encountered, staff will document these encounters. Florida's imperiled species are adapted to natural communities and should continue to benefit from FWC's ongoing or planned ecological management that aims to restore natural community structure and function. Under FWC's ecological management, these species have a higher probability of persistence than in the absence of this management.

3.3.1: Other Imperiled Wildlife

In addition to the listed species discussed in Section 3.2, the alligator snapping turtle (*Macrochelys temminckii*) and American alligator (*Alligator mississippiensis*) are the only other listed species known to occur on JBWMA. The eastern indigo snake (*Drymarchon couperi*) and southeastern American kestrel (*Falco sparverius paulus*) could potentially occur on JBWMA but have not been documented. In addition, several listed species have been documented in the Ochlockonee River, which borders the WMA to east. These species include the Barbour's map turtle (*Graptemys barbouri*) and several species of freshwater mussels, including the Ochlockonee moccasinshell (*Medionidus simpsonianus*), oval pigtoe (*Pleurobema pyriforme*), purple bankclimber (*Elliptoideus sloatianus*), and shiny-rayed pocketbook (*Lampsilis subangulata*).

Alligator snapping turtle – Area staff rarely observe alligator snapping turtles on JBWMA, but the species has been documented laying eggs in the uplands near Little River. The alligator snapping turtle is currently FWC-listed, but is proposed for delisting upon approval of the ISMP. Further management considerations for this species may be updated after approval of the ISMP.

American alligator – The American alligator is common in Lake Talquin and Little River, and also occurs in Budd Pond. Staff has occasionally observed alligators in upland areas, presumably when the alligators are moving between wetlands. The species is federally listed due to similarity of appearance with other listed crocodilians. Ongoing protections to water quality will benefit this species on JBWMA. No specific management actions are necessary to ensure the continued persistence of alligators on JBWMA.

Eastern indigo snake – The eastern indigo snake is federally listed as a Threatened species. There are some records of indigo snakes from the surrounding landscape; however,

there have not been any verified records in northwest Florida since 1999. Eastern indigo snakes have large home ranges and are vulnerable to habitat fragmentation, including the loss of travel corridors between areas of suitable habitat. Additionally, the species faces increased mortality in areas with a high density of roads. Management actions that maintain or enhance habitat for the Florida pine snake will also benefit the eastern indigo (Section 3.2.1 and 4.3.1). Opportunistic monitoring is recommended (Section 5.2.4).

Ochlockonee River species – The Barbour's map turtle is a FWC species of special concern and may soon be listed as Threatened based on the recommendations of the SAP. The Ochlockonee moccasinshell, oval pigtoe, and shiny-rayed pocketbook are federally listed as Endangered, while the purple bankclimber is federally listed as Threatened. These species occur in the Ochlockonee River and may use habitats adjacent to the river. Ongoing protections to water quality will benefit this species on JBWMA. As these habitats are not actively managed, management actions on JBWMA will not likely impact these species. Staff will continue to avoid actions that could potentially affect water flow or quality. The protections afforded to these species by existing on and around conservation lands will continue to benefit these and other aquatic species.

Southeastern American kestrel – Models do not indicate potential habitat for the southeastern American kestrel on JBWMA; however, staff commonly observe the migratory American kestrel (*Falco sparverius*) during fall. We recommend opportunistic monitoring of kestrels during April-June to determine if the FWC-listed subspecies occurs on JBWMA (Section 5.2.4). If staff observes kestrels during the breeding season, this assessment will be revisited to ensure JBWMA is contributing appropriately to conservation efforts.

3.3.2: Rare Plants

The Florida Natural Areas Inventory (FNAI) conducted a rare plant survey on JBWMA from January through June 1997. FNAI documented 10 listed plant species that occur on JBWMA. In addition to this survey, area staff continually document and monitor rare plants while conducting other activities, but also occasionally conduct specific searches for rare plants. For example, area staff in cooperation with FFS conducted a search for Carolina lily (*Lilium michauxii*) in 2009. The Carolina lily, Florida merrybells (*Uvularia floridana*), Flyr's brickell-bush (*Brickellia cordifolia*), pyramid magnolia (*Magnolia pyramidata*), silky camellia (*Stewartia malacodendron*), sweet-shrub (*Calycanthus floridus*), and dimpled trout lily (dog-tooth violet; *Erythronium umbilicatum*) are state-listed as Endangered. The hooded pitcher plant (*Sarracenia minor*), heartleaf (*Hexastylis arifolia*), and scare-weed (*Baptisia simplicifolia*) are state-listed as Threatened. The protections afforded to these species by existing on conservation lands will continue to benefit these and other rare plants, particularly as most of these species occur in non-actively managed natural

communities such as upland hardwood forest and bottomland forest. Ongoing treatment of exotic vegetation in these communities will also benefit listed plants.

Carolina lily – The Carolina lily is found along slopes in hardwood forests along the southern Appalachian Mountains and into northwestern Florida. Conservation actions for this species include following Silvicultural BMPs when working along streamsides and slope forests and minimizing firebreaks along ecotones. The protection afforded to natural communities in which the Carolina lily occurs will help meet the conservation needs of this species. Actions to benefit this species may include allowing fire to burn into the edges of streamside forests during adjacent land management.

Florida merrybells – This species is mostly found in bottomland and floodplain forests, where it is generally restricted to moist ravines. There are only 8 known populations of Florida merrybells throughout the state, and the majority are not located on conservation lands. This makes protection of JBWMA specimens a high priority. Ongoing management considerations should include following Silvicultural BMPs when working in mature, floodplain pine forests. Exotic control will also benefit its persistence on JBWMA.

Flyr's brickell-bush – This species depends on dry upland forests and can be found along openings and edges of shady, overgrown trees. Conservation actions for this species include allowing fire to burn through wooded edges or manually creating openings along trail edges or fire breaks. Managers should avoid clearcutting and conversion of upland woods to pine plantations, while continuing to create fire-maintained open edges.

Pyramid magnolia – This species is found in upland hardwood forests within slopes, bluffs, and floodplains. Although control of encroaching hardwoods is a priority in sandhill and upland pine communities on JBWMA, staff does not control for hardwoods in mature hardwood communities where this species occurs. Conservation recommendations include avoiding clearcutting and logging in sloped floodplains that would disturb soils.

Silky camellia – The silky camellia is found within the understory of stream-side bluffs and sloped forests. Conservation actions for this species include following Silvicultural BMPs when working along streamsides and slope forests and minimizing firebreaks along ecotones. By allowing fire to burn into the edges of streamside forests, JBWMA will meet the conservation needs for this species.

Sweet-shrub – Sweet-shrub depends on well-drained soils in low to medium shade. It is adapted to upland pine communities and will benefit from management that includes lowered basal area, ground cover restoration, and frequent fire.

Dimpled trout lily – This species is found in the leaf litter of upland hardwood forests. Protections provided to conservation lands will continue to provide suitable habitat for dimpled trout lily, primarily within non-managed mature hardwood communities where this species occurs. Conservation recommendations include avoiding clearcutting and intensive logging in hardwood forests that would heavily disturb soils.

Hooded pitcher plant – This species grows within swampy low-land areas that are periodically inundated throughout the year. Hooded pitcher plants occur in actively-managed natural communities and benefit from prescribed fire and focused exotic plant control.

Heartleaf – Also known as heartleaf wild ginger or little brown jug, this species grows in moderately dry to wet soils in wooded areas. It is listed as threatened by the Florida Department of Agriculture and Consumer Services, although the appropriate management actions for this species have not been assessed. The protection afforded to natural communities in which the heartleaf occurs will help meet the conservation needs of this species.

Scare-weed – Also known as coastal plain wild indigo, this species occurs in longleaf pine-deciduous oak ridges and along mesic flatwoods. It is often associated in areas alongside wiregrass. This species occurs in actively-managed natural communities that receive focused exotic plant control, and would most likely benefit from frequent fire.

Section 4: Land Management Actions and Considerations

Models identified potential habitat for 15 focal species on the area (Section 3.1); however, not all of these species have the same level of management opportunity or need (Section 3.2). The FWC's natural community-based management, which emphasizes frequent growing season prescribed fire, will promote the habitat conditions necessary for most of these species, without the need for further strategic management actions. We may designate Strategic Management Areas (SMAs) when actions over and above ongoing natural community management are required in a specific location (Section 4.1). In addition, to ensure natural community management addresses the needs of these focal species, we evaluate the OBVM Desired Future Conditions (DFCs) for natural communities (Section 4.2). Section 4.3 provides recommendations for species that need specific protective measures or land management considerations to ensure their continued use of the property.

4.1: Strategic Management Areas

The intent on JBWMA is to apply management actions that maintain intact natural communities in good condition and restore degraded or altered natural communities to a condition that will better suit focal and listed species. However, SMAs focus management actions on Management Units (MUs) with the highest possibility of success, and or MUs most critical for the conservation of a species on the WMA. Staff designates SMAs to achieve at least one of the following:

- Identify the area in which to apply specific land or species management that creates the highest probability for persistence and conservation of a species or suite of species. These specific actions should aid in restoring, enhancing, or maintaining the habitat or population.
- Identify an area in which to focus specific land or species management actions for the best chance of success, when there is more restoration and enhancement than can be accomplished in short order on the WMA. This might be the first or next step in a sequential series of management actions that will increase the likelihood of occupation and or persistence of a specific species.
- Identify an area that is so critical to the persistence of a species on the WMA that it warrants special designation to ensure protection against negative alteration.
- Identify areas that are critical for research or monitoring.
- Recommend MU-specific natural community DFCs that differ from the DFCs in the natural community area-wide, when this is necessary to benefit a specific species.

The WCPR workshop gave participants the opportunity to evaluate if there was the need for SMAs to meet the needs of focal species. Workshop participants agreed that planned and ongoing management actions across JBWMA will meet the needs of the focal species; therefore, we did not designate any SMAs.

4.2: Objective-Based Vegetation Management Considerations

OBVM is an approach to land management that emphasizes maintaining and restoring natural plant communities towards pre-determined desired conditions. The OBVM DFCs (Table 3) target a range in values for various habitat attributes within actively managed communities. However, if a focal species requires a more restricted range in habitat attributes than is reflected in the area-wide DFCs, or depends on an attribute that is not currently monitored on JBWMA, we may recommend adjusting the DFC range or adding the attribute. The workshop gave participants the opportunity to evaluate if the current DFCs meet the needs of focal species and if not, to suggest modifications. The following are common reasons to modify DFCs:

- To obtain maximum habitat suitability for a species that requires a more restricted range of DFC values than the current DFC values.
- To benefit a particular species in specific MUs; typically when we have designated a SMA that requires a change in natural community DFCs only within the SMA and not in the natural community area-wide.
- To add an attribute that was not previously monitored.

The OBVM 'data collection protocol' and 'attribute range in values' have changed since the JBWMA OBVM workshop. The data collection protocols for OBVM changed due to program review and budgetary issues. Additionally, the OBVM workshop occurred prior to the identification of references sites. Reference sites are areas identified by FNAI as representing the highest quality examples of natural communities in the State. At the WCPR workshop, participants agreed using the reference site values would meet the needs of JBWMA's focal species.

Table 3A. Desired Future Conditions for specific vegetative attributes in actively managed wet flatwoods at JBWMA based on FNAI recommended values from reference sites.

COMMUNITY	ATTRIBUTE	UNITS	FNAI Reference Site DFCs
Wet Flatwoods	Basal Area of Pine	ft^2/acre	10-50
	Non-Pine Stem Density > 4in DBH	count/7m radius	0
	Subcanopy Stem Density 2-4in DBH	average count/4m quadrat	<1
	Shrub Stem Density > 1m	average count/4m quadrat	<1
	Maximum Shrub Stem DBH	average maximum DBH in inches	<0.5
	Average Maximum Shrub Height	average maximum height in ft	<3
	Shrub Cover < 1m	average % cover/4m quadrat	>10
	Serenoa Petiole Density > 1m	average count/4m quadrat	0
	Serenoa Cover < 1m	average % cover/4m quadrat	<25
	Average Maximum Serenoa Height	average maximum height/4m quadrat in ft	<3
	Herbaceous Cover	average % cover/4m quadrat	>1

Table 3B. Desired Future Conditions for specific vegetative attributes in actively managed mesic flatwoods at JBWMA based on FNAI recommended values from reference sites.

COMMUNITY	ATTRIBUTE	UNITS	FNAI Reference Site DFCs
Mesic Flatwoods	Basal Area of Pine	ft^2/acre	20-80
	Non-Pine Stem Density > 4in DBH	count/7m radius	0
	Subcanopy Stem Density 2-4in DBH	average count/4m quadrat	<1
	Shrub Stem Density > 1m	average count/4m quadrat	<1
	Maximum Shrub Stem DBH	average maximum DBH in inches	<0.5
	Average Maximum Shrub Height	average maximum height in ft	<2
	Shrub Cover < 1m	average % cover/4m quadrat	<25
	Serenoa Petiole Density > 1m	average count/4m quadrat	0
	Serenoa Cover < 1m	average % cover/4m quadrat	10-25
	Average Maximum Serenoa Height	average maximum height/4m quadrat in ft	<3
	Herbaceous Cover	average % cover/4m quadrat	>25

Table 3C. Desired Future Conditions for specific vegetative attributes in actively managed upland pine at JBWMA based on FNAI recommended values from reference sites.

COMMUNITY	ATTRIBUTE	UNITS	FNAI Reference Site DFCs
Upland Pine	Basal Area of Pine	ft^2/acre	20-80
	Non-Pine Stem Density > 4in DBH	count/7m radius	<1
	Subcanopy Stem Density 2-4in DBH	average count/4m quadrat	<1
	Shrub Stem Density > 1m	average count/4m quadrat	<1
	Maximum Shrub Stem DBH	average maximum DBH in inches	<0.5
	Average Maximum Shrub Height	average maximum height in ft	<2
	Shrub Cover < 1m	average % cover/4m quadrat	<10
	Serenoa Petiole Density > 1m	average count/4m quadrat	0
	Serenoa Cover < 1m	average % cover/4m quadrat	<5
	Average Maximum Serenoa Height	average maximum height/4m quadrat in ft	<3
	Herbaceous Cover	average % cover/4m quadrat	<5

Table 3D. Desired Future Conditions for specific vegetative attributes in actively managed sandhill at JBWMA based on FNAI recommended values from reference sites.

COMMUNITY	ATTRIBUTE	UNITS	FNAI Reference Site DFCs
Sandhill	Basal Area of Pine	ft^2/acre	20-60
	Non-Pine Stem Density > 4in DBH	count/7m radius	<3
	Subcanopy Stem Density 2-4in DBH	average count/4m quadrat	<1
	Shrub Stem Density > 1m	average count/4m quadrat	0
	Maximum Shrub Stem DBH	average maximum DBH in inches	<1
	Average Maximum Shrub Height	average maximum height in ft	<3
	Shrub Cover < 1m	average % cover/4m quadrat	10-20
	Serenoa Petiole Density > 1m	average count/4m quadrat	0
	Serenoa Cover < 1m	average % cover/4m quadrat	<5
	Average Maximum Serenoa Height	average maximum height/4m quadrat in ft	<3
	Herbaceous Cover	average % cover/4m quadrat	>25

4.3: Further Land Management Considerations

Most generalist or wide-ranging species will benefit from management that restores the natural structure and function of natural communities they use. However, specific management recommendations and precautions are necessary to ensure continued suitability of the area for some species. The following recommendations should help JBWMA continue to fulfill its role in the conservation of these species.

4.3.1: Florida Pine Snake

Large upland snakes such as the Florida pine snake are relatively wide-ranging and elusive. Ongoing land management activities will enhance the suitability of habitat for this species, but specific actions could be directly detrimental. When using heavy equipment during land management activities, it is important to move slowly enough within pine snake habitat to avoid direct mortality. If contractors are used to accomplish land management objectives, they should be educated in what to do if they encounter a pine snake and directed to avoid damaging or destroying gopher tortoise burrows. Coarse woody debris and stumps should be left intact when possible to provide cover for pine snakes. While it is acceptable to pile and burn excess logging slash if necessary, ensure some debris remains in the stand.

Creating brush piles can also provide cover for this species if natural cover is sparse or absent.

