A Management Plan for

Janet Butterfield Brooks

Wildlife and Environmental Area

2014 - 2024

Hernando County, Florida

Florida Fish and Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, Florida 32399-1600

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FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
MARJORY STONEMAN DOUGLAS BUILDING
3900 COMMONWEALTH BOULEVARD
TALLAHASSEE, FLORIDA 32399-3000

RICK SCOTT
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HERSCHEL T. VINYARD JR.
SECRETARY

August 19, 2014

Mr. David Alden
Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Terrestrial Habitat Conservation and Restoration Section
620 South Meridian Street
Tallahassee, Florida, 32399-1600

Re: Janet Butterfield Brooks Wildlife and Environmental Area – Lease # 4594

Dear ~~Mr. Alden:~~ David

The Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the Janet Butterfield Brooks Wildlife and Environmental Area management plan. The next management plan update is due August 19, 2024.

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

Sincerely,

Marianne S. Gengenbach
Office of Environmental Services
Division of State Lands

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A Management Plan

For

Janet Butterfield Brooks Wildlife and Environmental Area

Hernando County, Florida

Owned by the Board of Trustees of the Internal Improvement Trust Fund

Managed by the Florida Fish and Wildlife Conservation Commission

April 2014

Approved Thomas H. Eason Thomas Eason

Director, Division of Habitat and Species Conservation

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LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

Lead Agency: Florida Fish and Wildlife Conservation Commission (FWC)
Common Name of Property: Janet Butterfield Brooks Wildlife and Environmental Area
Location: Hernando County, Florida
Acreage Total: 319 acres
Acreage Breakdown:

Land Cover Classification	Acres	Percent of Total Area
Baygall	0.80	0.3%
Bottomland Forest	4.90	1.5%
Depression Marsh	1.30	0.4%
Mesic Flatwoods	30.97	9.7%
Mesic Hammock	52.85	16.6%
Sandhill	125.00	39.3%
Upland Hardwood Forest	59.44	18.7%
Upland Pine	42.74	13.4%

*GIS-calculated acreage for land cover classification varies slightly from actual total acreage.
Lease/Management Agreement No.: 4594 (Appendix 13.1)
Use: Single X Management Responsibilities:
Multiple____ Agency the FWC Responsibilities
LEAD, SUBLESSEE (Wildlife and Environmental Area, resource protection, law enforcement)

Designated Land Use: Wildlife and Environmental Area
Sublease (s): None
Encumbrances: List: No consumptive uses or public access allowed
Type Acquisition: Fish and Wildlife Habitat Program
Unique Features: Natural: Natural communities: Baygall, Bottomland Forest, Depression Marsh, Mesic Flatwoods, Mesic Hammock, Sandhill, Upland Hardwood Forest and Upland Pine
Archaeological/Historical: Historic Bailey Hill Homestead within the JBBWEA.
Management Needs: Habitat restoration and improvement; public access and recreational opportunities; hydrological preservation and restoration; exotic and invasive species maintenance and control; imperiled species habitat maintenance, enhancement, and restoration.
Acquisition Needs/Acreage: Zero acres the FWC Additions and Inholdings list; Not within the boundary of any Florida Forever Project (Figure 2).
Surplus Lands/Acreage: None
Public Involvement: Management Advisory Group consensus building meeting and Public Hearing (Appendix 13.2)

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

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

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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	1
2	The land acquisition program, if any, under which the property was acquired.	18-2.018 & 18-2.021	3
3	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18-2.021	9
4	The legal description and acreage of the property.	18-2.018 & 18-2.021	5, 84
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	5, 6, 41
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	39
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	53-56
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	10
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)	4
10	Proximity of property to other significant State, local or federal land or water resources.	18-2.021	8-9

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	36-38
12	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	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	38-39
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	9, 56
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	52, 156
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	52, 56, 69
17	A determination of the public uses and public access that would be	259.032(10)	36-38, 49-51

	consistent with the purposes for which the lands were acquired.		
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	81
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	248
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	37-38, 51, 58-60
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	36-38
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	52-60
23	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	4-9

*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	10, 106
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)	106

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 their affiliations, as well as the date and location of the advisory group meeting.*	259.032(10)	106
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	10, 106
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)	106
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	42-43
30	Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.	18-2.021	106
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	42

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	11-35, 120
33	Insert FNAI based natural community maps when available.	ARC consensus	25-26
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	11-35
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	11-35
36	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.	18-2.021	35
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	12, 35

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	11-35
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	27-28
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	11-35
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)	43-69
42	Habitat Restoration and Improvement	259.032(10) & 253.034(5)	46
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.	↓	43-69
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.		43-69
42-C.	The associated measurable objectives to achieve the goals.		58-69
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.*		118, 125, 156, 219
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.		77-80, 219
43	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. *See footnote.*	253.034(5)	11-35
44	Sustainable Forest Management, including implementation of prescribed fire management	18-2.021, 253.034(5) & 259.032(10) ↓	24, 43
44-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).		43-69
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		24-27, 60
44-C.	Measurable objectives (see requirement for #42-C).		60
44-D.	Related activities (see requirement for #42-D).		52, 228
44-E.	Budgets (see requirement for #42-E).		77-80, 219
45	Imperiled species, habitat maintenance, enhancement, restoration or population restoration	259.032(10) & 253.034(5)	46
45-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	43-69

45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		58-69
45-C.	Measurable objectives (see requirement for #42-C).		58-63
45-D.	Related activities (see requirement for #42-D).		118, 125, 156, 219
45-E.	Budgets (see requirement for #42-E).		77-80, 219
46	***Quantitative data description of the land regarding an inventory of exotic and invasive plants and associated acreage. *See footnote.*	253.034(5)	15, 49
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	241
48	Exotic 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).	↓	49, 59
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		59
48-C.	Measurable objectives (see requirement for #42-C).		59
48-D.	Related activities (see requirement for #42-D).		118, 125, 156, 219
48-E.	Budgets (see requirement for #42-E).		77-80, 219

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	10
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	34-35
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	50, 58
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. *See footnote.*	253.034(5)	34-35, 51
53	Hydrological Preservation and Restoration	259.032(10) & 253.034(5)	51
53-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	51, 51-52
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		60

53-C.	Measurable objectives (see requirement for #42-C).		60
53-D.	Related activities (see requirement for #42-D).		118, 125, 156, 219
53-E.	Budgets (see requirement for #42-E).		77-80, 219

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	35, 52, 156
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	35, 52, 156
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	35, 52, 156
57	Cultural and Historical Resources	259.032(10) & 253.034(5)	35
57-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	6152
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		61
57-C.	Measurable objectives (see requirement for #42-C).		61
57-D.	Related activities (see requirement for #42-D).		118, 125, 156, 219
57-E.	Budgets (see requirement for #42-E).		77-80, 219

**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)	52
59	Capital Facilities and Infrastructure	259.032(10) & 253.034(5)	52
59-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	61
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		61
59-C.	Measurable objectives (see requirement for #42-C).		61
59-D.	Related activities (see requirement for #42-D).		118, 125, 156, 219
59-E.	Budgets (see requirement for #42-E).		77-80, 219

60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034(5)	36-38, 49-51
61	Public Access and Recreational Opportunities	259.032(10) & 253.034(5)	49-51
61-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	60
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		60
61-C.	Measurable objectives (see requirement for #42-C).		60
61-D.	Related activities (see requirement for #42-D).		118, 125, 156, 219
61-E.	Budgets (see requirement for #42-E).		77-80, 219

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	iii
63	Place the Executive Summary at the front of the LMP. Include a physical description of the land.	ARC and 253.034(5)	ii
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	39-42
65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	42-76
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)	77-80, 219
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)	49, 77-80, 219
68	A statement of gross income generated, net income and expenses.	18-2.018	77-80, 219

*** = 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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1 Introduction and General Information

Located within the Brooksville Ridge province of west-central Florida, the Janet Butterfield Brooks Wildlife and Environmental Area (JBBWEA) is emblematic of some of the area's last tracts of older growth longleaf pine sandhill forests and hardwood hammocks. The JBBWEA contains the southernmost extent of the unique Annutteliga Hammock. This feature is a vast mix of mesic hammock, upland hardwood forest, and bottomland forest that contains unusual plant assemblages found nowhere else within the state. The clay laden soils, karst topography with limestone at or near the soil surface, natural fire exclusion, and southern and northern limits of many plant species, all combine in this area of the state to form the Annutteliga Hammock. As such, it conserves and protects a remaining fragment of this ancient forested system ecotype providing habitat for a keystone sandhill species, the gopher tortoise and many sandhill dwelling plants beneath the towering longleaf pine trees. Donated by The Nature Conservancy (TNC) to the Florida Fish and Wildlife Conservation Commission (FWC) and the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Board of Trustees), the JBBWEA conserves habitat important for rare and imperiled species that occur on the site such as the gopher tortoise, eastern indigo snake and Sherman's fox squirrel and provides opportunities for research and environmental education on the importance of their ecology.

Public access to the JBBWEA is restricted to the FWC staff for management purposes in accordance with the restrictions in the deed of donation, of the property, to the state. Recreational opportunities are limited to guided educational tours with approval and guidance from the FWC staff. However, numerous other public conservation lands in close proximity of the JBBWEA, such as the Chinsegut Wildlife and Environmental Area and the Chasshowitzka Wildlife Management Area, offer a wide variety of public outdoor fish and wildlife-based recreational opportunities.

1.1 Management Plan Purpose

This Management Plan serves as the basic statement of policy and direction for the management of the JBBWEA. It provides information including the past usage, conservation acquisition history, and descriptions of the natural and cultural resources found on the JBBWEA. Furthermore, it identifies the FWC's future management intent, goals and associated short and long-term objectives, as well as identifying challenges and solutions. This Management Plan has been developed to guide each aspect of the JBBWEA's management for the next ten years.

This Management Plan is submitted for review to the Acquisition and Restoration Council (ARC) acting on behalf of the Board of Trustees a through the Florida Department of Environmental Protection's (DEP) Division of State Lands (DSL), in compliance with paragraph seven of Lease No. 4594 (Appendix13.1) and pursuant to Chapters 253 and 259, Florida Statutes (FS), and Chapters 18-2 and 18-4, Florida Administrative Code (FAC). Format and content were drafted in accordance with ARC requirements for management plans and the model plan outline provided by the staff of DSL. Terms used in this Management Plan describing management activities and associated measurable goals and objectives conform to those developed for the Land Management Uniform Accounting Council Biennial Land Management Operational Report.

1.1.1 FWC Planning Philosophy

The FWC's planning philosophy includes emphasizing management recommendation consensus-building among stakeholders and input from user groups and the general public at the beginning of the planning process. The FWC engages stakeholders by convening a Management Advisory Group and solicits additional input from user groups and the general public at a public hearing (Appendix 13.2). The FWC also engages area, district, and regional agency staff, as well as other the FWC staff expertise, in developing this Management Plan, thereby facilitating area biologist and manager "ownership" of the Management Plan, and thus the development of meaningful management intent language, goals with associated measurable objectives, timelines for completion, and the identification of challenges and solution strategies for inclusion in the JBBWEA Management Plan (Sections 5 – 7).

Additional management planning input is received through Land Management Reviews (LMR) conducted every five years, which includes a review of the previous Management Plan, as well as a field review of the JBBWEA. The LMR report (Section 4.2) provides the FWC staff with important information and guidance provided by a diverse team of land management auditors, and communicates the recommendations of the LMR team to the FWC so they may be adequately addressed in this Management Plan, and thus guides the implementation of the LMR team recommendations on the JBBWEA.

Since the JBBWEA is a more recently acquired property, a LMR is yet to be completed for this area. Upon completion of a LMR for the JBBWEA, the FWC will incorporate it into the JBBWEA Management Plan. Additionally, the FWC maintains transparency and accountability throughout the development and implementation of this Management Plan. A "living document" concept, linking this updated Management Plan to the previous one, is accomplished by reporting on the objectives,

management activities, and projects accomplished over the last planning timeframe (previous ten years; see Section 4), thereby ensuring agency accountability through time. Also, in an effort to remain adaptive for the duration of this Management Plan, continuous input and feedback will be collected from the FWC staff, stakeholders, user groups, and other interested parties and individuals. As needed, amendments to this Management Plan will be presented to the DSL and the ARC for review and consideration.

1.2 Location

The JBBWEA is located northwest of Brooksville and north of Brooksridge, in Hernando County, Florida. As previously noted, the JBBWEA consists of one irregular shaped parcel of land with an area of approximately 319 acres. The JBBWEA is located within Sections 1 and 2, Township 22 South, Range 18 East, as shown in Figure 1. The JBBWEA is accessible from State Road 491 (eastern boundary), Bailey Road (southern boundary), and Centralia Road (located to the north of the JBBWEA).

The JBBWEA is bordered to the north by Fickett Hammock Preserve. The area east of the JBBWEA is owned by an industrial concrete company that has a mining operation on the site. The southern boundary borders rural areas of predominantly pasture, intact sandhill and pine plantation. A small subdivision exits to the west (aerial imagery Figure 2).

1.3 Acquisition

This parcel was originally donated to the TNC by Ms. Janet Butterfield Brooks with deed restrictions that do not allow any consumptive use of the property and general access by the public. The TNC donated the land now established as the JBBWEA to the FWC in 2008 with the same deed restrictions. The FWC approved acquisition of the JBBWEA through a donation of the land from the TNC under the FWC's Fish and Wildlife Habitat Program in June 2008. Title to the land is vested in the Board of Trustees, who approved the acquisition via donation through the DEP, DSL through a delegation of authority from the Board of Trustees.

1.4 Purpose of Acquisition

The FWC acquired the JBBWEA for the purpose of establishing a Gopher Tortoise Mitigation Park in order to provide optimum habitat for listed wildlife populations. The JBBWEA allows for limited access for environmental education and research opportunities guided and supervised by the FWC in accordance with the donation conditions and covenants.

The FWC implemented the Mitigation Park Program in 1988 to provide land use regulatory programs with an alternative to on-site wildlife mitigation under Section 372.074, F.S., which establishes the Fish and Wildlife Habitat Program for the purpose of acquiring, assisting other agencies or local governments in acquiring, or managing lands important to the conservation of fish and wildlife. Under this authority, the FWC, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife and compatible fish and wildlife based public outdoor recreation.

Gopher Tortoise Mitigation Parks provide conservation of important fish and wildlife habitat and public outdoor recreation within a multiple-use management regime that is primarily focused on restoration and management of gopher tortoise habitat. However, as noted above, no general public access to the JBBWEA is permitted due to the donation requirements.

Figure 1. JBBWEA Proximity Map with Section, Township and Range

Figure 2. JBBWEA Aerial Imagery

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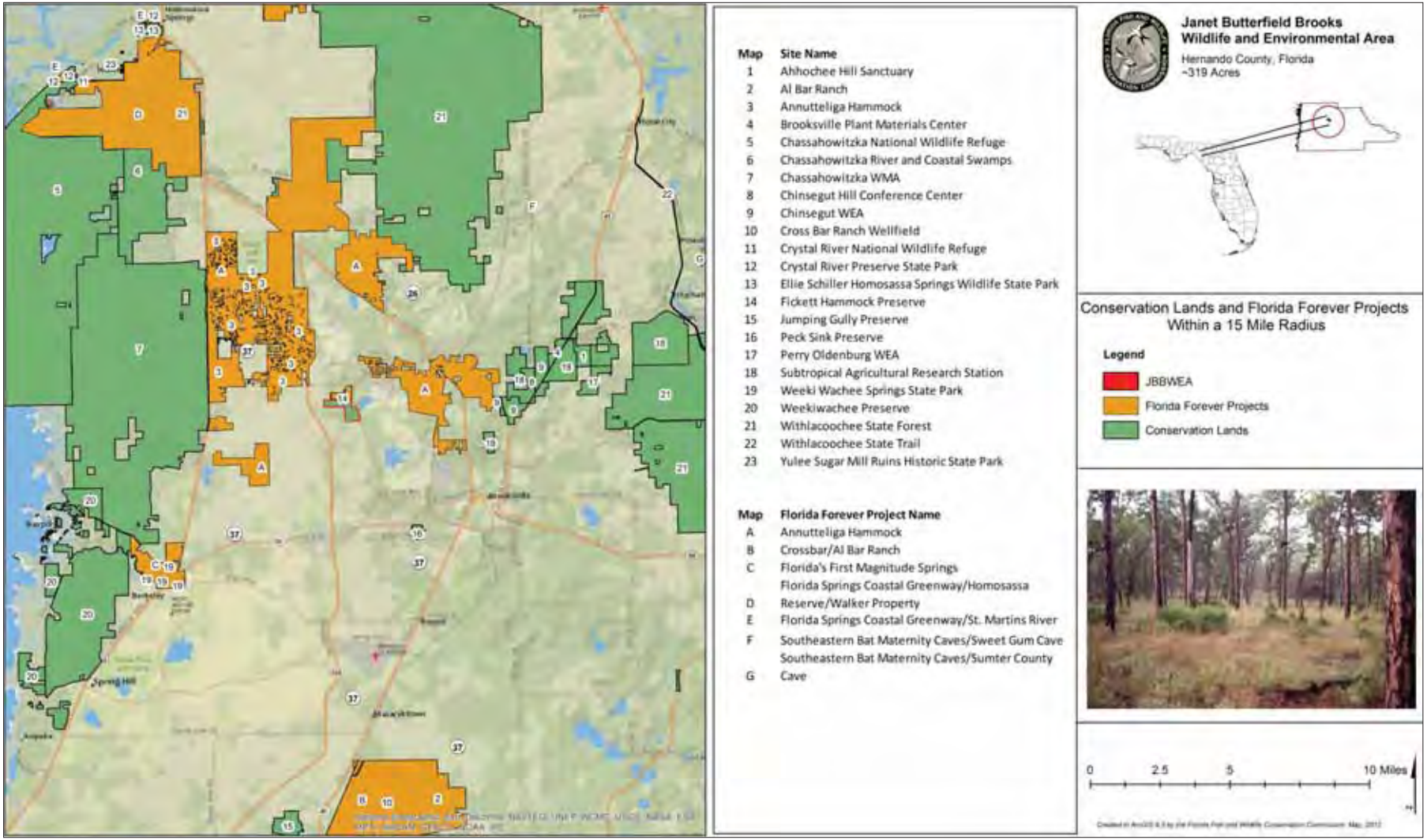

Figure 3. Conservation Lands and Florida Forever Projects within a 15 mile Radius of JBBWEA

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Table 1. Conservation Lands within a 15 mile Radius of the JBBWEA

State of Florida	Managing Agency
Chassahowitzka Wildlife Management Area	FWC
Chinsegut Wildlife and Environmental Area	FWC
Crystal River Preserve State Park	DEP
Ellie Schiller Homosassa Springs Wildlife State Park	DEP
Perry Oldenburg Wildlife and Environmental Area	FWC
Weeki Wachee Springs State Park	DEP
Withlacoochee State Forest	FFS
Withlacoochee State Trail	DEP
Yulee Sugar Mill Ruins Historic State Park	DEP

Local Government	Managing Agency
Al Bar Ranch	Pinellas County
Cross Bar Ranch Wellfield	Pinellas County
Fickett Hammock Preserve	Hernando County
Jumping Gully Preserve	Pasco County
Peck Sink Preserve	Hernando County

Water Management District	Managing Agency
Annutteliga Hammock	SWFWMD
Chassahowitzka River and Coastal Swamps	SWFWMD
Weekiwachee Preserve	SWFWMD

Federal Government	Managing Agency
Brooksville Plant Materials Center	USDA
Chassahowitzka National Wildlife Refuge	USFWS
Crystal River National Wildlife Refuge	USFWS
Subtropical Agricultural Research Station	USDA

US Charitable Environmental Organizations	Managing Agency
Ahhochee Hill Sanctuary	Florida Audubon Society, Inc.
Chinsegut Hill Conference Center	University of South Florida

Acronym Key	Agency Name
DEP	Florida Department of Environmental Protection
FFS	Florida Forest Service
FWC	Florida Fish and Wildlife Conservation Commission
SWFWMD	Southwest Florida Water Management District
USFWS	US Dept. of the Interior, Fish and Wildlife Service
USDA	US Dept. of Agriculture (unspecified)

Table 2. Florida Forever Projects within a 15 mile Radius of the JBBWEA

Project Name	Acreage
Annutteliga Hammock	24,771
Crossbar/Al Bar Ranch	12,440
Florida's First Magnitude Springs	1,264
Florida Springs Coastal Greenway (Homosassa Reserve)	9,901
Florida Springs Coastal Greenway (St. Martins River)	26,099
Southeastern Bat Maternity Caves (Sumter Co. Cave)	175
Southeastern Bat Maternity Caves (Sweet Gum Cave)	9

1.5 Management Authority

The FWC is the designated lead managing agency for the JBBWEA under the authority granted by Lease Number 4594 from the Board of Trustees through its agent, the DSL. 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, 372, 373, 375, 378, 403, 487, 870, and 597 and of the Florida Statutes. These constitutional provisions and laws provide the FWC the authority to protect, conserve, and manage the state's fish and wildlife resources.

1.6 Management Directives

The 50-year Board of Trustees' Lease Agreement Number 4594 with the FWC directs the FWC 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), FS..." 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), FAC, which have been selected, developed, or approved by lessor, lessee, or other land managing agencies for the protection and enhancement of the leased premises."

1.7 Title Interest and Encumbrances

As state-owned lands, title to the JBBWEA is vested in the Board of Trustees (Governor and Cabinet). In 2008, via donation through the DEP, DSL, as staff to the Board of Trustees, entered into Lease Agreement Number 4594, a 50 year lease agreement, granting the FWC management authority for the JBBWEA. No general public access to the JBBWEA is permitted due to the donation requirements. Limited access for environmental education and research opportunities are allowed if guided and supervised by the FWC in accordance with the donation conditions and covenants. There do not appear to be any outstanding title interests or encumbrances that impede the FWC's ability to manage the property in conformance with the lease requirements and management directives outlined above.

1.8 Proximity to Other Public Properties

The JBBWEA is in the vicinity of a large number of Florida Forever Projects and publicly and privately owned conservation areas and facilities, as shown in Figure 3. Tables 1 and 2 list the Florida Forever Projects and conservation lands, respectively, within a 15-mile radius of the JBBWEA, including lands managed by public and private entities, that conserve cultural and natural resources within this region of southwest Florida.

Most of the public conservation lands listed in Table 1 are owned in full fee by a public entity. However, some of these conservation lands are protected by less-than-fee conservation easements consisting primarily of privately owned and managed ranchlands with a public or private entity holding and monitoring a conservation easement. Conservation easements may be held by either public agencies or private entities, while the landowner who sells or otherwise grants the conservation easement retains the remaining title interests. The JBBWEA is not located within any Area of Critical State Concern (Chapter 380.05, F.S.).

1.9 Adjacent Land Uses

The area surrounding the JBBWEA is currently zoned for Agricultural Development and Conservation. This designation allows for agriculture and silviculture uses and related industries, natural resource conservation/preservation, and agriculture. Residential uses are allowed with a maximum density of one dwelling unit per ten acres.

Currently, the JBBWEA shares part of its northern boundary with the Fickett Hammock Preserve, a county park owned and managed by Hernando County. Rural and residential properties, including a large pasture, surround the rest of the tract. While the JBBWEA adjoins the footprint of the Annuteliga Hammock Florida Forever project, it is not within the project's boundary. Cemex, a concrete manufacturer, owns several hundred acres east of the JBBWEA where it currently operates a sand mining operation. The city of Brooksville is within 10 miles of the WEA.

The JBBWEA and the land occupied by Fickett Hammock Preserve along its northern border have a future land use designation of conservation. This designation permits timber harvesting only with a management plan and allows for a maximum residential density of one residential unit per forty acres. The land along the eastern border of the JBBWEA has the future land use designation of Mining. Land uses permitted by the Mining designation include mining activities, mining-related industry, and agriculture. The remainder of the land bordering the JBBWEA is designated Rural, which allows for agricultural uses and a residential density of one unit per ten acres.

1.10 Public Involvement

The FWC conducted a Management Advisory Group (MAG) meeting in Brooksville, Florida, on November 30, 2011, to obtain input from both public and private stakeholders regarding management of the JBBWEA. Results of this meeting were used by the FWC to develop management goals and objectives and to identify opportunities and strategies for inclusion in this Management Plan. A summary of issues and opportunities raised by the MAG, as well as a listing of participants, is included as

Appendix 13.2. Further, a public hearing, as required by Chapter 259.032(10), FS, was held in Brooksville, Florida, on January 12, 2012. The report of that hearing is also contained in Appendix 13.2. A website is also maintained for receipt of public input at http://mythe FWC.com/conservation/terrestrial/management-plans/develop-mps/ . Further testimony and input is received at a public hearing held by the ARC. Input received from all public involvement efforts has been considered in the development of this Management Plan.

2 Natural and Cultural Resources

2.1 Physiography

The JBBWEA is located within the Brooksville Ridge. The Brooksville Ridge occupies most of Hernando County and extends easterly from about U.S. Highway 19 to U.S. Highway 301. The Brooksville Ridge is made up of two distinct parts: the eastern/western edges and a central area.

2.1.1 Climate

The climate of Hernando County, like most of Florida, is humid and subtropical. Between October and May, cold fronts regularly sweep through the state which keeps conditions dry, particularly over the peninsula. In winters where an El Niño climate cycle exists, rainfall increases while temperatures are cooler statewide. Beginning in the spring, towards the end of the dry season, lightning originated wild fires become more common. There is a defined rainy season from June through September, which are also the months most at risk of tropical cyclones making landfall in the region. Easterly winds off the warm waters of the Gulf Stream running through the Florida Straits keep temperatures moderate across the central peninsula year round.

The average annual maximum temperature for the City of Brooksville during the period 1892 to 2012 was 82º Fahrenheit (F). The average minimum annual temperature for the same period was 60.8º F. Historically, the lowest average temperatures have occurred in January and the highest average temperatures have occurred in July and August. Annually, Brooksville experiences an average total rainfall of 55 inches.

2.1.2 Topography

The rolling, deep, sandy ridges on the western and eastern edges are dominated by deep, sandy soils with numerous depressions and sinks. Elevations range from about 75 to 100 feet in the western part and from about 50 to 100 feet in the eastern part. Natural vegetation on these deep, sandy soils is mostly turkey oak, blue jack oak, post oak, scrub live oak, scattered longleaf pine, and an understory of pineland three-awn. In places, there are small ponds with sandy bottoms.

The central part of the Brooksville Ridge ranges in elevation from about 100 feet to more than 200 feet. This rolling area consists of poorly drained to well drained, sandy to clayey soils. Natural forest

vegetation consists of pine and hardwoods. Much of this area is cleared and used for crops and pasture. Land elevation at the JBBWEA ranges from approximately 120 to 200 feet.

2.1.3 Soils

Twelve soil map units were identified at the JBBWEA based on a review of the Soil Survey of Hernando County, Florida, Soil Conservation Survey.

The U.S. Department of Agriculture, Natural Resources Conservation Service 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. Figure 4 provides aggregation data for the JBBWEA map units, including a more complete listing of attributes and soil minor components. Figure 5 provides depth to water table information for the soil types found at the JBBWEA.

2.1.4 Geologic Conditions

The only geologic unit found at the JBBWEA is Miocene. The undifferentiated Hawthorn Group occurs at or near the surface near the southern flank of the Ocala Platform from Gilchrist County southward to Pasco County with isolated occurrences in Pinellas County. Correlation of these sediments to the formations of the Hawthorn Group exposed to the east and in the subsurface is uncertain. There is little to no phosphate present in these sediments and fossils are rare. Ages have not been documented but stratigraphic position suggests inclusion in the Hawthorn Group. These sediments may be residual from the weathering and erosion of the Hawthorn Group.

The Hawthorn Group sediments on the Brooksville Ridge are deeply weathered and in some outcrops look like Cypresshead Formation siliciclastics. The undifferentiated Hawthorn Group sediments are light olive gray and blue gray in non-weathered sections to reddish brown in deeply weathered sections, poorly to moderately consolidated, clayey sands to silty clays and relatively pure clays. These sediments are part of the intermediate confining unit/aquifer system and provide an effective aquitard, except where perforated by karst features. Hard-rock phosphate deposits are associated with the undifferentiated Hawthorn Group sediments on the eastern flank of the Brooksville Ridge. The hard rock phosphate deposits were formed by the dissolution of phosphate in the Hawthorn sediments and redeposition in karst features. The major mineral resources of Hernando County which have been, or potentially could be economically important are limestone and sand. Limestone, sand and associated gravel are mined for use in construction and various other industrial purposes.