4.3.2: Gopher Tortoise

Whenever possible, mechanical treatments that use heavy equipment (e.g., roller-chopping, timber removal) in areas where gopher tortoises occur should occur during the winter. Gopher tortoises are generally less active and remain in burrows during the winter months; therefore, mechanical equipment will be less likely to crush or otherwise harm foraging tortoises at this time. The timing of treatments will affect management results and should also be considered, as growing season treatments frequently are more successful in creating the diverse groundcover required by the gopher tortoise. Regardless of timing, managers should make efforts to minimize impacts to known burrows.

4.3.3: American Swallow-Tailed Kite

While kites have not been documented nesting on JBWMA, it is important to preserve potential nest trees. Managers should retain the largest, oldest trees on the landscape during timber management activities. Staff should document and attempt to locate nests if kite activity is observed during nesting season (March-June), particularly if kites are observed carrying nesting material, mobbing, or congregating in groups of 3 or more. Because swallow-tailed kites exhibit high nest site fidelity, protect known nest sites from disturbance and alteration, and retain the tallest pines in the area of nest sites. Maintain a 330-foot protective buffer around active nests during the nesting season to minimize the chance of disturbance. When possible, kite nesting areas should be managed to have a higher shrub height and density than surrounding areas as this may reduce the likelihood of nest predation. For information on how to locate swallow-tailed kite nests, see:

Avian Research and Conservation Institute, Swallow-Tailed Kite Species Profile

Meyer, K. D., and M. W. Collopy. 1995. Status, distribution, and habitat requirements of the American swallow-tailed kite (*Elanoides forficatus*) in Florida. Project Report, Florida Game and Fresh Water Fish Commission, Tallahassee, Florida, USA.

4.3.4: Bachman's Sparrow

Frequent (≤3 year rotation) use of prescribed fire improves habitat quality for Bachman's sparrows, and is the primary land management tool recommended to enhance and maintain habitat for this species. The occurrence of fire is critical to sustaining this species as use of an area by Bachman's sparrows declines rapidly around 18 months post-fire, and

the species may abandon habitat if fire is excluded for more than 3 years. Because males use small shrubs as singing perches, it is important to retain some small patches of shrubs during mechanical treatments to reduce understory. Follow mechanical treatments with a prescribed burn to stimulate grass and forb coverage.

4.3.5: Brown-Headed Nuthatch

Brown-headed nuthatches depend on the presence of snags for suitable nesting habitat. Ongoing management activities frequently knock over snags, especially the old, soft snags on which the nuthatch depends. Managers should evaluate the impact of land management on snags to ensure new snags replace consumed snags. If there is a net loss of snags during prescribed fire or mechanical treatments, consider taking efforts to protect snags or taking actions to create new snags. It is possible to create potential nest sites by girdling oaks with a diameter at breast height of <10 inches. Over time, these snags soften and become suitable nest sites. Managers should retain these particular types of snag.

It is possible that prescribed burns conducted during February and March may negatively affect nesting brown-headed nuthatches. The loss of nests early in the breeding season frequently results in re-nesting attempts. Most re-nesting occurs during periods of increased snake activity, which results in greater predation on nesting females and their eggs and young. If feasible, avoid prescribed fire during February and March in MUs known to contain brown-headed nuthatches. However, if this is the only time in which suitable conditions occur for a burn, it is better to burn than to avoid burning.

4.3.6: Cooper's Hawk

During the nesting season (April-July), Cooper's hawks are secretive and intolerant of human disturbance near the nest site. Males show a strong fidelity to traditional territories. Managers should protect known nests from disturbance during land management activities by maintaining a 50-foot buffer around the nest during the nesting season. When practical, avoid heavy alteration of the habitat surrounding the nest. Whenever signs of Cooper's hawk nesting (e.g., carrying nesting material, aggressive dive bombing) are encountered, document the location and make an effort to protect the nest site.

4.3.7: Louisiana Waterthrush

Louisiana waterthrushes prefer unpolluted, headwater streams and large, contiguous forest tracts. Waterthrushes tend to abandon streamside breeding sites where the forest canopy has been cleared. Management activities that maintain habitat for the Louisiana waterthrush include measures to protect the water quality and forest structure of the riparian

areas on which it depends. "Silviculture Best Management Practices" provides guidance on protecting water quality during management activities.

4.3.8: Northern Bobwhite

The frequent (≤3 year rotation) use of prescribed fire improves habitat quality for northern bobwhite, and is the primary land management tool recommended to enhance and maintain habitat for this species. Ignite fires using a variety of firing techniques and environmental conditions with the goal of promoting mosaic burns. Mosaic burns result in a patchwork of burned and unburned areas that meet different life history requirements for northern bobwhite. Burning at different times of the year results in the diversity of vegetation structure and forage required by this species. Ruderal areas can be managed for northern bobwhite through mechanical actions like mowing and disking strips during the summer months to promote herbaceous growth.

4.3.9: Southern Bald Eagle

State and federal regulations require protection of bald eagles, including avoiding disturbance of nesting eagles. When planning activities within 660-feet of known eagle nests, managers should follow the management guidelines in the state management plan, especially the guidelines for land management practices beginning on page 27. During management activities, retain large mature pines as potential eagle nesting sites, when feasible. Continue to manage stands in which eagle nests occur, but avoid negative impacts to eagles or nest trees per the guidance of the management plan. Staff can identify potential nests prior to management with the FWC bald eagle nest locator. Contact the Bald Eagle Management Plan Coordinator for assistance interpreting the management plan or resolving possible conflict with management practices for other imperiled species (Section 6.1.1).

4.3.10: Wading Birds

It is possible that management actions (e.g., prescribed fire, timber thinning) could have negative impacts on wading birds if these activities disturb birds while they are nesting, or alter nest sites in ways that make them unsuitable. This is unlikely to occur on JBWMA since the documented wading bird colonies occur on or near Lake Talquin in areas that aren't actively managed. However, if colonies are ever documented in areas where they could be negatively affected by management actions, staff should establish a 330-foot buffer around nesting colonies to protect them from disturbance. Additionally, staff should plan any mechanical or chemical control of vegetation at a time that avoids disturbance to the colony, and use methods that do not damage the plants in which wading birds construct their nests.

4.3.11: Florida Black Bear

Bears require some areas of dense vegetation for escape and denning cover. Efforts to restore natural communities to a more open landscape with reduced tree density, lower shrub height, and reduced shrub cover may reduce denning and escape cover for bears. However, these same efforts may increase availability of forage such as berries and tubers. To ensure some dense areas remain for denning and escape cover on JBWMA, managers should avoid "burning out" dense patches of vegetation that remain after the initial burn and resist forcing fire into fire shadows. When possible, avoid mechanical treatments and burning in likely den sites during the denning season (December – April). Land management activities that provide a mosaic habitat structure will provide both escape cover and foraging habitat for bears.

4.3.12: Fox Squirrel

FWC and FFS staff should retain some oaks during timber operations to benefit fox squirrels. Fox squirrels prefer a variety of oak species in a range of age classes, but this management should not interfere with other species' needs and natural community maintenance. Additionally, staff should not conduct hardwood control in mature hardwood communities such as the upland hardwood forest. FWC's position statement regarding hardwood control in the restoration of fire-adapted communities recognizes that hardwoods benefit wildlife by providing cover and forage (reference page 6 of the statement). Managers will retain a hardwood component in areas lacking habitat diversity and mast production for the benefit of the fox squirrel.

4.3.13: Southeastern Myotis

Large hollow trees, particularly hardwoods or cypress in forested wetlands are potential roost sites for southeastern myotis. Protect these important resources when possible during land management activities. Check for occupancy by bats before removing large hollow trees, old culverts, or abandoned buildings.

Section 5: Species Management Opportunities

Land management that considers the needs of a suite of focal species provides direct benefits to many associated species. However, land management actions alone are insufficient to maintain or recover some species. These species need species-specific management (Section 5.1). Additionally, monitoring (Section 5.2) is required to verify management is having the desired influence on wildlife, and in some cases, research is necessary to guide future management (Section 5.3).

5.1: Species Management

Species management as used here refers to actions other than land management, monitoring, or research, taken for a specific species. Species-specific management actions can include actions such as translocation, restocking, or installing artificial cavities. These actions may be needed for species that are currently present but occur at low densities, have low reproduction potential, or have other limitations that inhibit recovery. Additionally, species-specific management may be required for species that are not present on a site, have limited dispersal capabilities, or are unlikely to occupy a site without reintroduction. Workshop participants did not identify any species management needs for JBWMA.

5.2: Species Monitoring

Monitoring is critical to evaluating the effect of management on wildlife. While we are unable to monitor all of the focal species on JBWMA, the recommended monitoring will assess species in all actively managed communities. Opportunistic monitoring of uncommon or hard to monitor species is also included. The FWC will make monitoring data available to cooperating agencies and organizations, such as FNAI (Section 6).

This section lists the species monitoring recommended for JBWMA. We also provide the purpose for each monitoring effort. The FWC is in the process of standardizing monitoring protocols for a number of these species, and developing a central database for data storage with Sampling and Monitoring Protocol (SaMP). Area staff will work with the regional conservation biologist to implement standardized protocol, standardize ongoing monitoring that does not have a standardized protocol, and ensure data are included in the central database.

5.2.1: Gopher Tortoise

The purpose of monitoring gopher tortoises is to track population size and density over time to ensure management is having the desired effect. The gopher tortoise CCA recommends conducting surveys on state-owned properties using a line transect distance sampling method to camera-scope every burrow along a pre-designated transect. This protocol will enable managers to track changes in the population, rather than just changes in the number of burrows. Staff may need to use contractors to accomplish this monitoring.

In 2014, contractors conducted a pilot survey on the lead, co-lead, and FFS-lead to determine the survey effort required to estimate a baseline tortoise population. Area staff will coordinate with contractors to use this determination and complete the full baseline population survey by 2016. After the initial survey, managers will determine the frequency of future monitoring that will use the line transect distance sampling method. Surveys may

initially be conducted every 5 years to obtain a reliable baseline estimate, followed by surveys every 10 years to track changes in the gopher tortoise population over time.

5.2.2: Bachman's Sparrow and Brown-Headed Nuthatch

Bachman's sparrows and brown-headed nuthatches have been identified as 'indicator species' whose continued presence indicates well-managed upland pine communities. The purpose of monitoring Bachman's sparrows and brown-headed nuthatches is to track presence and distribution of these species across the area over time to ensure management is having the desired effect. These surveys will be conducted every 3 years during the breeding season (May 1–June 30) using a standardized playback protocol. Surveys should include suitable habitat on the FWC-lead, FFS-lead, and co-lead.

5.2.3: Southern Bald Eagle

Area staff will conduct aerial surveys to document bald eagle nests to ensure they receive adequate protection. To efficiently use resources, JBWMA staff should coordinate these surveys with staff from Aucilla WMA and the FWRI Wildlife Research Lab, as both currently conduct aerial surveys of eagle nest territories. Staff should survey for eagle nests at least every 3 years, but can survey more frequently if they observe behavior that may indicate an undocumented nest. These surveys should continue as long as funding allows.

5.2.4: Opportunistic Monitoring Opportunities

The purpose of opportunistic monitoring is to document the presence of specific species. Opportunistic monitoring is the process of recording important information as it is encountered. By following the Opportunistic Observations for Wildlife Protocol, staff ensures their data are compatible with other opportunistic observations. Documentation of opportunistic sightings including information on species, date of the observation, observer, approximate lat/long or appropriate MU, number of individuals, behavior, and habitat type should be entered into SaMP. Monitoring data will be made available to cooperating agencies and organizations such as FNAI (Section 6.4). Record observations or sign of the following focal species:

- Florida pine snake
- Cooper's hawk (nesting activity, April-July)
- Louisiana waterthrush
- American swallow-tailed kite (aggregations of 3 or more birds on a regular basis in one area and any nesting activity, March-June)
- Wading birds (nesting colonies)
- Florida black bear (dens, cubs and cub sign)

- Southeastern myotis (roosts)
- Gopher frog
- Red-cockaded woodpecker
- Eastern indigo snake
- Southeastern American kestrel (presence April-June)
- Any other listed species that does not have a monitoring protocol in this section

5.3: Species Research Needs

Species management recommendations in other sections of this document are based on the most current information available. Cases may arise where little or no information is available to guide management, and research is needed. Many of the focal species do not have standard monitoring protocol. Research is needed to determine the most efficient means of monitoring these species. For many of the focal species, managers need research about aspects of natural history, such as minimum habitat patch size, preferred habitat parameters, and response to habitat management activities. Workshop participants identified the following research need on JBWMA:

5.3.1: Fox Squirrel Taxonomy

It is unclear which subspecies of fox squirrel occurs on JBWMA, the southeastern fox squirrel or state-listed Sherman's fox squirrel. The Sherman's fox squirrel SAP addresses this issue, and the University of Florida currently conducts genetic research to clarify the distribution of fox squirrel subspecies in Florida. If results of the genetic research determine that JBWMA is within the range of Sherman's fox squirrels, this assessment will be updated as necessary to meet objectives of the SAP.

Section 6: Intra/Inter Agency Coordination

The WCPR process identified many recommendations regarding possible management actions for focal species. WHM staff can handle most proposed management actions; however, coordination with other sections in FWC or with other agencies sometimes is necessary or more efficient. This part of the Strategy describes coordination that is necessary outside of the WHM section, identifies the entity to coordinate with, and provides position contacts for these entities. We attempt to provide the name, position, and contact information for the person holding the position when the Strategy was drafted. As positions experience turnover, when in doubt, contact the current Section Leader or supervisor to determine the appropriate person now holding the position.

6.1: Florida Fish and Wildlife Conservation Commission

6.1.1: Species Conservation Planning Section (SCP)

Monitoring wildlife populations on a WMA/WEA gives managers a way to gauge the effects of management. If this information is not shared with others, valuable data that can be used to assess statewide conservation efforts are often lost. Managers will share monitoring data with the appropriate taxa coordinator and with program coordinators for species that are part of conservation initiatives or other management programs. The regional SCP biologist is a good source of information on the regional status of non-game species. Additionally, FWC staff is authorized to handle federally listed species as long as actions are consistent with the requirements of the agency's Endangered Species Act Section 6 Cooperative Agreement. To meet these requirements, staff will provide reporting as outlined in the Agreement to the agency's Endangered Species Coordinator. Please note some contacts will also be covered under Section 6.1.3; FWRI, and Section 6.1.6; Florida's Wildlife Legacy Initiative.

Contacts:
Brad Gruver, Species Conservation Planning Section Leader: (850) 617-9502
Craig Faulhaber, Avian Taxa Coordinator: (352) 620-7346
Terry Doonan, Mammalian Taxa Coordinator: (386) 754-1662
Vacant, Herpetofauna Taxa Coordinator: (850) 921-1143
Deborah Burr, Gopher Tortoise Management Plan Coordinator: (850) 921-1019
Michelle van Deventer, Bald Eagle Management Plan Coordinator: (941) 894-6675
Justin Davis, Regional Biologist: (850) 265-3676

6.1.2: Division of Hunting and Game Management (HGM)

As the FWC has a statewide quail strategy, we recommend coordination with HGM – Game Species Management if issues regarding northern bobwhite arise on JBWMA.

Contacts:
Paul Schulz, Section Leader: (850) 617-9539
Greg Hagan, Northern Bobwhite Coordinator: (850) 893-4153

6.1.3: Fish and Wildlife Research Institute (FWRI)

Area staff will cooperate with FWRI staff conducting monitoring and research for focal species. Pertinent observations will be shared with the appropriate contact listed below (note: report observations of bald eagle nests to baldeagle@myfwc.com rather than directly

to Janell Brush). Report handling of migratory birds covered by FWC's migratory bird scientific collection permit to the Research Administrator in January of each year.

Contacts:
Robin Boughton, Section Leader: (352) 334-4218
Jeff Gore, Biological Administrator (mammals): (850) 767-3624
Andrew Cox, Research Administrator (migratory birds): (352) 334-4241
Janell Brush, Avian Research Biologist (bald eagle nest monitoring): (352) 334-4202
Karl Miller, Biological Administrator (avian): (352) 334-4215
Kevin Enge, Associate Research Scientist (herps): (352) 334-4209
Walter McCown, Biological Scientist (bears): (352) 334-4214
Brian Scheick, Biological Scientist (bears): (352) 334-4219

6.1.4: Office of Conservation Planning Services (CPS)

CPS works with private landowners and may be able to assist in making contacts or providing incentives for management activities on neighboring private lands. CPS also provides environmental commenting to ensure regional projects do not negatively influence the area. Maintaining communication regarding current and future projects will be critical.

Contacts:
Scott Sanders, Section Leader: (850) 617-9548
Arlo Kane, Regional Coordinator: (850) 767-3616
Mike Wilson, Wildlife Biologist: (850) 717-8734

6.1.5: Imperiled Species Management Section (ISM)

The Imperiled Species Management Section is responsible for the implementation and evaluation of imperiled species management and recovery plans, and have staff dedicated to management of Florida black bears. Area staff can coordinate with the Bear Management Plan Coordinator on issues related to bears.

Contacts:
Carol Knox, Section Leader: (850) 922-4330
Dave Telesco, Bear Management Plan Coordinator: (850) 922-4330

6.1.6: Florida's Wildlife Legacy Initiative (FWLI)

FWLI is an FWC led program developed to generate and coordinate cooperative conservation projects that address high priority issues identified in Florida's State Wildlife

Action Plan. FWLI can assist in identifying potential partners and assisting with collaborative efforts for monitoring and management of focal species. FWLI is a potential source of project funding via Florida's State Wildlife Grants program. Regular communication with this section will be valuable.

Contacts:
Kate Haley, Program Administrator: (850) 617-9503
Jessica Graham, Wildlife Legacy Biologist: (850) 767-3617

6.1.7: Invasive Plant Management Section (IPM)

The Invasive Plant Management Section provides technical and financial assistance to assist in the control of upland and aquatic invasive exotic plants. The Invasive Plant Management Section may serve as a resource in identifying appropriate solutions to, and funding for, exotic plant issues.

Contacts:
Bill Caton, Section Leader: (850) 617-9428
Jeff Schardt, Aquatics Administrator: (850) 617-9420
Linda King, Uplands Administrator: (850) 617-9425

6.2: Florida Forest Service (FFS)

Coordination with FFS is critical since FFS is the lead manager on the majority of JBWMA, as well as co-lead on approximately 2,000 acres. Habitat models indicate that there is only enough habitat to support viable populations of northern bobwhite, Florida pine snakes, and fox squirrels when including potential habitat on the FFS-lead. Additionally, FWC-lead parcels are fragmented and the FFS-lead serves as a corridor between parcels. JBWMA staff will continue to coordinate prescribed fire, timber management, and other activities with FFS.

Contacts:
Chris Colburn, Tallahassee Forestry Center Manager: (850) 414-1131
Keith Cummings, Supervisor for Lake Talquin State Forest: (850) 414-1129
Daniel Stanley, Forest Area Supervisor for Gadsden County: (850) 627-3644

6.3: Avian Research and Conservation Institute (ARCI)

ARCI surveys and keeps data on American swallow-tailed kite populations. Staff should share observations of swallow-tailed kite nests or nesting behavior with ARCI.

Contacts:
Dr. Ken Meyer, Avian Researcher: (352) 335-4151; meyer@arcinst.org
Gina Kent, Research Ecologist and Coordinator: (352) 514-5607;
ginakent@arcinst.org

6.4: Florida Natural Areas Inventory (FNAI)

FNAI collects, interprets, and disseminates ecological information critical to the conservation of Florida's biological diversity. The FNAI's database and expertise facilitate environmentally sound planning and natural resource management to protect the plants, animals, and communities that represent Florida's natural heritage. The FNAI maintains a database of rare and listed species that is often used for planning purposes. Staff will share information about tracked species occurrences on JBWWA with FNAI to ensure this information is included in their database. This can be accomplished through WHM's SaMP database. FWC also has a contract with FNAI for plant and animal surveys if the need exists and resources are available.

Contacts:
Dan Hipes, Chief Scientist: (850) 224-8207
Kim Gulledge, Senior Ecologist: (850) 224-8207

Section 7: Beyond the Boundaries Considerations

JBWMA encompasses a fairly large area, and with continued management, has enough potential habitat to support many focal species. Habitat models indicate that the FWC-lead alone can support viable populations of gopher tortoises, Bachman's sparrows, and brown-headed nuthatches. Models indicate that JBWMA can also support viable populations of northern bobwhite, Florida pine snakes, and fox squirrels if potential habitat on the FFS-lead and co-lead is included. Coordination with FFS is therefore important to the management of numerous focal and imperiled species (Section 6.2). The persistence of wide-ranging focal species such as the Florida black bear, southern bald eagle, Cooper's hawk, swallow-tailed kite, southeastern myotis, and wading birds depends on regional conditions. The surrounding network of conservation lands will help ensure that suitable habitat exists for these species.

The current management boundaries do not include all important habitat for focal species, such as the lands identified as Strategic Habitat Conservation Areas (SHCAs) for the Cooper's hawk, Florida black bear, and swallow-tailed kite. The FWC originally identified SHCAs in Closing the Gaps in Florida's Wildlife Habitat Conservation System. The goal of SHCAs is to identify the minimum amount of land needed in Florida to ensure long-term

survival of key components to Florida's biological diversity. The SHCAs identify important habitat conservation needs remaining on private lands. A recent FWC update to Closing the Gaps entitled Wildlife Habitat Conservation Needs in Florida identified new SHCAs. Although it is unlikely that the state of Florida will acquire all property identified in SHCAs, encouraging land use and management that is compatible with the needs of JBWMA's focal species should be a priority.

Located at the north end of an expansive complex of conservation areas, JBWMA has a role in supporting individual species as a part of larger, regional populations. Due to the mosaic of management authorities that compose JBWMA, however, suitable habitat for these species is often fragmented into parcels managed by different agencies. FWC-lead management units are clumped into MUs 1-9 on the western portion of the area and 10-16 on the eastern portion, with Lake Talquin and FFS-lead areas separating the two tracts. For ground-dwelling species that prefer large tracts of contiguous habitat (such as the Florida pine snake and fox squirrel), the size and arrangement of suitable habitat influences whether these species will continue to use JBWMA. While some parcels may be too small to support these species on the area in isolation, FWC can partner with FFS to influence the condition of contiguous habitat across lead-area boundaries. Whenever possible, area staff should emphasize proper natural community management as a tool for species conservation within the larger complex of JBWMA and Lake Talquin State Forest.

While the current conditions and management within the vicinity of JBWMA provide an opportunity to further the conservation of many focal and imperiled species, these species could be significantly impacted by changes in management or land use beyond the boundaries. Any changes that impede the ability to use prescribed fire would be detrimental to the many fire-dependent focal species such as the Bachman's sparrow, brown-headed nuthatch, and gopher tortoise. Any changes that alter hydrologic resources could negatively affect species such as wading birds. According to the Florida 2060 future development report, there is little projected growth around JBWMA. However, there is significant projected growth around Midway and Tallahassee that may cause impacts such as increased visitor use and concerns over smoke management.

A number of neighboring private landowners to the north and east have applied for or are currently enrolled in the FWC's Landowner Assistance Programs, including Working Lands for Wildlife, a program to enhance and maintain habitat for gopher tortoises. Area staff should continue to coordinate with CPS (Section 6.1.4) to ensure private landowners around JBWMA are informed about incentive programs that encourage conservation-based management, and receive the proper technical assistance to affect this management. CPS should ensure environmental commenting includes recommendations for compatible uses of lands adjacent to JBWMA.

Document Map

Species	Species Assessment	Land Management Actions	Species Management Actions	Species Monitoring	Research
Florida Pine Snake	Section 3.2.1	Section 4.3.1		Section 5.2.4	
Gopher Tortoise	Section 3.2.2	Section 4.3.2		Section 5.2.1	
American Swallow-Tailed Kite	Section 3.2.3	Section 4.3.3		Section 5.2.4	
Bachman's Sparrow	Section 3.2.4	Section 4.3.4		Section 5.2.2	
Brown-Headed Nuthatch	Section 3.2.5	Section 4.3.5		Section 5.2.2	
Cooper's Hawk	Section 3.2.6	Section 4.3.6		Section 5.2.4	
Louisiana Waterthrush	Section 3.2.7	Section 4.3.7		Section 5.2.4	
Northern Bobwhite	Section 3.2.8	Section 4.3.8			
Southern Bald Eagle	Section 3.2.9	Section 4.3.9		Section 5.2.3	
Wading Birds	Section 3.2.10	Section 4.3.10		Section 5.2.4	
Florida Black Bear	Section 3.2.11	Section 4.3.11		Section 5.2.4	
Fox Squirrel	Section 3.2.12	Section 4.3.12			Section 5.3.1
Southeastern Myotis	Section 3.2.13	Section 4.3.13		Section 5.2.4	
Limited Opportunity Species (Gopher Frog and Red-Cockaded Woodpecker)	Section 3.2.14	Section 3.2.14		Section 3.2.14	
Other Listed Species	Section 3.3	Section 3.3		Section 3.3	

11.16 Recreation Master Plan

Recreation Master Plan
for
Joe Budd WMA



Florida Fish and Wildlife Conservation Commission

Office of Public Access and
Wildlife Viewing Services

October 2014

Joe Budd Wildlife Management Area
Recreation Master Plan

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I. Introduction

Purpose of Plan/Planning Process

This Recreation Master Plan (RMP) serves as a guide for providing recreational and educational experiences focused on wildlife viewing and nature study on Joe Budd Wildlife Management Area (Joe Budd). The RMP contains specific recommendations for recreational enhancements and educational products and programs. It also provides guidelines for monitoring recreation-related use to ensure resource protection and meaningful visitor experiences. The plan was developed by the Florida Fish and Wildlife Conservation Commission (FWC) Office of Public Access and Wildlife Viewing Services (PAWV) in collaboration with Joe Budd Field Staff with input from other FWC divisions and a Technical Assistance Group of recreational stakeholders (Appendix 1).

Location

(Figure 1)
Joe Budd protects a total of 11,133 acres in Gadsden County with 4,767 acres managed by FWC or jointly between FWC and the Florida Forest Service (FFS). This plan addresses recreation on this smaller portion. Joe Budd consists of primarily upland pine, floodplain forest and upland hardwood forest. The property is a key part of a mosaic of public lands that protects the ecology of the region and helps to provide a linkage down the Ochlockonee River/Lake Talquin between Tallahassee and the Gulf of Mexico. Joe Budd supports a diversity of wildlife populations that provides opportunities for hunting, fishing and wildlife viewing. A network of roads and trails accommodates bicyclists, hikers, horseback riders, and other recreationists while Lake Talquin, Joe Budd Fish Management Area, the Little River, and several small streams support fishing.

II. Resource Inventory

Topography and Hydrology

Joe Budd has significant topographic relief with a difference in elevation of approximately 123 feet between the higher upland pine areas and the floodplain forests along the Little River, other streams, and Lake Talquin. This is especially pronounced on the Rocky Comfort Tract on the west side of the area where there are numerous drainages creating steep ravines covered in slope forests.

The topography creates impressive vistas but, limits the internal road and trail network due to erosion potential and presence of rare plants. There are paddling opportunities on the Little River and on Lake Talquin along the southern boundary.

Natural Communities

(Figure 2)

Upland pine forest comprises 30% of the WMA, making it the most prevalent natural community on Joe Budd. Floodplain forest and upland hardwood forest each represents 20% of the area with upland hardwood forests (slope forests) grading into floodplain forests in the drainages and ravines. Pasture and ruderal or disturbed areas represent 9% of the area, pine plantation makes up 8%, upland mixed forest 5%, floodplain swamp 4% and mesic flatwoods 3%. Baygall, depression marsh, sandhill and dome swamp (cypress) each represent 1% or less of the WMA. The upland hardwood slope forests, which are uncommon statewide, are of very high quality and the pine flatwoods include old-growth longleaf pine stands.

Sensitive Areas

Slope forests and ravine areas on Joe Budd are particularly sensitive to physical disturbance, which may create erosion problems and displace plants. Wetlands and their organic soils are also susceptible to physical disturbance. Access to these areas should be controlled and monitored to avoid damage.

Wildlife and Plant Species

Wildlife viewing can be good at almost any spot on Joe Budd, especially on ridges overlooking the slope forests and along the waterbodies in and around the WMA. Neotropical migrants such as yellow-bellied sapsuckers, Eastern phoebe, rose-breasted grosbeak, and a variety of warblers offer seasonal variety. More than 170 bird species are documented to occur on the area and several are among the "top 40 most sought-after birds" compiled by the PAWV Wildlife Viewing Section: Bachman's sparrow, bald eagle, hairy woodpecker, purple gallinule, swallow-tailed kite, and wood stork. Other species of particular interest to visitors include the Apalachicola dusky salamander, Florida pine snake, wild turkey, brown-headed nuthatch, Louisiana waterthrush, and gopher tortoise.

Over 70 species of butterflies have been identified in Gadsden County and many occur on the area including black swallowtail, cloudless sulphur, common sootywing, Eastern tiger swallowtail, hoary edge, Meske's skipper, Texan crescent, yehl skipper, yucca skipper, zabulon skipper, and zebra heliconian.

The slope forests are home to several species of rare plants including Florida merrybells, orange azalea, Alabama azalea, Ashe's magnolia, pyramid magnolia, Carolina lily, trout lily, and heartleaf and silky-camellia. One of the only populations of Flyr's brickell-bush is also found on the WMA.

Cultural Resources

The Florida Master Site File contains 15 archaeological sites recorded within the boundary of Joe Budd. These sites include artifact scatters, lithic scatter sites, and prehistoric campsites ranging from prehistoric to Weeden Island Period (450 to 1000 AD). There is potential for interpretation of some of these sites due to their proximity to existing infrastructure.



Figure 1: Joe Budd WMA Location Map

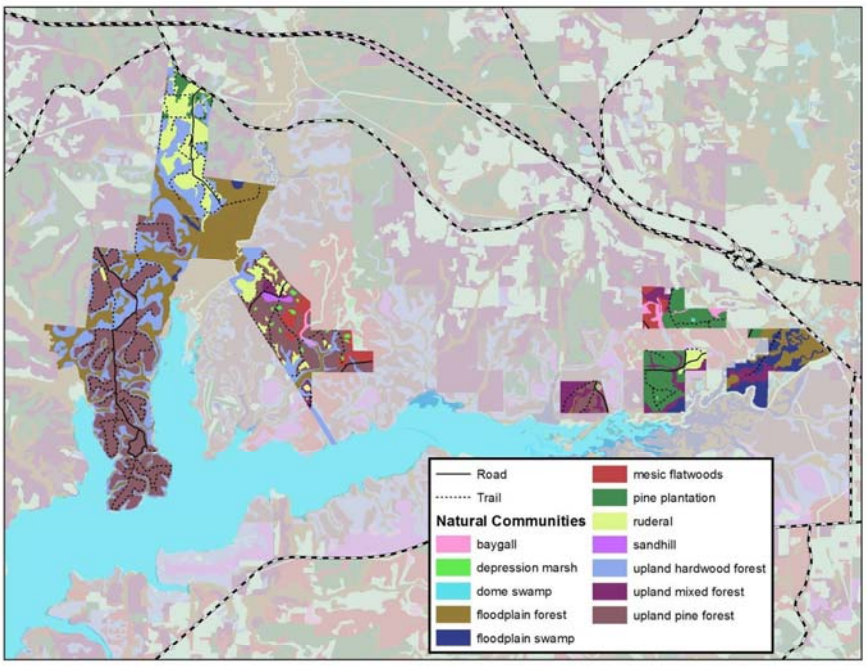


Figure 2: Joe Budd WMA Natural Communities

Scenic Resources

Joe Budd offers a variety of scenic vistas including Little River, Lake Talquin, mesic flatwoods, and slope forests. The slope forests are particularly scenic. They feature a sparse understory, a high canopy, significant topography, and a variety of plants not often seen in Florida. Seasonal wildflowers include a variety of *Vaccinium* species, deer tongue, blazing star, Flyr's brickell-bush, silky-camellia, and trout lily. Peak blooms occur in the spring and fall.