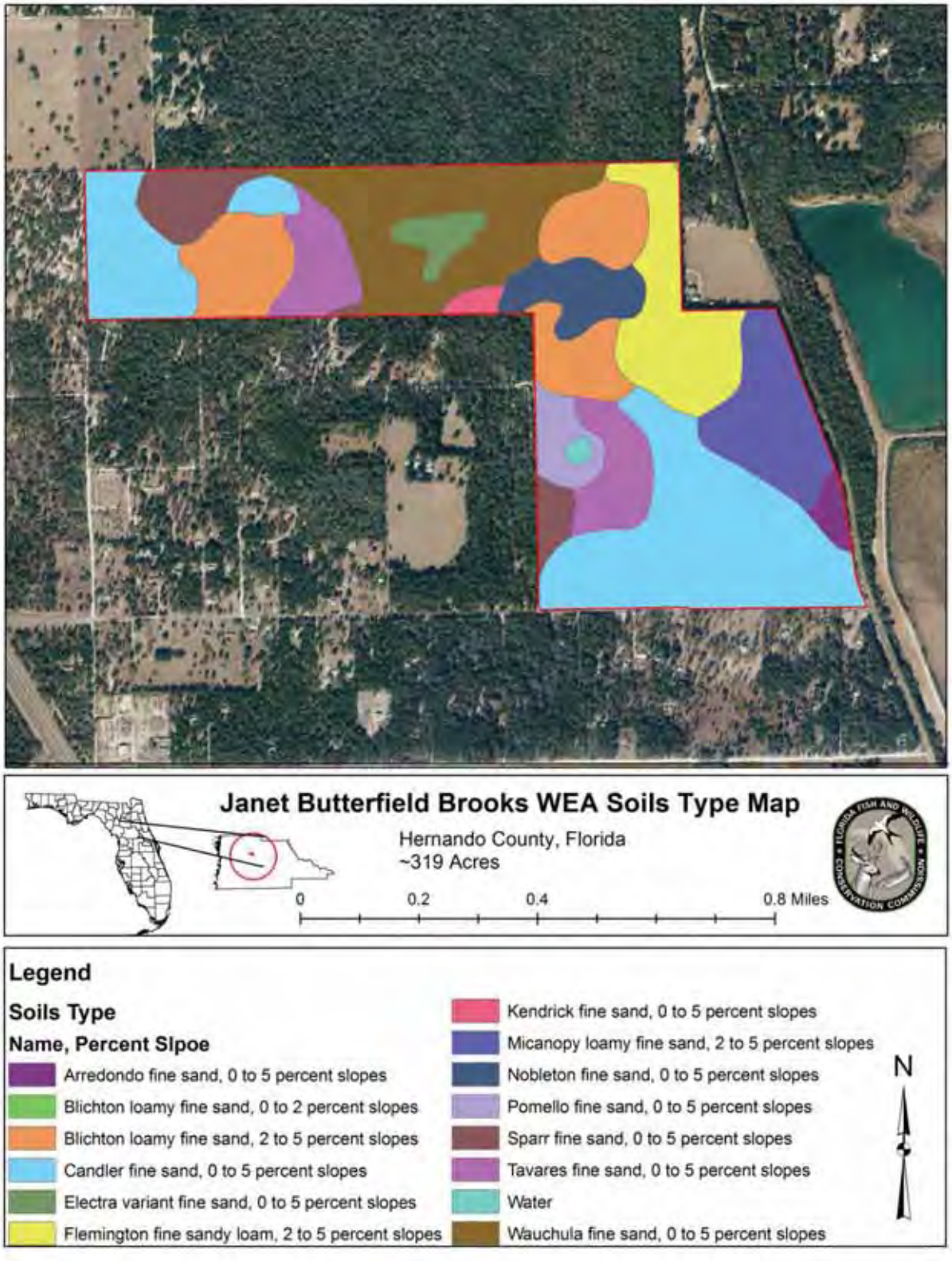


Figure 4. JBBWEA Soils Type

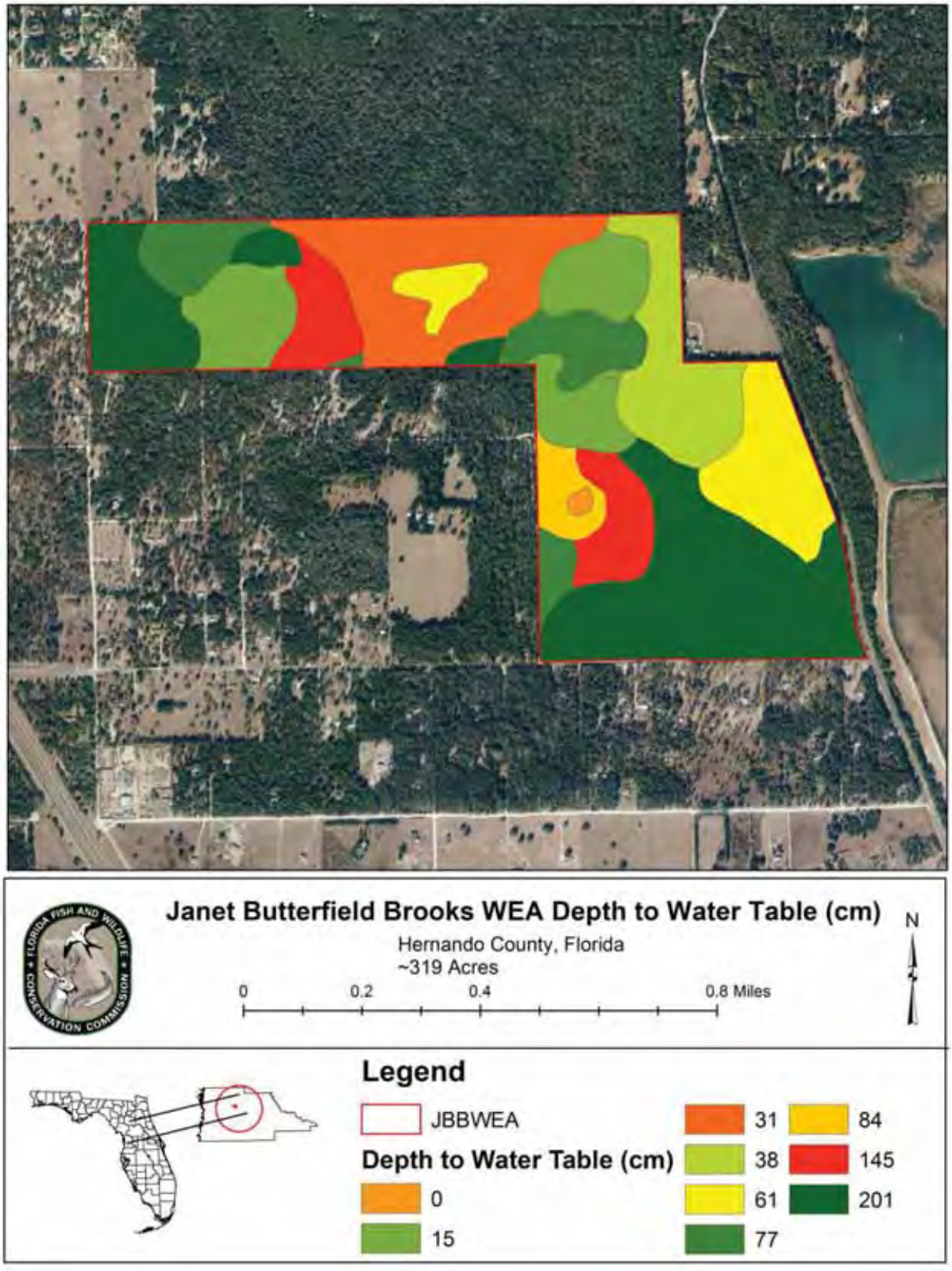


Figure 5. JBBWEA Depth to Water Table

2.2 Vegetation

The JBBWEA is composed of a single parcel of land. Geo-rectified aerial photography from 1940 was utilized in delineating historic natural communities. Historic aerial photography gives insight into natural condition, past management and land use, but is insufficient to exactly determine historic community structure and composition of many areas. Examination of 2007 true color imagery, 2004 true color DOQQs, 1999 Infrared DOQQs, 1995 Infrared DOQQs and input from the area manager helped determine the natural communities that are present at the JBBWEA. The FWC has completed the mapping of the historic and current natural communities of the JBBWEA through the services of the Florida Natural Areas Inventory (FNAI) using Geographic Information System (GIS) computer software.

A total of eight historic and current natural plant communities at the JBBWEA have been identified and mapped by the FNAI for the FWC and are shown in Figures 6 and 7 respectively. A total of six invasive exotic plants were documented on the area including mimosa, coral ardisia, camphor tree, cogon grass, old world climbing fern, and skunk vine are considered Category I species by the Florida Exotic Pest Plant Council. Caesar's weed was also documented and is a Category II species. No rare plant species were observed during this survey.

Table 3. Exotic Invasive Plant Species Observed on the JBBWEA

Common Name	Scientific Name
Coral ardisia	*Ardisia crenata*
Caesar's weed	*Urena lobata*
Camphor tree	*Cinnamomum camphora*
Cogon grass	*Imperata cylindrica*
Mimosa	*Albizia julibrissin*
Old world climbing fern	*Lygodium microphyllum*
Skunk vine	*Paederia foetida*

Table 4. Plant Species Observed at the JBBWEA

Common Name	Scientific Name

Common Name	Scientific Name
Adam's needle	*Yucca filamentosa*
Beaked panicum	*Panicum anceps*
American strawberrybush	*Euonymus americanus*
Arrowfeather threeawn	*Aristida purpurascens*
American hornbeam	*Carpinus caroliniana*
Bahiagrass	*Paspalum notatum*
Bartram's air-plant	*Tillandsia bartramii*
Beaksedge	*Rhynchospora sp.*
Bedstraw	*Galium sp.*
Big carpetgrass	*Axonopus furcatus*
Blackroot	*Pterocaulon pycnostachyum*
Blazing star	*Liatris sp.*
Bluejack oak	*Quercus incana*
Bluestem	*Andropogon sp.*
Bluestem palmetto	*Sabal minor*
Bracken fern	*Pteridium aquilinum*
Bully	*Sideroxylon sp.*
Cabbage palm	*Sabal palmetto*
Canada goldenrod	*Solidago canadensis var. scabra*
Candyroot	*Polygala nana*
Carolina frostweed	*Helianthemum carolinianum*
Carolina laurel cherry	*Prunus caroliniana*
Cat greenbrier	*Smilax glauca*
Centipede grass	*Eremochloa ophiuroides*
Chalky bluestem	*Andropogon virginicus var. glaucus*
Cinnamon fern	*Osmunda cinnamomea*
Coastalplain chaffhead	*Carphephorus corymbosus*
Coastalplain staggerbush	*Lyonia fruticosa*
Common blue violet	*Viola sororia*
Common buttonbush	*Cephalanthus occidentalis*
Creeping primrosewillow	*Ludwigia repens*
Dogfennel	*Eupatorium capillifolium*
Dogtongue wild buckwheat	*Eriogonum tomentosum*
Earleaf greenbrier	*Smilax auriculata*
Eastern hophornbeam	*Ostrya virginiana*
Eastern poison ivy	*Toxicodendron radicans*
Eastern poison oak	*Toxicodendron pubescens*
Ebony spleenwort	*Asplenium platyneuron*

Common Name	Scientific Name
Elliott's bluestem	*Andropogon gyrans*
Fetterbush	*Lyonia lucida*
Florida bully	*Sideroxylon reclinatum*
Florida greeneyes	*Berlandiera subacaulis*
Florida Indian-plantain	*Arnoglossum floridanum*
Florida maple	*Acer saccharum ssp. Floridanum*
Forked bluecurls	*Trichostema dichotomum*
Gallberry	*Ilex glabra*
Gopher apple	*Licania michauxii*
Hercules' club	*Zanthoxylum clava-herculis*
Hoary-pea	*Tephrosia sp.*
Humped bladderwort	*Utricularia gibba*
Lanceleaf greenbrier	*Smilax smallii*
Large gallberry	*Ilex coriacea*
Live oak	*Quercus virginiana*
Loblolly bay	*Gordonia lasianthus*
Loblolly pine	*Pinus taeda*
Longleaf pine	*Pinus palustris*
Lopsided indiangrass	*Sorghastrum secundum*
Lovegrass	*Eragrostis sp.*
Lyreleaf sage	*Salvia lyrata*
Maiden fern	*Thelypteris sp.*
Maidencane	*Panicum hemitomon*
Maryland goldenaster	*Chrysopsis mariana*
Muscadine	*Vitis rotundifolia*
Narrowleaf silkgrass	*Pityopsis graminifolia*
Needle palm	*Rhapidophyllum hystrix*
Partridgeberry	*Mitchella repens*
Pignut hickory	*Carya glabra*
Prickly pear	*Opuntia humifusa*
Primrosewillow	*Ludwigia sp.*
Red cedar	*Juniperus virginiana*
Red maple	*Acer rubrum*
Resurrection fern	*Pleopeltis polypodioides var. michauxiana*
Roughleaf dogwood	*Cornus asperifolia*
Roundleaf bluet	*Houstonia procumbens*
Sand live oak	*Quercus geminata*
Sand post oak	*Quercus margaretta*

Common Name	Scientific Name
Sarsaparilla vine	*Smilax pumila*
Saw greenbrier	*Smilax bona-nox*
Saw palmetto	*Serenoa repens*
Sedge	*Carex sp.*
Shiny blueberry	*Vaccinium myrsinites*
Shortleaf wild coffee	*Psychotria sulzneri*
Skunkvine	Paederia foetida
Slender flattop goldenrod	*Euthamia caroliniana*
Soft rush	*Juncus effusus ssp. solutus*
Sour orange	*Citrus x aurantium*
Southern arrowwood	*Viburnum dentatum*
Southern magnolia	*Magnolia grandiflora*
Southern needleleaf	*Tillandsia setacea*
Spanish moss	*Tillandsia usneoides*
Sparkleberry	*Vaccinium arboreum*
Sugarberry	*Celtis laevigata*
Summer farewell	*Dalea pinnata*
Swamp chestnut oak	*Quercus michauxii*
Swamp laurel oak	*Quercus laurifolia*
Sweet goldenrod	*Solidago odora*
Sweetbay	*Magnolia virginiana*
Sweetgum	*Liquidambar styraciflua*
Tall elephantsfoot	*Elephantopus elatus*
Trumpet honeysuckle	*Lonicera sempervirens*
Turkey oak	*Quercus laevis*
Virginia chain fern	*Woodwardia virginica*
Virginia creeper	*Parthenocissus quinquefolia*
Walter's viburnum	*Viburnum obovatum*
Water oak	*Quercus nigra*
Wax myrtle	*Myrica cerifera*
White crownbeard	*Verbesina virginica*
Wild coffee	*Psychotria nervosa*
Wild pennyroyal	*Piloblephis rigida*
Winged elm	*Ulmus alata*
Winged sumac	*Rhus copallinum*
Wiregrass	*Aristida stricta var. beyrichiana*
Woodoats	*Chasmanthium sp.*
Yellow jessamine	*Gelsemium sempervirens*

2.2.1 FNAI Natural Community Descriptions

As noted above, the JBBWEA contains the southernmost extent of the unique Annutteliga Hammock. This feature is a vast mix of mesic hammock, upland hardwood forest, and bottomland forest that contains unusual plant assemblages found nowhere else within the state. The clay laden soils, karst topography with limestone at or near the soil surface, natural fire exclusion, and southern and northern limits of many plant species, all combine in this area of the state to form the Annutteliga Hammock. Sandhill at the JBBWEA contains exceptional quality groundcover and reference condition forest structure. This high quality natural community can harbor a high density population of gopher tortoises. A total of eight natural or anthropogenic communities exist on the JBBWEA. The percentages for each community type are listed in Table 5.

Table 5. Vegetative Community Percentages of the JBBWEA

Vegetative Community	Percentage
Baygall	0.32%
Bottomland Forest	1.58%
Depression Marsh	0.32%
Mesic Flatwoods	9.78%
Mesic Hammock	16.72%
Sandhill	39.43%
Upland Hardwood Forest	18.61%
Upland Pine	13.25%

The following descriptions of the vegetative communities found on the JBBWEA were prepared by FNAI and modified by the FWC.

Natural Communities

Baygall is an evergreen, forested wetland of bay species with an open dense tree canopy and is situated at the base of a slope or in a depression. This is a small community at the JBBWEA as it occupies less than one acre. The canopy includes loblolly bay and sweetbay. Large gallberry is the primary shrub. Herbaceous species are typically absent or few in baygall and are represented here by two exotic species: old world climbing fern and Caesar's weed. These species are found along the forest perimeter where offsite disturbance is high.

Bottomland forest is characterized as a low-lying, closed-canopy forest of tall, straight trees with either a dense shrubby understory and little ground cover, or an open understory and groundcover of ferns, forbs, and grasses. The JBBWEA supports two examples of this community with a combined acreage of just under five acres. This community occurs as a transition zone between hydric communities and surrounding forested uplands. The bottomland forest in the extreme southeastern portion of the property contains an unusual sinkhole-like community that appears to hold water year round. This included community is less than half an acre and therefore was not mapped as a separate community.

Canopy constituents of bottomland forest at the JBBWEA include sweetgum, swamp laurel oak, live oak, and cabbage palm. These same species, with the exception of live oak, are also found within the sub-

canopy layer. Other species include American hornbeam, common buttonbush, sweetgum, southern magnolia, bluestem palmetto, and cabbage palm. The sparse herbaceous layer includes big carpet-grass, sedge, beaked panicum, and non-native Caesar's weed.

Depression marshes are typically small wetlands that are round in shape and are dominated by herbaceous species. These marshes often dry out during periods of low rainfall, and as a result, burn more frequently and completely than basin marshes. The substrate is usually sand with deepening peat toward the center. Because water depth in depression marshes usually increases toward the center, vegetation typically forms distinctive zones corresponding to water depth and permanence. Only one example of depression marsh exists at the JBBWEA. This community is currently surrounded by mesic hammock.

The sparse canopy of trees includes sweetgum. Sub-canopy trees are lacking. The moderately dense shrub stratum includes common buttonbush, wax myrtle, and immature, sweetgums and loblolly pines. Terrestrial, emergent and aquatic herbs present within this depression marsh are bluestem, chalky bluestem, dog-fennel, soft rush, creeping primrose willow, primrose willow, maidencane, beaksedge, humped bladderwort, and Virginia chain fern. Epiphytes are limited to Spanish moss.

Mesic flatwoods are characterized by an open canopy of tall pines and a dense, low ground layer of low shrubs, grasses, and forbs. This community occupies 30 acres of the JBBWEA, a reduction of some 18 acres from its historic extent. Reduced fire frequency has allowed mesic hammock to expand into these former mesic flatwoods. Historically, mesic flatwoods gently graded into hammock as dictated by irregular natural fire events. This community is naturally protected from fire by its topographic landscape position, its adjacency to the greater Annutteliga Hammock, and being partially isolated from fire by the seepage stream to the east.

The moderate to well-developed canopy includes mature longleaf pine and loblolly pine. The sparse sub-canopy layer is limited to longleaf pine and live oak. The shrub stratum is quite dense, especially for species less than six feet. Shrub species within mesic flatwoods are coastal plain staggerbush, wax myrtle, wild pennyroyal, water oak, winged sumac, and saw palmetto. The density of the shrub layer naturally reduces herb diversity and cover to small amounts of bluestem, wiregrass, candyroot, bracken fern, sweet goldenrod, and the invasive exotic cogon grass. The herbaceous groundcover was presumably always is sparse. Vines are observed infrequently, but include yellow jessamine and earleaf greenbrier.

Mesic hammocks are closed-canopy forests of temperate hardwood species occurring along wetlands or as islands within wetlands where they are sheltered from fire. Fire is rare, and when mesic hammocks burn they may convert to the pyrogenic community they border. The mesic hammock and upland hardwood forest at the JBBWEA account for the southern terminus of the unique Annutteliga Hammock. Canopy trees within the mesic hammock include red cedar, sweetgum, loblolly pine, sand live oak, swamp chestnut oak, water oak, and live oak. Sub-canopy species include sweetgum, coastal plain staggerbush, southern magnolia, sand live oak, swamp laurel oak, water oak, and live oak. Shrubs are quite dense throughout the area's mesic hammocks and associated species are gallberry, coastal plain staggerbush, fetterbush, saw palmetto, sparkleberry, southern arrowwood, Walter's viburnum, and immature sweetgum, southern magnolia, sand live oak, water oak,and live oak.

Neither epiphytes nor vines are a common component although Spanish moss and cat greenbrier are present, respectively. The herbaceous layer of mesic hammocks is often sparse or nonexistent, as at the JBBWEA. The size, species composition, and amount of variation within the mesic hammock community at the JBBWEA and in the greater Annutteliga Hammock region are unique to the state. Here many plants find safe harbor either at their northern or southern range limits, depending upon species. Often times the distinction between mesic hammock and upland hardwood forest becomes inseparable. For this site, these two communities often form a unique mosaic forest.

Sandhill is characterized by a canopy of widely spaced longleaf pine trees, a sparse midstory of deciduous oaks, and a moderate to dense groundcover of grasses, forbs, and low shrubs occurring over a rolling topography with deep, well drained sands. Sandhill communities occur primarily in north and central Florida atop ridges of relatively nutrient poor, sandy soils. Longleaf pine is usually the dominant overstory canopy species. Turkey oak is most often the dominant understory oak species, and was probably the canopy dominant in some fire environments. However, blue-jack oak is sometimes a dominant, or co-dominant understory oak species. Natural recruitment of longleaf pine may be episodic and infrequent in some areas. However, the life-history characteristics of longleaf pine apparently make it better adapted than other pine species to the rigors of sandhill environments. Ages of longleaf pine specimens in old-growth natural areas have been observed to span several centuries, with the oldest specimens perhaps exceeding 500 years of age.

Natural, undisturbed, sandhill ground cover often includes a high diversity of grasses and forbs. Wiregrass is the dominant ground cover species in many longleaf pine-dominated communities in Florida. Its fine-scale spatial distribution, long life span, population persistence, pyrogenicity, and other characteristics make it a keystone species which affects the composition and structure of sandhill communities. Together, the animal and plant inhabitants of sandhills function in the ecosystem processes which cycle nutrients and water, decompose organic, matter produce, and consume organic matter, pollinate plants, and other important functions.

Temporary wetlands are an integral part of sandhill landscapes and provide breeding and foraging habitat for many wildlife species. The vegetative structure of the sandhill community is sustained by ground

fires with short return intervals. Such frequent fire reduces hardwood dominance and promotes flowering of a high diversity of shade-intolerant grasses and forbs. In the absence of fire the sandhill community eventually succeeds into a xeric hammock community, which differs from sandhill compositionally and ecologically.

Sandhill occurs on the southernmost and westernmost portions of the JBBWEA. Portions of these sandhills that are receiving regular fire represent high quality examples of this natural community. The primary canopy tree is longleaf pine with swamp laurel oak and water oak co-occurring in more fire excluded sections of this community. Common associates within the sub-canopy are longleaf pine, Carolina laurel cherry, turkey oak swamp laurel oak, water oak, live oak, and cabbage palm. These same species also occur in the shrub layer and are complemented by gopher apple, coastal plain staggerbush, wax myrtle, prickly pear, bluejack oak, sand post oak, winged sumac, saw palmetto, Florida bully, shiny blueberry, southern arrowwood, Walter's viburnum, Adam's needle, and Hercules' club. Herbaceous species are correspondingly more common in well-burned areas of sandhill and are represented by Elliott's bluestem, arrowfeather threeawn, wiregrass, Florida Indian-plantain, Florida greeneyes, coastal plain chaffhead, Maryland golden aster, summer farewell, tall elephants' foot, centipede grass, dogtongue wild buckwheat, slender flattop goldenrod, Carolina frostweed, roundleaf bluet, blazing star, narrow leaf silkgrass, bracken fern, blackroot, lopsided Indian grass, forked blue curls, common blue violet, and the invasive exotic cogon grass. Cogon grass is most common along the southern boundary/road interface. Wiregrass is common at this site and creates a continuous fine fuel layer across the forest floor of this community. Vines are not a significant sandhill component, but do include earleaf greenbrier. This community also harbors a very high density population of gopher tortoises. Many areas of sandhill at the JBBWEA are currently in reference quality condition. Invasive exotic plant management and fire will be the primary management regimes used to manage this sensitive community.

Seepage streams are characterized as perennial or intermittent seasonal water courses sheltered by a dense overstory of broad-leaved hardwoods. These relatively short, shallow, and narrow streams originate from shallow ground waters that have percolated through deep, sandy, upland soils. Seepage streams at the JBBWEA occur at two locations within mesic hammock.

The canopy layer of adjacent mesic hammock community includes red cedar, loblolly pine, swamp chestnut oak, and live oak. Sub-canopy components are southern magnolia and swamp laurel oak. Typical shrubs within the seepage stream community are coastal plain staggerbush, saw palmetto, and sparkleberry. The dense overstory usually restricts most herbaceous and aquatic plant growth and no species were recorded in either area. Spanish moss is the only observed epiphyte. This community cuts a deep and narrow channel into the sandy soil profile of this site. Limestone cobbles cover the stream bottom, often forming small cascades as the water falls to lower elevations downstream. This is a fine example of a seepage stream community type. Disturbances to the surrounding mesic hammock that buffers this community should be avoided to prevent erosion and water quality degradation to the seepage stream.

Sinkholes are generally characterized as cylindrical or conical depressions with steep walls, often with exposed limestone. This community can also be sand-lined, with or without a seasonal water table at the surface. This depends on the age and development of the sink. More recently created sinks have exposed

sand. A single sinkhole exists at the JBBWEA and is surrounded by bottomland forest. This community is vulnerable to erosion and other general soil disturbances.

The surrounding canopy of the sinkhole community is often semi-closed or closed and includes red maple, sweet-gum, swamp laurel oak, and water oak. The only shrub growing within the sinkhole is common buttonbush. Epiphytes growing in the surrounding canopy trees are restricted to southern needleleaf. Vines are represented by muscadine and occur occasionally.

Upland hardwood forest is a well-developed, closed-canopy forest dominated by deciduous hardwood trees on mesic soils in areas sheltered from fire. This community typically has a diverse assemblage of deciduous and evergreen tree species in the canopy and midstory, shade-tolerant shrubs, and a sparse groundcover. The moisture retentive properties of clayey soils 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, helping to maintain high relative humidity within the community.

The diverse and well-developed canopy layer includes pignut hickory, sugarberry, sweet-gum, southern magnolia, eastern hop hornbeam, loblolly pine, Carolina laurel-cherry, swamp laurel oak, swamp chestnut oak, water oak, and live oak. These species also occur in the sub-canopy together with Florida maple, red cedar, and cabbage palm. Among the shade tolerant species are Florida maple, American hornbeam, roughleaf dogwood, eastern hop hornbeam, wild coffee, shortleaf wild coffee, swamp laurel oak, water oak, needle palm, saw palmetto, cabbage palm, Florida bully, bully, winged elm, sparkleberry, and non-native sour orange. The herbaceous layer, by contrast, is sparse but includes ebony spleenwort, woodoats, bedstraw, partridgeberry, sarsaparilla vine, white crown-beard, and common blue violet. Epiphytes present within the upland hardwood forest are resurrection fern, Bartram's air-plant, and Spanish moss. There is an abundance of vines, including yellow jessamine, trumpet honeysuckle, skunkvine, Virginia creeper, earleaf greenbrier saw greenbrier, cat greenbrier, lanceleaf greenbrier, eastern poison ivy, and muscadine. Exotic plant species in this community occur infrequently and include mimosa, coral ardisia, camphor tree, cogon grass, and skunk vine. It should noted that wild coffee and shortleaf wild coffee grow as a dominant groundcover cover species in this community and typically do not exceed one foot in height. This occurrence is approaching the northern limit of both species' natural range. This community reaches its southern limit within the state at this location. Many of the northern upland hardwood forest species begin transitioning here to vegetation

more representative of a hammock community. Both of these communities occur at the JBBWEA and within the greater Annutteliga Hammock region in a complex mosaic where the distinction between the two is often indistinct.

Wet flatwoods are forests with an open pine canopy and an understory of hydrophytic herbaceous and shrub species. A single example of this community occurs at the JBBWEA as mesic flatwoods transitions to baygall. This community is represented as an included feature within the mesic flatwoods community. The canopy is comprised solely of loblolly pine. Sub-canopy species are loblolly bay, sweetgum, and sweetbay. The dense shrub cover in this community is limited to large gallberry, and wax myrtle. Cinnamon fern is the primary herbaceous species. Vines within this wet flatwoods community are abundant and are represented by cat greenbrier, lanceleaf greenbrier, and muscadine.

Anthropogenic Communities

Ruderal communities are areas where the historic natural community has been overwhelmingly altered as a result of human activity. The only identified ruderal land at the JBBWEA is a cleared area that once served as a visitor parking lot. Herbaceous species are the primary plants growing at this location and include lyreleaf sage, Canada goldenrod, non-native bahia-grass, and invasive cogon grass. Eastern poison oak is also present. This community and other small inclusions of ruderal lands are below the minimum mapping unit acreage established for this project.

2.2.2 Forest Resources

Forest resources include the natural pine stands found within the sandhill, bottomland forests, mesic flatwoods, mesic hammocks, upland harwoods forest and wet flatwoods communities. Forested wetland communities include the depression marsh, seepage stream and sinkhole communities.

A timber assessment of the timber resources of the JBBWEA will be conducted by the Florida Forest Service (FFS) or a professional forestry consultant. The management of timber resources will be considered in the context of this Timber Assessment and the overall land management goals and activities.

Pursuant to management goals developed in concert with the purposes of acquisition, the FWC will continue to manage timber resources on the JBBWEA for wildlife benefits and natural community restoration. While timber harvesting and thinning are unavailable management activities due to the donation restrictions that prohibit any consumptive uses, a salvage timber harvest may be required in the future as a result of wildfire, pine beetle infestation or other natural disaster. 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.

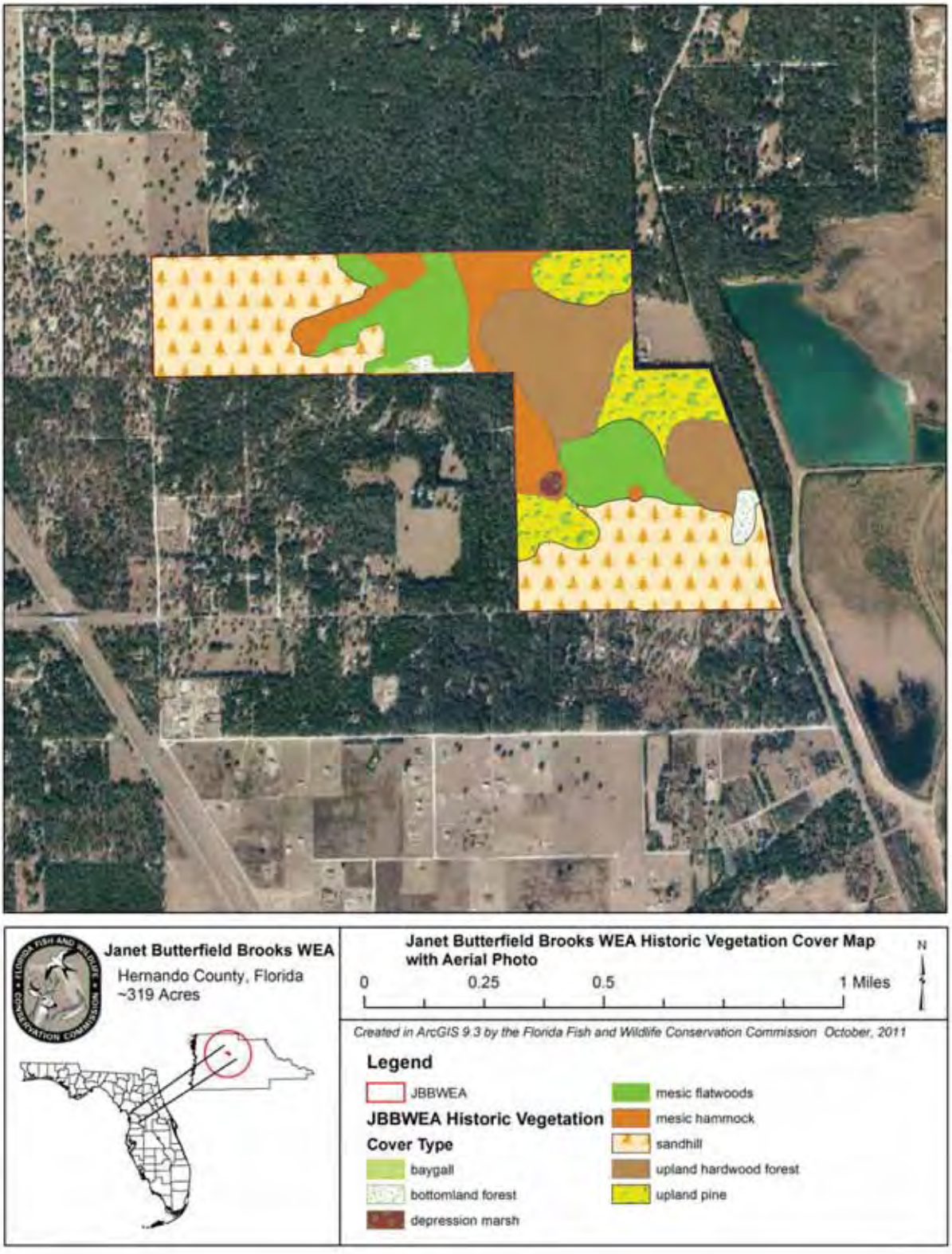


Figure 6. JBBWEA Historic Vegetation Cover Type Map

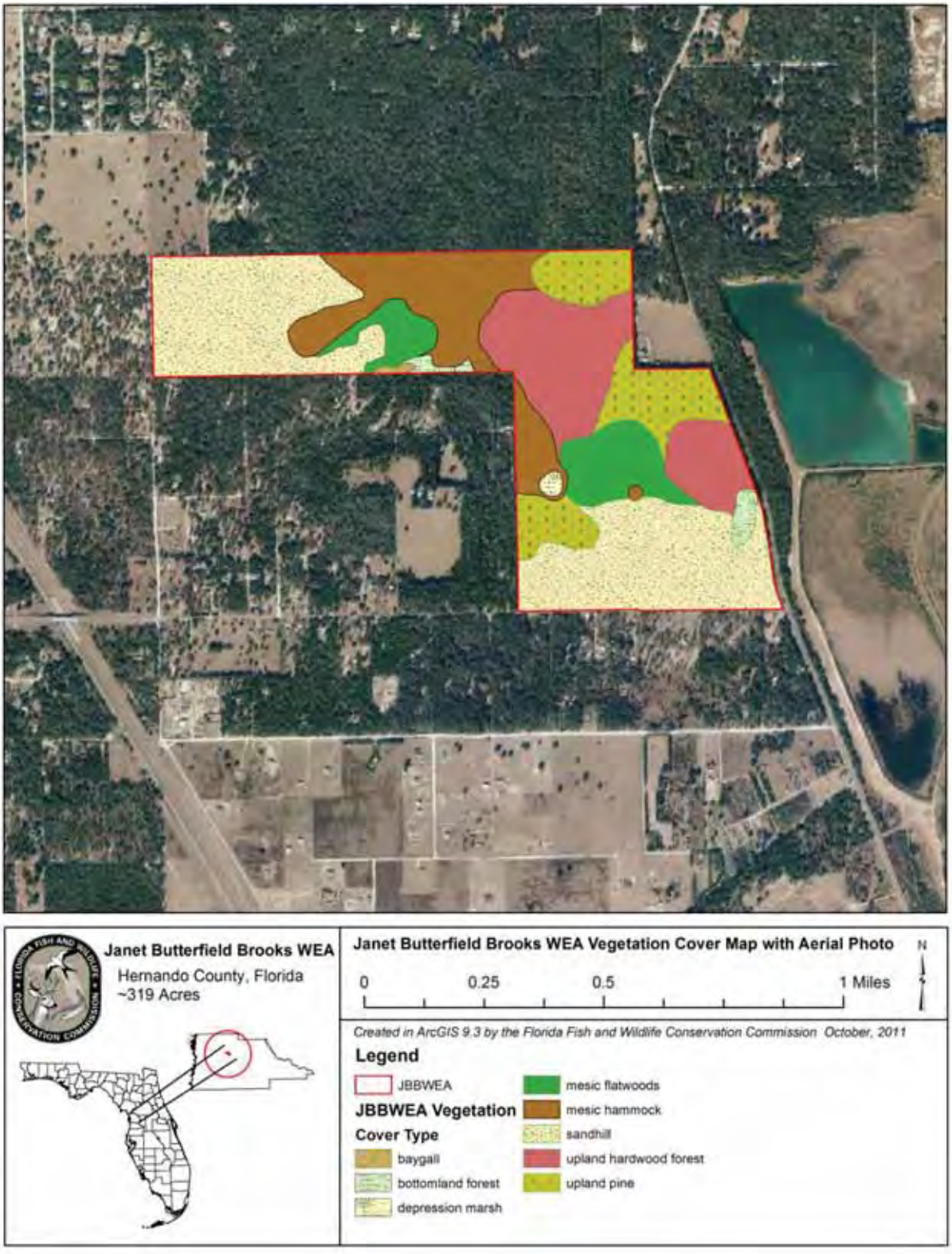


Figure 7. JBBWEA Vegetation Cover Type Map

2.3 Fish and Wildlife Resources

Due to the variety of natural communities, a diversity of associated wildlife, including rare and imperiled species, common game and non-game species can be found on the JBBWEA (Tables 6-9). In managing for wildlife species, an emphasis will be placed on conservation, protection, and management of natural communities. Natural communities important to wildlife on the JBBWEA include sandhill, upland hardwood forest, mesic hammock, upland pine, and mesic flatwoods among others.

Wildlife management emphasis is placed on documenting the occurrence and abundance of rare and imperiled species on the property. Following species inventory work, management practices will be designed to restore, enhance or maintain imperiled species and their habitats. The diversity and interspersion of plant communities at the JBBWEA creates a habitat mosaic for a variety of wildlife species. Resident wildlife will be managed for optimum diversity and abundance. Since the JBBWEA was acquired to establish a gopher tortoise mitigation park, restoration and enhancement of xeric soils communities (primarily sandhill) will be a resource management priority.

In addition to resident wildlife, the JBBWEA provides resources critical to many migratory birds. Habitats important to migratory species will be protected, maintained or enhanced. The FWC will continue to update inventories for certain species, with emphasis on rare and imperiled wildlife species. Monitoring of wildlife species will continue as an ongoing effort for the area.

An inventory of amphibian and reptile species occurring on the JBBWEA is not yet available. The federally-listed Threatened eastern indigo snake and State Species of Special Concern Sherman's fox squirrel also occur on site. The state Threatened Southeastern American kestrel has used a nest box on this tract periodically since 2011. An inventory of bird species occurring on the JBBWEA is not yet available. However, a list of bird species breeding within Hernando County is taken from the Florida Breeding Bird Atlas. Also included on this list are birds which typically occur in sandhill communities and are more likely to occur on JBBWEA.

The JBBWEA falls within a designated Strategic Habitat Conservation Area for the Florida mouse, Cooper's hawk, and American swallow-tailed kite as established by the FWC.

Rare and imperiled species and their habitats will be protected and restored by following approved Federal and the FWC recovery plans, guidelines, and other scientific recommendations. Land management activities including prescribed burning and timber stand improvements will take into account imperiled species requirements and habitat needs. Potential for negative impacts from educational and research activities will also be considered and monitored.

An FWC Wildlife Conservation Prioritization and Recovery (WCPR) Species Management Strategy was completed for the JBBWEA in March 2013. Using the statewide landcover based habitat maps, it was determined that of the 62 focal species, 13 species and one group were modeled to have potential habitat on the JBBWEA (Table 7). See Section 4.5.2 for a detailed description of the WCPR program. Except for those species identified with an alphabetical superscript, workshop participants and expert reviewers determined that ongoing management would meet the needs of the species. In the following species list, we use an ^{A} to denote species for which a measurable objective is identified, a ^{B} for species for which some level of monitoring is recommended, a ^{C} for species for which a SMA is recommended, and a ^{D} for species for which species management is recommended. For species with no alphabetical superscripts, participants and reviewers agreed there is no need for measureable objectives, monitoring, Strategic Management Areas (SMAs), or species-specific management. 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 *.

The FWC has developed a GIS based assessment tool that incorporates a wide variety of land cover and wildlife species data. This tool, the Integrated Wildlife Habitat Ranking System (IWHRS), ranks the Florida landscape based upon the habitat needs of wildlife as a way to identify ecologically significant lands in the state, and to assess the potential impacts of management and land-use changes. The IWHRS 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 IWHRS (2009) indicates that JBBWEA has a mean wildlife value of 6 (Figure 8). This indicates a high level of diversity and ecological significance.

2.3.1 Imperiled Species

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 U.S. Fish and Wildlife Service. This designation is also commonly known as “listed species.”

On November 8, 2010 new Threatened species rules approved by the FWC went into effect. All federally listed species that occur in Florida will now be included on Florida’s list as federally-designated Endangered or federally-designated Threatened species. In addition, the state has implemented a listing process to identify species that are not federally listed, but that may be at risk of extinction. These species will be called state-designated Threatened. All previous state-designated imperiled species were grandfathered on the list and are currently undergoing status reviews. The FWC will continue to maintain a separate Species of Special Concern category until all the former imperiled species have been reviewed and those species are either determined to be state-designated Threatened or removed from the list.

2.3.2 FWC Wildlife Observations and FNAI Element Occurrences

GIS data maintained by the FWC (Wildlife Observations) and FNAI (Element Occurrences) indicate that the JBBWEA has documented occurrences of wildlife and a diverse assemblage of animal species (Figure 9, Tables 6). FNAI assigns a rank to each “element” occurrence, which is an exemplary or rare

component of the natural environment. As defined by FNAI, 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 is a single extant habitat which sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element. This ranking system was developed by The Nature Conservancy and the Natural Heritage Program Network based on the element's global rank (element's worldwide status) or state rank (status of element in Florida). The FNAI ranking system and definitions are located on the following website: www.fnai.org/ranks.cfm.

Known locations of FWC wildlife occurrences and FNAI element occurrences from the most recent GIS databases of the respective agencies are displayed in Figure 10. Appendix 13.12 contains a letter from FNAI authorizing the FWC to utilize their database for the purpose of displaying known plant and animal resources.

Table 6. FNAI Element Occurrence – Listed Species on the JBBWEA

Common Name	Scientific Name	Status
Gopher tortoise	*Gopherus polyphemus*	ST
Sherman's fox squirrel	*Sciurus niger shermani*	SSC

Acronym Key	Status
ST	State Threatened
SSC	Species of Special Concern

Table 7. The FWC Species of Greatest Conservation Need in Florida Sandhill Habitats

Common Name	Scientific Name
Eastern cottontail rabbit	*Sylvilagus floridanus*
Sherman's fox squirrel	*Sciurus niger shermani*
Southeastern pocket gopher	*Geomys pinetis pinetis*
Florida mouse	*Podomys floridanus*
Florida black bear	*Ursus americanus floridanus*
Spotted skunk	*Spilogale putorius*

Table 8. Breeding Bird Atlas – Confirmed Breeding – Hernando County

Common Name	Scientific Name
American crow	*Corvus brachyrhynchos*
Anhinga	*Anhinga anhinga*
Bachman's sparrow	*Aimophila aestivalis*
Bald eagle	*Haliaeetus leucocephalus*
Barn swallow	*Hirundo rustica*
Barred owl	*Strix varia*
Belted kingfisher	*Ceryle alcyon*
Black vulture	*Coragyps atratus*

Common Name	Scientific Name
Black-crowned night-Heron	*Nycticorax nycticorax*
Blue grosbeak	*Guiraca caerulea*
Blue jay	*Cyanocitta cristata*
Blue-gray gnatcatcher	*Polioptila caerulea*
Boat-tailed grackle	*Quiscalus major*
Brown thrasher	*Toxostoma rufum*
Brown-headed cowbird	*Molothrus ater*
Burrowing owl	*Speotyto cunicularia*
Carolina chickadee	*Parus carolinensis*
Carolina wren	*Thryothorus ludovicianus*
Cattle egret	*Bubulcus ibis*
Chimney swift	*Chaetura pelagica*
Chuck-will's-widow	*Caprimulgus carolinensis*
Clapper rail	*Rallus longirostris*
Common grackle	*Quiscalus quiscula*
Common ground dove	*Columbina passerina*
Common moorhen	*Gallinula chloropus*
Common nighthawk	*Chordeiles minor*
Common yellowthroat	*Geothlypis trichas*
Double-crested cormorant	*Phalacrocorax auritus*
Downy woodpecker	*Picoides pubescens*
Eastern bluebird	*Sialia sialis*
Eastern kingbird	*Tyrannus tyrannus*
Eastern meadowlark	*Sturnella magna*
Eastern screech-owl	*Otus asio*
Eastern towhee	*Pipilo erythrophthalmus*
European starling	*Sturnus vulgaris*
Fish crow	*Corvus ossifragus*
Gray catbird	*Dumetella carolinensis*
Gray kingbird	*Tyrannus dominicensis*
Great blue heron	*Ardea herodias*
Great crested flycatcher	*Myiarchus crinitus*
Great egret	*Casmerodius albus*
Great horned owl	*Bubo virginianus*
Green heron	*Butorides striatus*
Hairy woodpecker	*Picoides villosus*
House sparrow	*Passer domesticus*
Indigo bunting	*Passerina cyanea*
Killdeer	*Charadrius vociferus*
King rail	*Rallus elegans*
Least bittern	*Ixobrychus exilis*
Limpkin	*Aramus guarauna*
Little blue heron	*Egretta caerulea*

Common Name	Scientific Name
Loggerhead shrike	*Lanius ludovicianus*
Mallard	*Anas platyrhynchos*
Marsh wren	*Cistothorus palustris*
Mottled duck	*Anas fulvigula*
Mourning dove	*Zenaida macroura*
Muscovy duck	*Cairina moschata*
Northern bobwhite	*Colinus virginianus*
Northern cardinal	*Cardinalis cardinalis*
Northern flicker	*Colaptes auratus*
Northern mockingbird	*Mimus polyglottos*
Northern parula	*Parula americana*
Northern rough-winged swallow	*Stelgidopteryx serripennis*
Osprey	*Pandion haliaetus*
Pied-billed grebe	*Podilymbus podiceps*
Pileated woodpecker	*Dryocopus pileatus*
Pine warbler	*Dendroica pinus*
Prothonotary warbler	*Protonotaria citrea*
Purple gallinule	*Porphyrula martinica*
Purple martin	*Progne subis*
Red-bellied woodpecker	*Melanerpes carolinus*
Red-cockaded woodpecker	*Picoides borealis*
Red-eyed vireo	*Vireo olivaceus*
Red-shouldered hawk	*Buteo lineatus*
Red-tailed hawk	*Buteo jamaicensis*
Red-winged blackbird	*Agelaius phoeniceus*
Rock dove	*Columba livia*
Ruby-throated hummingbird	*Archilochus colubris*
Sandhill crane	*Grus canadensis*
Snowy egret	*Egretta thula*
Summer tanager	*Piranga rubra*
Southeastern American kestrel	*Falco sparverius paulus*
Swallow-tailed kite	*Elanoides forficatus*
Tricolored heron	*Egretta tricolor*
Tufted titmouse	*Parus bicolor*
Turkey vulture	*Cathartes aura*
White ibis	*Eudocimus albus*
White-eyed vireo	*Vireo griseus*
Wild turkey	*Meleagris gallopavo*
Wood duck	*Aix sponsa*
Yellow-billed cuckoo	*Coccyzus americanus*
Yellow-crowned night-heron	*Nyctanassa violacea*
Yellow-throated vireo	*Vireo flavifrons*
Yellow-throated warbler	*Dendroica dominica*

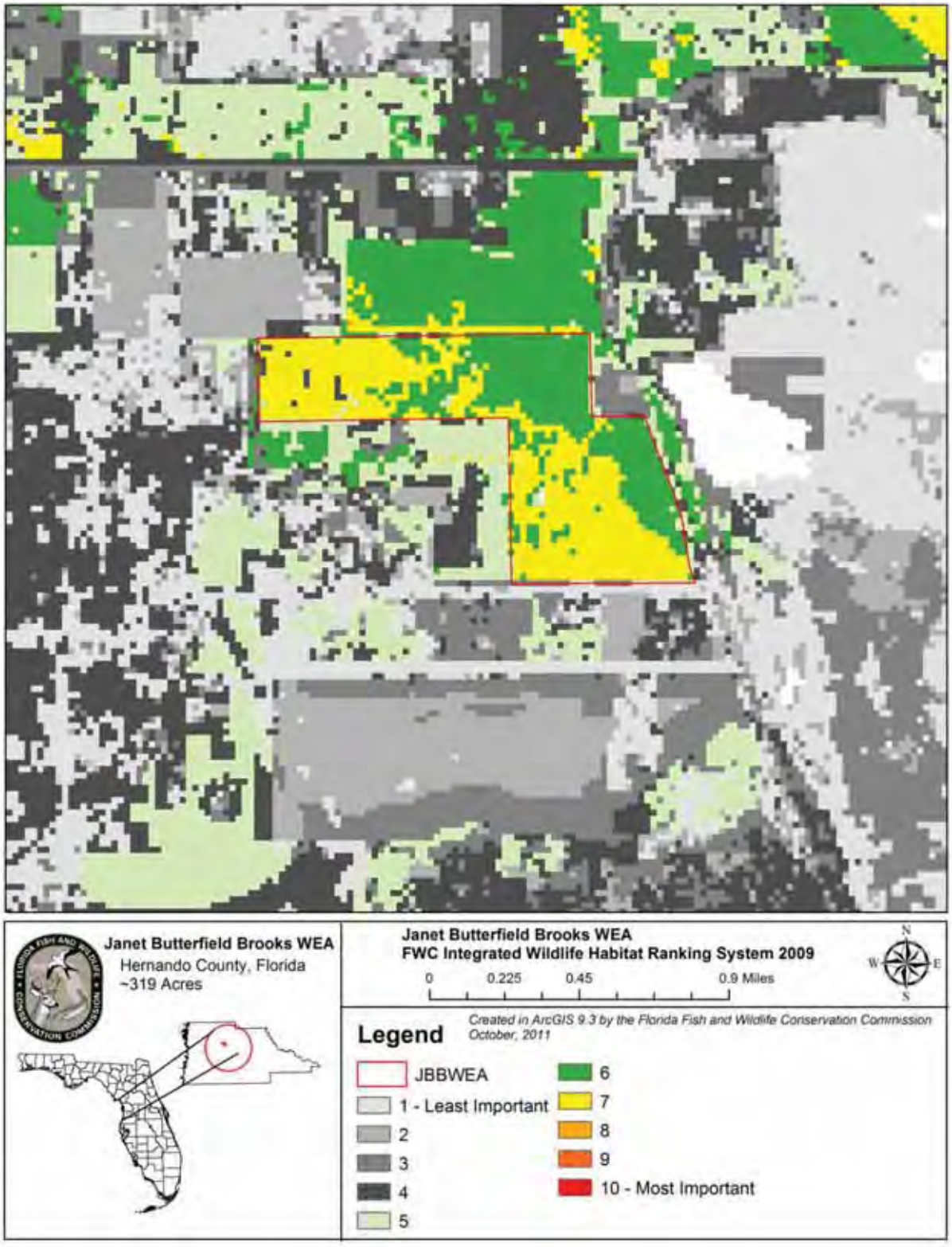


Figure 8. JBBWEA IWHRS 2009

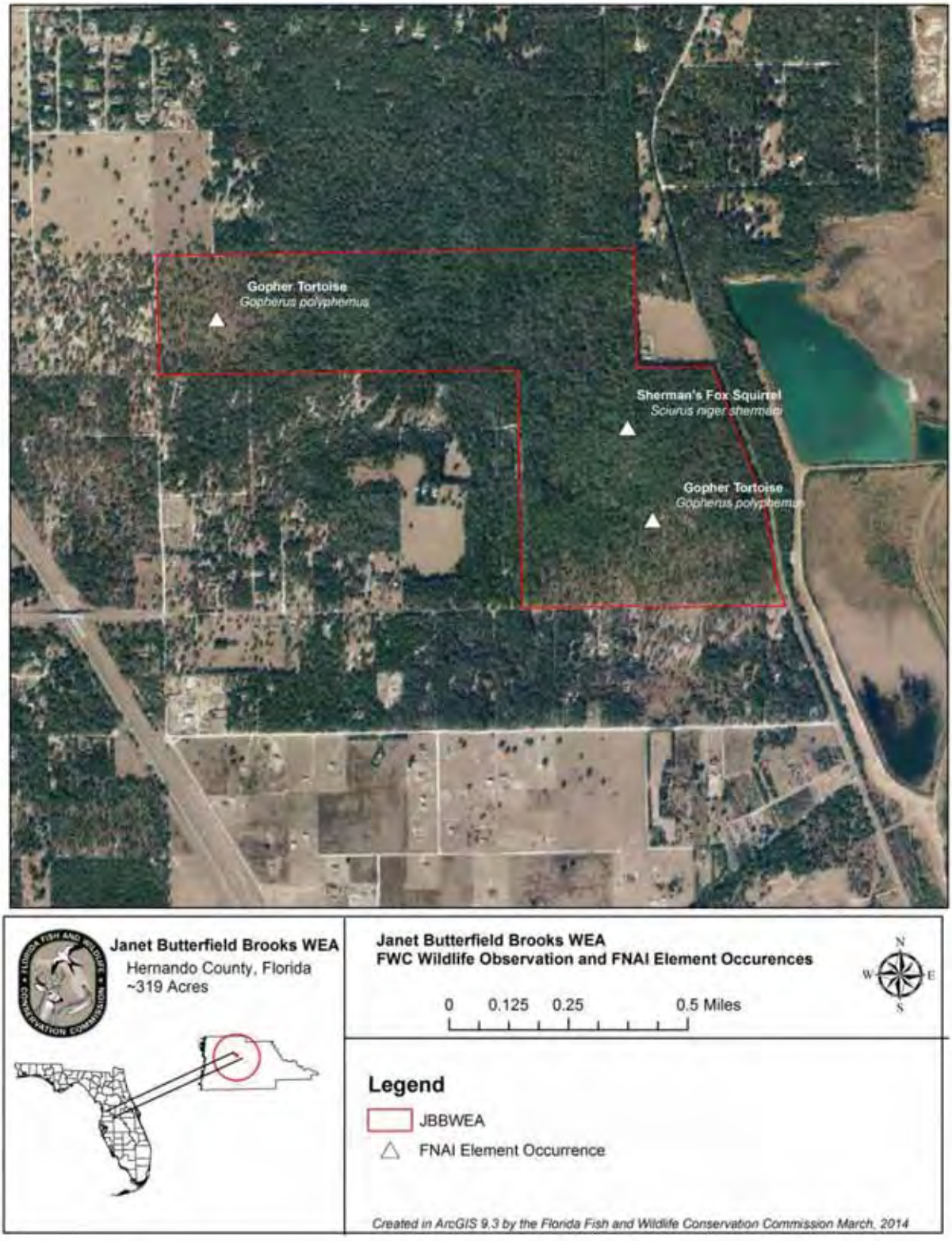


Figure 9. JBBWEA FNAI Element Occurrences

2.4 Native Landscapes

Native landscapes of the JBBWEA include eight identified natural communities. As described earlier, the JBBWEA contains the southernmost extent of the unique Annutteliga Hammock with substantial portions of the JBBWEA in a maintenance condition. The clay laden soils, karst topography with limestone at or near the soil surface, natural fire exclusion, and southern and northern limits of many plant species, all combine in this area of the state to form the Annutteliga Hammock. Sandhill at the JBBWEA contains exceptional quality groundcover and reference condition forest structure. A complete description of the vegetative communities is provided in Section 2.2.1.

2.5 Water Resources

Surface waters in the State of Florida are characterized under five classifications. Class I includes surface water bodies used for potable water supplies. Class II includes surface water bodies used for shellfish propagation and harvesting areas. Class III contains all surface water bodies utilized for recreation and propagation and maintenance of a healthy well balanced population of fish and wildlife. Class IV includes all surface water bodies utilized for agricultural water supplies. Class V includes all surface water bodies used for navigation, utility, and industrial use. All rivers, creeks, swamps, bogs, and all other surface water features in Hernando County are classified as Class III Freshwater or Marine water and should follow the Class III Freshwater or Marine Water Criteria as established in Chapter 62-302.400 of the Florida Administrative Code (FAC) (FDEP, 1996). Outstanding waters and outstanding national resource waters found in Hernando County include Chinsegut Wildlife and Environmental Area, Chassahowitzka Wildlife Refuge and the Chassahowitzka Wildlife Management Area. All waters in National Parks, State Parks, preserves, memorials, wildlife refuge, and wilderness areas are classified as Outstanding Florida Waters as established in Chapter 62-302.700, FAC. Two watersheds are present throughout Hernando County: the Crystal-Pithlachascotee and Withlacoochee. The JBBWEA is encompassed within the Crystal-Pithlachascotee watershed. The Crystal-Pithlachascotee watershed (Hydrogeologic Unit Code 03100207) does not include any surface waters listed in the Florida 1998 Section 303(d) list of waters not meeting water quality standards or not supporting their designated uses.

There are two aquifer systems in Hernando County in the vicinity of the JBBWEA: the Surficial Aquifer System and the Floridan Aquifer System. The Surficial Aquifer System is the uppermost aquifer system in Hernando County found where sands overlie the limestone and dolomites of the Floridian Aquifer. The thickness of the Surficial Aquifer is highly variable due to large variations in the thickness of the sands. The Surficial Aquifer may overlie the Floridian Aquifer, or they may be separated by clays or other relatively impermeable units.

Recharge to the Surficial Aquifer is entirely from local rainfall, except in those areas where it is connected to the Floridan Aquifer. The Floridan Aquifer is the principle source of water in Hernando County for potable use as well as for irrigation. The Floridan Aquifer is composed of limestone and dolomites of Tertiary age and includes the Lake City limestone, Avon Park Limestone, Ocala Group limestone, Suwannee Limestone, St. Marks Formation, and any hydrologically connected limestone or dolomites of the Hawthorn Formation. Recharge of the Floridan Aquifer occurs from the overlying Surficial Aquifer in areas where it is in direct contact with the Floridan Aquifer or through leaky confining beds between the Floridan and the Surficial Aquifer. Recharge can occur where the limestone is exposed at the surface or is overlain by a thin veneer of sand, and where there are lakes, sinks and rivers.

2.6 Beaches and Dunes

There are no known beaches or dunes within the JBBWEA.

2.7 Mineral Resources

The only geologic unit present at the JBBWEA is Miocene. The major mineral resources of Hernando County which have been, or potentially could be, economically important are limestone and sand. Limestone, sand and gravel are mined for use in construction and various other industrial purposes.

2.8 Cultural Resources

The Department of State, Division of Historical Resources (DHR) provides the FWC recent data on occurrences of Florida's cultural resources. Examination by GIS indicates one cultural site, the historic Bailey Hill Homestead, described as occurring within or adjacent to the JBBWEA.

As described in more detail below earlier accounts of this site indicate that Native Americans were occupying this area into the mid 1850s. Former Native American habitation appears probable at this site. Numerous chert flakes and illegal artifact excavation pits have reportedly been observed at this site, often in mesic hammock community types. Consequently, the cultural resources at this site may be considerable and should be taken into account during all management activities

However, currently there are no prehistoric archaeological sites recorded for the area. Although no systematic survey has been conducted on the JBBWEA, the probability of site discovery is good that small prehistoric sites may exist on the area. All Master Site recording, assessments, and preservation strategies will be coordinated with DHR upon discovery.

2.9 Scenic Resources

The JBBWEA contains a diverse variety of natural communities. Among the scenic resources at the JBBWEA are the rolling sandhill topography, variably open and closed canopy of longleaf pine forest and deciduous oak forest, areas of uneven-aged longleaf pine stands passing through diverse habitat for native plants and animals. Surrounded by mature bottomland forests a single sinkhole exists on the JBBWEA. The diverse and well-developed canopy of the upland forests on the JBBWEA contains multi-layers of vegetation interspersed with winding vines and dappled sunlight. This creates a unique mix of ecotypes. The diverse convergence of habitats allows for a unique mixture of plant species found nowhere else in the state.

3 Uses of the Property

3.1 Previous Use and Development

Prior to European settlement, the landscape of Florida, including this area of the peninsula, was settled and used by a variety of aboriginal peoples whose culture relied mainly on hunting, fishing and subsistence agriculture. Though some land alteration occurred, only minor alteration of the landscape is thought to have taken place until the advent of European settlement beginning with the Spanish occupation of Florida in the sixteenth century. Along with more advanced agricultural practices, the Spanish and other settlers brought live stock, primarily cattle and hogs, to Florida. This began an era of broad use of the landscape for agriculture.

Rangeland cattle grazing and other agricultural practices began to be utilized in a more systematic way and occurred through much of the central Florida peninsula throughout most of the European settlement era from the 16th through the 20th century. Use of these agricultural practices began an era of increased alteration of the natural landscape. However, it wasn't until the 19th and 20th century that major settlement and more extensive alteration of the landscape in the area began with the widespread use of agriculture and associated development.

Historical development associated with the early settlement of the JBBWEA is similar to other early settlements in west-central Florida. Exploitation of timber resources and agricultural development were the main factors that opened the area to settlers. Early in the 20th century, lumbering and naval stores industries followed the railroad south. At first, large stands of pine were milled for turpentine, then the larger saw timber was cut, and finally the pulpwood was removed.

However, prior to state acquisition, timber harvesting appears to have been the primary commercial use of this site with no apparent evidence of alteration of the land for more developed agricultural uses.

A general site history was developed through review of the fifty-year chain-of-title for the JBBWEA prepared by American Government Services Corp. The JBBWEA was owned by private individuals from 1921 until 1975. TNC acquired portions of the JBBWEA from 1975 to 1980. No leases or environmental liens relating to JBBWEA were identified in the fifty-year title search.

Prior to or during 1973, the JBBWEA and surrounding areas appear to have been relatively undeveloped except for some small trail roads on the southern portion of the JBBWEA. State Road 491 was constructed along the eastern boundary of the JBBWEA sometime prior to or during 1973. Other roads as well as some agricultural areas were constructed in the area of the JBBWEA sometime prior to or during 1973. No other significant physical changes in land use activities were observed from review of the aerial photographs of the JBBWEA and adjoining properties prior to this time.

Between 1973 and 1982, there was an increase in agricultural development in the area around the JBBWEA. No other significant physical changes in land use activities were observed from review of the aerial photographs of the JBBWEA and adjoining properties from 1973 to 1982.

Between 1982 and 1995, mining activities for a cement batch plant began east of the JBBWEA. No other significant physical changes in land use activities were observed from review of the aerial photographs of the JBBWEA and adjoining properties from 1982 to 1995.

Between 1995 and 2004, there was an increase in residential development in the area of the JBBWEA. The excavation from the mining activities east of the JBBWEA filled with water. State Road 589 was constructed southwest of the JBBWEA. No significant physical changes in land use activities were observed from review of the aerial photographs of the JBBWEA and adjoining properties from 1995 to 2004.

3.2 Current Use of the Property

Currently, the JBBWEA is managed for the conservation and protection of fish and wildlife habitat and fish and wildlife based environmental education. A wide range of operational and resource management actions are conducted on the JBBWEA each year including activities such as prescribed burning; wildlife

habitat restoration and improvement; invasive exotic species maintenance and control; road repairs and maintenance; imperiled species management, monitoring and protection; facilities and infrastructure maintenance and repair; conservation acquisition and stewardship activities; archeological and historic resources monitoring and protection; and research related activities.

Current and anticipated resource uses of the property vary. Guided environmental education activities continue to be a popular activity on the JBBWEA. Access to the JBBWEA is restricted by deed to the FWC staff for management purposes. Recreational opportunities are limited to guided educational tours with approval from the FWC staff.

3.2.1 Visitation and Economic Benefits

Visitation and public use of the area for fish and wildlife based public outdoor recreational opportunities is the primary source of economic impacts from the JBBWEA for this region of Florida. Specific deed restrictions do not allow consumptive use and general access by the public. Therefore visitation on the JBBWEA is and will remain very low. Primarily, as a result of this visitation and use of the area, a FWC economic analysis for the JBBWEA has not been generated.