Resource Management

The FWC's resource management goals for the area include enhancing and maintaining the native upland and wetland communities on the WMA. To accomplish this objective, the FWC is restoring disturbed sites, has instituted a program of prescribed burning and is eliminating or controlling nonnative invasive plants through mechanical and chemical treatments. Plants such as alligatorweed and Japanese climbing fern are present on the area. Other management activities include timber thinning, longleaf pine reforestation, ground cover restoration, and re-establishing hydrologic regimes to benefit fish and wildlife habitats.

III. Recreation Planning Context

The 2010 population estimate for Gadsden County was 46,389 people with a projected growth to 48,453 (4.4% increase) by 2020 and 51,036 (10.0% increase) by 2040 (Office of Economic and Demographic Research 2013). Less than 6% of the population identifies itself as Hispanic or Latino, which differs significantly from the statewide figure of almost 23%. Sixty-four percent of the county's population identifies itself as non-white, with the largest group being African American (56% of the total population); more than three times the statewide percentage. In other respects, the population demographics of Gadsden County fall in line with statewide proportions. These demographic data will influence the design of infrastructure and interpretive materials in order to accommodate the full spectrum of potential visitors to the WMA.

	Gadsden County		Florida		
Race/Ethnicity	**#**	**%**	**#**	**%**	**Difference**
Hispanic or Latino	4,419	9.5%	4,223,806	22.5%	-13.0%
Non-Hispanic or Latino	41,970	90.5%	14,577,504	77.5%	13.0%
White	16,646	35.9%	14,109,162	75.0%	-39.1%
African American	25,996	56.0%	2,999,862	16.0%	40.0%
Asian	227	0.5%	454,821	2.4%	-1.9%
American Indian/Alaskan Native	137	0.3%	71,458	0.4%	-0.1%
Native Hawaiian/Pacific Islander	19	0.04%	12,286	0.1%	-0.06%
Other	2,757	5.9%	681,144	3.6%	2.3%
2 or more	607	1.3%	472,577	2.5%	-1.2%

Population age distribution is comparable to numbers statewide with slightly higher population under 18 and slightly lower over 65.

	Gadsden County		Florida		
Age/Gender	**#**	**%**	**#**	**%**	**Difference**
Male	22,647	48.8%	9,189,355	48.9%	-0.1%
Female	23,742	51.2%	9,611,955	51.1%	0.1%
<18	16,785	24.2%	4,002,091	21.3%	2.9%
18+	35,184	75.8%	14,799,219	78.7%	-2.9%
20-24	2,691	5.8%	1,228,758	6.5%	-0.7%
25-34	5,800	12.5%	2,289,545	12.2%	0.3%
35-49	9,180	19.9%	3,832,456	20.4%	-0.5%
50-64	2,792	21.4%	3,677,959	19.6%	1.8%
65+	6,323	13.6%	3,259,602	17.3%	-3.7%

As the regional population increases, the public use pressures on the WMA will likely increase. Recreational user groups can be expected to urge connections to trails on lands outside the

WMA. Joe Budd is within 25 miles of several other public recreation areas that offer a variety of recreation opportunities:

Area	Hiking	Biking	Camping	Paddling	Fishing	Horseback Riding	Hunting	Wildlife Viewing
Alfred B. Maclay Gardens State Park	✓	✓	×	✓	✓	✓	×	✓
Apalachicola National Forest	✓	✓	✓	✓	✓	✓	✓	✓
Edward Ball Wakulla Springs State Park	✓	✓	×	×	×	×	×	✓
L. Kirk Edwards WEA	✓	✓	×	✓	✓	✓	✓	✓
Lake Talquin State Forest	✓	✓	✓	✓	✓	✓	✓	✓
Lake Talquin State Park	✓	×	×	✓	✓	×	×	✓
St. Marks NWR	✓	✓	✓	✓	✓	✓	✓	✓
St. Marks River Preserve State Park	✓	✓	✓	✓	✓	✓	✓	✓
Torreya State Park	✓	×	✓	×	×	×	×	✓
Wakulla State Forest	✓	✓	×	×	×	✓	✓	✓

✓=Activity available
×=Activity not available

The Florida Statewide Comprehensive Outdoor Recreation Plan (SCORP) collects data on participation levels in various outdoor recreation activities for different regions of Florida. The results for the North Central SCORP Region are summarized below:

Activity	Resident Participation (%)	Tourist Participation (%)
Paddling	29	10
Picnicking	44	37
Hiking	32	22
Unpaved Bicycle Trails	15	4
Wildlife Viewing	55	47
Nature Study	18	8
Equestrian Activities	9	6
Geocaching	3	3

The North Central SCORP Region (Gadsden/Leon/Wakulla Counties to Columbia/Gilchrist/Levy Counties) has over six-times the statewide average level of service (miles of trail/1000 participants) for equestrian activities. At current participation levels, it is projected that the current level of service will be maintained over the next 10 years. The region has twice the level of service for hiking trails to maintain the current level of service; yet trail miles per 1,000 participants is projected to decline slightly over the the same time period. Levels of service for most of the other listed activities are well above the statewide mean level of service with off-road cycling at 500% higher (miles of trail/1,000 participants), picnicking at 200% higher (tables/1,000 participants), and nature study at 400% higher level of service (miles of trail/1,000 participants).

Gadsden County is part of the Capital Region Transportation Planning Agency (CRTPA). None of the roads near Joe Budd are scheduled for improvement in the CRTPA Transportation Improvement Plan or Florida DOT plans and there are no new facilities near Joe Budd in the Bicycle and Pedestrian Facilities Master Plan (BPFMP). Lake Talquin is identified as a major blueway facility in the region in the BPFMP. It is also recommended that signage be installed to identify launching locations and wayfinding signs be installed to identify paddling routes. The Gadsden County Comprehensive Plan classifies Joe Budd as Conservation Land in the Current and Future Land Use components.

There are currently no large scale residential development projects proposed near Joe Budd. Developments have the potential to increase recreational demand and impact the area and its natural and recreation resources.

IV. Interpretation

In this plan, emphasis is placed on integrating recreation and interpretive planning. Using this approach, the type of recreational experience offered and the location of recreation amenities provided, is strongly influenced by the interpretive goals for the area. Recreation opportunities thus become a means to an end - reaching visitors with important themes and concepts about an area's natural resources, plant communities, wildlife and wildlife management.

Visitor Experience Goals

Joe Budd has the potential to provide visitors with opportunities to see and learn about a variety of natural communities while engaging in recreational activities focused on fish and wildlife resources. Visitor experience goals are those concepts and experiences we want visitors to take away from their time at Joe Budd. These goals guide both interpretive and recreation planning.

At Joe Budd, the FWC will provide opportunities for visitors to:

1. Become oriented to and participate in a range of recreational activities on Joe Budd and adjoining natural areas while:

- Becoming acquainted with wildlife and natural plant communities
- Understanding Joe Budd's natural, cultural and commercial history within the context of the state's prehistory and modern history
- Appreciating Joe Budd as an oasis providing a retreat from the pressures of urban life and an opportunity to connect with the natural world

2. Learn information and stories associated with major interpretive themes and other related information, through interpretive materials at welcome kiosks, trails and wildlife viewing sites.

3. Have an enjoyable recreational experience without impairing the natural and cultural values of the site. In terms of wildlife viewing, FWC's goal will be to facilitate positive, memorable experiences that keep wildlife disturbances to a minimum.

4. Understand the management goals and activities of the FWC on Joe Budd.

Interpretive Themes

Interpretive concepts are categorized into themes and subthemes. All interpretive materials revolve around one or two primary themes, which allow visitors to understand and remember important messages. Primary themes also help set visitor experience goals and priorities and are considered in the design of amenities offered to nature-based recreationists. Subthemes expand upon and support the primary themes. These guide the development of all interpretive products, which may include sign panels, printed materials, electronic media and educational programming. This detailed media prescription will be developed at a later date.

Central Theme: Biologists manage and protect the diverse habitats at Joe Budd WMA to benefit wildlife populations and improve recreational opportunities.

Subtheme 1: Diverse plant and animal communities at Joe Budd WMA require a variety of management tools.

A. Science-based management allows managers to fine-tune their methods to fit the needs of individual species and ecosystems.
B. Prescribed fire is one of the most visible and effective management tools.
C. Nonnative animal populations and invasive vegetation are monitored and controlled.
D. Management that benefits one species or habitat type often benefits many others.
E. Slope Forest is a rare natural community with unique plant species that is protected at Joe Budd.

Subtheme 2: Restoration benefits wildlife populations, gives visitors a glimpse of the original wild Florida and increases ecosystem resilience.

A. Restoration improves the quality of habitats, water resources and wildlife populations.
B. Restoration is a long-term solution that may appear destructive in the short-term.
C. As wildlife diversity and population numbers increase as a result of restoration, recreational opportunities such as hunting, fishing and wildlife viewing will improve.
D. Restored habitat improves species survival and may increase species' resilience to environmental changes.

Subtheme 3: The long-term benefits of management efforts at Joe Budd extend well beyond the WMA boundary.

A. Careful management of the uplands protects the water quality in area creeks, ponds and other waterways that eventually connect to Lake Talquin, the Ochlockonee River and the Gulf of Mexico.
B. The WMA preserves evidence of the historical significance of the region, which included subsistence hunting and fishing by native peoples, agriculture and silviculture.
C. FWC places a high value on habitat and wildlife management, thus ensuring quality hunting, fishing and other recreation for the region.

Subtheme 4: Conservation education and recreational skill programs at Joe Budd Youth Conservation Center help inspire the next generation that cares.

A. Native plant communities and wildlife are the foundation of healthy ecosystems that serve as the gateway to high-quality recreational experiences.
B. Resource managers at Joe Budd use a variety of management tools to maintain habitat for healthy wildlife populations.

C. Learning responsible outdoor recreation skills at Joe Budd Youth Conservation Center builds support for the agency's mission and fosters an appreciation for outdoor recreation and a sense of conservation stewardship in participants.
D. Careers with FWC provide opportunities to join a team that keeps Florida's natural communities safe and healthy for wildlife and the visitors who enjoy the outdoors.

V. Recreation Assessment

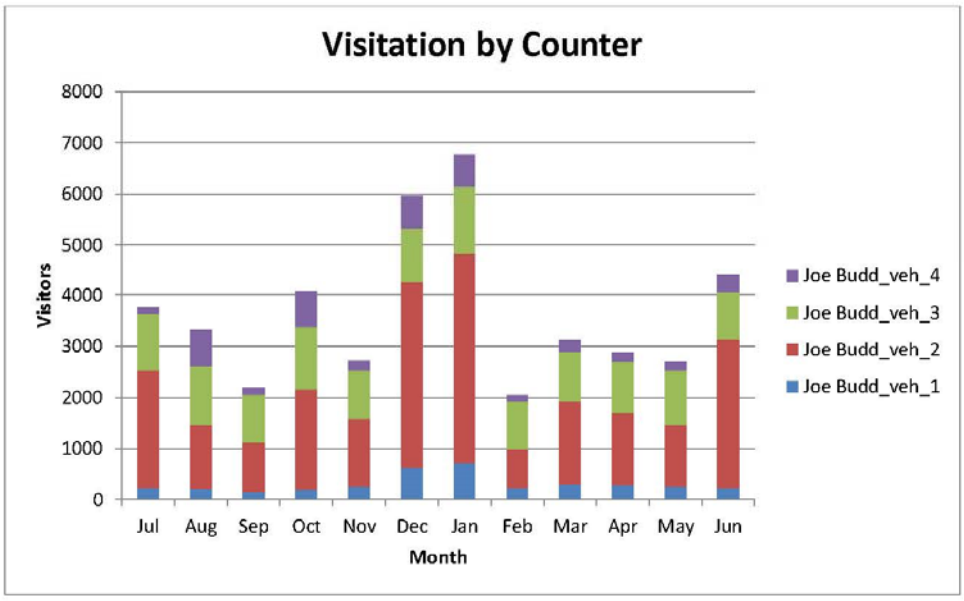
Existing Recreational Use and Facilities

The purpose of this section is to identify and describe the existing recreational uses and facilities on Joe Budd and note their status and condition (Figure 3). This informs recommendations for achieving visitor experience goals and meeting future recreation demands and needs.

Joe Budd offers opportunities for a variety of high quality, wildlife-focused recreation activities. Based on the approved uses and activities as stated in the 2015-2025 Management Plan (MP), the analysis of existing resources and uses, and the interpretive themes developed for the area, the following activities should be continued and enhanced as described in this section. Conditional activities are those that require additional licenses, permits or permission.

- Hunting (conditional)
- Fishing (conditional)
- Wildlife viewing
- Bird watching
- Nature study
- Photography
- Hiking
- Biking
- Horseback riding
- Paddling
- Picnicking
- Geocaching (conditional)

Visitation, as recorded by four vehicle counters installed and monitored by FWC at designated entrances, has averaged 106 visitors/day for July 2013 to June 2014. Seasonally, use peaks during deer hunting season from September to December with another, smaller peak in March and April for spring turkey hunting season. There is also an increase in visitation during the summer months due to fishing and youth activities at the Joe Budd Youth Conservation Center (YCC).



Visitor Contact Points and Roads/Vehicle Access - The main entrance for Joe Budd WMA is at the end of Peters Road approximately 1.2 miles west of CR238. The check station, parking area, a 3-panel kiosk and seasonally a portable toilet are all located at this point.

An entrance leading to the WMA office is located on CR238 approximately 6.4 miles west of Midway and 0.7 miles east of CR65B. This entrance has no amenities but would be a good location for a pull-off and kiosk to provide overall orientation and introduction to Joe Budd WMA.

The entrance to the Rocky Comfort Tract is at the end of Magnolia Farms Road approximately 1.6 miles south of CR65B. A small parking area and kiosk are proposed for this entrance.

A fourth entrance is located at the end of Central Road approximately 1.3 miles south of CR268. Access to the YCC is at the end of Pond Road in the interior of the WMA. There is existing interpretive information located at the main entrance and at the YCC.

Vehicles are allowed year-round on named roads with entry to the area prohibited during certain hunting periods and when the entry gate is closed. Unlicensed/unregistered vehicles are prohibited.

Named roads on the area are well-maintained limerock, grass and dirt roads and can be traversed in two-wheel drive vehicles when dry.

Wayfinding signage on interior roads is to FWC standards. There are approach signs for Joe Budd on CR268.

Hunting - Hunting is an approved use on Joe Budd with seasons for small game, archery, archery/muzzleloading, spring turkey including a youth turkey hunt and migratory birds. There are 58 days of hunting each year excluding migratory bird days. Between October and April there is hunting 25 out of 29 weekends and 7 of those weekends are spring turkey season with shooting hours only until 1pm. There are only 2 days of hunting in February. All hunt days are on weekends with the exception of 3 Fridays in December for archery season, 2 Fridays in January for archery season and 3 Fridays in January for archery/muzzleloading season. In 2015 there will be an experimental change to all-day turkey hunting. During hunt periods the area is only open to individuals authorized to participate in the hunt with the exception of turkey hunts where access is allowed after 1pm during the all-day turkey hunts. Quotas limit the number of hunters accessing the area during hunting seasons to provide a high-quality-hunting experience.

Fishing/Boating/Paddling - Fishing is available at all water bodies within the WMA with the exception of Joe Budd Pond at the YCC which is open for fishing beginning the first Saturday in July and ending the Sunday before Labor Day. There is a boat ramp for access to Lake Talquin on FFS property at the end of High Bluff Road and the Little River at CR268 is a designated bank fishing location. There are currently no designated paddling trails within the WMA. The Little River and extensive shoreline of Lake Talquin provide potential for a paddling trail.

Trail Use – Hiking, bicycling and horseback riding are permitted on all areas of Joe Budd. There are no designated routes outside of trails located near the YCC.

Trail infrastructure - Two recreational trails exist on Joe Budd and are located at the Aquatic Education Center/YCC (0.82 miles). During center programs these trails are not open to the public. The trails are well-shaded and the Wetlands Trail traverses slope forest and upland hardwood forest and the Pond Trail includes several boardwalks and traverses upland pine following the northeast shore of Joe Bud Pond. In order to ensure the trail remains sustainable and safe, the Wetlands Trail requires redesign to eliminate sections of direct fall-line travel and other design-related sources of erosion and hiking difficulty.