Further revenue generating potential of the JBBWEA will depend upon future uses described in this Management Plan. Additional revenue from environmental lands such as the JBBWEA might include sales of various permits and educational user fees and guided educational activities, if such projects could be feasibly developed. The annual area regulations can be consulted to clarify the necessary and required permits, fees, and regulations. Additionally, the long-term values of ecosystem services to local and regional land and water resources from air and water quality functions of the area, among others, and to human health, are considered to be significant.

3.3 Single- or Multiple-use Management

The JBBWEA will be managed under the single-use concept as a Wildlife and Environmental Area. Consistent with the original conditions of the donation deed outlined above, the JBBWEA will only provide limited non-consumptive, guided fish and wildlife resource-based public outdoor recreation and educational opportunities that are consistent with the non consumptive deed restrictions, while protecting the natural and cultural resources found on the area. Any natural and cultural resources of the JBBWEA will be managed under the guidance of ARC, the Board of Trustees, the Conceptual State Lands Management Plan, and as outlined in the original purposes for acquisition.

3.3.1 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 JBBWEA. Uses classified as "Approved" are considered to be in accordance with the purposes for acquisition, as well as with the Conceptual State Lands Management Plan, and with the

FWC agency mission, goals and objectives as expressed in the Agency Strategic Plan (Appendix 13.5). 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			✓
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 sites	✓		
Preservation of historical sites	✓		
Primitive camping			✓
Protection of imperiled species	✓		
Off-road vehicle use			✓
Research		✓	
Soil and water conservation	✓		
Timber harvest			✓
Wildlife observation		✓	

3.3.2 Assessment of Impact of Planned Uses of the Property

To communicate the FWC's planned uses and activities, specific management intentions, long- and short-term goals and with associated objectives, identified challenges, and solution strategies have been developed for the JBBWEA (Sections 5 -7). 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.

3.4 Acreage That Should Be Declared Surplus

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, the ARC, and the Board of Trustees. This evaluation consists of GIS modeling and analysis, aerial photography interpretation, analysis of fish and wildlife resources, and 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.

This parcel was originally donated to TNC by Ms. Janet Butterfield Brooks with deed restrictions that do not allow consumptive use and general access by the public and maintains that no section of the property be designated as surplus.

The evaluation of the JBBWEA 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 resource based educational opportunities. Therefore, the FWC has determined that no portion of the JBBWEA should be considered or declared surplus.

4 Interim Management Activities

Since acquisition of the JBBWEA, the FWC has undertaken a number of management activities. Initially, the FWC has established site security, posted boundaries, implemented fire management, conducted resource inventories, surveyed for exotic species control and removed refuse. Long-range plans will stress ecosystem management and the protection and management of Threatened and Endangered species. Current and historic analysis and mapping of natural communities was conducted.

Additionally, a WCPR Strategy and Prescribed Burning Plan have been developed for the JBBWEA. The FWC shall continue to assess the condition of wildlife resources and provide planning support to enhance management of focal species and recovery of imperiled species on the JBBWEA. Use of prescribed fire and other resource management activities shall maintain natural communities and vegetation types to benefit native wildlife resources.

As described above, to address the management goal of habitat restoration and improvement, the FWC has contracted with the FNAI to identify and map the current natural community types. The FWC area

biologists, along FNAI, conducted a rare plant and animal survey. To address habitat maintenance needs and to help achieve desired future conditions in native plant communities, the FWC continues to conduct natural community restoration activities. Substantial portions of the JBBWEA contain reference quality natural communities that are in a maintenance condition.

Among the continuing resource management activities that have been accomplished on the area to improve the existing sandhill natural community, mechanical and herbicide treatments were used. There were two mechanical treatments completed on JBBWEA during the reporting period. One of these treatments was completed by a contractor. The contractor mowed 58 acres of flatwoods and sandhill with a skid steer and front mounted hydraulic brush cutter. Area staff treated an additional 2 acres of mowing in the same area. The purpose of the mowing was to reduce the shrubby vegetation to facilitate prescribed burning. The FWC has contracted for, and completed, the survey and mapping of invasive exotic plant species, and began "in-house" treatment of those occurrences. FNAI found and documented six occurrences of Florida Exotic Pest Plant Council (FLEPPC) Category I and II exotic invasive plant species throughout the area. In the fall of 2011 and the spring of 2012 there were two exotic plant treatment contracts initiated at the JBBWEA. These contracts treated various exotic plants including but not limited to cogon grass, air potato, skunk vine, camphor tree, chinaberry tree, silk tree mimosa, and Japanese climbing fern. Through the FWC's invasive exotic species treatment efforts, 162 acres and 548 individual plants were treated. The acreage treatment consisted of transects that covered an entire unit and any exotic plants that were encountered were spot treated. The individual plants treated during this contract consist mainly of the exotic trees mentioned above that were found within the treatment area. Exotic trees were treated either with a basal bark treatment or a cut stump treatment. In addition to the contract, staff treated one acre of air potato.

To provide effective management prescriptions the JBBWEA has been partitioned into 7 management units. Currently 6 of these units require fire to maintain quality wildlife habitat. A prescribed fire was carried out in the northwest corner of the property upon acquiring it. However, there was an extensive amount of fuel build-up and shrubby growth on the area that necessitated mechanical and herbicide treatments that needed to be completed before reintroducing prescribed fire to the area that are described above. Upon the completion of the site preparation required to safely and effectively reintroduce prescribed fire on the area, prescribed fire regimes are planned to be implemented on the area (Figure 10).

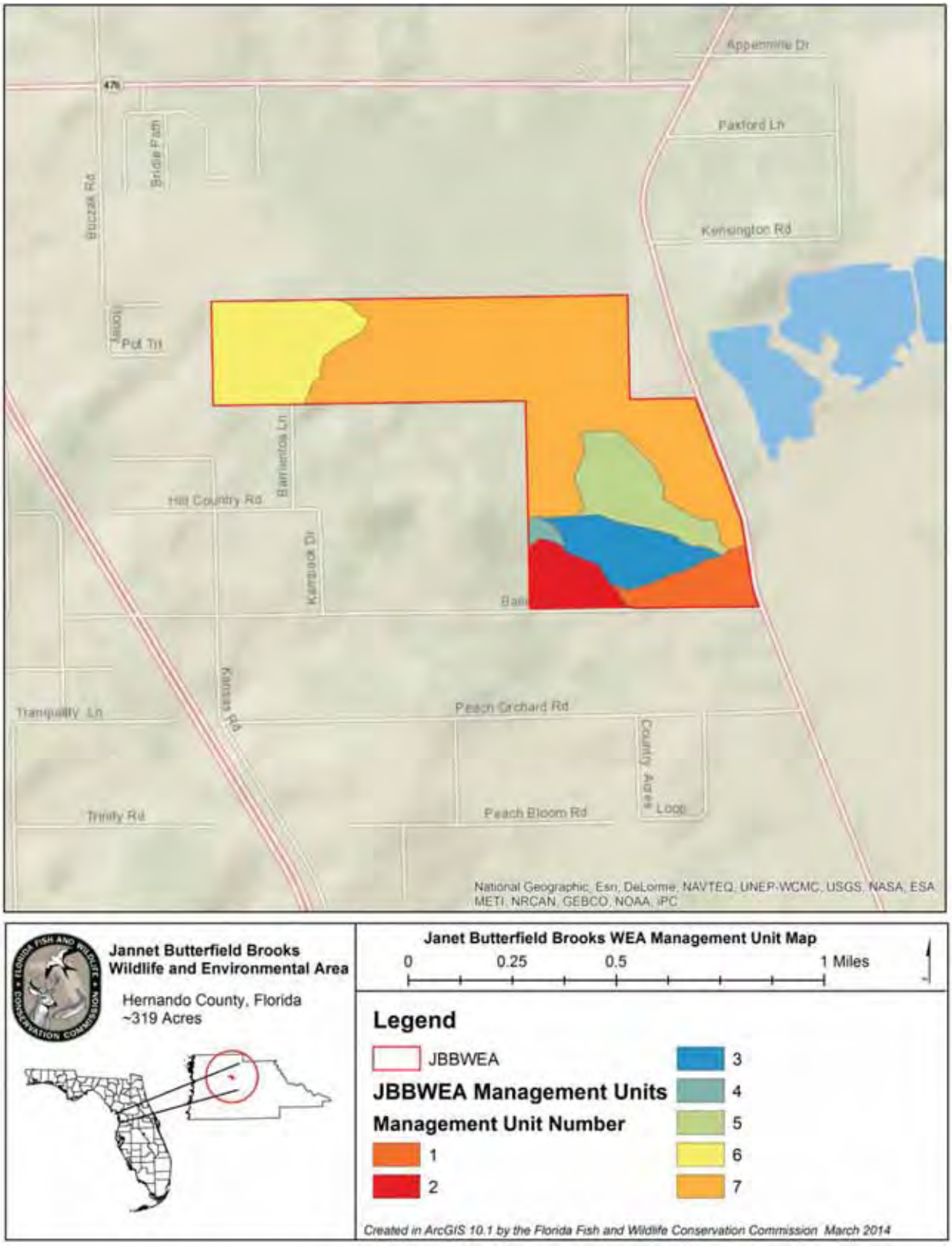


Figure 10. Management Units for the JBBWEA

5 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 nonrenewable cultural resources. In general, the FWC management intent for the JBBWEA 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, the FWC's intent is to provide quality fish and wildlife resource-based environmental education that is consistent with the purpose for acquisition. The FWC will utilize the best available data, guidelines, and natural resource management practices to achieve these outcomes in accordance with the original purposes for acquisition. Furthermore, the management activities described in this section are in compliance with those of the Conceptual State Lands Management Plan.

5.1 Land Management Review

Pursuant to Chapter 259.036, F.S., the DEP-DSL is required to "cause periodic management reviews to be conducted" on Board of Trustees conservation lands to determine if they "are being managed for the purposes for which they were acquired and in accordance with a land management plan adopted pursuant to s. 259.032."

As noted above, the JBBWEA is a more recently acquired property. Therefore, a LMR is yet to be completed for this area. Upon completion of a LMR for the JBBWEA, the FWC will incorporate it into the JBBWEA Management Plan.

5.2 Adaptive Management

Adaptive management is "learning by doing":[1]. 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.[1, 2] 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.[2, 3]. 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,[2, 3] adaptive management can involve applying a conservation action at a site, observing the results and adjusting the action in the future if warranted.

Proposed adaptive management, monitoring and performance measures are developed through literature reviews and the FWC staff meetings. Overall, a results-based approach is incorporated into this 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 JBBWEA.

5.2.1 Monitoring

A well-developed monitoring protocol is also one of the principal, required criteria for the management of the JBBWEA. 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.[2]

For natural communities, monitoring protocols are established through the FWC's Objective-Based Vegetation Management (OBVM, Section 4.4.1) program, which monitors how specific vegetative parameters are responding to the FWC management. For imperiled and focal fish and wildlife species, monitoring protocols are established through the FWC's WCPR program. Additional select common and game fish and wildlife species may be monitored by the FWC staff as appropriate. Exotic and invasive plant and animal species (Section 5.4) are also monitored as needed and appropriate. Recreational uses are monitored through the FWC's Public Access and Wildlife Viewing program, and work in conjunction with the establishment and adjustment of public access carrying capacities. Cultural and historical resources (Section 5.8) are monitored with guidance from the Florida Department of State's DHR.

5.2.2 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.

5.2.3 Implementation

The JBBWEA 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, Public Access and Wildlife Viewing, Recreation Master Plans, etc.) underway to accomplish needed conservation actions that are planned to manage the natural resources of the JBBWEA, 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.

5.3 Habitat Restoration and Improvement

On the JBBWEA, the FWC will focus on managing for native habitat diversity, emphasizing maintenance of high-quality natural communities, and restoration of disturbed areas. Restoration may be achieved on disturbed areas by the re-introduction of fire, restoring historic hydrological conditions and/or the use of mechanical or chemical forest management techniques as appropriate. Retention of the native old growth component of forests, while also providing for natural regeneration, remains an important consideration.

The JBBWEA has high-quality native communities including mostly sandhill, mesic flatwoods, mesic hammock and upland pine, which the FWC will continue to manage and protect. On disturbed upland sites, the FWC intends to initiate ground cover and natural community restoration.

As described above, the FWC has conducted surveys and mapped the current vegetative communities and historic vegetation communities on the JBBWEA through the services of FNAI. This information will be used to guide and prioritize management and restoration efforts on the area.

5.3.1 Objective-Based Vegetation Management

The FWC uses a comprehensive resource management approach to managing FWC-managed areas. Restoring the form and function of Florida's natural communities is the foundation of this management philosophy. FWC uses Objective-based Vegetation Management (OBVM) to monitor how specific vegetative attributes are responding to FWC 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 Natural Community Classification. FWC contracts with FNAI to provide these mapping services, and plans to have natural community maps recertified on most areas on a five-year basis. 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.

After natural communities have been mapped, management units are delineated. Delineating management units takes into account the distribution and extent of the current and/or historic mapped natural communities, existing and proposed infrastructure, and other management considerations. FWC land managers then identify the predominant current or historic natural community within each management unit that guides the type and frequency of management activities that should be applied.

At the same time, measurable habitat management objectives referred to as 'desired future conditions' are established for each actively managed natural community. Desired future conditions are the acceptable range of values for quantifiable vegetation attributes, such as basal area, shrub height and cover, and ground cover. FWC collaborated with the 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). FWC staff considers the reference site attribute values when setting area-specific desired future conditions for natural communities.

Vegetation monitoring samples the selected attributes, with the results being compared to the established desired future conditions. All monitoring performed under OBVM is completed using the program's Standard Operating Procedures.

Initial mapping and vegetation sampling provides FWC staff with baseline data indicating natural community structure, distribution, and condition on the area. Comparing the subsequent monitoring results to desired future conditions, provides key operational information on a natural community's vegetation structural status at a given point in time and trend over time. Using this information, managers can evaluate, adjust and modify their management practices to meet the stated objectives. By comparing natural community mapping products through the years, managers can track progress in moving altered communities to functioning natural communities.

5.3.2 Prescribed Fire and Fire Management

Periodic spring and summer fires occurred in fire-adapted communities under natural conditions. Plant species composition reflects the frequency and intensity of these fires. In the absence of fire, fallow fields on former longleaf sites follow a successional pattern through mixed pine-hardwood forests to an exclusively hardwood community rather than to the original plant community. The plant species composition may differ slightly on poorer soils of the slash pine flatwoods, but the dominant role of fire in controlling hardwoods is equally important in either ecosystem.

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

On some areas, prescribed burning is limited by the buildup of mid-story brush and a lack of pyrogenic groundcover fuels. Mechanical control of brush on upland sites by roller chopping, or incidentally by logging equipment during commercial thinning operations, can reduce shading and encourage the grasses and forbs that are necessary to sustain prescribed fire.

Mechanical hardwood control can be a valuable management tool, enabling the use of prescribed fires in areas heavily invaded by dense woody vegetation. The application of this technique will be limited to situations where burning can only be accomplished by first reducing woody vegetation by mechanical means.

Whenever possible, existing firebreaks such as roads and trails, as well as natural breaks such as creeks and wetlands, will be used to

define burning compartments. 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 vegetative cover types, such as forests and wetlands, are known as ecotones. With the possible exception of wildfire suppression, mechanical soil disturbance in ecotones will be avoided in order to protect habitats for important rare species that often occur between flatwoods and riparian drainages. Silvicultural site preparation and creation of firebreaks are avoided when possible in these zones. Additionally, fires are allowed to burn into the edges of marshes, swamps and other wetlands in order to maintain these habitats. Once fuel loads have been reduced and a more open appearance has returned, vegetative management objectives will likely dictate a fire return interval that averages 1-4 years, preferably during the spring and early summer months.

In addition to the general prescribed fire management guidelines described above, an area-specific Prescribed Fire Plan will be developed and implemented for the JBBWEA. This plan will include, but not be limited to, delineation of burn management units, detailed descriptions of prescribed fire methodology, safety, and smoke management guidelines.

5.3.3 Habitat Restoration

On the JBBWEA, the FWC will focus on managing for native habitat diversity and emphasizing maintenance of high-quality natural communities. Maintenance of these communities will continue to be achieved by the re-introduction of fire, restoring historic hydrological conditions and/or the use of mechanical or chemical forest management techniques as appropriate. Retention of the native old growth component of forests, while also providing for natural regeneration, remains an important consideration. The JBBWEA is made up of mostly sandhill, mesic flatwoods, mesic hammock and upland pine that the FWC will continue to manage and protect.

5.3.4 Apiaries

Currently, there are no apiaries operating on the JBBWEA. Use of apiaries is rejected for the JBBWEA due to deed restrictions. Location, management, and administration of apiaries on FWC managed lands are guided by the FWC Apiary Policy (Appendix 13.6).

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

5.4.1 Fish and Wildlife

Due to the variety of natural communities, a diversity of associated wildlife, including rare and imperiled species, common game and non-game species can be found on the JBBWEA. In managing for wildlife species, an emphasis will be placed on conservation, protection, and management of natural communities. Natural communities important to wildlife include sandhill, mesic flatwoods, mesic hammock and upland pine.

Wildlife management emphasis is placed on documenting the occurrence and abundance of rare and imperiled species on the property. Following species inventory work, management practices are designed to restore, enhance or maintain imperiled species and their habitats. The diversity and interspersion of plant communities on JBBWEA creates a habitat mosaic for a variety of wildlife species. Resident wildlife will be managed for optimum diversity and abundance. In addition to resident wildlife, the

JBBWEA provides resources critical to many migratory birds. Habitats important to migratory species will be protected, maintained or enhanced. The FWC will continue to update inventories for certain species, with emphasis on rare and imperiled fish and wildlife species. Monitoring of wildlife species will continue as an ongoing effort for the area.

Rare and imperiled species and their habitats will be protected and restored by following approved Federal and the FWC recovery plans, guidelines, and other applicable scientific recommendations. Land management activities including prescribed burning, and timber stand improvements will take into account imperiled species requirements and habitat needs. Potential for negative impacts from recreational activities will also be considered and monitored.

Since there are no consumptive uses allowed on the JBBWEA, hunting is not allowed. However, the FWC intends to manage wildlife to assure healthy populations and a quality educational experience. In general, wildlife populations will be managed to provide continued wildlife viewing opportunities through limited guided access educational opportunities.

5.4.2 Imperiled Species - Wildlife Conservation Prioritization and Recovery

As previously noted, an FWC Wildlife Conservation Prioritization and Recovery (WCPR) Species Management Strategy was completed for the JBBWEA in March 2013 (Table 9, Appendix 13.8). The FWC has identified the need to: 1) demonstrate optimal wildlife habitat conservation on the 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 managing the FWC-managed areas. Restoring the form and function of Florida's natural communities is the foundation of this management philosophy. The FWC uses OBVM to monitor how specific vegetative parameters are responding to the FWC management, and uses the WCPR Strategy program to ensure management is having the desire effect on wildlife.

The goal of WCPR is to provide assessment, recovery, and planning support for the FWC-managed areas to enhance management of focal species and the recovery of imperiled species. WCPR program objectives include prioritizing what the FWC does for imperiled and focal species on the FWC-managed areas; ensuring the actions taken on these areas are part of statewide conservation programs and priorities; and informing others about the work accomplished on lands the FWC manages.

The WCPR program helps the FWC take a proactive, science-based approach to species management on the FWC-managed lands. This approach assesses information from statewide potential habitat models and Population Viability Analysis, and in conjunction with input from species experts and people with knowledge of the area, creates site-specific wildlife assessments for imperiled wildlife species and a select suite of focal species. Staff combines these assessments with area-specific management considerations to develop a Species Management Strategy for the area. Each Strategy contains area-specific measurable objectives for managing priority species and their habitat, recommends management actions to achieve these objectives, and establishes monitoring protocols to track progress towards meeting the objectives. The FWC intends for the strategy to promote the presence of, and ensure the persistence of imperiled wildlife and select focal species on the area by providing the FWC managers with information on actions they should take (provided the necessary resources are available).

In summary, for the FWC-managed areas, the WCPR program helps assess imperiled and focal wildlife species needs and opportunities, prioritize what the FWC does for imperiled and focal species, prescribe management actions to aid in species recovery, prescribe monitoring protocols to allow evaluation of the species' response to management, and ensure the information is shared with others. Through the actions of this program, the FWC will facilitate fulfilling the needs of focal and imperiled wildlife species on the JBBWEA. As described above, the FWC has completed a WCPR Strategy for the JBBWEA and plans to begin implementing the objectives outlined in the JBBWEA WCPR Strategy during this planning period. In the long-term, by implementing these strategies on the FWC-managed lands and continuing to assess wildlife species' needs, the FWC will continue to play an integral role in aiding the recovery of imperiled species and preventing the future imperilment of declining wildlife species.

Table 9. WCPR Focal Species Identified as having Potential Habitat on the JBBWEA

Common	Scientific Name	Status
American swallow-tailed kite	*Elanoides forficatus*	NL
Bachman's sparrow	*Peucaea [Aimophila] aestivalis*	NL
Brown-headed nuthatch	*Sitta pusilla*	NL
Cooper's hawk	*Accipiter cooperii**	NL
Eastern indigo snake	*Drymarchon couperi*	FT
Florida black bear	*Ursus americanus floridanus**	NL
Florida mouse	*Podomys floridanus* [A, B]	SSC
Florida pine snake	*Pituophis melanoleucus mugitus*	SSC
Gopher frog	*Lithobates capito* [C]	SSC
Gopher tortoise	*Gopherus polyphemus* [A, B]	ST
Northern bobwhite	*Colinus virginianus*	NL
Sherman's fox squirrel	*Sciurus niger shermani*	SSC
Southeastern American kestrel	*Falco sparverius paulus* [A, B, D]	ST
Wading birds	*Multiple spp.* [C]	

Acronym Key	Status
NL	Not Listed
ST	State Threatened
SSC	Species of Special Concern

Superscript	Meaning
A	Species for which a measurable objective is identified
B	Species for which some level of monitoring is recommended
C	Species for which a SMA is recommended
D	Species for which species management is recommended
*	Limited opportunity species

5.5 Exotic and Invasive Species Maintenance and Control

The FWC will continue efforts to control the establishment and spread of Florida Exotic Pest Plant Council (FLEPPC) Category I or II plants on the JBBWEA. Control technologies may include mechanical, chemical, biological, and other appropriate treatments. Treatments utilizing herbicides will comply with instructions found on the herbicide label and employ the Best Management Practices for their application. As described above, the FWC has completed and Exotic Species Survey for the area and implemented extensive invasive treatments on the area which will be continued as necessary.

5.6 Public Access and Recreational Opportunities

5.6.1 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 (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[4] where:

1. Compliance will cause harm to cultural or historic sites, 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.

5.6.2 Recreation Master Plan

The FWC has adopted a comprehensive approach to the planning and administration of fish and wildlife resource based public outdoor recreational opportunities for the FWC managed lands. However, access to the JBBWEA is restricted by deed to the FWC staff for management purposes. Recreational opportunities are limited to guided educational tours with approval from the FWC staff in accordance with the donation conditions and covenants.

As previously noted, numerous other public conservation lands in close proximity of the JBBWEA, as such as the Chinsegut Wildlife and Environmental Area and the Chasshowitzka Wildlife Management Area, offer a wide variety of public outdoor natural resource based recreational opportunities.

5.6.3 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 though this process are

used as a tool to help plan and develop public access, wildlife viewing, and fish and wildlife resource based public outdoor recreation opportunities. Access is deed restricted and 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 JBBWEA can support 12 visitors per day. Though, any access to the area will be limited to guided access for educational opportunities and research as described above. This public access carrying capacity will be periodically reevaluated, and additional capacity may be contemplated as part of the Recreation Master Plan development and implementation process.

5.6.4 Wildlife Viewing

The JBBWEA affords a wide variety of native wildlife species, both resident and seasonally migratory. However access to the general public is restricted. Opportunities that allow visitors' enjoyment for observation and photography require prior approval and are limited. The quality of habitat found on the JBBWEA attracts a suite of wildlife species including various birds, mammals, reptile and amphibians throughout the JBBWEA.

5.6.5 Hunting

Hunting is prohibited on the JBBWEA due to the small size and characteristics of the site as well as non-consumptive use deed restrictions.

5.6.6 Fishing

Few water features exist within the established boundary of the JBBWEA. Deed restrictions prohibit consumptive uses. Therefore no fishing opportunities exist.

5.6.7 Boating

Public access is prohibited on the JBBWEA and there are no boating opportunities exist as there are no water bodies sufficient for boating on the area.

5.6.8 Trails

At this time, public access is not allowed on the JBBWEA. Therefore, the potential for trail connectivity to other conservation areas is not possible. Essential roads will be stabilized to provide all weather public access and management operations. Unnecessary roads, fire lanes, and hydrological disturbances will be abandoned or restored as practical. Infrastructure development shall be as necessary to allow limited, public access and to provide facilities, security, and management of the property.

5.6.9 Hiking

As noted above, there is no public access allowed on the JBBWEA so no trails are planned for the area other than the existing trails and service roads that are used to provide limited guided educational access opportunities.

5.6.10 Bicycling

Bicycling is prohibited as it is 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.

5.6.11 Equestrian

Horseback riding is prohibited on the JBBWEA. Deed restrictions in conjunction with the small size, limited facilities and natural conditions present at the JBBWEA are not conducive to equestrian use.

5.6.12 Camping

Camping is prohibited on the JBBWEA. Camping on the JBBWEA is not feasible due to the low carrying capacity, small size of the area and natural vegetative conditions present on the JBBWEA, nor does it conform to the deed restrictions. However, there are a number of public and private camping areas in the general region that provide many diverse camping opportunities.

5.6.13 Geocaching

Geocaching is prohibited on the JBBWEA in accordance with the deed restrictions donating the property to the state.

5.6.14 Astronomy

Visitation for astronomical viewing on the JBBWEA is prohibited in accordance with the deed restrictions donating the property to the state.

5.6.15 Environmental Education

No formal structured environmental education program exists on the JBBWEA. However, environmental education is an approved activity. The FWC will continue to assess the need for and participate and encourage environmental education partnership opportunities as appropriate.

5.6.15.1 Interpretation

Currently, there is not interpretive signage or resource interpretation materials provided at the entrance the area since no public access main entrance exists on the area. Additional interpretive materials including a kiosk and bird list for the JBBWEA will be developed.

5.6.15.2 Programs

Currently no formal educational programs exist on the JBBWEA. The FWC will continue to assess the need for and participate and encourage structured program opportunities as appropriate.

5.7 Hydrological Preservation and Restoration

5.7.1 Hydrological Assessment

A hydrological assessment for the JBBWEA will be conducted. Pursuant to the recommendations of the hydrological assessment, the FWC will implement hydrological restoration as feasible and appropriate.

5.7.2 Water Resource Monitoring

The FWC will cooperate with the SWFWMD and the DEP to develop and implement any necessary surface water quality and quantity monitoring protocols for the JBBWEA. In this capacity, the FWC will primarily rely on the expertise and staff support of the SWFWMD and DEP to conduct these monitoring activities.

5.8 Forest Resource Management

A Timber Assessment of the timber resources of the JBBWEA will be conducted by the Florida Forest Service, or a contracted professional forester. 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 the use of 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. All forested communities are managed for stands with old growth characteristics in keeping with the donation deed restrictions. Snags will be protected to benefit cavity-nesting species.

5.8.1 Timber Management Plan

As noted above, a timber assessment has yet to be completed for the JBBWEA. This assessment will provide specific management prescriptions for the area. The JBBWEA is a unique property and well suited for its intended purpose. Donation restrictions prohibit any consumptive uses, therefore timber harvesting and thinning are unavailable management activities. Through regularly scheduled and properly timed burns, conditions for ground cover plants will improve as well as the overall health and long-term sustainability of the longleaf pine. The FWC will manage the forest resources on the area consistent with OBVM and WCPR objectives for the area and in keeping with the donation deed restrictions.

5.9 Cultural and Historical Resources

DHR provides the FWC recent data on occurrences of Florida's cultural resources. Examination by GIS indicates one cultural site, the historic Bailey Hill Homestead, described as occurring within or adjacent to the JBBWEA.

As noted above, earlier accounts of this site indicate that Native Americans were occupying this area into the mid 1850's. Former Native American habitation appears probable at this site. Numerous chert flakes and illegal artifact excavation pits have reportedly been observed at this site, often in mesic hammock community types. Consequently, the cultural resources at this site may be considerable and should be taken into account during all management activities

However, currently there are no prehistoric archaeological sites recorded for the area. Although no systematic survey has been conducted on the JBBWEA, the probability of site discovery is good that small prehistoric sites may exist on the area. All Master Site recording, assessments, and preservation strategies will be coordinated with DHR upon discovery.

5.10 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 resource 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 JBBWEA include two perimeter signs and one plaque. However, no development of substantial capital facilities is allowed on the JBBWEA as prescribed in the deed of donation to ensure protection of the resources.

Culverts and other hydrological structures may be needed as determined by a hydrological assessment and restoration plan, and will be constructed as feasible.

As described in Section 2.4.1 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 Americans with Disabilities Act (Public Law 101-336).

5.11 Land Conservation and Stewardship Partnerships

The FWC utilizes a three-tiered approach to identifying, acquiring or otherwise protecting important conservation lands adjacent to or in proximity to existing FWC-managed areas. This involves development of an Optimal Resource Boundary (ORB), Optimal Conservation Planning Boundary (OCPB) and associated Conservation Action Strategy (CAS). Increasingly, cooperative land steward partnership efforts with private landowners plays an integral role in this effort as does ongoing land conservation, either through fee-simple or less-than-fee conservation easements. In combination, this tiered model helps the FWC to further the regional conservation of important fish and wildlife habitats through a proactive, comprehensive, and cooperative approach towards conservation.

5.11.1 Optimal Resource Boundary

This three tiered model begins with the development of an ORB, which is a resource-based analysis on a regional scale that integrates important the FWC conservation research and analysis into practical planning, acquisition, and management efforts through GIS analysis. The ORB focuses on critical and important wildlife species or habitat considerations such as rare and imperiled species habitat within a particular region or ecosystem-like area on a landscape scale within which the FWC managed area is contained while eliminating urban areas or lands that have already been conserved or protected.

5.11.2 Optimal Conservation Planning Boundary

The second tier is known as the OCPB. The OCPB combines the regional natural resources identified in the ORB, as well as regional and local area conservation planning, including habitat conservation and restoration, habitat linkages, management challenges, land use and zoning issues, infrastructure including roads and developments, improving access, eliminating inholdings, providing prescribed burn buffers, resolving boundary irregularities, water resource protection, and conserving other important natural and cultural resources.

The OCPB provides the basis for development of a broader CAS for the JBBWEA. Although the OCPB provides the basis for potential future voluntary, willing-seller conservation acquisitions, it is designed to function primarily as a conservation planning boundary. The OCPB identifies surrounding lands and natural resources that may be important to the continued viability of fish and wildlife populations in the region. As they are currently managed, these lands appear to contribute to regional conservation and may support conservation landscape linkages.