No designated trails exist on the Rocky Comfort Tract. Public use of this portion of the area could be enhanced by designating scenic routes on existing service roads linked by short sections of new single-track for up to 5 miles of designated trails.

All roads on the WMA are open to hiking, biking and horseback riding when the WMA is open unless otherwise designated with a total of 34 miles of non-motorized roads available.

Youth Conservation Center Facilities – A small classroom with interpretive exhibits, covered picnic pavilion and archery range are located near Joe Budd Pond. All the facilities within the center lack required ADA access and the interpretive center is aging and needs to be replaced or upgraded. Several other program facilities and enhancements have been identified and are shown on the map. These upgrades are being planned and carried out through partnerships outside this planning process.

Wildlife Viewing and Nature Study - Wildlife viewing opportunities are available throughout Joe Budd, especially in the slope forests and along the waterbodies in and around the WMA. There are currently no viewing structures at these sites to enhance the viewing experience. The potential for a viewing platform that takes advantage of the topography of the slope forests without disturbing these fragile communities will be evaluated. Joe Budd is a site on the Great Florida Birding and Wildlife Trail.

Picnicking - There are currently no picnic shelters on the WMA outside of the YCC. There are picnic tables at the main entrance. No picnic facilities exist on the Rocky Comfort Tract. Picnic tables and/or shelters at the entrance and along proposed trails would enhance the visitor experience. The Lower Camp area on Rocky Comfort offers the potential for a day use area with picnic tables and signage.

Camping – There is no camping available on the portion of Joe Budd covered by this plan except camping related to YCC programs. Camping is available for a fee via permit at the FFS High Bluff Campground.

Geocaching - Geocaching is allowed on the area. There are currently no permitted geocaches on Joe Budd. Approval of new geocaches and disposition of existing geocaches is at the discretion of the site manager and coordinated by FWC's PAWV.

Special Events/Tours – Outside of the YCC, there are no regular tours or special events at Joe Budd. Given the significant resources on the area, the potential exists for birding and or native plant tours.

Joe Budd Youth Conservation Center - JBYCC provides programs in aquatic ecology to students from area schools.

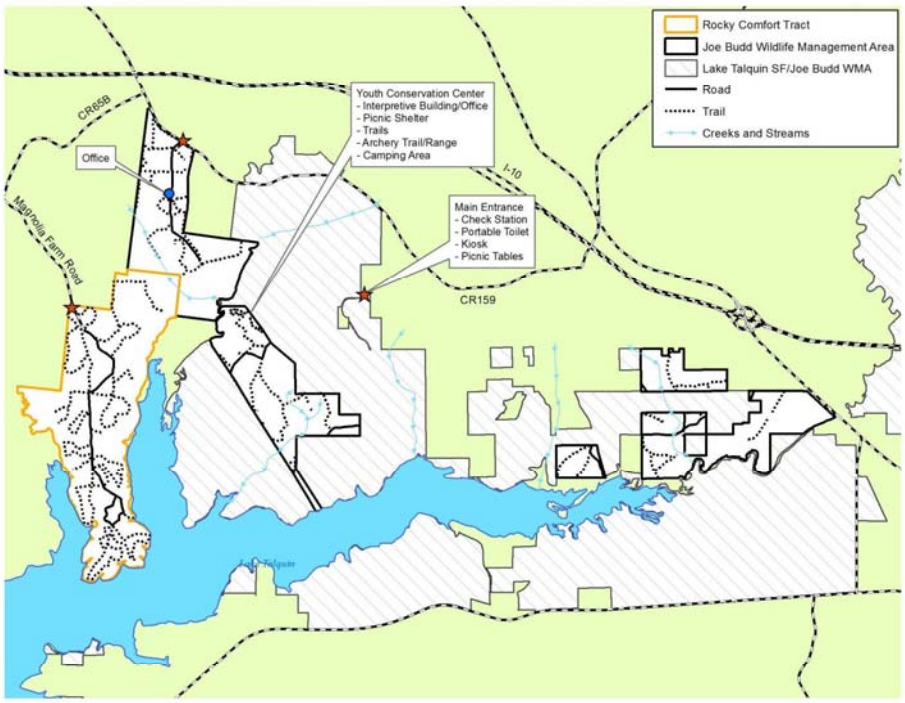


Figure 3: Joe Budd WMA Existing Facilities

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Recreation Sensitivity Analysis

(Figure 4)

While there are existing facilities at Joe Budd, it is useful to analyze the WMA in its entirety to determine optimum locations for recreation opportunities. To this end, a Recreation Sensitivity Analysis is developed (Appendix 4) that looks at the entire WMA, independent of existing infrastructure and opportunities, to look for the potential to relocate or improve facilities, and to determine locations for new infrastructure.

Recreation Zoning

Research of recreational use demonstrates that visitors come to recreate on public lands with many different expectations (NPS, 1997). Providing a variety of settings allows visitors to select the type of experience they desire, simplifies management and reduces conflicts between visitors who are seeking different types of experiences. The zones delineated by the planning team are provided in Figure 5. Each zone is described below in terms of the type of experience it offers, the natural resources related to the experience and the level of management required.

Primitive Zone

This zone offers an experience of solitude deep in a natural landscape with no evidence of human development. This zone can encompass sensitive natural resources. Access is difficult and the number of people should be limited. Only limited recreation and interpretation opportunities should be developed in this zone. A minimal level of management is necessary for resource protection and safety.

Semi-Primitive Zone

The semi-primitive zone provides a sense of being immersed in a natural landscape with opportunities for solitude. Observation structures, boardwalks, interpretative signs and unpaved trails are the types of recreational facilities that are appropriate in this zone. In areas with vehicle access on roads, the semi-primitive motorized zone provides a sense of being in a natural landscape with minimal human modification and moderate opportunities for solitude. Interpretative signs, wayfinding signs, vehicle pull-offs, unimproved parking locations and unpaved roads are the types of recreational facilities that are appropriate in this zone. Roads are passable by two-wheel drive vehicle. A moderate level of management is provided for resource protection and safety.

Developed Zone

Developed zones are areas with visitor facilities such as parking, picnicking and toilets. The visitor's experience in this zone is highly social. Trails may be paved or hardened for access by people with disabilities. Visitors and facilities are intensively managed in this zone for resource protection and safety purposes. Staff should monitor visitor behavior and attend to maintenance needs. The most intensive interpretation is provided in the developed zone. This is the most appropriate zone for building construction.

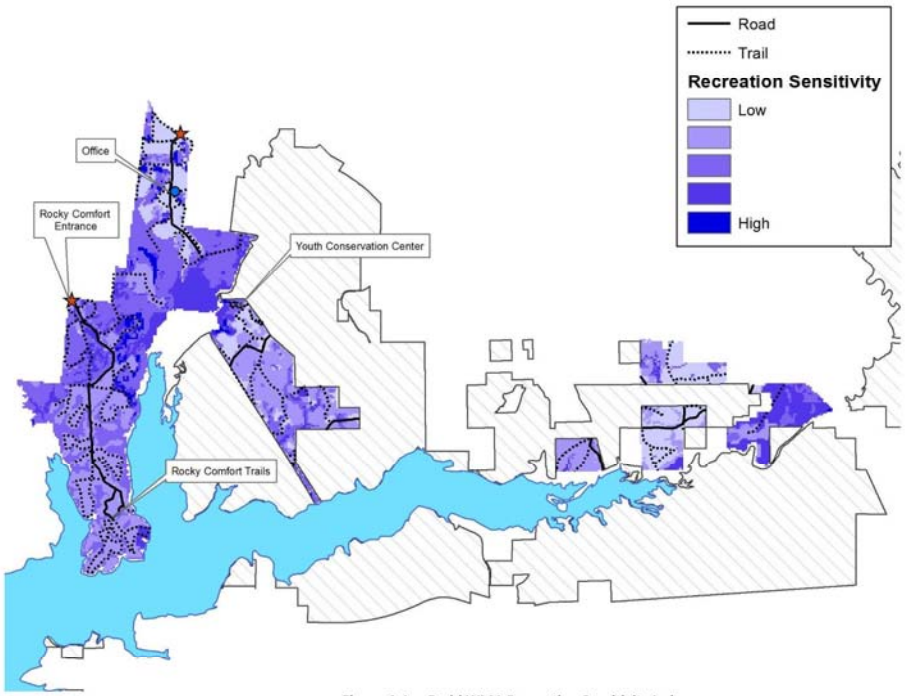


Figure 4: Joe Budd WMA Recreation Sensitivity Index

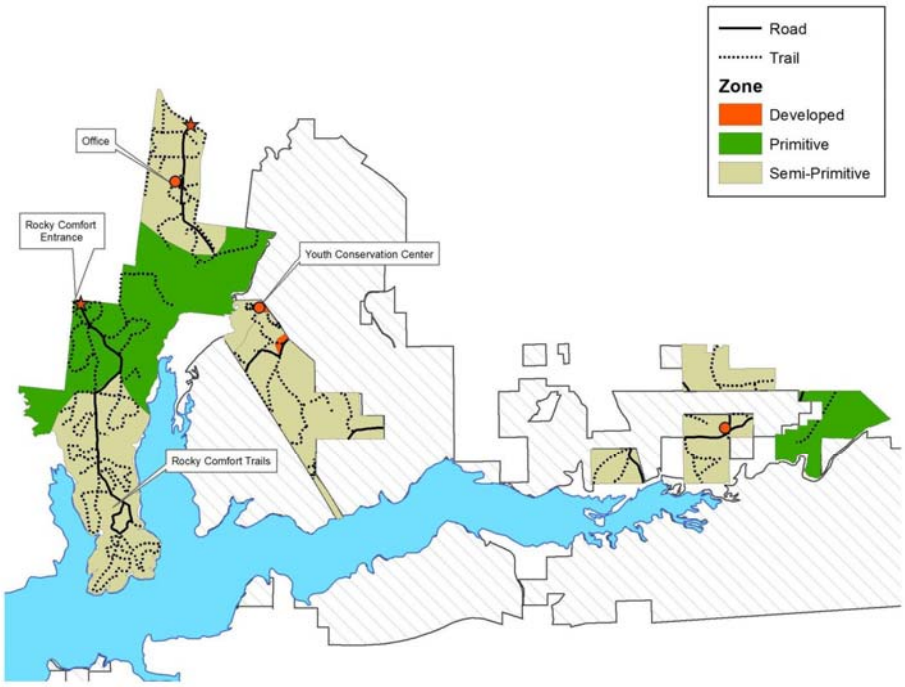


Figure 5: Joe Budd WMA Recreation Zones

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Carrying Capacity

In order to minimize disturbance of wildlife and other natural resources and to provide an enjoyable experience for visitors, FWC calculates a carrying capacity for its managed areas (Appendix 4). This carrying capacity takes into consideration natural community sensitivity, known locations of sensitive natural communities, known archaeological and historic sites, existing recreation facilities and wildlife disturbance distances with a turnover rate that varies with the activity or facility. This capacity is not a visitation goal but rather is a level at which the natural and recreation resources of the area can sustain use without damage. Current capacity for Joe Budd is 107 people per day (including hunting capacity). If all planned facilities are constructed, this capacity increases to 214 people per day, exclusive of the Joe Budd Aquatic Education Center/YCC.

VI. Nature-based Recreation Recommendations

Joe Budd WMA Recreation Use Potential

Joe Budd provides an opportunity for visitors to learn about and see examples of natural communities that are rapidly being converted to other uses in north Florida. The following sections of the plan provide for comprehensive interpretation of these communities, common and listed species of interest to visitors, and FWC's management. Recommended recreation enhancements are those that provide a range of enjoyable opportunities to view wildlife without negatively impacting resources.

Goals and Objectives

Careful design and placement of recreational facilities can provide desirable visitor experiences and minimize impacts to the natural and cultural resources of the area. Construction and improvements will not harm wildlife, fragile habitats or historic and cultural sites. All planning and implementation should be done in accordance with guidelines in Appendix 3. A conceptual site plan for proposed recreation facilities is provided in Figure 6. Completion of goals is contingent on available funding and other required resources.

Goal A. Orient visitors to the area and its recreation opportunities and interpret WMA resources

1. Develop recreation guide.
2. Develop interpretive sign plan.
3. Develop a trail guide.
4. Develop interpretive materials for High Bridge Road pull-off and Rocky Comfort and explore use of multimedia interpretation (QR Codes, etc.).
5. Stock recreation guide, regulation summaries and bird list in brochure boxes at the main entrance and walk-in entrance.
6. Install approach signs on CR65B for the Rocky Comfort Tract.
7. Construct a kiosk at the Rocky Comfort Tract and High Bridge Road pull-off.
8. Maintain up-to-date information about the area on the FWC website.

Goal B. Enhance existing trail opportunities

1. Renovate existing trails at YCC to prevent erosion and simplify management and maintenance of the trails.

2. Monitor trail use and demand to determine the need for expanded trail opportunities.

Goal C. Create new trail opportunities

1. Designate or construct and mark up to 5 miles of new trails from the Rocky Comfort entrance using a combination of existing roads and new trails.
2. Coordinate development of a Lake Talquin Paddling Trail with the FFS, Florida Park Service, Gadsden County and Leon County.

Goal D. Enhance existing facilities and develop new wildlife viewing opportunities

1. Create small parking area at the Rocky Comfort Tract entrance.
2. Install picnic tables at Lower Camp on the Rocky Comfort Tract and at selected locations along new trails if feasible.
3. Evaluate potential for a viewing platform near the slope forest on the Rocky Comfort Tract and construct if feasible.
4. Work with Florida Youth Conservation Center Network to assist in improving the YCC facilities as requested. Proposed facilities include: bunk houses, dining hall/kitchen, classroom, replace existing interpretive building/office, and a .22 rifle range/5-stand shotgun range.

Goal E. Direct and manage recreational use to minimize negative resource impacts and maximize visitor satisfaction

1. Implement a monitoring strategy to assess resource impacts and institute corrective management actions if indicators begin to approach standards.

2. Collect and evaluate information about visitor use and satisfaction:
    - Number of visitors to the area and patterns of visitation
    - User group conflicts
    - Origin and length of stay
    - Motivations for visiting and preferred experiences
    - What visitors already know about the area and primary interpretive themes

Goal F. Coordinate with local, state and federal agencies and organizations when planning and implementing nature-based recreation opportunities and enhancements

1. Cross-promote Joe Budd WMA with other regional public lands.

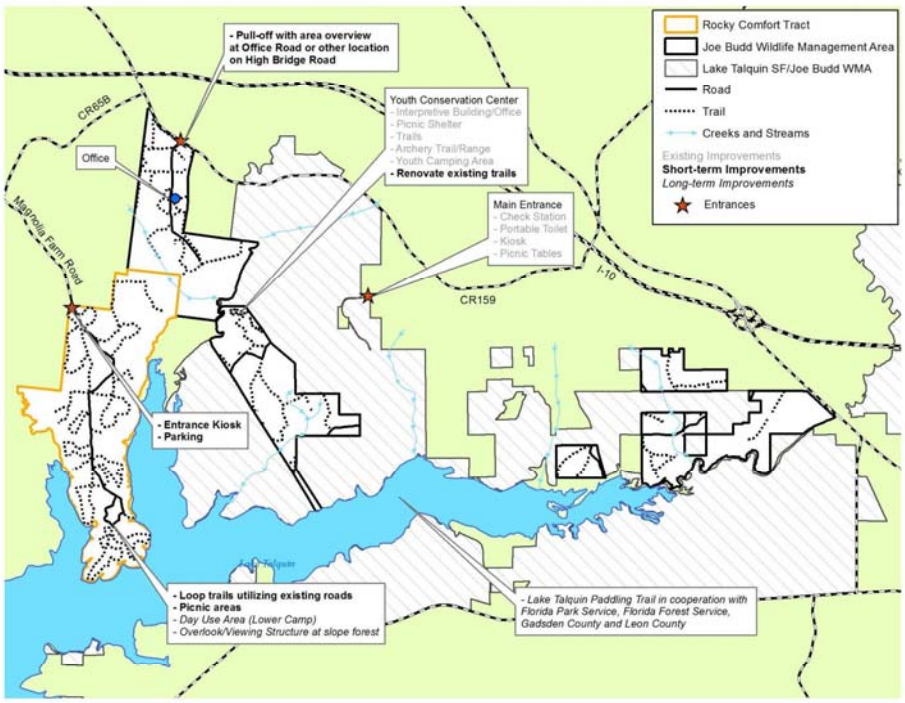


Figure 6: Joe Budd WMA Proposed Recreation Facilities

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Challenges and Strategies

There are several challenges facing the effective implementation and management of nature-based recreation opportunities on Joe Budd. Challenges and proposed strategies to address them are discussed in this section.