5.11.3 Conservation Action Strategy

The CAS is the third tier, and implements the results of the ORB and OCPB tiers. This element of the process incorporates the conservation planning recommendations into an action strategy that prioritizes conservation needs. The CAS is integral to the development of conservation stewardship partnerships and also implements the current approved process for establishing the FWC Florida Forever Inholdings and Additions acquisition list.

Primary components of the CAS may include:

- The FWC Landowner Assistance Program (LAP)
- The FWC conservation planning
- The FWC Additions and Inholdings Program Land Conservation Work Plan
- Forest Stewardship Program proposals
- Florida Forever project proposals and boundary modifications
- Conservation easements
- Federal or State grant conservation proposals
- Regional or local conservation proposals
- Local, state, and federal planning proposals
- Non-governmental organization conservation proposals

Continued conservation of these lands may be aided by available voluntary landowner stewardship programs, conservation easements, and in some cases, potential voluntary conservation acquisitions. Participation in any the FWC conservation effort is entirely voluntary and at the sole choice of willing landowners.

Private landowners seeking assistance with habitat management will likely find it offered within the FWC's LAP. The FWC employs biologists who are available to provide wildlife-related assistance with land-use planning and habitat management. 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. More information on the FWC's LAP program and online habitat management tools are available online at: http://mytheFWC.com/conservation/special-initiatives/lap/ .

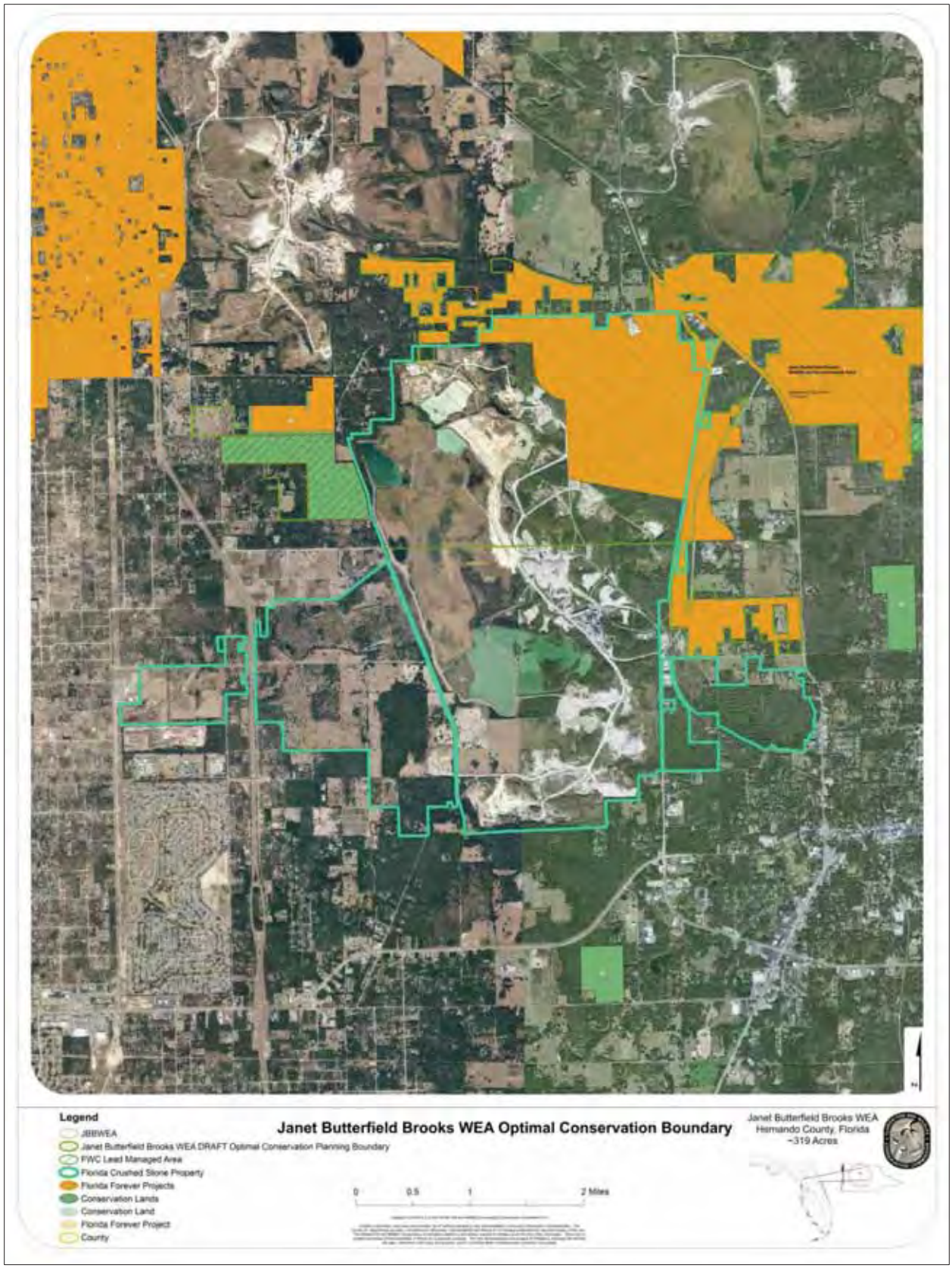


Figure 11. Optimal Conservation Planning Boundary

5.11.4 FWC Florida Forever Additions and Inholdings Acquisition List

Currently, the FWC has identified no potential additions or privately held inholdings for the JBBWEA as the parcel is intact. In addition, the JBBWEA is not within the boundary of any Florida Forever project. It is adjacent to the Annutteliga Hammock Florida Forever Project. Upon completion of the CAS, additions to the FWC Florida Forever Additions and Inholdings acquisition list may be recommended.

5.12 Research Opportunities

The FWC intends to cooperate with researchers, universities, and others as feasible and appropriate. For the JBBWEA, the FWC will continue to assess and identify research needs, and pursue 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 JBBWEA must have prior approval by the FWC.

5.13 Cooperative Management and Special Uses

5.13.1 Cooperative Management

The FWC is responsible for the overall management and operation of the JBBWEA as set forth in the lease agreements with the Board of Trustees and the SWFWMD. In keeping with the lease agreements, and in order 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 DHR to ensure the requirements of the Management Procedures Guidelines - Management of Archaeological and Historical Resources document (Appendix 13.7) are followed with regard to any ground-disturbing activities. In addition, the FFS is a designated cooperating agency, and assists FWC by providing technical assistance on forest resource management. Also, FWC cooperates and consults with the SWFWMD and DEP for the monitoring and management of both ground and surface water resources and the overall management of the JBBWEA.

5.14 Climate Change

Because of Florida's unique ecology and topography, any potential impacts as a result of climate change may be particularly acute and affect multiple economic, agricultural, environmental, and health sectors across the state. The impact of climate change on wildlife and habitat may already be occurring, from eroding shorelines and coral bleaching to increases in forest fires and saltwater intrusion into inland freshwater wetlands.

The Intergovernmental Panel on Climate Change (IPCC), a multi-national scientific body, reports that climate change is likely 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 . The current trend of global temperature increase has appeared to accelerate 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.[5]

This apparent change in global climate has the potential 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 likely 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;[6, 7, 8] more frequent invasions and outbreaks of exotic invasive species;[9] and loss of habitat in coastal areas due to sea level rise.[10] 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. 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.[11] A number of ecosystems are projected to be affected at temperature increases well below these levels.

At this time, the potential effects of climate change on Florida's conservation lands are just beginning to be studied and are not yet well understood. For example, the FWC has begun a process for currently developing climate change adaptation strategies for monitoring, evaluating, and determining what specific actions, if any, may be recommended to ameliorate the projected impacts of climate change on fish and wildlife resources, native vegetation, and the possible spread of exotic and invasive species. Currently, the FWC is continuing its work on the development of these potential 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.

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. To this end, when appropriate, the FWC will participate in organizations such as the Peninsular Florida Land Conservation Cooperative or similar organizations so that the FWC continues to gain understanding and share knowledge of key issues related to potential climate change. In addition, the FWC will consider the need for conducting vulnerability assessments to model the potential effects of climate change; especially sea level rise and storm events, on imperiled species and their habitats on the FWC managed land.

Elements of climate change that may potentially affect the JBBWEA include inundation and saltwater intrusion from sea level rise, more frequent and more potent storm events, alteration of vegetation reproductive cycles, and changes in the fire regime. Climate change may amplify and hasten these effects, potentially at rates that exceed the normal resiliency of plant communities to recover, shift or adapt accordingly.[12, 13]. Projected salt water intrusion into the subsurface freshwater lens from potential

sea level rise and saltwater inundation of surface freshwaters from storm surges may alter coastal ecosystems and freshwater marshes, possibly resulting in more salt-tolerant aquatic plant communities.

To address the potential impacts of climate change on the JBBWEA, 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 JBBWEA Management Plan in the future.

5.15 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.

6 Resource Management Goals and Objectives

The management goals described in this section are considered broad, enduring statements designed to guide the general direction of management actions to be conducted in order to achieve an overall desired future outcome for the JBBWEA. 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 ten years) timelines for completion.

6.1 Habitat Restoration and Improvement

Goal: Improve extant habitat and restore disturbed areas.

Short-term

6.1.1 Prescribe burn 50 acres of pyrogenic communities on the area per year.
6.1.2 Maintain 95 acres (67% of pyrogenic communities on the area) per year within 2 - 3 year target fire return interval.
6.1.3 Develop and implement prescribed burn plan.
6.1.4 Conduct habitat/natural community improvement on 5 acres per year including uplands mowing of road shoulders and firebreaks.

Long-term

6.1.5 Continue to prescribe burn 50 acres of pyrogenic communities on the area per year.
6.1.6 Continue to maintain 140 acres (100% of pyrogenic communities on the area) per year within 2 - 3 target fire return interval.
6.1.7 Implement OBVM program.
6.1.8 Continue to conduct habitat/natural community improvement on 5 acres per year including uplands mowing of road shoulders and firebreaks.

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

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

Short-term

6.2.1 Continue to implement a WCPR Strategy.
6.2.2 Continue to collect opportunistic imperiled wildlife species occurrence data including Eastern indigo snake and Sherman's fox squirrel.
6.2.3 Continue to collect opportunistic imperiled wildlife species occurrence data.
6.2.4 Continue to maintain and monitor one Southeastern American kestrel box.
6.2.5 Conduct a gopher tortoise burrow survey.

Long-term

6.2.6 Continue to implement WCPR Strategy by managing identified habitats and monitoring identified species.
6.2.7 Continue to maintain and monitor one Southeastern American kestrel box.
6.2.8 Continue to collect opportunistic imperiled wildlife species occurrence data including Eastern indigo snake and Sherman's fox squirrel.
6.2.9 Conduct a gopher tortoise burrow-scoping survey by 2019 to generate a population estimate on the area.

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

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

Short-term

6.3.1 Assess past monitoring and research conducted by TNC to determine additional opportunities for enhancing plant and wildlife inventory data.
6.3.2 Continue to collect opportunistic wildlife occurrence data.

Long-term

6.3.3 Develop and maintain a wildlife and plant inventory.
6.3.4 Continue to collect opportunistic wildlife occurrence data.

6.4 Exotic and Invasive Species Maintenance and Control

Goal: Remove exotic and invasive plants and animals and conduct needed maintenance- control.

Short-term

6.4.1 Annually survey and treat at least 40 acres or 12%, of the entire unit, of Florida Exotic Pest Plant Council (FEPPC) Category I and Category II invasive exotic plant species.
6.4.2 Continue to conduct exotic plant survey and mapping.

Long-term

6.4.3 Continue to annually survey and treat at least 40 acres or 12%, of the entire unit, FEPPC Category I and Category II invasive exotic plant species.
6.4.4 Continue to monitor for FEPPC invasive exotic plant species.

6.5 Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities.

Short-term

6.5.1 Continue to provide guided interpretative environmental education access consistent with deed restrictions for supervised access.
6.5.2 Develop a website for interpretation and education.

Long-term

6.5.3 Identify compatible guided public access uses and develop appropriate protocol for providing for public access consistent with deed restrictions for supervised access.

6.6 Hydrological Preservation and Restoration

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

Short-term

6.6.1 With assistance from SWFWMD, continue to monitor potential hydrological impacts from adjacent land uses.

Long-term

6.6.2 Conduct or obtain a site hydrological assessment to identify potential hydrology restoration needs.
6.6.3 If determined necessary, implement hydrological restoration plan.
6.6.4 Continue to monitor potential hydrological impacts from adjacent land uses.

6.7 Forest Resource Management

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

Short-term

6.7.1 Cooperate with the FFS or a professional forestry consultant in regards to completing a Timber Assessment.
6.7.2 Consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate.

Long-term

6.7.3 Continue to consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate.

6.8 Cultural and Historical Resources

Goal: Protect, preserve and maintain cultural and historic resources.

Short-term

6.8.1 Ensure all known sites are recorded in the Florida DHR Master Site file.
6.8.2 Continue to monitor, protect, and preserve as necessary one identified site, the Bailey Hill Homestead.
6.8.3 Ensure management staff has DHR Archaeological Resources Monitoring training.
6.8.4 Follow 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.

Long-term

6.8.5 Cooperate with DHR to manage and maintain known existing cultural resources.
6.8.6 Continue to monitor, protect, and preserve as necessary one identified site, the Bailey Hill Homestead.
6.8.7 Coordinate with DHR for cultural resource management guideline staff training.
6.8.8 Coordinate with DHR to assess the need for conducting a cultural resource survey.
6.8.9 Continue to monitor the one known recorded site and submit updates of additional sites to DHR for inclusion in their Master Site file.
6.8.10 Continue to follow 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.

6.9 Capital Facilities and Infrastructure

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

Short-term

6.9.1 Continue to maintain two perimeter signs and one plaque.
6.9.2 Continue to maintain ~2 miles of roads.
6.9.3 Continue to maintain ~2.7 miles of firebreaks.
6.9.4 Continue to maintain ~2.3 miles of fences.

Long-term

6.9.5 Continue to maintain two perimeter signs and one plaque.
6.9.6 Continue to maintain ~2 miles of roads.
6.9.7 Continue to maintain ~2.7 miles of firebreaks.
6.9.8 Continue to maintain ~2.3 miles of fences.

6.10 Land Conservation and Stewardship Partnerships

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

Short-term

6.10.1 Identify potential important wildlife resources, habitat, landscape-scale linkages, and wildlife corridors for operational/resource management that may be important to the continued viability of fish and wildlife populations in the region.
6.10.2 Develop a Conservation Action Strategy.
6.10.3 Contact and inform adjoining landowners about the FWC LAP to pursue non-acquisition conservation stewardship, partnerships, and potential conservation easements.
6.10.4 Identify and recommend parcels for addition to the FWC acquisition list.
6.10.5 Identify potential non-governmental organization partnerships and grant program opportunities.
6.10.6 Determine efficacy of conducting an adjacent landowner's assistance/conservation stewardship partnership workshop.

Long-term

6.10.7 To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed optimal conservation planning boundary for JBBWEA as deemed necessary.
6.10.8 Continue to identify and recommend parcels for addition to the FWC acquisition list.
6.10.9 Pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow.
6.10.10 Coordinate landowner assistance/ conservation stewardship partnership workshop as deemed appropriate.
6.10.11 Periodically (at least every three to five years) continue to contact and meet with adjacent landowners for willingness to participate in the Conservation Action Strategy. Coordinate landowner assistance/ conservation stewardship partnership workshop as deemed appropriate.

6.11 Climate Change

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

Short-term

6.11.1 Coordinate with the FWC-FWRI Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of the JBBWEA.

Long-term

6.11.2 Continue to coordinate with the FWC-FWRI Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of the JBBWEA.
6.11.3 Incorporate appropriate climate change monitoring protocols and management strategies into the OBVM program for the JBBWEA.

6.11.4 Incorporate appropriate climate change adaptation strategies into the WCPR for the JBBWEA.

6.11.5 As appropriate, update the JBBWEA Prescribed Fire Plan to incorporate new scientific information regarding projected climate change, such as increased frequency of drought, on the fire regime of the JBBWEA'S fire-adapted habitats.

6.11.6 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; assess the need to incorporate public education about climate change into the update of the Recreation Master Plan

6.12 Research Opportunities

Goal: Explore and pursue cooperative research opportunities.

Short-term

6.12.1 Continue to cooperate, explore and pursue cooperative research opportunities through universities, Fish and Wildlife Research Institute, etc.

6.12.2 Cooperate with the USGS phenology climate change project.

Long-term

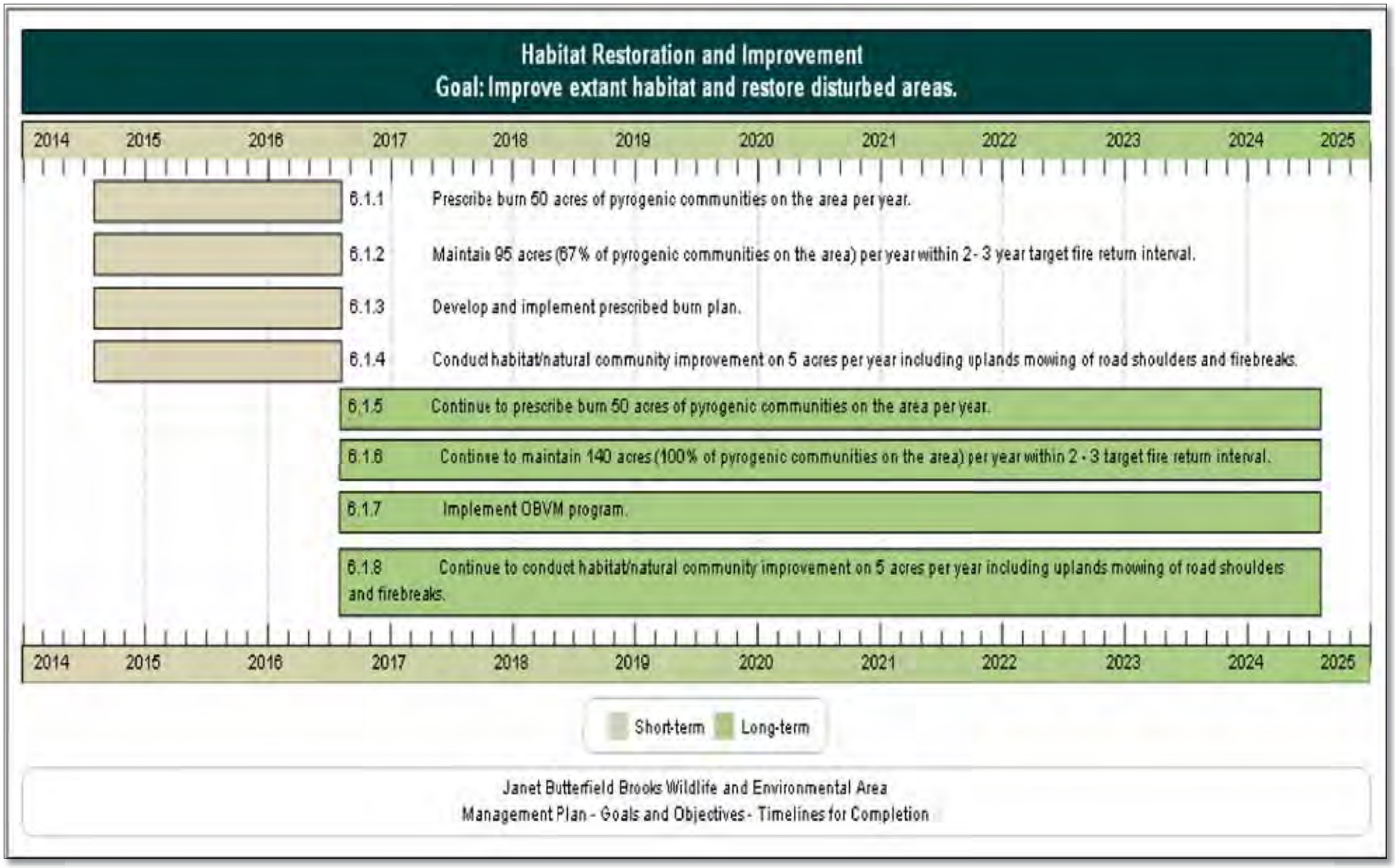
6.12.3 Explore and pursue cooperative research opportunities through universities, Fish and Wildlife Research Institute, etc.

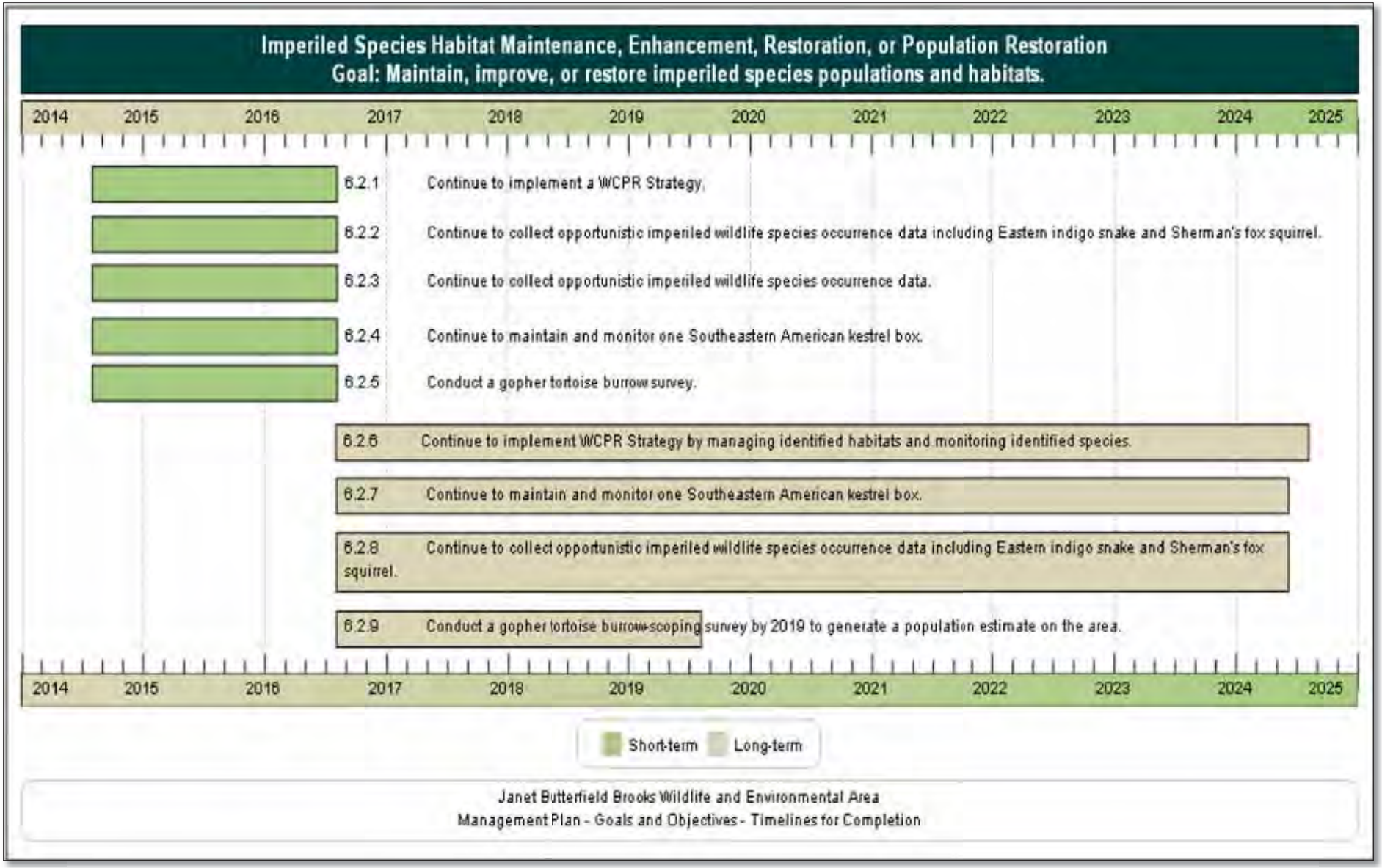
6.12.4 Continue to cooperate with researchers, universities, and others as appropriate.

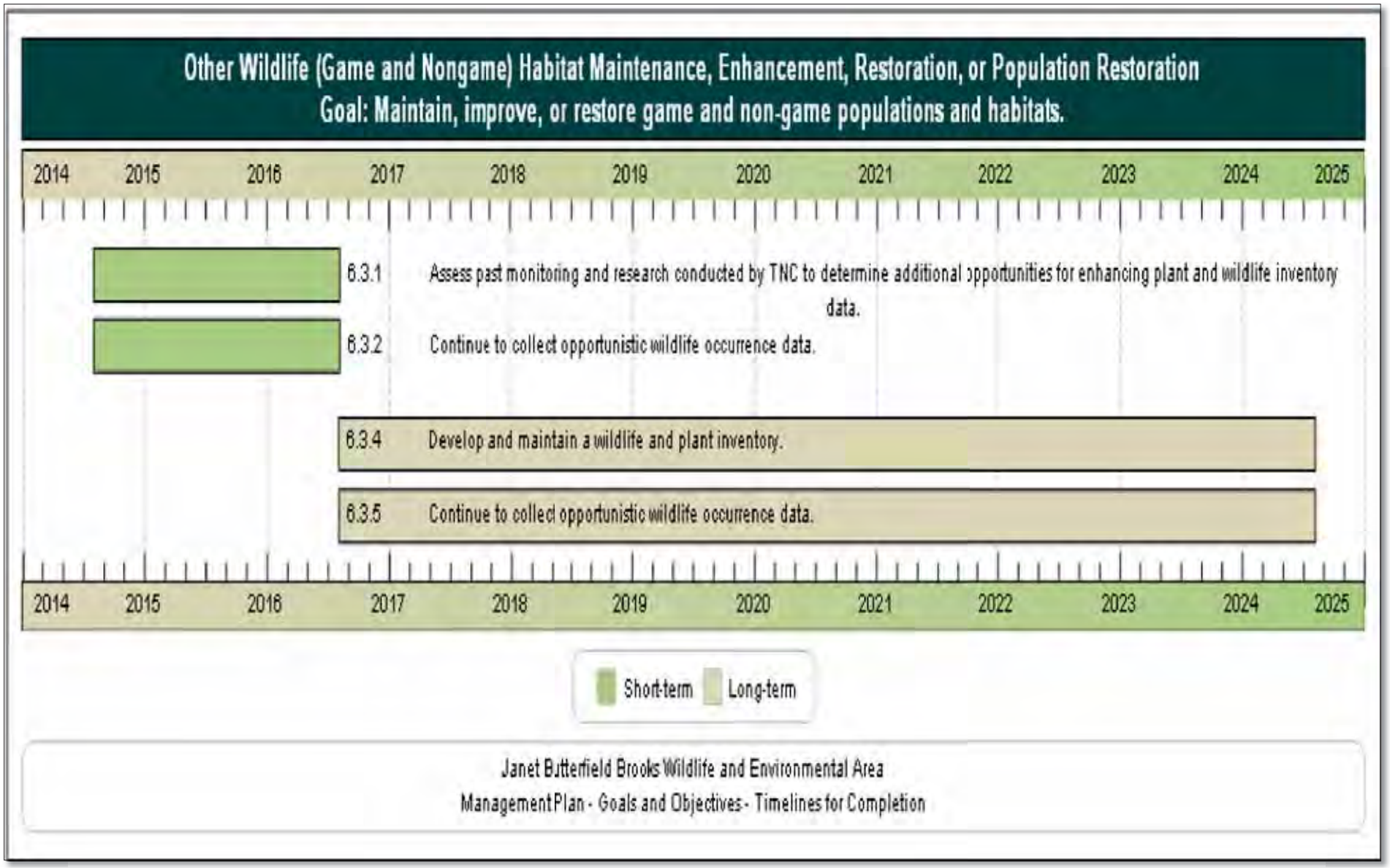
6.12.5 Continue to assess the need for and pursue research opportunities as appropriate.

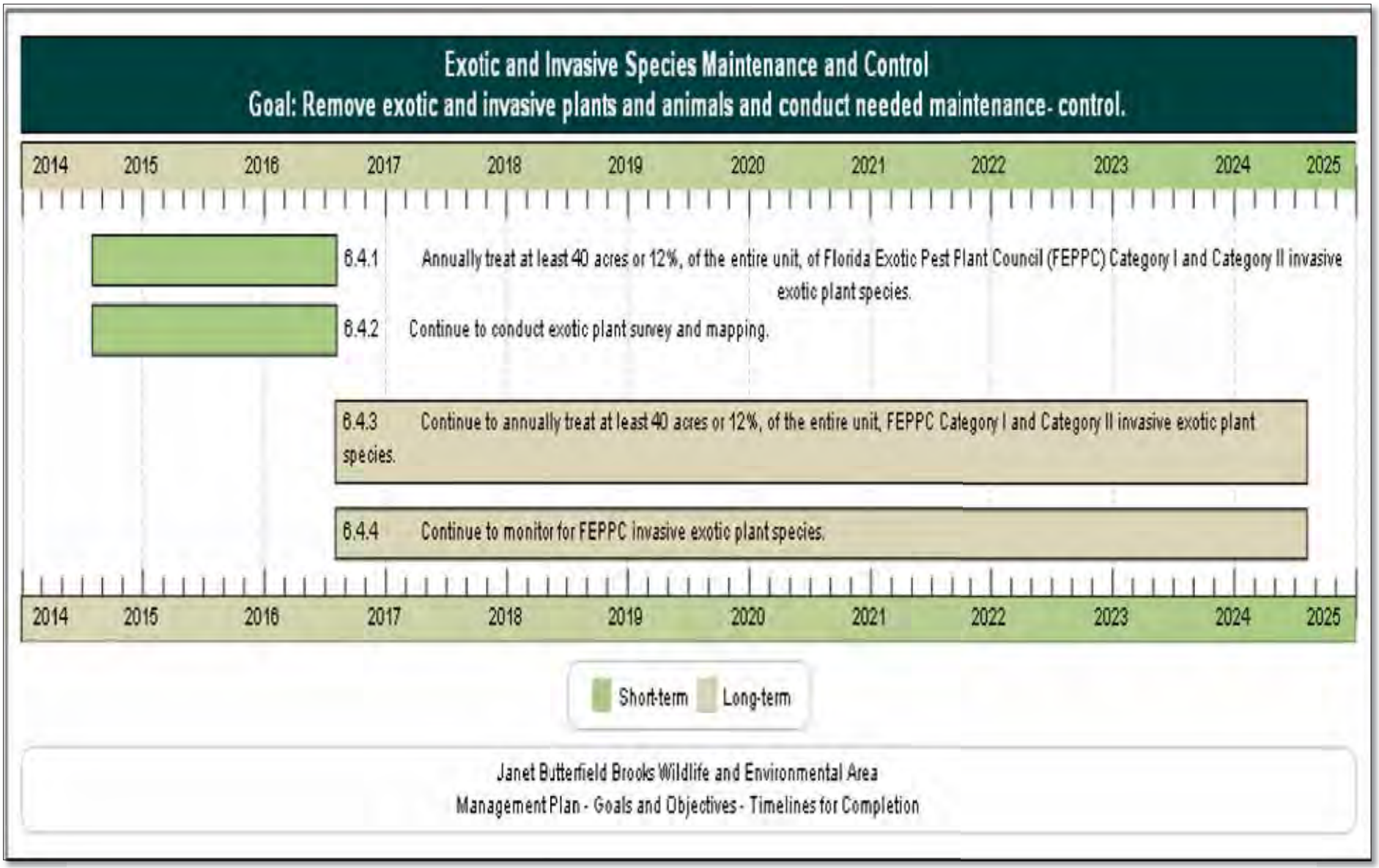
7 Schedule: Timelines for Completion of Resource Management Goals and Objectives

The following section presents the short- and long-term goals and objectives for the management of the JBBWEA graphically in a timeline format. These timelines directly reflect the short- and long-term goals and objectives presented above in Section 5.