1. Challenge:

   Joe Budd is not a widely-known recreation destination.

   Strategies:

   - Cross-promote Joe Budd with other regional conservation lands.
   - Provide rack cards or similar publication at sources in Tallahassee and Quincy.
   - Work with Gadsden County tourism boards for promotion.

2. Challenge:

   As the population density around Joe Budd continues to increase, recreational use of the area will increase, potentially resulting in resource damage and wildlife disturbance.

   Strategies:

   - Periodically monitor all public use sites for environmental impacts and implement corrective actions when and where necessary.
   - Recreational use will be directed away from sensitive environments to the greatest degree possible.
   - Environmental protection information will be provided in all interpretive materials.

3. Challenge:

   As recreational use increases, conflicts among user groups may occur.

   Strategies:

   - Provide a range of recreational opportunities in a variety of settings to avoid user conflicts as much as possible.
   - Involve stakeholders and user groups during planning.
   - Ensure that user groups understand how to contact local staff to resolve problems.
   - Provide opportunities for different user groups to volunteer together to maintain public access amenities and conduct conservation stewardship activities.

- Display hunting information (dates, times and types) at all entrances to help all users make choices as to when to visit.

Summary of Proposed Infrastructure Enhancements

- Rocky Comfort Tract
  - New kiosk with interpretive sign panels
  - Parking area
  - Up to 5 miles of designated trails using existing roads and short sections of new single-track
  - Picnic tables at Lower Camp and along trails
- YCC
  - Renovate trails for increased sustainability
  - Work with FYCCN staff to assist with desired renovations as needed.
- Office Road entrance/High Bridge Road
  - Pull-off with kiosk and WMA information
- Lake Talquin Paddling Trail

Work Plans

PAWV will work with local staff to prepare annual work plans and budgets to implement the RMP for Joe Budd. PAWV will be responsible for 1) developing cost estimates for recreation-related facilities; 2) coordinating design and permitting; and 3) obtaining construction bids and the work of contractors during the construction phase. This includes pre-construction meetings, site visits at construction milestones and final reviews. Generally, the area manager and staff monitor construction sites frequently during the construction process to make sure the contractor is not doing damage to the surrounding area. All improvements on areas cooperatively managed will be done in consultation with the cooperating agency.

PAWV will design interpretive materials for the areas in consultation with management area staff. Generally, the cost of producing maps and interpretive products and maps comes from the PAWV budget.

Monitoring and Management of Recreation Facilities

PAWV will monitor recreation infrastructure on the WMA biannually including trail and structure photopoints. PAWV will also create an annual monitoring report at the end of each fiscal year. Any impacts encountered during each monitoring will be brought to the attention of PAWV and WMA staff to determine the best course of action for correction and prevention.

Measurable indicators for monitoring key aspects of the visitor experience and resources at Joe Budd are described in Appendix 5. Indicators should be monitored for each zone, and when necessary, management actions taken to ensure that visitor use and resource impacts remain within the established standards.

References

A Management Plan for Joe Budd Wildlife Management Area 2015 – 2025 (Draft). Florida Fish and Wildlife Conservation Commission (2015).

Office of Economic and Demographic Research. http://www.edr.state.fl.us. 2013

Florida Statewide Comprehensive Outdoor Recreation Plan. Florida Department of Environmental Protection (2008).

National Park Service. The Visitor Experience and Resource Protection (VERP) Framework: A Handbook for Planners and Managers (1997).

Gadsden County Comprehensive Plan. Gadsden County (2001)

US Census 2010. US Census Bureau (2010)

Appendices

Appendix 1: Joe Budd WMA Stakeholder Meeting Notes

15 August, 2013
NWFWMD Office

List of stakeholders in attendance:
Mike Jenkins, Native Plant Society
Shawn McGlynn, President, Apalachee Audubon
Ray Eubanks, Hunter (Archery)
Bo Raker, Hunter (Muzzleloader)
Frances Stone, West Florida Canoe and Kayak Club, Florida Paddling Trails Association
Sue Noyes, President, Southern Trailriders Association (Equestrian)
Richard Pace, Angler
Mike O'Hare, Florida Trail Association
Charles Strickland, Talon Shooting Range
Sharon Hauton, Southern Trailriders Association

FWC staff in attendance:
Jerrie Lindsey, Director, Office of Public Access and Wildlife Viewing Services
Rich Noyes, Section Leader, Planning and Design
Tom M. Matthews, Recreation Planner
Judy Gillan, Section Leader, Interpretive & Conservation Stewardship Programs
Ann Morrow, Interpretive Writer
Mark Kiser, GFBWT Manager
Phil Manor, Joe Budd WMA District Biologist
James Alleman, Joe Budd WMA Fish and Wildlife Technician
David McDuffie, Joe Budd WMA Fish and Wildlife Technician
Rae Waddell, Florida Youth Conservation Center Network
George Warthen, Hunter Safety Regional Coordinator

Meeting Agenda:
Introduction and Overview of Recreation Planning - Jerrie Lindsey
Overview and History of Joe Budd WMA – Phil Manor
Proposed Interpretive Themes - Ann Morrow
Overview of Proposed Recreation Improvements – Tom M. Matthews
Stakeholder Input
Review of Stakeholder Suggestions - Jerrie Lindsey

Responses to stakeholder comments and suggestions:

Facilities/Structures

- Portable toilet at Joe Budd Pond.
    - *Restroom facilities are in the long-term plan for the Youth Conservation Center. In the short term the suggestion has been passed on to Freshwater Fisheries, YCC and WMA staff.*

Trails/Activities

- Marked equestrian trails on Rocky Comfort with shade and horse-compatible substrate.
    - *Trails on Rocky Comfort will be routed off the main limerock roads as much as possible. Due to the small size of the area and number of existing roads and trails there is limited opportunity for construction of new trails.*
- Marked equestrian trails on other areas of Joe Budd.
    - *There is limited opportunity for marked horse trails on portions of Joe Budd managed by FWC outside of the Rocky Comfort Tract. The request will be passed on to FFS staff.*
- Can paddling be added to the list of approved uses?
    - *Paddling will be suggested as an approved use as the Management Plan for Joe Budd WMA is developed.*

Programming/Interpretation

- Install interpretive signs at a height usable by equestrians and hikers.
    - *We will take this into consideration when installing new interpretive signs.*

Hunting/Fishing

- Increasing hog population can impact rare plants, especially on the Rocky Comfort Tract.
    - *FWC will continue to explore methods of hog control through hunting and alternative methods.*
- Will recreation improvements impact hunting?
    - *The current hunting rules and format will not be impacted by any planned recreation improvements.*
- Develop more fishing area in Zone F at Landing Road.
    - *This is on property managed by the Florida Forest Service. The request will be passed on to FFS staff.*

Volunteers

- Southern Trailriders Association will help develop and maintain equestrian trails.
    - *Any assistance with trail development and maintenance is welcomed and we will coordinate trail activities with interested parties.*

Miscellaneous

- Does building amenities detract from wildlife management activities such as food plots?
    - *No. The funding for recreation infrastructure does not come from the operating budget for Joe Budd WMA.*

Appendix 2: Work Plan for Recreation Enhancements

Based on the prioritization of the goals and objectives listed above, the following list of projects and tasks has been ordered in terms of short and long term completion timeframes.

Short Term

- Rocky Comfort Tract
  - Up to 5 miles of designated trails using existing roads and short sections of new single-track
  - Picnic tables at Lower Camp and along trails
- YCC
  - Renovate trails for increased sustainability

Long Term Completion and Ongoing Tasks

- Rocky Comfort Tract
  - New kiosk with interpretive sign panels
  - Parking area
- Office Road entrance/High Bridge Road
  - Pull-off with kiosk and WMA information
- Lake Talquin Paddling Trail
- Work with FYCCN to assist in YCC facility enhancements as needed

Appendix 3: Recreation and Wildlife Viewing Facilities Design Guidelines

- **Entrances**
  Should welcome visitors to the area, identify the Commission, describe the range of potential experiences on the area, and describe the wildlife viewing experiences by season, time of day or wildlife event.

- **Viewing structures**
  Structures should include wildlife identification or other interpretive information. The structure should be surrounded by and focused on wildlife and habitat, rather than being the focus itself. For towers, each level should focus visitor attention to a different habitat or feature.

- **Trails**
  Trails should be described at the trailhead with length or time required. If the focus is wildlife viewing, include best seasons. Interpretive panels or brochure stops should be well-spaced and focused by season.

General considerations in developing facilities:

- Locate viewing facilities on previously disturbed properties wherever possible.
- Preserve a sense of solitude and limit impact on natural resources by concentrating recreation uses in small "developed" zones and along existing road/trail corridors.
- Site facilities and design trails to minimize user conflicts.
- Avoid sensitive areas such as wetlands and route trails to avoid fragmenting habitat.
- Consider physical characteristics and the historical and natural character of the location.
- Adapt parking lots, buildings and other physical developments to existing topography.
- Retain on-site surface water run-off generated by development.
- Use porous pavements where surface hardening is required.
- Consider sewage disposal needs.
- Use native plants representative of the area for all landscaping.
- Design and build trails and observation structures to avoid disturbing wildlife and to minimize negative impacts such as erosion.
- Use elevated boardwalks in wet areas and swamps and walkovers to protect other sensitive areas.
- Incorporate wildlife viewing ethics into all interpretive materials.
- Incorporate interpretive themes into all brochures, trail guides and other materials produced to support recreation opportunities.
- Install interpretive signs and panels as appropriate at all recreation facilities.
- Route trails to interpret restoration and wildlife management activities.
- Insure interpretation of highly desired species viewable on the area.

Universal Access

Nature-based recreation facilities and programs must be developed and implemented in compliance with the Americans with Disabilities Act. All facilities in developed zones should be universally accessible. Recreation facilities in semi-primitive or primitive zones should be planned to be accessible to the degree possible except where:

- compliance will cause harm to cultural, historic or religious sites or significant natural features or characteristics.
- compliance will substantially alter the nature of the setting or purpose of the facility (or a portion of the facility).
- compliance would require construction methods or materials prohibited by federal, state or local regulations or statutes, or compliance would not be feasible due to terrain or prevailing construction practices.

Appendix 4: Carrying Capacity Methodology

FWC Recreation Carrying Capacity

Carrying capacities for recreational users on FWC lands are developed using a methodology employing existing spatial data and models, recommended guidelines for spatial and temporal carrying capacity, recommended guidelines for minimizing wildlife disturbance by outdoor recreation, and site-specific characteristics. The intent of this methodology is to provide a realistic carrying capacity which is based on the best science and data available with a focus on minimizing wildlife and habitat disturbance and providing the type of recreation our visitors desire and FWC's managed areas can support. This methodology also provides a means of monitoring visitor impacts and allows for flexibility in responding to these impacts and adjusting the carrying capacity as necessary. The carrying capacities generated though this process are not a visitation goal but are a guideline included in the overall area Management Plan and used as a tool to help plan and develop recreation opportunities.

Sensitivity Analysis

An initial analysis of site sensitivity to recreation impacts is conducted using:

- Integrated Wildlife Habitat Ranking System model results for the site
- Natural community values based on threat rankings developed for the Florida Wildlife Legacy Initiative using the rankings for Roads, Incompatible Recreation Activities, and Conversion to Recreation Areas
- Natural community values based on the sensitivity guidelines published by the Florida Park Service
- Wetlands
- Slope
- Soils
- Known point locations of species-of-interest
- Known locations of sensitive resources
- Division of Historic Resources Master Site File sites
- Density of existing roads, trails and facilities
- Other datasets as available and appropriate

These data layers are converted to grids as necessary and normalized to a scale of 1-100. Then a weighted sum is calculated for all data resulting in a "Sensitivity Index" for the area with higher values being more sensitive to disturbance from recreation.

Recreation Zoning

Once the results of the Site Sensitivity model are obtained, a Recreation Zone Map is developed incorporating these results and any statutory or rule constraints for recreation activities. These Recreation Zone Maps will show the different types of recreation experiences

appropriate for each zone of the area. This guides potential trail lengths, trail types, types of facilities and other parameters related to recreation infrastructure.

Carrying Capacity Development

For linear recreation facilities (i.e. trails), a physical carrying capacity is developed based on trail length using a 100-meter buffer on either side of the trails. This buffer distance is consistent with the estimated area of wildlife disturbance along the trail. In addition, an additional 100-meter buffer is used between potential trail users to provide an undisturbed 100-meter area between users. This results in an estimate of 1 user or group every 300 meters along the trail. This estimate is generated using GIS and is adjusted to minimize disturbance "hot spots" such as overlapping disturbance buffers. Point facilities (i.e. observation structures) have a single 100-meter radius buffer. The temporal component of carrying capacity is developed based on the Florida Park Service turnover estimate of two per day on primitive hiking trails or four per day on shorter, improved nature trails. In addition, existing and planned parking and other trailhead limitations are factored into the estimate. If the site already has a Recreation Master Plan (RMP) developed, these estimates will be based on existing and planned facilities as detailed in the RMP. If the area does not have an RMP these estimates are based on potential trail corridors and potential point facility sites derived from the Recreation Zoning and site visits by PAWVand area staff. Another product of this estimate is a "Wildlife Habitat Disturbance Index" based on the ratio of potentially impacted habitat to impact-free habitat expressed as a percentage of the area potentially impacted by recreation.

Camping Facility Carrying Capacities

- Primitive tent camping with no facilities or limited facilities (fire ring, picnic table): 4 people/site with a turnover of once per day.
- Standard camping site (fire ring, picnic table, improved or paved pad, toilet facilities): 8 people/site with a turnover of once per day.
- Generally group camping will be 30 people per 5 acres of camping area.

Picnic Areas

- 8 tables/acre and 4 people/table with a turnover twice a day.

Structures

- Structures dependent on trails for access will be included in the calculated trail capacity.
- Structures that can be accessed independently of trails will have a carrying capacity determined on a case-by-case basis based on the type and size of the structure.

Shoreline Fishing Areas

- Shoreline fishing areas will have a capacity of 1 angler per 25 linear feet.

Seasonal Hunting

- For those areas with seasonal hunting use carrying capacities range from one hunter per 75 acres to one hunter per 150 acres. The exact density chosen depends on a variety of factors with game management most paramount, but is also influenced by the layout of the area and the chosen hunting framework. Areas with dove fields will have a dove field capacity of one hunter to 1.75 acres of dove fields. This capacity is in addition to the calculated capacity for non-hunting recreation uses. Areas with quota permits will have the hunting capacity established as double the maximum number of permits for any one season to account for guest permits.

As needed, capacities for other uses not listed above will use the carrying capacity guidelines published by the Florida Park Service as a baseline.

Recreation Impact Monitoring

To provide a quantitative measure of recreation impacts, limits will be established as "No impact ranks greater than 1," as observed during each biannual monitoring conducted by PAWV field staff. If any ranking values are greater than 1, the site will be assessed to determine the source of the impact. If impacts are the result of recreation activities (as opposed to facility design or other sources), the carrying capacity will be revisited and corrective measures will be developed by PAWV and area staff.

Appendix 5: Management and Monitoring

Recreation Facility Monitoring Protocol

Florida Fish and Wildlife Conservation Commission
Office of Public Access and Wildlife Viewing Services

Introduction

In order to better plan and manage recreation opportunities on lands managed by the Florida Fish and Wildlife Conservation Commission (FWC), FWC's Office of Public Access and Wildlife Viewing Services (PAWV) has developed a monitoring program for recreation-related facilities and infrastructure. Using both qualitative and semi-quantitative methods this program will encompass trails, signs, wildlife viewing structures and other facilities. Data obtained through this program will help FWC better plan, construct and maintain facilities to provide the recreation experiences that are meaningful, enjoyable and safe.