Habitat Restoration and Improvement
Goal: Improve extant habitat and restore disturbed areas.
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
6.1.1 Prescribe burn 50 acres of pyrogenic communities on the area per year.
6.1.2 Maintain 95 acres (67% of pyrogenic communities on the area) per year within 2 - 3 year target fire return interval.
6.1.3 Develop and implement prescribed burn plan.
6.1.4 Conduct habitat/natural community improvement on 5 acres per year including uplands mowing of road shoulders and firebreaks.
6.1.5 Continue to prescribe burn 50 acres of pyrogenic communities on the area per year.
6.1.6 Continue to maintain 140 acres (100% of pyrogenic communities on the area) per year within 2 - 3 target fire return interval.
6.1.7 Implement OBVM program.
6.1.8 Continue to conduct habitat/natural community improvement on 5 acres per year including uplands mowing of road shoulders and firebreaks.
Short-term
Long-term
Janet Butterfield Brooks Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Imperiled Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration
Goal: Maintain, improve, or restore imperiled species populations and habitats.
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
6.2.1 Continue to implement a WCPR Strategy.
6.2.2 Continue to collect opportunistic imperiled wildlife species occurrence data including Eastern indigo snake and Sherman's fox squirrel.
6.2.3 Continue to collect opportunistic imperiled wildlife species occurrence data.
6.2.4 Continue to maintain and monitor one Southeastern American kestrel box.
6.2.5 Conduct a gopher tortoise burrow survey.
6.2.6 Continue to implement WCPR Strategy by managing identified habitats and monitoring identified species.
6.2.7 Continue to maintain and monitor one Southeastern American kestrel box.
6.2.8 Continue to collect opportunistic imperiled wildlife species occurrence data including Eastern indigo snake and Sherman's fox squirrel.
6.2.9 Conduct a gopher tortoise burrow-scoping survey by 2019 to generate a population estimate on the area.
Short-term
Long-term
Janet Butterfield Brooks Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Other Wildlife (Game and Nongame) Habitat Maintenance, Enhancement, Restoration, or Population Restoration
Goal: Maintain, improve, or restore game and non-game populations and habitats.
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
6.3.1 Assess past monitoring and research conducted by TNC to determine additional opportunities for enhancing plant and wildlife inventory data.
6.3.2 Continue to collect opportunistic wildlife occurrence data.
6.3.4 Develop and maintain a wildlife and plant inventory.
6.3.5 Continue to collect opportunistic wildlife occurrence data.
Short-term
Long-term
Janet Butterfield Brooks Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Exotic and Invasive Species Maintenance and Control
Goal: Remove exotic and invasive plants and animals and conduct needed maintenance- control.
2014
2015
2016
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2018
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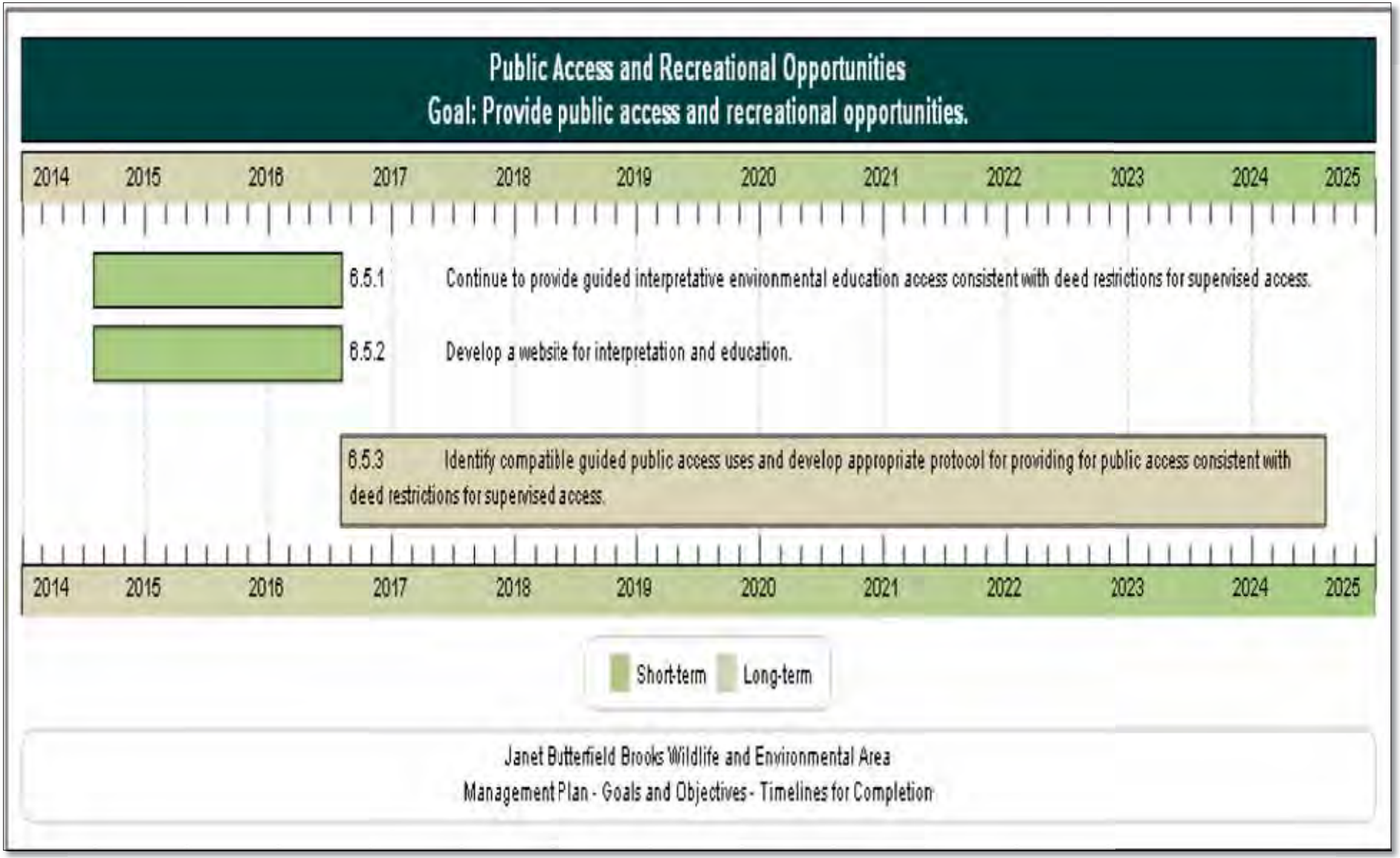
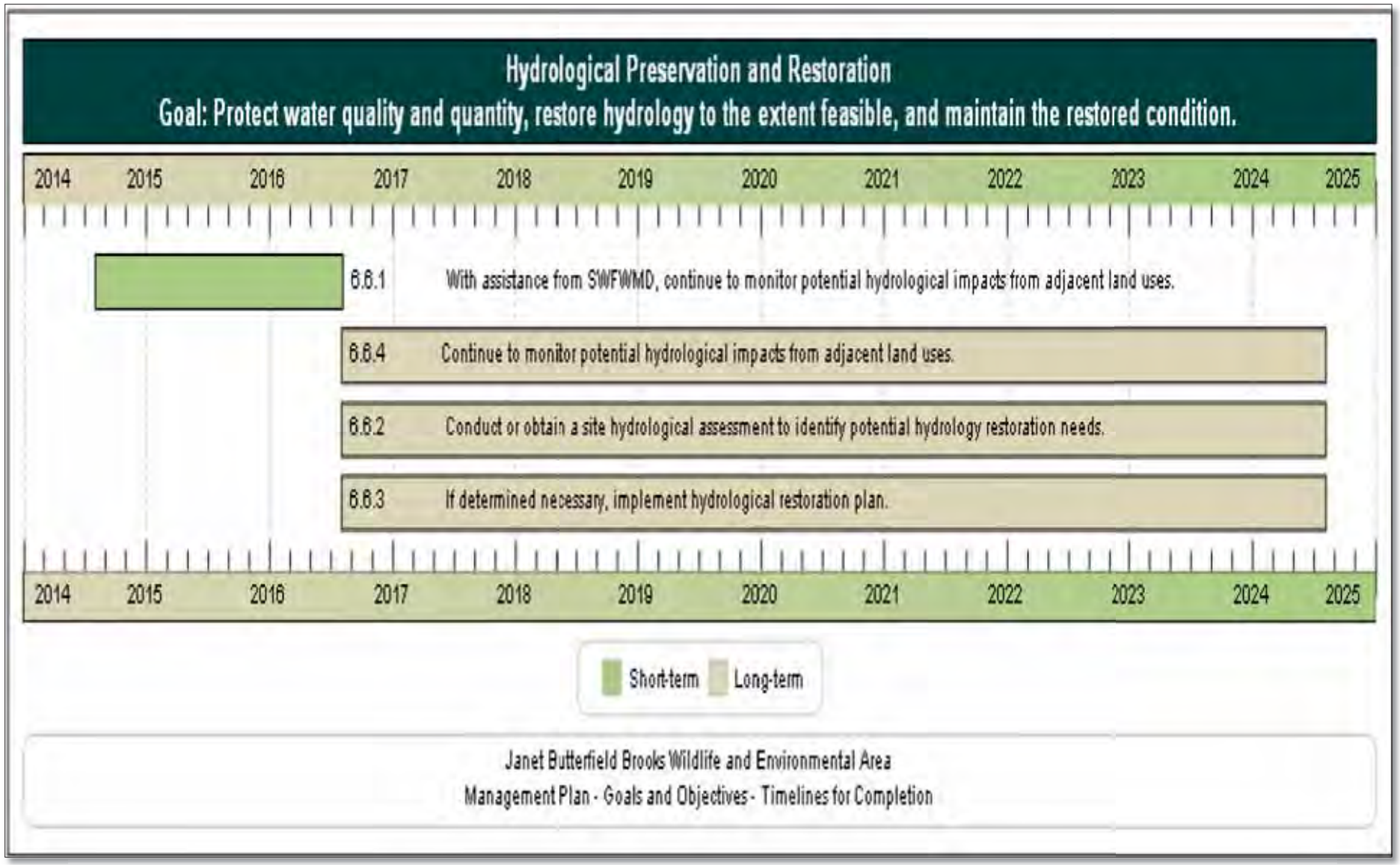
2021
2022
2023
2024
2025
6.4.1 Annually treat at least 40 acres or 12%, of the entire unit, of Florida Exotic Pest Plant Council (FEPPC) Category I and Category II invasive exotic plant species.
6.4.2 Continue to conduct exotic plant survey and mapping.
6.4.3 Continue to annually treat at least 40 acres or 12%, of the entire unit, FEPPC Category I and Category II invasive exotic plant species.
6.4.4 Continue to monitor for FEPPC invasive exotic plant species.
Short-term
Long-term
Janet Butterfield Brooks Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Public Access and Recreational Opportunities
Goal: Provide public access and recreational opportunities.
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
6.5.1 Continue to provide guided interpretative environmental education access consistent with deed restrictions for supervised access.
6.5.2 Develop a website for interpretation and education.
6.5.3 Identify compatible guided public access uses and develop appropriate protocol for providing for public access consistent with deed restrictions for supervised access.
Short-term
Long-term
Janet Butterfield Brooks Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Hydrological Preservation and Restoration
Goal: Protect water quality and quantity, restore hydrology to the extent feasible, and maintain the restored condition.
2014
2015
2016
2017
2018
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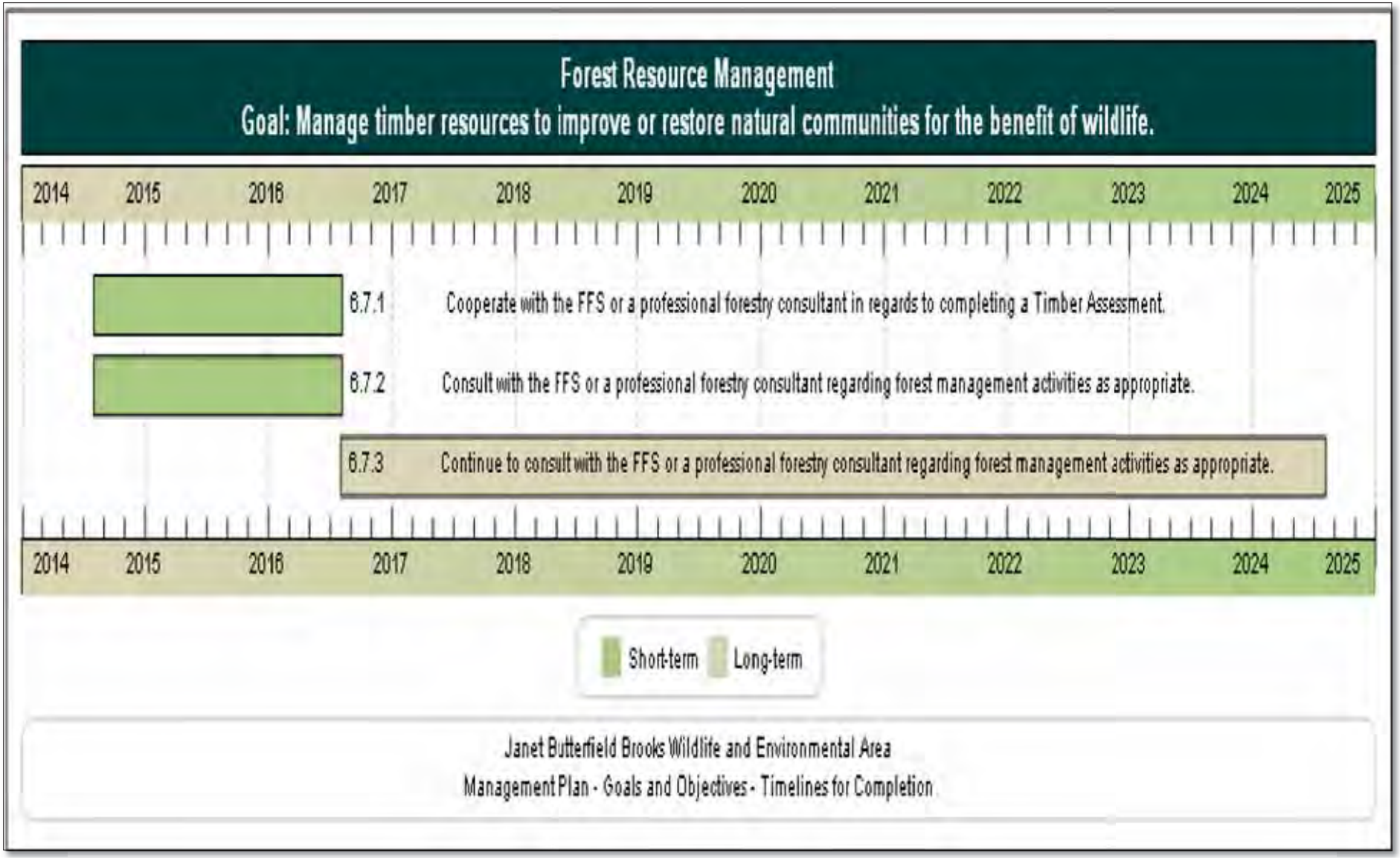
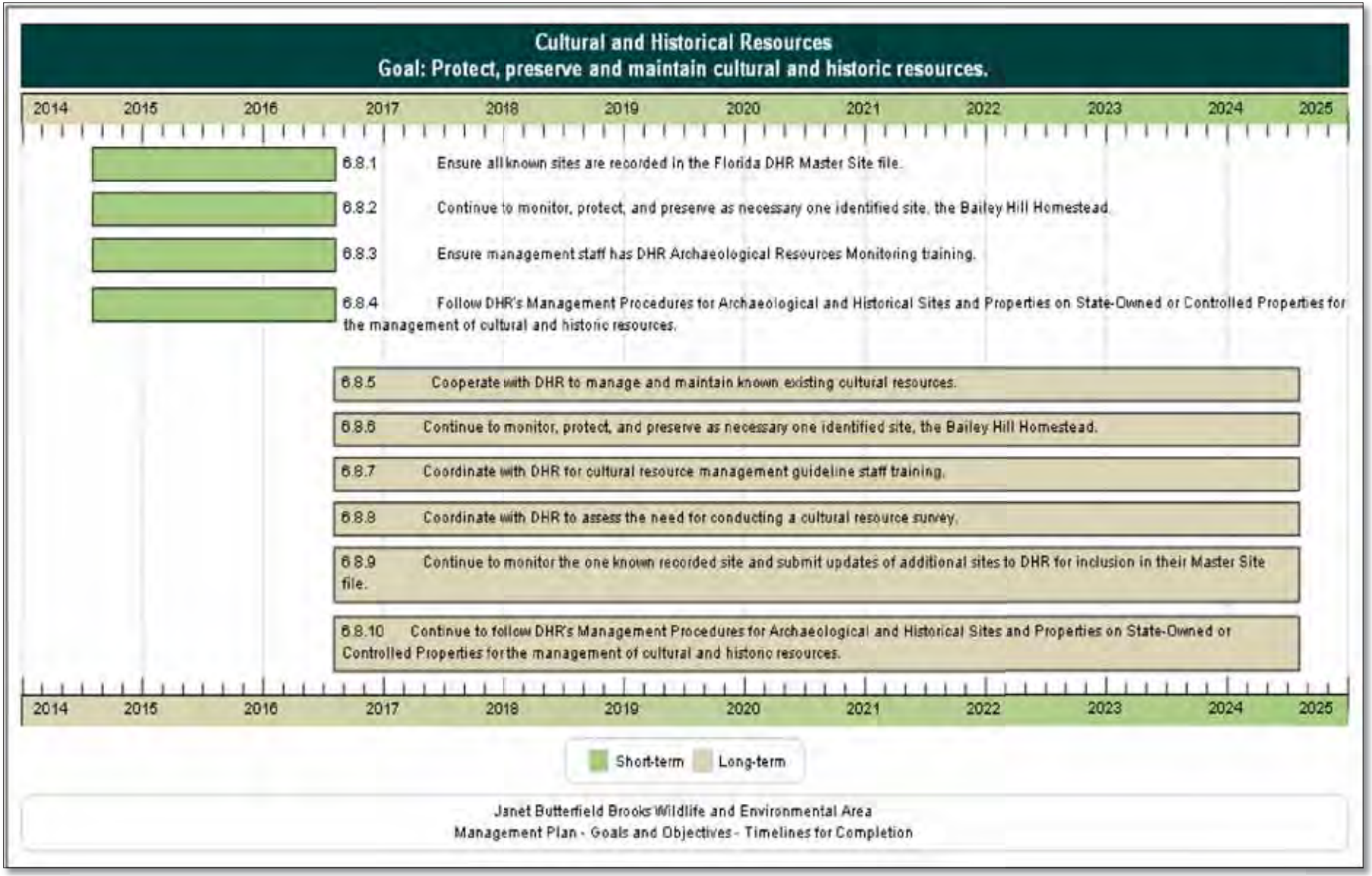
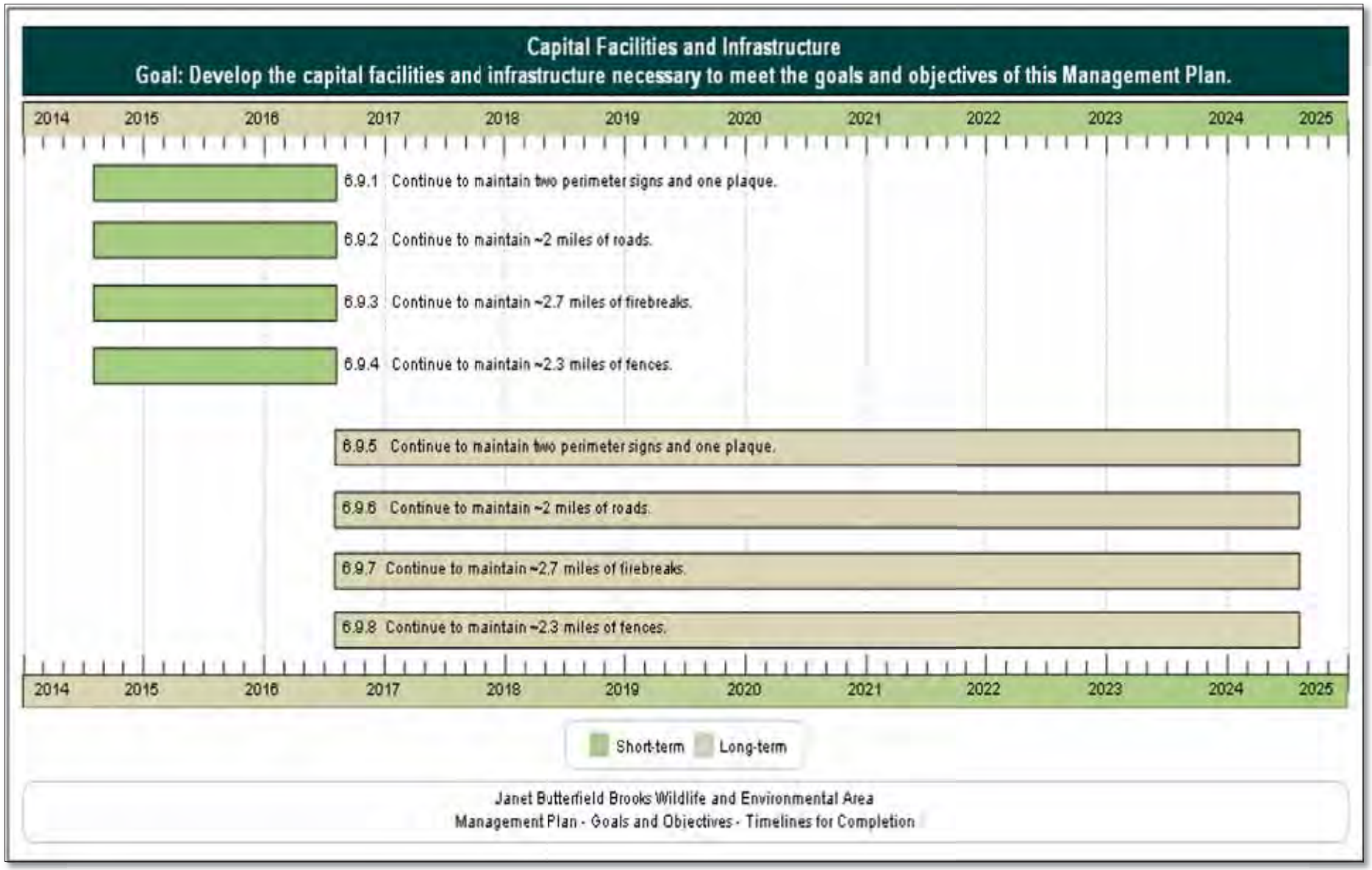
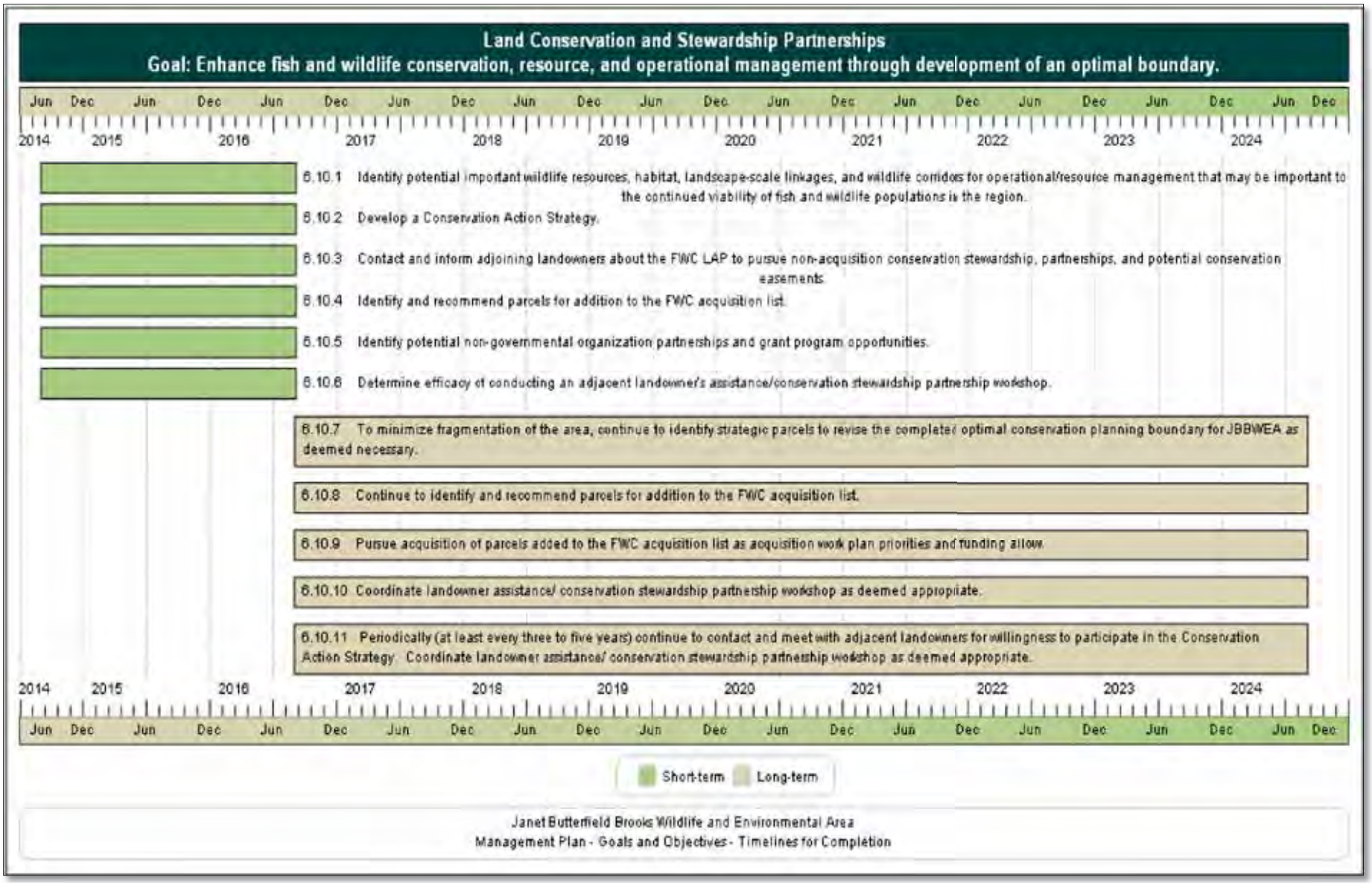
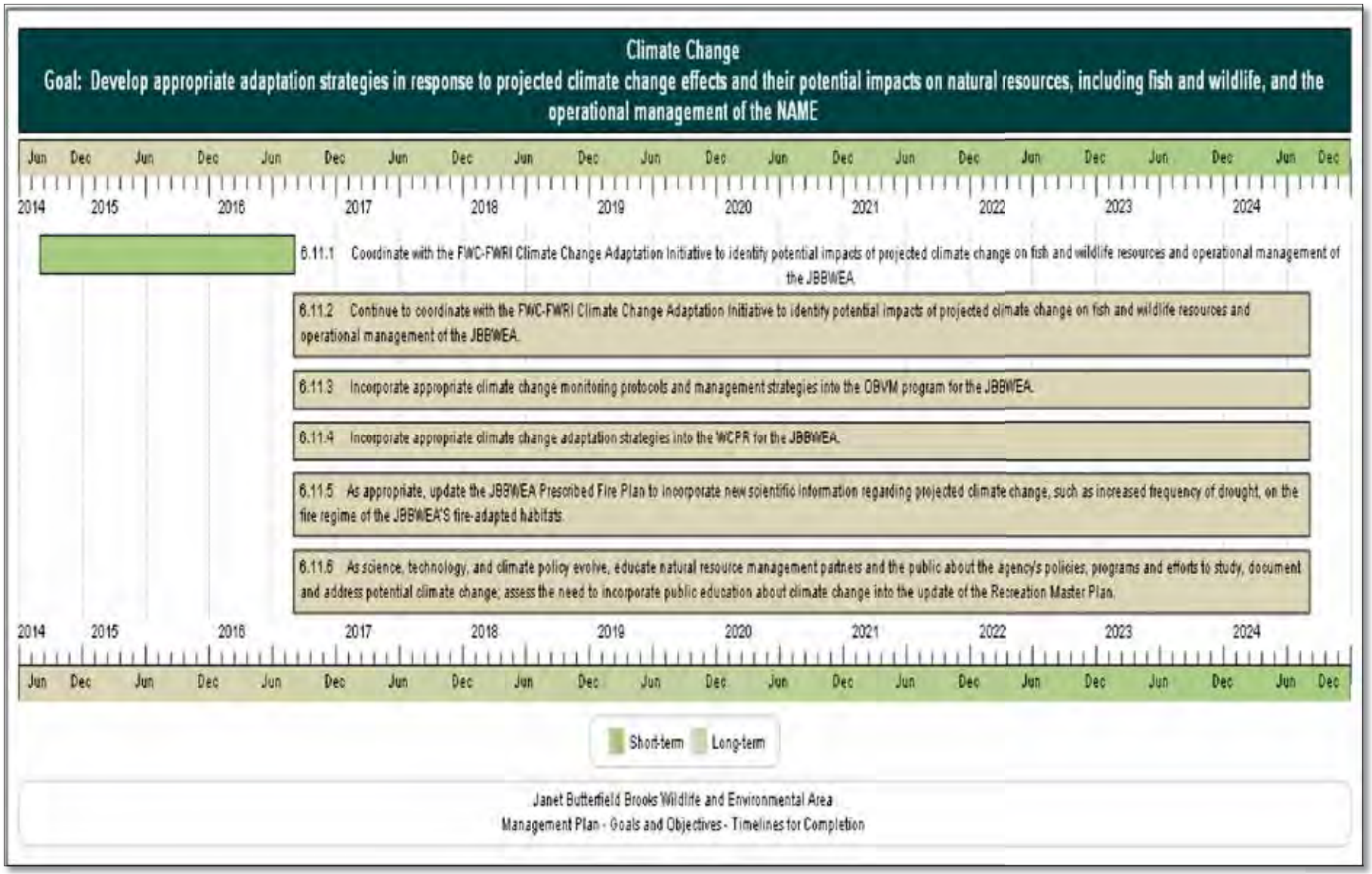
2020
2021
2022
2023
2024
2025
6.6.1
With assistance from SWFWMD, continue to monitor potential hydrological impacts from adjacent land uses.
6.6.4
Continue to monitor potential hydrological impacts from adjacent land uses.
6.6.2
Conduct or obtain a site hydrological assessment to identify potential hydrology restoration needs.
6.6.3
If determined necessary, implement hydrological restoration plan.
Short-term
Long-term
Janet Butterfield Brooks Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion

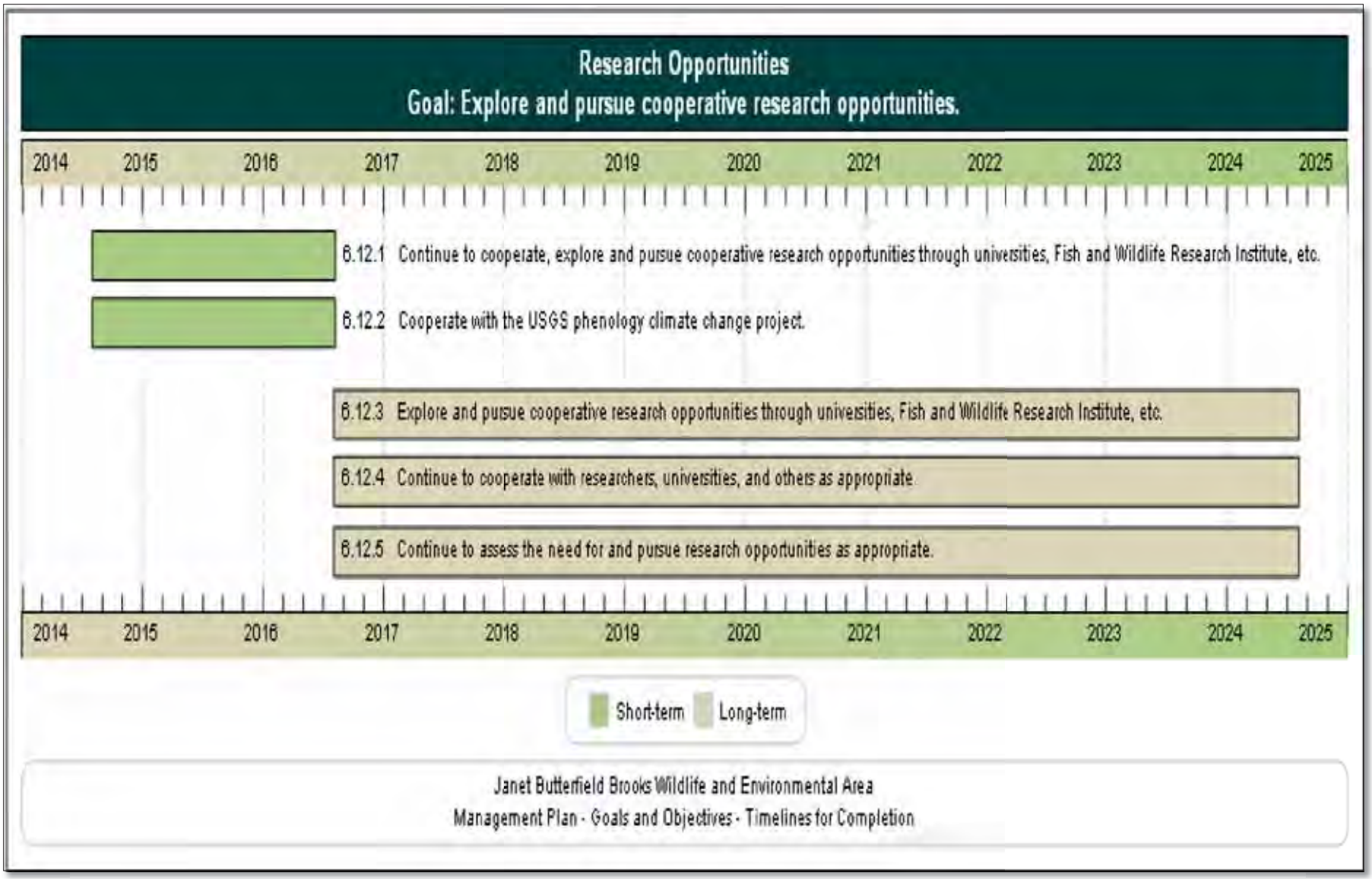

Forest Resource Management
Goal: Manage timber resources to improve or restore natural communities for the benefit of wildlife.
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
6.7.1
Cooperate with the FFS or a professional forestry consultant in regards to completing a Timber Assessment.
6.7.2
Consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate.
6.7.3
Continue to consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate.
Short-term
Long-term
Janet Butterfield Brooks Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Cultural and Historical Resources
Goal: Protect, preserve and maintain cultural and historic resources.
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
6.8.1 Ensure all known sites are recorded in the Florida DHR Master Site file.
6.8.2 Continue to monitor, protect, and preserve as necessary one identified site, the Bailey Hill Homestead.
6.8.3 Ensure management staff has DHR Archaeological Resources Monitoring training.
6.8.4 Follow 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.
6.8.5 Cooperate with DHR to manage and maintain known existing cultural resources.
6.8.6 Continue to monitor, protect, and preserve as necessary one identified site, the Bailey Hill Homestead.
6.8.7 Coordinate with DHR for cultural resource management guideline staff training.
6.8.8 Coordinate with DHR to assess the need for conducting a cultural resource survey.
6.8.9 Continue to monitor the one known recorded site and submit updates of additional sites to DHR for inclusion in their Master Site file.
6.8.10 Continue to follow 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.
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Short-term
Long-term
Janet Butterfield Brooks Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Capital Facilities and Infrastructure
Goal: Develop the capital facilities and infrastructure necessary to meet the goals and objectives of this Management Plan.
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
6.9.1 Continue to maintain two perimeter signs and one plaque.
6.9.2 Continue to maintain ~2 miles of roads.
6.9.3 Continue to maintain ~2.7 miles of firebreaks.
6.9.4 Continue to maintain ~2.3 miles of fences.
6.9.5 Continue to maintain two perimeter signs and one plaque.
6.9.6 Continue to maintain ~2 miles of roads.
6.9.7 Continue to maintain ~2.7 miles of firebreaks.
6.9.8 Continue to maintain ~2.3 miles of fences.
Short-term
Long-term
Janet Butterfield Brooks Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Land Conservation and Stewardship Partnerships
Goal: Enhance fish and wildlife conservation, resource, and operational management through development of an optimal boundary.
Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec
2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
6.10.1 Identify potential important wildlife resources, habitat, landscape-scale linkages, and wildlife corridors for operational/resource management that may be important to the continued viability of fish and wildlife populations in the region.
6.10.2 Develop a Conservation Action Strategy.
6.10.3 Contact and inform adjoining landowners about the FWC LAP to pursue non-acquisition conservation stewardship, partnerships, and potential conservation easements.
6.10.4 Identify and recommend parcels for addition to the FWC acquisition list.
6.10.5 Identify potential non-governmental organization partnerships and grant program opportunities.
6.10.6 Determine efficacy of conducting an adjacent landowner's assistance/conservation stewardship partnership workshop.
6.10.7 To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed optimal conservation planning boundary for JBBWEA as deemed necessary.
6.10.8 Continue to identify and recommend parcels for addition to the FWC acquisition list.
6.10.9 Pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow.
6.10.10 Coordinate landowner assistance/ conservation stewardship partnership workshop as deemed appropriate.
6.10.11 Periodically (at least every three to five years) continue to contact and meet with adjacent landowners for willingness to participate in the Conservation Action Strategy. Coordinate landowner assistance/ conservation stewardship partnership workshop as deemed appropriate.
2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec
Short-term
Long-term
Janet Butterfield Brooks Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Climate Change
Goal: Develop appropriate adaptation strategies in response to projected climate change effects and their potential impacts on natural resources, including fish and wildlife, and the operational management of the NAME
Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec
2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
6.11.1 Coordinate with the FWC-FWRI Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of the JBBWEA.
6.11.2 Continue to coordinate with the FWC-FWRI Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of the JBBWEA.
6.11.3 Incorporate appropriate climate change monitoring protocols and management strategies into the QBVM program for the JBBWEA.
6.11.4 Incorporate appropriate climate change adaptation strategies into the WCPR for the JBBWEA.
6.11.5 As appropriate, update the JBBWEA Prescribed Fire Plan to incorporate new scientific information regarding projected climate change, such as increased frequency of drought, on the fire regime of the JBBWEA'S fire-adapted habitats.
6.11.6 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; assess the need to incorporate public education about climate change into the update of the Recreation Master Plan.
2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec Jun Dec
Short-term
Long-term
Janet Butterfield Brooks Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Research Opportunities
Goal: Explore and pursue cooperative research opportunities.
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
6.12.1 Continue to cooperate, explore and pursue cooperative research opportunities through universities, Fish and Wildlife Research Institute, etc.
6.12.2 Cooperate with the USGS phenology climate change project.
6.12.3 Explore and pursue cooperative research opportunities through universities, Fish and Wildlife Research Institute, etc.
6.12.4 Continue to cooperate with researchers, universities, and others as appropriate.
6.12.5 Continue to assess the need for and pursue research opportunities as appropriate.
Short-term
Long-term
Janet Butterfield Brooks Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion

8 Resource Management Challenges and Strategies

The following section identifies and describes further management needs and challenges associated with the JBBWEA and provides solutions and 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.

8.1 Challenge: Insufficient area exists within the JBBWEA for long term conservation of far-ranging species that have been documented to exist on JBBWEA such as Eastern indigo snake and Sherman's fox squirrel.

8.1.1 Strategy: Explore conservation stewardship and acquisition opportunities to secure habitat necessary for far-ranging species such as eastern indigo snake and Sherman's fox squirrel.

8.2 Challenge: Currently, area staffing is below the FWC's staffing standard.

8.2.1 Strategy: Pursue funding for increased staffing.

8.2.2 Strategy: Explore potential volunteer resources for assisting with management.

8.3 Challenge: There is evidence of looting and vandalism of unrecorded potentially archaeologically significant sites on the JBBWEA.

8.3.1 Strategy: Coordinate with the FWC Law Enforcement and DHR to protect and maintain site integrity.

8.4 Challenge: There are smoke management challenges during prescribed burns due to proximity to major roadways and residential areas.

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

8.5 Exotic invasive plants from adjacent private lands are spreading to the JBBWEA.

8.5.1 Strategy: Coordinate with the FWC's LAP to work with adjacent landowners to control and manage exotic invasive plants on adjacent properties.

8.5.2 Strategy: Coordinate with other governmental and private organizations to obtain resources to control and manage exotic invasive species on adjacent properties.

9 Cost Estimates and Funding Sources

The following represents the actual and unmet budgetary needs for managing the lands and resources of the JBBWEA. 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 mitigation, may be sought to supplement existing funding.

The cost estimates below (Tables 10 and 11), although exceeding what the FWC typically receives through the appropriations process, is consistent with the direction taken by current operational planning for the JBBWEA. 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 2013-2014 operational plan showing detailed cost estimates by activity and categories of expenditures, may be found in Appendix 13.9.

Table 10. Maximum Expected One Year Expenditure

Janet Butterfield Brooks WEA Management Plan Cost Estimate

Maximum expected one year expenditure

Resource Management		Priority schedule:	
Exotic Species Control	$222	**Bold**	Immediate (annual)
Prescribed Burning	$5,337	Normal	Intermediate (3-4 years)
Cultural Resource Management	$0	*Italic*	Other (5+ years)
Timber Management	$972		
Hydrological Management	$0		
Other	$10,492		
Subtotal	**$17,023**		
Administration			
General administration	$222		
Support			
Land Management Planning	$890		
Land Management Reviews	$5,561		
Training/Staff Development	$2,224		
Vehicle Purchase	$27,922		
Vehicle Operation and Maintenance	$695		
Other	$222		
Subtotal	**$37,515**		
Capital Improvements			
New Facility Construction	$3,890		
Facility Maintenance	$2,452		
Subtotal	**$6,342**		
Visitor Services/Recreation			
Info./Education/Operations	**$1,907**		
Law Enforcement			
Resource protection	**$223**		
Total	**$63,233**	*	

***Based on the FWC's current staffing ratio of approximately one full time employee (FTE) per 5,000 acres of managed area, two-tenths of one FTE position would be optimal to fully manage the area covered by this prospectus. All land management funding is dependent upon annual legislative appropriations.**

Table 11. Maximum Expected Ten Year Expenditure

Janet Butterfield Brooks WEA Management Plan Cost Estimate

Ten-year projection

Resource Management	
Exotic Species Control	$2,550
Prescribed Burning	$61,178
Cultural Resource Management	$0
Timber Management	$11,148
Hydrological Management	$0
Other	$120,276
Subtotal	**$195,152**
Administration	
General administration	**$2,550**
Support	
Land Management Planning	$10,200
Land Management Reviews	$12,008
Training/Staff Development	$4,803
Vehicle Purchase	$128,207
Vehicle Operation and Maintenance	$7,966
Other	$2,550
Subtotal	**$165,734**
Capital Improvements	
New Facility Construction	*$8,268*
Facility Maintenance	$28,109
Subtotal	**$36,377**
Visitor Services/Recreation	
Info./Education/Operations	**$21,863**
Law Enforcement	
Resource protection	**$2,560**
Total	**$424,235**

Priority schedule:

Bold	Immediate (annual)
Normal	Intermediate (3-4 years)
Italic	Other (5+ years)

10 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" below 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	✓		
• Exotic species control		✓	
• Mechanical vegetation treatment	✓		
• Public contact and educational facilities development	✓		
• Prescribed burning	✓		
• Timber harvest activities			✓
• Vegetation inventories		✓	

11 Compliance with Federal, State, and Local Governmental Requirements

The operational functions of the 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 Americans with Disabilities Act. As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions (e.g., where handicap access is structurally impractical or where providing such access would change the fundamental character of the facility being provided).

Uses planned for the JBBWEA are in compliance 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 13.5). 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 372, 253, 259, 327, 370, 403, 870, 373, 375, 378, 487, and 597 FS.

The FWC has developed and utilizes an Arthropod Control Plan for the JBBWEA in compliance with Chapter 388.4111 F.S. (Appendix 13.11). This plan was developed in cooperation with the local Hernando County arthropod control agency. This plan is also in conformance with the Local Government Comprehensive Plan as approved and adopted for Hernando County, Florida, (Appendix 13.13).

12 Endnotes

[1] Aldridge, C. L., M. S. Boyce and R. K. Baydack. 2004. Adaptive management of prairie grouse: how do we get there? Wildlife Society Bulletin 32:92-103.

[2] Wilhere, G. F. 2002. Adaptive management in Habitat Conservation Plans. Conservation Biology 16:20-29.

[3] Walters, C. J. and R. Hilborn. 1978. Ecological optimization and adaptive management. Annual Review of Ecology and Systematics 9:157–188.

[4] Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas, Final Report (1999).

[5] Karl, T. R., J. M. Melillo, and T. C. Peterson (Eds.). 2009. Global Climate Change Impacts in the United States. Cambridge University Press. New York, NY.

[6] McCarty, J. P. 2001. Ecological consequences of recent climate change. Conservation Biology 15:320-331.

[7] Walther, G. R., E. Post, P. Convey, A. Menzel, C. Parmesan, T. J. . Beebee, J. M. Fromentin, O. Hoegh-Guldberg, and F. Bairlein. 2002. Ecological responses to recent climate change. Nature 416:389–395.

[8] Parmesan, C. 2006. Ecological and evolutionary responses to recent climate change. Annual Review of Ecology, Evolution, and Systematics 37:637-669.

[9] Logan, J. A., and J. A. Powell. 2009. Ecological consequences of climate change altered forest insect disturbance regimes. In Climate Warming in Western North America: Evidence and Environmental Effects (F. H. Wagner, Ed.). University of Utah Press, Salt Lake City, UT.

[10] Stevenson, J. C., M. S. Kearney, and E. W. Koch. 2002. Impacts of sea level rise on tidal wetlands and shallow water habitats: A case study from Chesapeake Bay. American Fisheries Society Symposium 32:23-36.

[11] IPCC. 2007b. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK.

[12] Stanton, E.A. and F. Ackerman. 2007. Florida and Climate Change: The Costs of Inaction. Tufts University Global Development and Environment Institute and Stockholm Environment Institute–US Center, Tufts University, Medford, MA.

[13] Clough, J.S. 2008. Application of the Sea-Level Affecting Marshes Model (SLAMM 5.0) to Crystal River NWR. Warren Pinnacle Consulting, Inc. for U.S. Fish and Wildlife Service. 46 pp.

13 Appendices

13.1 Lease Agreement

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
DIVISION OF HABITAT AND SPECIES CONSERVATION

MEMORANDUM

Date: June 26, 2009

To: Jeri Bailey

From: Rich Mosperis
HSC/THCR

RE: New Lease No. 4594 (FWC Contract #97040) between the Board of Trustees of the Internal Improvement Trust Fund and the Florida Fish and Wildlife Conservation Commission for the Janet Butterfield Brooks Wildlife and Environmental Area, Hernando County, FL

Included herewith please find a fully executed original of the referenced amendment, which adds 319 acres to the WEA, along with the routing form.

Let me know if there are any questions pertaining to this matter.

DIVISION LOG # 1866 AGREEMENT NUMBER 08227

AGREEMENT ROUTING REVIEW FORM

CONTRACTOR BOT OF IITF AND FWC

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

PROJECT TITLE #4594 NEW LEASE FOR JANET BUTTERFIELD BROOKS WEA, 319 ACRES

ORIGINATOR/CONTACT RICH MOSPENS PHONE 488-3831 x17289 DIV./OFFICE/MAIL HSC / THCR

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

___ EXPENDITURE** ___ REVENUE ___ AGREEMENT ___ EASEMENT/DEED __X_ LEASE (INCLUDES WMA OR FMA LEASES)

AGREEMENT BEGINNING DATE/EXECUTION EXECUTION END DATE 50 YRS AFTER EXECUTION OPTION FOR _____ YEARS

TOTAL CONTRACT AMOUNT $_____ PAYMENT AMOUNT $_____

BILLING PERIODS: ___ MONTHLY ___ QUARTERLY ___ ANNUALLY ___ OTHER _____

BUILDING INSURANCE TO BE INCURRED BY THE COMMISSION(LEASES) _X_ 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

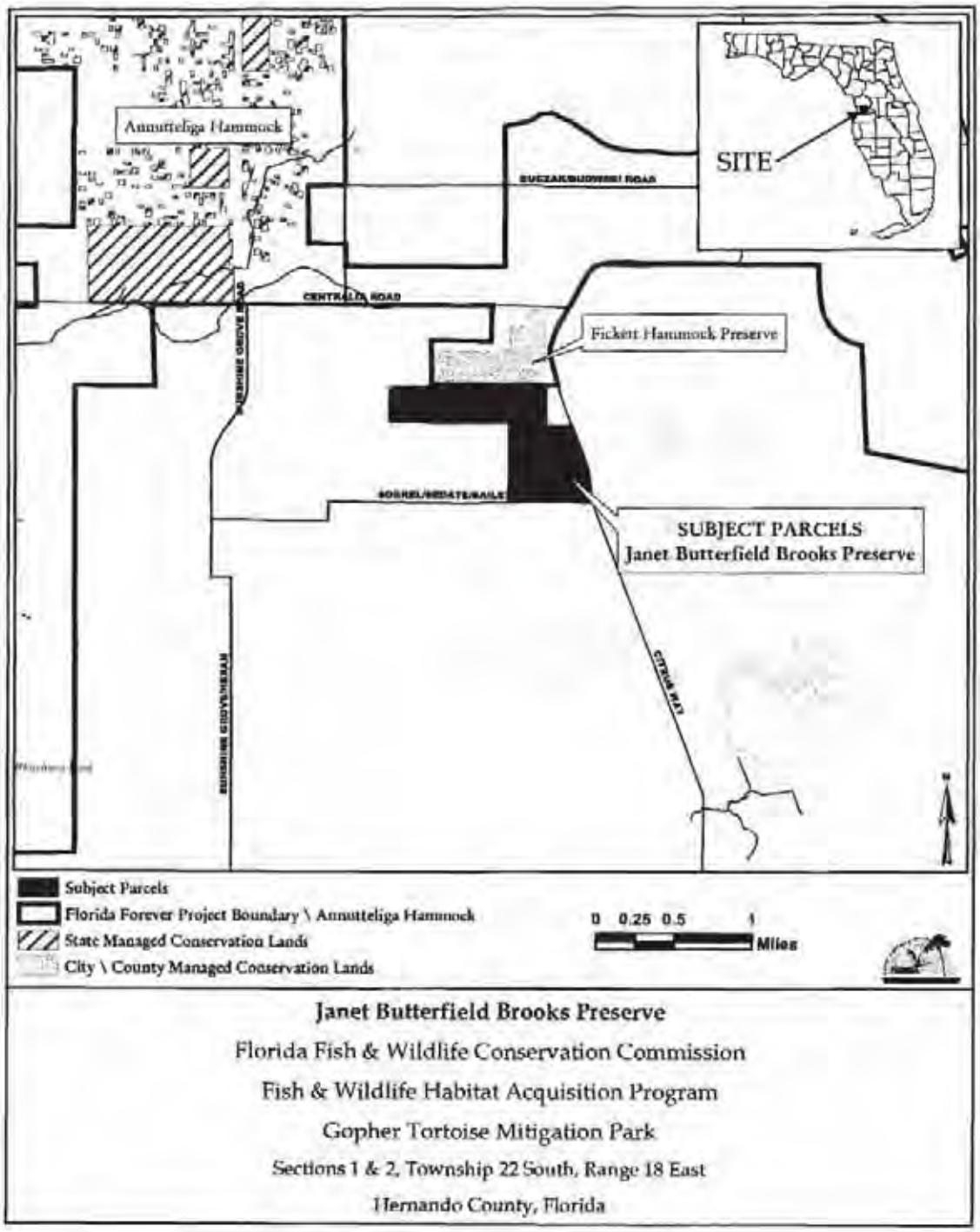
ORG. CODE	E.O.	OBJECT CODE	CATEGORY	AMOUNT	PROJECT ID			FY

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	M. Brooks	11-24-08	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		12-01-08	
5. Legal		12-8-08	
6. Accounting	DMT SBurney	12-10-08 12-10-08	Funds Availability: N/A Yes ___ No
7. Exec./Div./Reg./Inst./Off. Dir. review (check below).		12 11 08	
___ 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		12/17/08	
Originator Copy to Accounting*			Send a complete copy of the Contract & Routing Form
Originator to Contracts Administrator*		6/29/09	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



Janet Butterfield Brooks Preserve

Florida Fish & Wildlife Conservation Commission

Fish & Wildlife Habitat Acquisition Program

Gopher Tortoise Mitigation Park

Sections 1 & 2, Township 22 South, Range 18 East

Hernando County, Florida

SAL2

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

319 acres

LEASE AGREEMENT

JANET BUTTERFIELD BROOKS WILDLIFE AND ENVIRONMENTAL AREA

Lease Number 4594

This lease is made and entered into this 22ND day of DECEMBER, 2008, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR", and FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as "LESSEE".

WITNESSETH:

WHEREAS, the BOARD OF TRUSTEES OF THE INTERNAL IMVROVEMENT 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 that 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: LESSOR'S responsibilities and obligations herein shall be exercised by the Division of State Lands, State of Florida Department of Environmental Protection.

2. DESCRIPTION OF PREMISES: The property subject to this lease is situated in the County of Hernando, State of Florida and is more particularly described in Exhibit "A" attached hereto and hereinafter referred to as "leased premises". Unless stated otherwise, all sovereignty lands located within the boundaries of Exhibit "A" shall be considered a part of leased premises.

3. TERM: The term of this lease shall be for a period of fifty years, commencing on DECEMBER 22, 2008, and ending on DECEMBER 21, 2058, unless sooner terminated pursuant to the provisions of this lease.

4. PURPOSE: LESSEE 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 7 of this lease.

5. QUIET ENJOYMENT AND RIGHT OF USE: LESSEE 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 LESSEE of the rights conveyed herein.

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

7. MANAGEMENT PLAN: LESSEE shall prepare and submit a Management Plan for the leased premises in accordance with Section 253.034, Florida Statutes, within twelve months of the effective date of this lease. The Management Plan shall be submitted for approval to the State of Florida Department of Environmental Protection, Division of State Lands, Office of Environmental Services, Mail Station 140, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000. 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 public 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 LESSEE and LESSOR. LESSEE 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.

8. 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 LESSEE, in any matter pertaining to this lease.

9. INSURANCE REQUIREMENTS: LESSEE 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, State of Florida 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, State of Florida Department of Environmental Protection, Mail Station 130, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000.

10. LIABILITY: LESSEE shall assist in the investigation of injury or damage claims either for or against LESSOR or the State of Florida pertaining to LESSEE'S respective areas of responsibility under this lease or arising out of LESSEE'S respective management programs or activities and shall contact LESSOR regarding the legal action deemed appropriate to remedy such damage or claims.

11. 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 State of Florida 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.

12. 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.

13. 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.

14. POST CLOSING RESPONSIBILITIES: In an effort to define responsibilities of the LESSOR and LESSEE with regard to resolving post closing management issues, the parties agree to the following:

a. After consultation with the LESSEE, LESSOR agrees to provide the LESSEE with the title, survey and environmental products procured by the LESSOR, prior to closing.

b. LESSOR will initiate surveying services to locate and mark boundary lines of specific parcels when necessary for immediate agency management and will provide a boundary survey of the entire acquisition project at the conclusion of all acquisition within the project boundary. Provided, however, the LESSEE may request individual parcel boundary surveys, if necessary, prior to the conclusion of acquisition activities within the project boundaries.

c. Unless otherwise agreed to by LESSEE, LESSOR shall at its sole cost and expense, make a diligent effort to resolve all issues pertaining to all title defects, survey matters or environmental contamination associated with the leased premises, including but not limited to trash and debris, which were either known or should have been reasonably known by LESSOR at the time LESSOR acquired the leased premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE'S attorney's fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.

d. With regard to all title defects, survey matters, or environmental contamination associated with the leased premises which were not known or could not have been reasonably known by LESSOR at the time LESSOR acquired the leased premises, LESSOR and LESSEE agree to cooperate in developing an appropriate strategy for jointly resolving these matters. LESSOR acknowledges and understands that LESSEE is unable to commit any substantial amount of their routine operating funds for the resolution of any title defect, survey matter, or environmental contamination associated with the lease premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE'S attorney's fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.

15. SURRENDER OF PREMISES: Upon termination or expiration of this lease LESSEE shall surrender the leased premises to LESSOR. 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, State of Florida Department of Environmental Protection, Mail Station 130, 3800 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 expiration or termination of this lease, all permanent improvements, including both physical structures and modifications to the leased premises, shall become the property of LESSOR, unless LESSOR gives written notice to LESSEE to remove any or all such improvements at the expense of LESSEE. 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 and improvements located thereon do not meet all conditions set forth in paragraphs 18 and 21 herein, LESSEE shall pay all costs necessary to meet the prescribed conditions.

16. BEST MANAGEMENT PRACTICES: LESSEE 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, LESSEE or other land managing agencies for the protection and enhancement of the leased premises.

17. PUBLIC LANDS ARTHROPOD CONTROL PLAN: LESSEE 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 5E-13, Florida Administrative Code, for the purpose of obtaining a public lands arthropod control plan for such lands.

18. UTILITY FEES: LESSEE 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 LESSEE in accordance with plans prepared by professional designers and shall require the prior written approval of LESSOR as to purpose location, and design. Further, no trees, other than non-native species, shall be removed or major land alterations done without the prior written approval of LESSOR. Removable equipment placed on the leased premises by LESSEE which do not

become a permanent part of the leased premises will remain the property of LESSEE and may be removed by LESSEE upon termination of this lease.

21. MAINTENANCE OF IMPROVEMENTS: LESSEE 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, removing all trash or litter, maintaining all planned improvements as set forth in the approved Management Plan, meeting all building and safety codes. LESSEE shall maintain any and all existing roads, canal, ditches, culverts, risers and the like in as good condition as the same may be on the effective date of this lease.

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 LESSEE breach any of the covenants, terms, or conditions of this lease, LESSOR shall give written notice to LESSEE to remedy such breach within sixty days of such notice. In the event LESSEE fails 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 LESSEE 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. LESSEE shall not do or permit anything 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 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. NOTICES: All notices given under this lease shall be in writing and shall be served by certified mail including, but not limited to, notice of any violation served pursuant to Section 253.04, Florida Statutes, to the last address of the party to whom notice is to be given, as designated by such party in writing. LESSOR and LESSEE hereby designate their address as follows:

LESSOR: Board of Trustees of the Internal Improvement Trust
Fund of the State of Florida
Department of Environmental Protection
Bureau of Public Land Administration
Division of State Lands
3800 Commonwealth Boulevard, MS 130
Tallahassee, Florida 32399-3000

LESSEE: Florida Fish and Wildlife Conservation Commission
620 South Meridian Street, Room 321
Tallahassee, Florida 32399-1600

28. DAMAGE TO THE PREMISES: (a) LESSEE 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) LESSEE 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 LESSEE'S failure to comply with this paragraph, LESSEE shall, at its 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 LESSEE'S such 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. LESSEE'S obligations set forth in this paragraph shall survive the termination or expiration of this lease. Nothing herein shall relieve LESSEE 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 LESSEE'S 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, LESSEE shall report such violation to all applicable governmental agencies having jurisdiction, and to LESSOR, all within the reporting periods of the applicable governmental agencies.

29. PAYMENT OF TAXES AND ASSESSMENTS: LESSEE 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.

30. RIGHT OF AUDIT: LESSEE 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 LESSEE 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.

31. NON-DISCRIMINATION: LESSEE 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.

32. COMPLIANCE WITH LAWS: LESSEE agrees that this lease is contingent upon and subject to LESSEE 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.