Materials

- Digital camera
- Tripod
- Kaidan panoramic photo mount
- VRWorx, or other software for creating panoramic photos
- Monitoring forms
- Tape measure
- Compass
- GPS (loaded with waypoints for monitoring points)
- Hand tools for checking structure hardware

Monitoring Procedures

Frequency

Starting in FY 2013-2014, trails will be monitored annually in the fall and structures monitored annually in the spring. Prior to FY13-14 trails and structures were both monitored biannually.

Photopoints

Panoramic and single photopoints are used to track and document impacts such as trail degradation, corridor condition, structural integrity and vandalism. Single photopoints are taken at use areas to capture the overall condition. Additionally, each amenity and structure has a photopoint associated with it. Panoramic photos are taken at use areas in a central location and at trailheads. Photopoints are predetermined (with the exception of trouble areas along trails), geographically referenced, and consistent. Data are compiled by analyzing panoramas and

photopoints from each monitoring session and combining the findings with impact indices recorded for each site.

Photopoints should be recorded with GPS, which can also be used to navigate back to the photopoint location on future monitoring visits. A description of the location should be recorded to ensure maximum accuracy in relocating the photopoint.

Assemble the panoramic photo gear and set the tripod over the photopoint, making sure the panoramic head is level. Standard photopoint height is 60" to the center of the camera lens while mounted on the panoramic mount. This may be modified for some photopoints depending on surrounding vegetation or other considerations, but the new height should be recorded and used each time that photopoint is taken. The easiest way to set the height is to assemble the tripod, panoramic mount and camera on level ground, adjust the legs to their full length and adjust the center column to achieve the proper lens height. The center column can be marked with a permanent marker, tape, or scored with a small file or engraver and each mark should be labeled with the height and camera model. This will have to be done for each different camera that will be used for photopoints, although it is preferable that the same camera be used for all photopoints.

Cameras should be set to full wide zoom, landscape mode if available, with flash off. All photopoints begin with the detent closest to due north and continue in a clockwise direction. A log should be kept to record the photo numbers and their corresponding photopoint.

After downloading the images they should be processed into a flat panorama (a digital image composed of all of the photos for a particular photopoint). These panoramas along with the component images should be kept in a central location organized by WMA, photopoint number, and photopoint date. Parallel photopoints will not need to be processed but should be organized as above.

Trails

Trails are monitored with a panoramic photopoint centered at the trailhead, and one photopoint wherever problems areas exist: one photo taken facing forward on the trail and one facing the opposite direction on the trail.

Use areas

Use areas have 2 photopoints. One is a panoramic photo taken at the center of the use area that follows the procedure for trailhead photopoints. The other is a single photo taken from the perimeter of the area. The compass bearing of the photo should be recorded and used for all subsequent photos taken at that photopoint.

Structures

Structures have a single photopoint. This is a single photo, and the compass bearing of the photo should be recorded and used for all subsequent photos taken at that photopoint. If desired, a panoramic photo can be taken to represent the view from the structure (such as the top of a tower).

Physical Inspections

- Check for presence or absence (smaller amenities such as fire rings and benches)
- Check for proper location (smaller amenities such as fire rings and benches)
- Inspect for damage (signs and structures)
- Check hardware and tighten or replace if necessary (signs and structures)

Trails should be traversed in their entirety, either on foot for shorter trails or by vehicle for longer trails. Trouble spots (erosion, trail braiding, shortcuts, litter, excess vegetation encroachment, etc.) should be recorded by GPS and noted on the monitoring form.

Monitoring Forms and Record Keeping

Monitoring forms are completed in the field. This can be done electronically using the Recon field computer or manually. If done manually they should be transferred to an electronic version by filling out the form on computer. Completed electronic forms are then placed in the appropriate location on the Project Management Site for that WMA along with any relevant GPS data (converted to shapefile), photographs, photopoints and other notes.

Any issues that need attention should be sent to the appropriate Recreation Planner via email. The Recreation Planner is responsible for ensuring that the issue is brought to the attention of the appropriate personnel, both internal and external to FWC, and tracking the issue through resolution.

Litter Impacts		
Rating	**Category**	**Description**
1	None	
2	Very Little	small isolated pieces of litter
3[2]	Some	frequent small pieces or isolated large pieces of litter
4	Extensive	small areas used for trash dumping or multiple areas of high litter
5	Very Extensive	large areas used for trash dumping

Structure or Amenity Damage		
Rating	**Category**	**Description**
1	None	none/ loose bolts on new structures.
2	Very Little	minor graffiti or scratches, dirty, light crazing or oxidation, crooked, minor cracks.
3[2]	Some	minor wood repair; extensive graffiti; cuts or gouges; bullet holes; major cracks, extensive crazing or fading.
4	Extensive	hazardous damage, rotten supports, severe rust, illegible signs, burnt
5	Very Extensive	structure is missing or rendered completely ruined/useless

Trail and Use Area Erosion		
Rating	**Category**	**Description**
1	Very little	mostly natural groundcover distribution or man-made materials (concrete, aggregate, mulch, etc.)
2	Some	localized patches of bare soil from use or runoff from structures or impervious surfaces; vehicle tracks noticeable; standing water; minor hog damage
3[2]	Moderate	large areas of bare soil created by use, ruts from vehicles, areas muddied by use, roots partially exposed, heavy hog damage
4	Extensive	channelization, washout, and/or undercutting banks; roots mostly exposed; deep ruts; trail widening

Trail Corridor Condition		
Rating	**Category**	**Description**
1	Within Standards	minimal vegetation encroachment
2[3]	Exceeds Standards	trail needs some mowing/lopping/chainsawing; minor tree fall
3	Unacceptable	trail is generally overgrown and difficult to find; tree fall that impedes passage

[2]Ratings of three and above exceed PAWV standards for structure and amenity damage or litter impacts and trail erosion.
[3]Ratings of two and above exceed PAWV standards for trail corridor condition.

WMA Visit Checklist

- ○ Trail maintenance needs
- ○ Sign maintenance needs
- ○ Structure maintenance needs
- ○ Day-use area condition/maintenance needs
- ○ Sufficient PAWV publications in field office
- ○ Brochure boxes adequately stocked
- ○ Hunting calendar posted and up-to-date
- ○ Users encountered on area (number, activity, address for future surveys)
- ○ Geocaches inspected
- ○ Manager concerns
- ○ New ideas for area enhancement

11.17 Management Procedures Guidelines – Management of Archaeological and Historical Resources

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties
(revised June 2021)

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

A. Historic Property Definition

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

B. Agency Responsibilities

Per Chapter 267, *F.S.* and state policy related to historic properties, state agencies of the executive branch must provide the Division of Historical Resources (Division) the opportunity to comment on any undertakings with the potential to affect historic properties that are listed, or eligible for listing, in the National Register of Historic Places, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the undertaking. (267.061(2)(a))

State agencies must consult with the Division when, as a result of state action or assistance, a historic property will be demolished or substantially altered in a way that will adversely affect the property. State agencies must take timely steps to consider feasible and prudent alternatives to the adverse effect. If no feasible or prudent alternatives exist, the state agency must take timely steps to avoid or mitigate the adverse effect. (267.061(2)(b))

State agencies must consult with Division to establish a program to locate, inventory and evaluate all historic properties under ownership or controlled by the agency. (267.061(2)(c))

State agencies are responsible for preserving historic properties under their control. State agencies are directed to use historic properties available to the agency when that use is consistent with the historic property and the agency's mission. State agencies are also directed to pursue preservation of historic properties to support their continued use. (267.061(2)(d))

C. Statutory Authority

The full text of Chapter 267, F.S. and additional information related to the treatment of historic properties is available at:

https://dos.myflorida.com/historical/preservation/compliance-and-review/regulations-guidelines/

D. Management Implementation

Although the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual and do not include detailed project information. Specific information for individual projects must be submitted to the Division for review and comment.

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

Projects such as additions or alterations to historic structures as well as new construction must also be submitted to the Division for review. Projects involving structures fifty years of age or older must be submitted to the Division for a significance determination. In rare cases, structures under fifty years of age may be deemed historically significant.

Adverse effects to historic properties must be avoided when possible, and if avoidance is not possible, additional consultation with the Division is necessary to develop a mitigation plan. Furthermore, managers of state property should make preparations for locating and evaluating historic properties, both archaeological sites and historic structures.

E. Archaeological Resource Management (ARM) Training

The ARM Training Course introduces state land managers to the nature of archaeological resources, Florida archaeology, and the role of the Division in managing state-owned archaeological resources. Participants gain a better understanding of the requirements of state and federal laws with regard to protecting and managing archaeological sites on state managed lands. Participants also receive a certificate recognizing their ability to conduct limited monitoring activities in accordance with the Division's Review Procedure, thereby reducing the time and money spent to comply with state regulations. Additional information regarding the ARM Training Course is available at:

https://dos.myflorida.com/historical/archaeology/education/arm-training-courses/

F. Matrix for Ground Disturbance on State Lands

The matrix is a tool designed to help streamline the Division's Review Procedure. The matrix allows state land managers to make decisions about balancing ground disturbance and stewardship of historic resources. The matrix establishes types of undertakings that are either minor or major disturbances and then guides the land manager to consult the Division, conduct ARM-trained project monitoring, or proceed with the project. Additional information regarding the matrix is available at:

https://dos.myflorida.com/historical/archaeology/education/dhr-matrix-for-ground-disturbance-on-state-lands/

G. Human Remains Treatment

Chapter 872, *Florida Statutes* makes it illegal to willfully and knowingly disturb human remains. In the event human remains are discovered, cease all activity in the area that may disturb the remains. Leave the bones and nearby items in place. Immediately notify law enforcement or the local district medical examiner of the discovery and follow the provisions of Chapter 872, FS. Additional information regarding the treatment of human remains and cemeteries is available at:

https://dos.myflorida.com/historical/archaeology/human-remains/
https://dos.myflorida.com/historical/archaeology/human-remains/abandoned-cemeteries/what-are-the-applicable-laws-and-regulations/

H. Division of Historical Resources Review Procedure

Projects on state owned or controlled properties may submit projects to the Division for review using the streamlined State Lands Consultation Form. The form provides instructions to submit projects for review and outlines the necessary information for the Division to complete the review process. The State Lands Consultation Form and additional information about the Division's review process is available at:

https://dos.myflorida.com/historical/preservation/compliance-and-review/state-lands-review/

* * *

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

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

StateLandsCompliance@dos.myflorida.com

Phone: (850) 245-6333
Toll Free: (800) 847-7278
Fax: (850) 245-6435

11.18 Land Management Uniform Accounting Council Categories

Land Management Uniform Cost Accounting Council

Uniform Land Management Cost Categories and Subcategories

1. Resource Management

a. Exotic Species Control. -- Invasive exotic plant and animal removal activities and costs for inventorying, planning, preparing, executing, evaluating, monitoring and reporting. Also includes equipment, chemicals, protective clothing and supplies. Includes nuisance native feral animal and plant control.

b. Prescribed Burning. -- Prescribed burning activities and costs for assessing, planning, preparing, executing, evaluating and reporting. Also includes equipment, protective clothing and supplies.

c. Cultural Resource Management. -- Management activities and costs for assessing, planning, executing, evaluating and reporting, and for all maintenance, restoration or monitoring activities for prehistoric and historic sites, features and collection objects.

d. Timber Management. -- Activities and costs related to the establishment of a stand of potentially merchantable timber, harvest of merchantable timber, and cultural treatments intended primarily to improve the growth and overall health of a stand of merchantable timber. Also includes activities and costs related to the cutting of merchantable timber in natural community and habitat restoration projects.

e. Hydrological Management. -- Hydrological management and restoration activities and costs for assessing, monitoring, planning, preparing, executing, evaluating and reporting. Includes water level management, repair, removal or back-filling of ditches, canals, berms and dams. Also includes water quality and water quantity monitoring.

f. Other. -- All other resource management activities and costs not captured in other specific subcategories. Examples include natural community and habitat restoration through other techniques; plant, animal or biological community survey, monitoring and research; listed species management; technical assistance; and evaluating and commenting on resource impacts to parks.

2. Administration

a. Central Office/Headquarters. -- Headquarters units conducting general administration of land under management by the agency. Includes upper management direction, administration and fiscal, budget, personnel, purchasing and record keeping required for operations oversight and specific programs.

Includes all duties unless they specifically relate to other categories or subcategories.

b. Districts/Regions. -- Sub-state administrative districts or regions conducting general administration of the properties under their management. Includes all duties, unless they specifically relate to other categories or subcategories. General operating costs of district or region administrative facilities are included.

c. Units/Projects. -- Conducting general administration duties at a specific management unit (state park, state forest, state wildlife management area, etc.). Includes supervisory duties, fiscal and record keeping duties, and any other duties that do not specifically relate to other categories or subcategories. General operating costs for the property, such as utilities, telephones and garbage collection, are included.

3. Support

a. Land Management Planning. -- Developing land management plans required by Sec. 253.034, F.S. Includes researching and compiling plan information, materials and maps, coordinating planning activities, conducting review activities (internal reviews, public meetings, advisory group meetings, ARC, etc.), and promulgating draft plans and final plans.

b. Land Management Reviews. -- Planning, organizing and conducting land management reviews by teams created under Sec. 259.036, F.S. Includes preparing and responding to land management review reports. Also includes similar work conducted as part of internal agency land management reviews.

c. Training/Staff Development. -- Staff training and development costs incurred in any facet of the agency's land management activities.

d. Vehicle Purchase. -- Acquisition of any vehicle purchased primarily for land management purposes or to support any category of land management activity by the agency.

e. Vehicle Operation and Maintenance. -- Costs of operating and upkeep of any vehicle used by the agency to support any category of land management activity.

f. Other. -- Any other support activity or cost not captured by other categories or subcategories.

4. Capital Improvements

a. New Facility Construction. -- Use of Fixed Capital Outlay (FCO) or other budget authority for all new facility design and construction activities. Includes new roads, parking and all other infrastructure.

b. Facility Maintenance. -- Use of Fixed Capital Outlay (FCO) or other budget authority for all repairs or renovations to existing facilities, roads or other infrastructure. Also includes ADA accessibility improvements and renovations.

5. Visitor Services/Recreation

a. Information/Education Programs. -- Interpretive, environmental education and marketing programs that explain or promote the agency's mission or instill in visitors an understanding and appreciation for Florida's natural and cultural resources and their proper use and care. Includes signs, brochures, maps and other public information materials that are produced or disseminated.

b. Operations. -- Includes the non-administrative and non-support costs involved in providing public access to lands. Includes all actions required to manage visitor activities in a way to ensure safe and enjoyable use by the public. Includes routine maintenance, cleaning and other work required to provide safe and efficient utilization of facilities and resources that support visitor use and recreation. Includes protection activities required by staff to safeguard natural and cultural resources, facilities, material, staff and visitors.

6. Law Enforcement

The provision of all activities for enforcing criminal, conservation and boating laws on land, freshwater and marine environments and all costs associated with these services. Includes the provision of uniform patrol. Includes overt and covert criminal investigations. Includes regulation of commercial wildlife trade. Also includes the direction and administration of all law enforcement programs and activities, and all associated costs.

Land Management Uniform Accounting Council and FWC Activity Code Groupings

Resource Management

Exotic Species Control

- 210 Exotic species control
- 211 Exotic plant control (mechanical)
- 212 Exotic plant control (chemical)

Prescribed Burning

- 205 Prescribed burning
- 206 Prescribed burning C growing season (April 1 to September 30)
- 207 Prescribed burning C dormant season (October 1 to March 31)
- 208 Firebreaks

Cultural Resource Management

- 201 Cultural resource management

Timber Management

- 202 Timber management

Hydrological Management

- 215 Hydrology management
- 216 Dams, dikes, levees
- 217 Canals
- 218 Water level management
- 194 Lake restoration

Other

- 185 GIS
- 186 Biometrics
- 200 RESOURCE MANAGEMENT
- 203 Tree and shrub planting
- 213 Wildlife management
- 214 Listed Species management
- 219 Upland restoration
- 282 Herbaceous seeding
- 283 Clearings
- 289 Native vegetation management (mechanical)
- 290 Native vegetation management (chemical)
- 221 Animal surveys
- 228 Inland aerial surveys
- 235 Vegetation and plant surveys
- 250 MONITORING AND ASSESSMENTS
- 252 Biomedical monitoring
- 253 Ecological monitoring
- 256 Habitat monitoring analysis
- 263 Nest box monitoring
- 264 Population demographics
- 295 Biological data collection, analysis, and reporting
- 275 Permits and authorizations
- 276 Commission rule development and review

277 Relocation
278 CITES tags
281 Other resource management
284 Feeding/watering
285 Nest structures
286 Population control
287 Stocking enhancements/population augmentation
288 Nuisance animal complaints
293 Mortality investigations
294 Program coordination and implementation C inter- and intra-agency coordination and program implementation at the section, bureau, or division level
296 Habitat protection technical assistance
750 URTD assessment
789 Site Preparation – GCR
790 Irrigation – GCR
791 Seed Collection – Hand
792 Seed Collection – Mechanical
793 Herbicide Maintenance Treatment

Administration

Central Office/Headquarters

100 ADMINISTRATION C administrative tasks, including preparation of forms, word processing, photocopying, filing, and other clerical/secretarial duties.
104 Budget/purchasing/accounting

Districts/Regions

See Location code

Units/Projects

See Location code

Support

Land Management Planning

103 Meetings C includes workshops, conferences, staff, and other meetings.
204 Resource planning

Land Management Reviews

209 Land Management Reviews
101 Project inspection C field inspections of projects.

Training/Staff Development

150 PERSONNEL MANAGEMENT C recruitment, hiring, training, counseling, and supervising.

Vehicle Purchase

128 New Vehicle and Equipment Purchase

Vehicle Operation and Maintenance

923 FEM C vehicles/equipment

Other

140 REPORT WRITING/EDITING/MANUSCRIPT PREPARATION

141 Grant applications
180 SYSTEMS ADMINISTRATION AND MANAGEMENT
182 Data management
184 Metadata development and management
187 IT
188 Web development
721 Geospatial analysis techniques
191 Stamp design coordination
226 Human dimensions surveys

Capitol Improvements

New Facility Construction

910 New facility construction C buildings/structures
912 New construction C roads/bridges
913 New construction C trails
914 New construction C fences

Facility Maintenance

920 Facility and equipment maintenance (FEM) C buildings/structures
921 FEM C utilities
922 FEM C custodial functions
925 FEM C boating access
926 FEM C roads/bridges
927 FEM C trails
928 FEM C fences

Visitor Services/Recreation

Information/Education Programs

145 Technical bulletin

Operations

311 Boundary signs
312 Informational signs
320 Outreach and education C attending or developing educational or informational materials or events for the public
327 Becoming an Outdoor Woman C enhancement
331 Wings Over Florida
339 Range safety operations
341 Public use administration (hunting)
342 Public use administration (non-hunting)
350 Customer service support C disseminating written or verbal information or assistance to the public
700 STUDIES
740 EVALUATIONS AND ASSESSMENTS

Law Enforcement

FWC Activity Code Numeric Listing

100 ADMINISTRATION C administrative tasks, including preparation of forms, word processing, photocopying, filing, and other clerical/secretarial duties.
101 Project inspection C field inspections of projects.
103 Meetings C includes workshops, conferences, staff, and other meetings.
104 Budget/purchasing/accounting
128 New Vehicle and Equipment Purchase
140 REPORT WRITING/EDITING/MANUSCRIPT PREPARATION
141 Grant applications
145 Technical bulletin
150 PERSONNEL MANAGEMENT C recruitment, hiring, training, counseling, and supervising.
180 SYSTEMS ADMINISTRATION AND MANAGEMENT
182 Data management
184 Metadata development and management
185 GIS
186 Biometrics
187 IT
188 Web development
191 Stamp design coordination
194 Lake restoration
200 RESOURCE MANAGEMENT
201 Cultural resource management
202 Timber management
203 Tree and shrub planting
204 Resource planning
205 Prescribed burning
206 Prescribed burning C growing season (April 1 to September 30)
207 Prescribed burning C dormant season (October 1 to March 31)
208 Firebreaks
209 Land Management Reviews
210 Exotic species control
211 Exotic plant control (mechanical)
212 Exotic plant control (chemical)
213 Wildlife management
214 Listed Species management
215 Hydrology management
216 Dams, dikes, levees
217 Canals
218 Water level management
219 Upland restoration
221 Animal surveys
226 Human dimensions surveys
228 Inland aerial surveys
235 Vegetation and plant surveys

250 MONITORING AND ASSESSMENTS
252 Biomedical monitoring
253 Ecological monitoring
256 Habitat monitoring analysis
263 Nest box monitoring
264 Population demographics
275 Permits and authorizations
276 Commission rule development and review
277 Relocation
278 CITES tags
281 Other resource management
282 Herbaceous seeding
283 Clearings
284 Feeding/watering
285 Nest structures
286 Population control
287 Stocking enhancements/population augmentation
288 Nuisance animal complaints
289 Native vegetation management (mechanical)
290 Native vegetation management (chemical)
293 Mortality investigations
294 Program coordination and implementation C inter- and intra-agency coordination and program implementation at the section, bureau, or division level
295 Biological data collection, analysis, and reporting
296 Habitat protection technical assistance
311 Boundary signs
312 Informational signs
320 Outreach and education C attending or developing educational or informational materials or events for the public
327 Becoming an Outdoor Woman C enhancement
331 Wings Over Florida
339 Range safety operations
341 Public use administration (hunting)
342 Public use administration (non-hunting)
350 Customer service support C disseminating written or verbal information or assistance to the public
700 STUDIES
721 Geospatial analysis techniques 740 EVALUATIONS AND ASSESSMENTS
750 URTD assessment
789 Site Preparation – GCR
790 Irrigation – GCR
791 Seed Collection – Hand
792 Seed Collection – Mechanical
793 Herbicide Maintenance Treatment
910 New facility construction C buildings/structures
912 New construction C roads/bridges

913 New construction C trails
914 New construction C fences
920 Facility and equipment maintenance (FEM) C buildings/structures
921 FEM C utilities
922 FEM C custodial functions
923 FEM C vehicles/equipment
925 FEM C boating access
926 FEM C roads/bridges
927 FEM C trails
928 FEM C fences

11.19 Operational Plan Fiscal Year 2022-2023

Activity	Description	Man Days	Salary	Fuel Cost	Other	Total
100	Administration	19	$4,553.92	$376.96	$1,500.00	$6,430.88
101	Project inspection	5	$1,198.40	$99.20	$0.00	$1,297.60
103	Meetings	8	$1,917.44	$158.72	$1,000.00	$3,076.16
104	Budget/purchasing/accounting	3	$719.04	$59.52	$0.00	$778.56
128	New Vehicle and Equipment Purchases	3	$719.04	$59.52	$9,500.00	$10,278.56
140	Report writing/editing/manuscript preparation	3	$719.04	$59.52	$0.00	$778.56
150	Personnel management	21	$5,033.28	$416.64	$1,300.00	$6,749.92
182	Data management	37	$8,868.16	$734.08	$500.00	$10,102.24
185	GIS	17	$4,074.56	$337.28	$0.00	$4,411.84
200	Resource Management	1	$239.68	$19.84	$0.00	$259.52
201	Cultural resource management	2	$479.36	$39.68	$0.00	$519.04
202	Timber management	6	$1,438.08	$119.04	$0.00	$1,557.12
204	Resource planning	18	$4,314.24	$357.12	$0.00	$4,671.36
206	Prescribed burning - growing season	27	$6,471.36	$535.68	$500.00	$7,507.04
207	Prescribed burning - dormant season	30	$7,190.40	$595.20	$1,000.00	$8,785.60
212	Exotic plant control (chemical)	14	$3,355.52	$277.76	$800.00	$4,433.28
221	Animal surveys	36	$8,628.48	$714.24	$700.00	$10,042.72
228	Inland aerial surveys	2	$479.36	$39.68	$3,000.00	$3,519.04
235	Vegetation and plant surveys	1	$239.68	$19.84	$0.00	$259.52
282	Herbaceous seeding	72	$17,256.96	$1,428.48	$34,000.00	$52,685.44
286	Population control	8	$1,917.44	$158.72	$14,000.00	$16,076.16
289	Native vegetation management (mechanical)	25	$5,992.00	$496.00	$20,000.00	$26,488.00
294	Program coordination and implementation	30	$7,190.40	$595.20	$0.00	$7,785.60
295	Biological data collection, analysis, and reporting	10	$2,396.80	$198.40	$200.00	$2,795.20
311	Boundary signs	2	$479.36	$39.68	$200.00	$719.04
312	Informational signs	5	$1,198.40	$99.20	$200.00	$1,497.60
341	Public use administration (hunting)	56	$13,422.08	$1,111.04	$13,426.00	$27,959.12
342	Public use administration (non-hunting)	11	$2,636.48	$218.24	$200.00	$3,054.72
920	FEM -- buildings/structures	34	$8,149.12	$674.56	$10,300.00	$19,123.68
922	FEM -- custodial functions	1	$239.68	$19.84	$1,500.00	$1,759.52
923	FEM -- vehicles/equipment	93	$22,290.24	$1,845.12	$26,744.00	$50,879.36
926	FEM -- roads/bridges	42	$10,066.56	$833.28	$165,300.00	$176,199.84
928	FEM -- fences	10	$2,396.80	$198.40	$250.00	$2,845.20
Total:		652	$156,271.36	$12,935.68	$306,120.00	$475,327.04

11.20 Arthropod Control Plan

x

Florida Department of Agriculture and Consumer Services
Division of Agricultural Environmental Services

Nicole 'Nikki' Fried
COMMISSIONER

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

Section 388.4111, F.S.
Telephone: (850) 617-7995

For use in documenting an Arthropod Control Pan for lands designated by the State of Florida or any political subdivision thereof as being environmentally sensitive and biologically highly productive therein. Fill this form out if control work is necessary or planned.

Name of Designated Land: Joe Budd Wildlife Management Area

Is Control Work Necessary: ❑ Yes ☒ No

Control is not necessary unless requested by the land manager or public health emergency due to arbovirus detected and transmitted in the area.

Location: Gadsden County

Land Management Agency: Florida Fish and Wildlife Conservation Commission

Are Arthropod Surveillance Activities Necessary? ❑ Yes ☒ No
If "Yes", please explain:

Surveillance is not necessary

Which Surveillance Techniques Are Proposed?
Please Check All That Apply:

❑ Landing Rate Counts	❑ Light Traps	❑ Sentinel Chickens
❑ Citizen Complaints	❑ Larval Dips	❑ Other

If "Other", please explain: N/A

Arthropod Species for Which Control is Proposed:

Proposed Larval Control:

Proposed larval monitoring procedure: Not necessary for routine operations unless requested

Are post treatment counts being obtained: ❑Yes ☒ No

No treatment or post treatment monitoring is being completed within the prescribed area

Biological Control of Larvae:

Might predacious fish be stocked: ❑ Yes ☐ No

Other biological controls that might be used:

If requested, Gadsden Mosquito Control can provide predacious fish in areas needed on a limited basis.

Material to be Used for Larvaciding Applications:

(Please Check All That Apply:)

❑ X Bti

❑ Bs

❑ Methoprene

❑ Non-Petroleum Surface Film

❑ Other, please specify:

Please specify the following for each larvicide: N / A

Chemical or Common name: N/A

❑ Ground ❑ Aerial

Rate of application:

Method of application:

Proposed Adult Mosquito Control:

Aerial adulticiding ❑Yes ☒No

Ground adulticiding ❑ Yes ☒No

Please specify the following for each adulticide:

Chemical or common name: PermX 4-4 (permethrin)

Rate of application:

.004 lbs active

ingrediant per acre

Method of application:

Ground ULV

application via truck

mounted sprayer

Proposed Modifications for Public Health Emergency Control: In the event of a declared public health emergency, control may be performed by the arthropod control agency, as part of a larger treatment plan to safeguard public health. Land managers of the area will be notified prior to treatment.

Proposed Notification Procedure for Control Activities:

Manager of the area will be notified by e-mail when treatment of the area will occur. The notice should include a map of the area being treated, the material to be used and the general time of day the treatment will occur.

Records:

Are records being kept in accordance with Chapter 388, F.S.:

❑ X Yes ❑No
Records Location:

1284 High Bridge Rd
Quincy, FL 32351

How long are records maintained:
Minimum 3 year

Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?

None

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed:

None

Include proposed operational schedules for water fluctuations:

None

List any periodic restrictions, as applicable, for example peak fish spawning times.

None

Proposed Modification of Aquatic Vegetation:

None

Land Manager Comments:

Arthropod Control Agency Comments:
Treatment with adulticide and/or larvicide is available upon request for Joe Budd Wildlife Management Area or upon a public health emergency a notice will be sent to the land manager with a map of locations to be treated. If no request or emergency occurs treatments will be withheld from the area to avoid affecting the wildlife habitat.

Signature of Lands Manager or Representative Date

Eric Justin 5/7/2024

Signature of Mosquito Control Director / Manager Date

11.21 Gadsden County Letter of Compliance with Local Government Comprehensive Plan

Gadsden COUNTY

BOARD OF COUNTY COMMISSIONERS
9-B East Jefferson Street / P. O. Box 1799 · Quincy, Florida 32353
OFFICE: (850) 875-8650 · FAX: (850) 875-8655 · www.GadsdenCountyFl.gov

May 21, 2024

Cedar Spirk, Land Conservation Planner
Florida Fish and Wildlife Conservation Commission
620 S. Meridian Street
Tallahassee, FL 32399

RE: Review of Draft Copy of Joe Budd Wildlife Management Area Ten-Year Land Management Plan (2024-2034)

Dear Cedar,

Thank you for providing Gadsden County staff with the opportunity to review the draft of the Florida Fish and Wildlife Conservation Commission's Ten-Year Land Management Plan (2024-2034) for Joe Budd Wildlife Management Area. The draft plan is very thorough and well-written and is in compliance with the goals, objectives and policies of the Gadsden County Comprehensive Plan.

Should you require anything further, please contact me at eandrews@gadsdencountyfl.gov or (850) 662-3708.

Sincerely,

Ellen Andrews
Senior Planner
Gadsden County Planning Division

11.22 FNAI Natural Inventory Ranking System and Definitions

Elements and Element Occurrences

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

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

Element Ranking and Legal Status

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

FNAI GLOBAL ELEMENT RANK

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

FNAI STATE ELEMENT RANK

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

FEDERAL LEGAL STATUS

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

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

C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
E = Endangered: species in danger of extinction throughout all or a significant portion of its range.
E, T = Species currently listed endangered in a portion of its range but only listed as threatened in other areas
E, PDL = Species currently listed endangered but has been proposed for delisting.
E, PT = Species currently listed endangered but has been proposed for listing as threatened.
E, XN = Species currently listed endangered but tracked population is a non-essential experimental population.
T = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
PE = Species proposed for listing as endangered.
PS = - An infraspecific taxon or population has federal status but the entire species does not - status is in only a portion of the species range.
PT = Species proposed for listing as threatened.
SAT = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
SC = Not currently listed, but considered a "species of concern" to USFWS.
DL = Delisted.
UR = Under review.

STATE LEGAL STATUS

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

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

C = Candidate for listing at the Federal level by the U. S. Fish and Wildlife Service
FE = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
FT = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
FXN = Federal listed as an experimental population in Florida
FT(S/A) = Federal Threatened due to similarity of appearance
ST = State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
SSC = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC* for Pandion haliaetus (Osprey) indicates that this status applies in Monroe county only.)
N = Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011, 581.185 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or see: https://www.flrules.org/gateway/ChapterHome.asp?Chapter=5B-40.

E = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
T = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
CE = Commercially exploited: species native to the state which are subject to being removed in significant numbers from native habitats in the state and sold or transported for sale.
N = Not currently listed, nor currently being considered for listing.

Element Occurrence Ranking

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

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

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

FNAI also uses the following EO ranks:

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

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

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

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