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

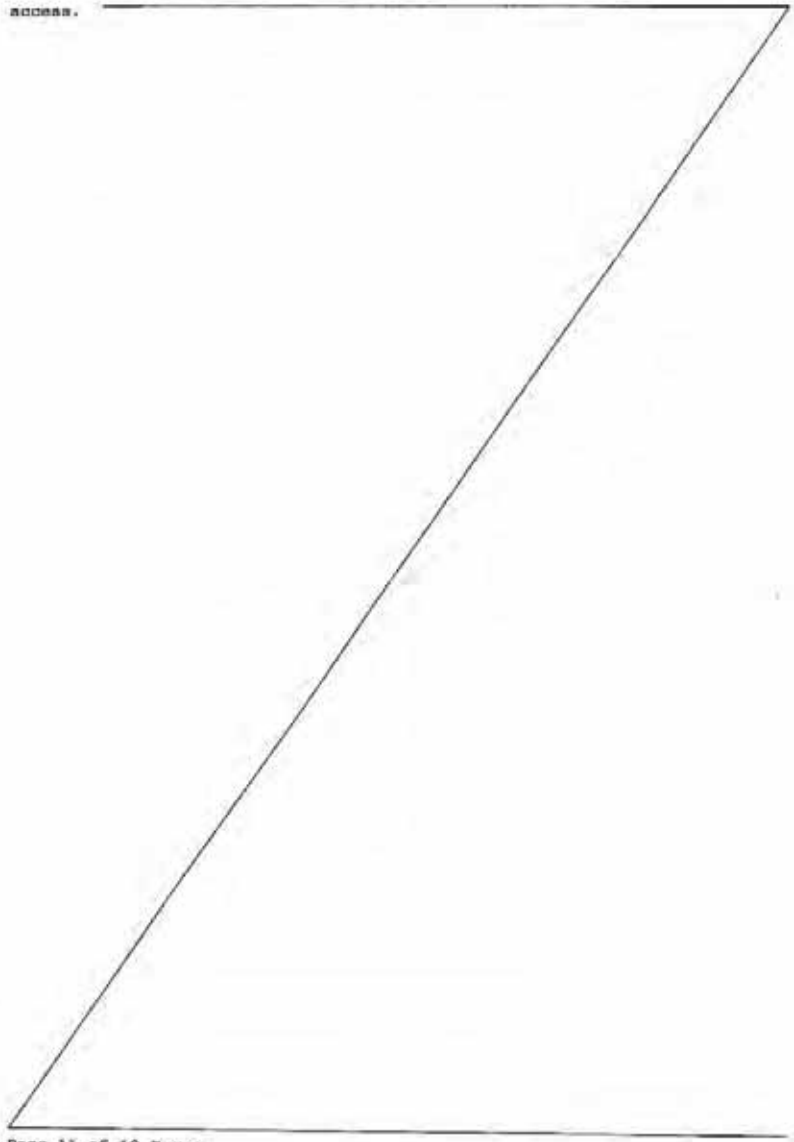
34. GOVERNING LAW: This lease shall be governed by and interpreted according to the laws of the State of Florida.

35. 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.

36. ADMINISTRATIVE FEE: LESSEE shall pay LESSOR an annual administrative fee of $300 pursuant to subsection 18-2.020(8), Florida Administrative Code. 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.

37. SPECIAL CONDITIONS: The following special condition shall apply to this lease:

a. General public access of any type, including hunting, is not allowed on the Janet Butterfield Brooks Wildlife Environmental Area. The access is restricted by deed to agency staff for management purposes (which would include law enforcement) and authorized agency guided educational access.



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

Witness

Print/Type Witness Name

Witness

Print/Type Witness Name

By: (SEAL)
GLORIA C. BARBER, OPERATIONS AND MANAGEMENT CONSULTANT MANAGER, BUREAU OF PUBLIC LAND ADMINISTRATION, DIVISION OF STATE LANDS, STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 22nd day of DECEMBER 2008, by Gloria C. Barber, as Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, acting as agent on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.

Notary Public, State of Florida

DAVID L. FEWELL MY COMMISSION EXPIRES FEBRUARY 28, 2012 #DD 763203 NOTARY PUBLIC, STATE OF FLORIDA

Print\Type Notary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality

By:
DEP Attorney

Page 12 of 18 Pages
Lease No.4594

R11/07

FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

Witness
Print/Type Witness Name

By: _____ (SEAL)
Type/Print Name
Title:

Witness
Print/Type Witness Name

"LESSEE"
APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
Commission Attorney

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 12 day of December 2008, by Nick Wiley, as Asst Exec Dir, on behalf of the Florida Fish and Wildlife Conservation Commission, who is/are personally known to me or who has produced _____ as identification.

Notary Public, State of Florida

Kathleen L Hampton
Print/Type Notary Name

Commission Number:

Commission Expires:

NOTARY PUBLIC-STATE OF FLORIDA
Kathleen Louise Hampton
Commission # DD568288
Expires: JUNE 26, 2010
BONDED THRU ATLANTIC BONDING CO., INC.

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Lease No.4594

R11/07

This Instrument Prepared By and
Please Return To:
Emily Parry
American Government Services Corporation
3812 W. Linebagh Avenue
Tampa, Florida 33618

P-ENV

2008036487
ROBIN 2575/1970
OFFICIAL RECORDS
BK: 2575 PG: 1970

LT1-2-2008036487-1

LT2-2575-1970-5

07/02/2008 12:27PM 5 Pages
Filed & Recorded in Official Records of
HERNANDO COUNTY CLERK OF COURT
KAREN NICOLAI

DEED DOC STAMP EXEMPT
07/02/2008 Deputy Clk

SPECIAL WARRANTY DEED

THIS INDENTURE, made this 13th day of June A.D. 2008, between **The Nature Conservancy, a non-profit District of Columbia corporation authorized to transact business in the State of Florida as The Nature Conservancy, Inc.**, whose post office address is **222 S. Westmore Dr., Suite 300, Altamonte Springs, Florida 32714**, Grantor, and the **BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA**, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, grantee,

(Wherever used herein the terms "grantor" and "grantee" include all the parties to this instrument and their legal representatives, successors and assigns. "Grantor" and "grantee" are used for singular and plural, as the context requires and the use of any gender shall include all genders.)

WITNESSETH: That the said grantor, for and in consideration of the sum of $10.00 and other good and valuable considerations to said grantor in hand paid by said grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said grantee, and grantee's successors and assigns forever, the following described land situate, lying and being in **Hernando** County, Florida, to-wit:

See Exhibit "A" attached hereto and by reference made a part hereof.

Acceptance of Transfer of Title to Donated Lands attached hereto as Exhibit "C" and by reference made a part hereof

Property Appraiser's Parcel ID Number: R022-422-18-0000-0020-0010, R01-422-18-0000-0060-0010 and R02-422-18-0000-0020-0000

This conveyance is subject to easements, restrictions, limitations, and conditions of record if any now exist, but any such interests that may have been terminated are not hereby re-imposed.

TO HAVE AND TO HOLD the same unto the said grantee in fee simple forever.

AND the said grantor does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons claiming by, through or under the said grantor, but against none other. "Provided, however, that grantor make no warranties of title with respect to the following portion of the property described on Exhibit "B".

IN WITNESS WHEREOF the grantor has executed these presents, the day and year first written.

The Nature Conservancy, a non-profit District of Columbia corporation authorized to transact business in the State of Florida as the Nature Conservancy, Inc.

Signed, sealed and delivered in the presence of:

Jane Berger
(Signature of First Witness)
Jane Berger
Printed name of First Witness

Patricia A. DeStefano
(Signature of Second Witness)
Patricia A. DeStefano
Printed name of Second Witness

STATE OF Florida

BY: Robert L. Bendick, Jr.
Robert L. Bendick, Jr. as Vice President

Legal: AW 4/5/08

(CORPORATE SEAL)

APPROVED
FOR CLOSING
WOK
JUN 13 2008

Exhibit "A"
Page 14 of 18 Pages
Lease No. 4594

OFFICIAL RECORDS
BK: 2575 PG: 1971

Exhibit "A"

The NW ¼ of the NW ¼ and the NE ¼ of the NW ¼ of Section 2, Township 22 South, Range 18 East, Hernando County, Florida.

And

The NE ¼ of the NE ¼ of Section 2, Township 22 South, Range 18 East, Hernando County, Florida.

And

The SE ¼ of the NE ¼ of Section 2, Township 22 South, Range 18 East, Hernando County, Florida.

And

The South 5 acres of the North 10 acres of the NW ¼ of the NE ¼ of Section 2, Township 22 South, Range 18 East, Hernando County, Florida.

And

The South 5 acres of the North 15 acres of the NW ¼ of the NE ¼ of Section 2, Township 22 South, Range 18 East, Hernando County, Florida.

And

The North 5 acres of the NW ¼ of the NE ¼ of Section 2, Township 22 South, Range 18 East, Hernando County, Florida.

And

The N ¼ of the NE ¼ of the SE ¼ of Section 2, Township 22 South, Range 18 East, Hernando County, Florida.

Janet Butterfield Brooks Preserve
The Nature Conservancy
7.31.07

Page 1 of 2

BSM
By RB Date 7.31.07

Exhibit "A"
Page 15 of 18 Pages
Lease No. 4594

Exhibit "A"

And

The South 5 acres of the North 20 acres of the NW ¼ of the NE ¼ of Section 2, Township 22 South, Range 18 East, Hernando County, Florida.

And

The South ½ of the NE ¼ of the SE ¼ of Section 2, Township 22 South, Range 18 East, Hernando County, Florida.

And

The South 10 acres of the North 30 acres of the NW ¼ of the NE ¼ of Section 2, Township 22 South, Range 18 East, Hernando County, Florida.

And

The South 10 acres of the NW ¼ of the NE ¼ of Section 2, Township 22 South, Range 18 East in Hernando County, Florida.

And

The NW ¼ of the SW ¼ and that portion of the SW ¼ of the NW ¼ and that portion of the NE ¼ of the SW ¼ lying South and West of Highway 491, all in Section 1, Township 22 South, Range 18 East, Hernando County, Florida.

Janet Butterfield Brooks Preserve
The Nature Conservancy
7 21 07

OFFICIAL RECORDS
BK: 2575 PG: 1973

Exhibit "B"

That part of the NW ¼ of the NE ¼ of Section 2, Township 22 South, Range 18 East, Hernando County, bounded on the North by the South line of the South 10 acres of the North 30 acres of the NW ¼ of the NE ¼ of said Section 2 and bounded on the South by the North line of the South 10 acres of the NW ¼ of the NE ¼ of said Section 2.

Janet Butterfield Brooks Preserve
The Nature Conservancy, Hialua
4.23.08

Page 1 of 1

BCM
By RB Date 4.23.08

Exhibit "A"
Page 17 of 18 Pages
Lease No. 4594

EXHIBIT "C"

OFFICIAL RECORDS
BK: 2575 PG: 1974

ACCEPTANCE OF TRANSFER OF TITLE TO DONATED LANDS

Board of Trustees of the Internal Improvement Trust Fund of the State of Florida hereby accepts this conveyance as a transfer of title of the real property as described in this Deed in accordance with F. S. 259.041(10)(a).

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

Linda J. H Love
(SIGNATURE OF FIRST WITNESS)

BY: Lynda J. Godfrey
Lynda Godfrey, Bureau Chief, Bureau of Land Acquisition, 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

Linda J H Love
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

Judith A. Booth
(SIGNATURE OF SECOND WITNESS)

Judith A. Booth
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

6-19-08
Date Signed

STATE OF Florida
COUNTY OF Leon

The foregoing instrument was acknowledged before me this 19 day of June, 2008, by Lynda J. Godfrey, Bureau Chief, Bureau of Land Acquisition, 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. She is personally known to me.

(NOTARY PUBLIC SEAL)

Notary Public State of Florida
Linda J H Love
My Commission DD431771
Expires 05/22/2009

Linda J H Love
Notary Public

Linda J H Love
(Printed, Typed, or Stamped Name of Notary Public)

Commission No.: DD 431771

My Commission Expires: 05/22/2009

Exhibit "A"
Page 18 of 18 Pages
Lease No. 4594

13.2 Public Input

Janet Butterfield Brooks Wildlife and Environmental Area (JBBWEA)

Management Advisory Group (MAG)

Consensus Meeting Results

November 30, 2011 in Brooksville, 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. 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 JBBWEA consensus meeting was held on the morning of November 30, 2011 at the Southwest Florida Water Management District (SWFWMD) offices, in Brooksville, Florida in Hernando County. The ideas found below were provided by stakeholders for consideration in the 2012 - 2022 Management Plan (MP) for JBBWEA 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 FWC, the Acquisition and Restoration Council (ARC), and the Trustees of the Internal Improvement Trust Fund (Governor and Cabinet), the JBBWEA 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 (vote cards received for each idea) 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 on card #1) received a score of 1, and their fifth most important idea (recorded on card #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 with regard to 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.	[5]	[5]	1.	**Maintain and manage natural communities to promote the distribution, abundance, and diversity of native species including exotic species control.** Need to include all management tools including fire, chemical, and mechanical methods.
2.	[4]	[11]	1 4.	**Identify imperiled plant and animal species on JBBWEA including the area in/around Dry Creek.** Self explanatory.
3.	[3]	[6]	2.	**Implement frequent and periodic prescribed burning with an emphasis on growing season burns.** Self explanatory.

Two items of equal rank:

4T.	[3]	[12]	8.	**Coordinate management with other regional conservation lands/agencies and private landowners.** We need to work with other agencies and private landowners to coordinate management opportunities.
4T.	[3]	[12]	1 1.	**Maintain site security.** We need to ensure security of the area to protect the natural and cultural resources through fences, signage, and access control.
6.	[3]	[14]	1 5.	**Identify public use compatible with deed restrictions including protocol.** We need to identify what uses are appropriate and consistent with the deed restrictions on the area. The current process of approving public access requests needs to be standardized.
7.	[2]	[7]	7.	**Identify and protect cultural, archaeological, and historical resources.** Self explanatory.

Rank	# of Votes	Score		Idea
8.	[2]	[8]	1 2.	**Maintain and enhance imperiled species habitat.** Self explanatory.

The following items received no votes. All ideas represent valuable input, and are considered in development of the JBBWEA MP, but carry no rank with regard to the priority perceptions of the MAG.

3. **Establish enforceable area specific rules.** We need to make sure rules are consistent with HB 45 and are specific to the area.

1 **Continue research begun by The Nature Conservancy.**
3. Research and survey work performed by the Nature Conservancy during their ownership of the area should be retained and continued into the future.

1 **Enhance wildlife conservation, resource, and operational**
6. **management through development of an optimal conservation planning boundary.** Identify adjacent areas that have resource value to enhance natural resources at JBBWEA and in the region. Consider making connections to nearby conservation land.

Janet Butterfield Brooks Wildlife and Environmental Area
MAG Meeting Participants

Name	Affiliation
Active Participants	
Chad Allison	FWC Area Biologist
Lt. Kevin Grover	FWC Law Enforcement
Will Miller	SWFWMD
Michael Liberton	The Nature Conservancy
Jim King	Hernando County Planning Department
Butch Mallett	Florida Forest Service
Supportive Participants	
Jeff McGrady	FWC HSC, Regional Biologist
Victor Echaves	FWC HSC, District Biologist
Jennifer Myers	FWC HSC, Conservation Biologist
Pamela Murfey	FWC, Office of Recreation Services
Invited but Unable to Attend	
Linda Vanderveen	Hernando County Audubon Society
Miki Renner	Hernando Chapter Florida Native Plant Society
Commissioner John Druzbick	Hernando County Commission
Mary Glowacki	Department of State, Division of Historical Resources
Sine Murray	Department of Environmental Protection
Greg Hendricks	Natural Resource Conservation Service
Dan Hipes	Florida Natural Areas Inventory
Donald and Kelly Arnold	Landowners
FWC Planning Personnel	
Michael Hallock-Solomon	Meeting facilitator
Cory Burch Recorder	

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Tampa Tribune Order Confirmation for Ad #0003132797-01

CENTRO

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Total Amount	$27.85	Status	Materials
Payment Amt	$0.00		
Amount Due	$27.85	Tear Sheets: 0	Proofs: 0
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Ad Number	Ad Type	Color	Production Color
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Ad Content Proof

6306 1/7/2012

The Florida Fish and Wildlife Conservation Commission announce a PUBLIC HEARING for the Janet Butterfield Brooks Wildlife and Environmental Area located in Hernando County, Florida. 7:00 P.M. Thursday, January 12, 2012 Kennedy Park Multipurpose Room Kennedy Park 899 Kennedy Boulevard Brooksville, Florida 34601 PURPOSE: To receive public comment regarding considerations for FWC's ten-year Management Plan for the Janet Butterfield Brooks Wildlife and Environmental Area (WEA). This hearing is designed exclusively for discussion of the draft management plan. A Management Prospectus for Janet Butterfield Brooks WEA is available upon request from the Florida Fish and Wildlife Conservation Commission, Conservation Planning Group, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9982 or (850) 487-9767 or by e-mail at Rebecca.Shelton@MyFWC.com.

NOTICE

The Florida Fish and Wildlife Conservation Commission
Announces a

PUBLIC HEARING

For the

Janet Butterfield Brooks

Wildlife and Environmental Area

Hernando County, Florida

7:00 P.M. Thursday, January 12, 2012
Hernando County Government Center
Room 160 – County Commissioners' Meeting Room
20 North Main Street
Brooksville, Florida 34601

PURPOSE: To receive public comment regarding considerations for the FWC ten-year Management Plan for the Janet Butterfield Brooks Wildlife and Environmental Area (WEA). This hearing is being held exclusively for discussion of the DRAFT Janet Butterfield Brooks WEA Management Plan.

A Management Prospectus for the Janet Butterfield Brooks WEA is available upon request. For a copy, please contact Michael Hallock-Solomon, Florida Fish and Wildlife Conservation Commission, Conservation Acquisition and Planning, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9767.

NOTICE

The Florida Fish and Wildlife Conservation Commission
Announces a

PUBLIC HEARING

VENUE CHANGE

For the

Janet Butterfield Brooks

Wildlife and Environmental Area

Hernando County, Florida

7:00 P.M. Thursday, January 12, 2012
Kennedy Park Multipurpose Room
Kennedy Park
899 Kennedy Boulevard
Brooksville, Florida 34601

PURPOSE: To receive public comment regarding considerations for the FWC ten-year Management Plan for the Janet Butterfield Brooks Wildlife and Environmental Area (WEA). This hearing is being held exclusively for discussion of the DRAFT Janet Butterfield Brooks WEA Management Plan.

A Management Prospectus for the Janet Butterfield Brooks WEA is available upon request. For a copy, please contact Michael Hallock-Solomon, Florida Fish and Wildlife Conservation Commission, Conservation Acquisition and Planning, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-

9767.

FLORIDA ADMINISTRATIVE CODE AND WEEKLY

For questions regarding the content, interpretation, or application of a specific rule, please contact the agency that regulates the rule. A directory of state agencies is available online at http://www.myflorida.com/taxonomy/government/

For other information related to the Florida Administrative Code, the Florida Administrative Weekly, or this website, contact:

Florida Administrative Code, Weekly and Laws
Florida Department of State
R.A. Gray Building
Mail Station 22
Tallahassee, FL 32399-0250

Tel.: 850-245-6270
Fax: 850-245-6282
Email: administrativecode@dos.state.fl.us

NOTICE:

The Florida Fish and Wildlife Conservation Commission announce a PUBLIC HEARING for the Janet Butterfield Brooks Wildlife and Environmental Area located in Hernando County, Florida.

7:00 P.M. Thursday, January 12, 2012
Kennedy Park Multipurpose Room
Kennedy Park
899 Kennedy Boulevard
Brooksville, Florida 34601

PURPOSE: To receive public comment regarding considerations for FWC's ten-year Management Plan for the Janet Butterfield Brooks Wildlife and Environmental Area (WEA).

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PUBLIC HEARING REPORT

FOR THE

JANET BUTTERFIELD BROOKS WILDLIFE AND ENVIRONMENTAL AREA MANAGEMENT PLAN

HELD BY THE

JANET BUTTERFIELD BROOKS MANAGEMENT ADVISORY GROUP AND THE FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

JANUARY 12, 2012 – HERNANDO COUNTY, FLORIDA

The following report documents the public input that was received at the Janet Butterfield Brooks Wildlife and Environmental Area (JBBWEA) Management Advisory Group's (MAG) Public Hearing for the update to the Management Plan for JBBWEA that was held at 7:00-9:00 PM, on January 12, 2012 at the Hernando County Government Center in Brooksville, Florida.

JBBWEA Management Advisory Group Introduction:

The meeting was introduced by Mr. Mike Liberton, a JBBWEA MAG participant, who represented the Nature Conservancy Stakeholder group. Mr. Liberton indicated that he was one of six stakeholders that attended the Florida Fish and Wildlife Conservation Commission (FWC) facilitated MAG meeting held on November 30th. Mr. Liberton stated that the draft Management Plan was being presented tonight by FWC staff, and that hardcopies of the draft plan and the MAG meeting report were available at the front door for the public's review. Mr. Liberton thanked everyone for attending and then introduced FWC staff Mr. Mike Hallock-Solomon, FWC, to facilitate and coordinate the presentation of an overview of JBBWEA, FWC's planning process, and the draft components of the Management Plan.

Presentation on an Overview of JBBWEA and the FWC Planning Process: Mr. Hallock-Solomon welcomed everyone and thanked the public for their attendance. Mr. Hallock-Solomon 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 JBBWEA, and not hunting and fishing regulations, indicating there is a separate public input process for FWC rule and regulation development. Mr. Hallock-Solomon then described the materials that were available at the door for public review, including the draft Management Plan and the JBBWEA MAG Meeting Report and Accomplishment Report. Mr. Hallock-Solomon then presented the agenda for the public hearing and facilitated the introduction of all FWC staff in attendance to the audience. Mr. Hallock-Solomon then presented an overview and orientation of JBBWEA, including a description of the natural communities, data about park visitors, money generated for the state by the park, wildlife species, recreational opportunities found on the area, surrounding conservation lands, surrounding Florida Forever lands, acquisition history, etc. He also explained FWC's planning process and asked if there were any questions regarding that process.

Questions, Answers and Discussion on the JBBWEA Overview and FWC's Planning Process: Mr. Hallock-Solomon 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. Mr. Hallock-Solomon again emphasized that the exclusive purpose for the public hearing was to collect public input regarding the draft Management Plan for JBBWEA, and not to discuss area hunting, fishing and use regulations.

Presentation of the JBBWEA Draft Management Plan

At this point, Mr. Chad Allison, the JBBWEA Area Biologist/Manager began the presentation of the draft management plan. Mr. Allison, the Area Biologist then completed and concluded the presentation of the JBBWEA Draft Management Plan.

Questions and Comments on the JBBWEA Draft Management Plan Presentation

Mr. Mr. Hallock-Solomon encouraged everyone to fill out a speaker card for public testimony. He informed them that all cards will be considered equally.

An anonymous gentleman asks about the signage that is on the property. He wanted to know what the posted signs on the property looked like on the gates and fence line. Mr. Allison informed him that the signs were a standard metal sign that say "closed to public access." He said that these signs are mostly located on the gates. The gentleman believes that, for those driving by, they'll have a hard time understanding what this property is or what it's being utilized for. He wanted to know if there's any way to include a contact number on the signs so that if people notice anything, they can call the office directly. Mr. Allison told him that those would need to be special ordered and the calls eventually do come back to their office, but that this is something they will consider in the plan.

An anonymous gentleman wanted to make a comment about activities that may appear criminal or suspicious: that if you go anywhere near a dispatcher, it will get routed to the proper person. They said they'd consider getting a Wildlife Alert sign with a phone number in that area.

An anonymous gentleman made a comment about the thirty acres he owns and how his taxes are much higher than he'd like. His dilemma is that he has to cut down the whole place to plant pine trees, because if he's not "green belted" his taxes are significantly higher. So he's wondering if there is something else he can do to keep his taxes lower, without completely destroying his property. Mr. Cochran informed him, that under Florida's Constitution, all landowners have an option of donating the conservation easement on their property which would reduce their taxes. And properties that are less than 40 acres in size are considered by the Acquisition Restoration Council (ARC), through an application process, for easement. The gentleman wants to know if he'd still own it and be able to sell it down the road. Mr. Cochran informed him that he cannot sell the easement part of the property. If he would like to set aside land for future development, he would be able to sell only that portion of it. The easement would allow for one or two other homes to be built on the property if that's negotiated and they'd be set aside for that property. Mr. Cochran informed him that this is the only option that he's aware of, which the state offers. He said there may be other options that the county offers though. He informed the gentleman that the 4-5 acres of swamp on the property could potentially be set aside and considered in the easement. In order for a conservation easement to be valid, it needs to be accepted by either a public agency or a certified non-

profit organization, like the Nature Conservancy. Mr. Cochran informed the gentleman that he'd be making a donation to either a state or government agency or non-profit organization that would allow him to receive the tax cut. It's up to those agencies to determine what they will accept.

Public Testimony on the JBBWEA Draft Management Plan: One member of the public audience submitted a speaker card indicating their intention to provide formal public testimony. Mr. Hallock-Solomon again emphasized that the public hearing was for taking input regarding the JBBWEA Draft Management Plan, and called the first speaker to the podium.

An anonymous gentleman wanted to know about how many staff was required to oversee the site. Mr. Hallock-Solomon informed him that currently there is not any full-time staff specifically dedicated to overseeing JBBWEA. Mr. Allison informed him that he works with 6 staff members and they oversee 35,000 acres across the county, which is about 10 separate tracts, including this one. The gentleman wanted to know if there are volunteers they could utilize to pay attention to the area and handle some of the issues at the site. He was wondering if the individuals who live adjacent to the property could remove the perimeter fence and ride their horse within a couple acres of the area and look over the land when there's no one there. Mr. Allison told him that riding horses out there would be contrary to the deed requirements and so that would not be allowed. He informed the gentleman that they are required to monitor users and make sure the users haven't left trash on the area or tampered with land within the management area and that it becomes more than what the deed intended to enlist and use volunteers.

An anonymous gentleman asked if JBBWEA were able to contract with other groups or companies to do some of their prescribed burning since they are short staffed and cannot use volunteers or if those six staff are expected to come out and do the prescribed burns. Mr. Allison informed him that there are opportunities to contract out the controlled burns as well as for fencing and other maintenance activities for the necessary management of that area. Mr. Allison informed the gentleman that the exotics are a number one priority and they contract that out as well. There are also Land Owner Assistance Programs and Stewardship Programs for private land owners to help to eliminate the cogon grass and other exotics for their adjacent lands. He said the one of the first things they'll be doing at the beginning of the next fiscal year is surveying and mapping the exotics on the land.

An anonymous woman wanted to make the comment that the preserve has looked better than it has in many years since she's lived nearby (in regards to the fire lanes, signs, fences, etc). She wanted to let everyone know that FWC has a good job.

Adjournment: Mr. Hallock-Solomon asked if there were any other members of the public that wished to give public testimony. Mr. Hallock-Solomon declared the public hearing adjourned.

13.3 Land Management Review

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PENDING A COMPLETED LMR FOR THE JBBWEA

13.4 Soil Series Descriptions

Map Unit Description

Hernando County, Florida

[Minor map unit components are excluded from this report]

Map unit: 6 - Arredondo fine sand, 0 to 5 percent slopes

Component: Arredondo (82%)

The Arredondo component makes up 82 percent of the map unit. Slopes are 0 to 5 percent. This component is on 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 high. Available water to a depth of 60 inches 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 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 - Blichton loamy fine sand, 0 to 2 percent slopes

Component: Blichton, hydric (70%)

The Blichton, hydric component makes up 70 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 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 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 June, July, August, September. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. 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: Blichton, non-hydric (14%)

The Blichton, non-hydric component makes up 14 percent of the map unit. Slopes are 0 to 2 percent. This component is on coastal plains, rises on marine terraces. 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 is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 9 inches during June, July, August, September. 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.

Map unit: 12 - Blichton loamy fine sand, 2 to 5 percent slopes

Component: Blichton, hydric (70%)

The Blichton, hydric component makes up 70 percent of the map unit. Slopes are 2 to 5 percent. This component is on 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 poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during June, July, August, September. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. 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: Blichton, non-hydric (12%)

The Blichton, non-hydric component makes up 12 percent of the map unit. Slopes are 2 to 5 percent. This component is on 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 poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 9 inches during June, July, August, September. 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.

Map Unit Description

Hernando County, Florida

Map unit: 34 - Micanopy loamy fine sand, 2 to 5 percent slopes

Component: Micanopy (88%)

The Micanopy component makes up 88 percent of the map unit. Slopes are 2 to 5 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of sandy and clayey 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 low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during July, August, September, October. Organic matter content in the surface horizon is about 3 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.

Map unit: 36 - Nobleton fine sand, 0 to 5 percent slopes

Component: Nobleton (90%)

The Nobleton component makes up 90 percent of the map unit. Slopes are 0 to 5 percent. This component is on rises 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 is moderate. 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 July, August, September, October. 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.

Map unit: 43 - Pomello fine sand, 0 to 5 percent slopes

Component: Pomello (95%)

The Pomello component makes up 95 percent of the map unit. Slopes are 0 to 5 percent. This component is on 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 high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during July, August, September, October, November. 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.

Map unit: 47 - Sparr fine sand, 0 to 5 percent slopes

Component: Sparr (85%)

The Sparr component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component is on rises 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 high. Available water to a depth of 60 inches 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 July, August, September, October. Organic matter content in the surface horizon is about 2 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: 49 - Tavares fine sand, 0 to 5 percent slopes

Component: Tavares (90%)

The Tavares component makes up 90 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of eolian or 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 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 57 inches during June, July, August, September, October, November, 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 Description

Hernando County, Florida

Map unit: 52 - Wauchula fine sand, 0 to 5 percent slopes

Component: Wauchula, non-hydric (60%)

The Wauchula, non-hydric component makes up 60 percent of the map unit. Slopes are 0 to 5 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 is moderate. 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 July, August, September. Organic matter content in the surface horizon is about 2 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: Wauchula, hydric (20%)

The Wauchula, hydric component makes up 20 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 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 July, August, September. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. 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 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.

13.5 FWC Agency Strategic Plan

Florida Fish and Wildlife Conservation Commission
Agency Strategic Plan
2014 – 2019

Theme One – Florida's Fish and Wildlife Populations and Their Habitats

Goal 1: Ensure the sustainability of Florida's fish and wildlife populations.

Strategies:

1. Manage listed species so they no longer meet Florida's endangered and threatened listing criteria.
2. Manage species to keep them from meeting Florida's endangered and threatened listing criteria.
3. Anticipate and address fish and wildlife species' conservation needs in light of adaptation to long-term environmental changes.
4. Develop, acquire and apply the appropriate biological and sociological science to inform fish and wildlife conservation decisions.
5. Inform and guide partners regarding how their regulations, policies, procedures and other actions affect fish and wildlife conservation.
6. Protect fish and wildlife species through effective outreach and enforcement.

Goal 2: Ensure sufficient habitats exist to support healthy and diverse fish and wildlife populations.

Strategies:

1. Use science to determine quantity, quality and location of the habitats most critical to sustain healthy and diverse fish and wildlife populations.
2. Protect lands and waters critical to sustaining healthy and diverse fish and wildlife populations through diverse incentive programs.
3. Manage habitats to sustain healthy and diverse fish and wildlife populations.

Theme Two – Interactions with Fish and Wildlife, Including Fishing, Hunting, Boating and Wildlife Viewing Opportunities

Goal 1: Provide residents and visitors with quality fishing, hunting, boating and wildlife viewing opportunities that meet their needs and expectations while providing for the sustainability of those natural resources.

Strategies:

1. Develop, acquire and use the appropriate biological and sociological science necessary to provide sustainable fishing, hunting, boating and wildlife viewing opportunities that meet the needs and expectations of user groups while providing for the sustainability of those resources.

2. Manage fish and wildlife populations to provide sustainable fishing, hunting, and wildlife viewing opportunities.

3. Develop and maintain widely available, diverse and accessible fishing, hunting, boating and wildlife viewing opportunities that meet the needs and expectations of residents and visitors while providing for the sustainability of those resources and emphasizing partnerships with both public and private landowners.

4. Recruit and manage sustainable levels of resident and visitor participation in fishing, hunting, boating and wildlife viewing.

5. Provide targeted fishing, hunting, boating and wildlife viewing programs for youth, the disabled and veterans.

Goal 2: Enhance the safety and outdoor experience of those who hunt, fish, boat and view wildlife.

Strategies:

1. Provide and promote opportunities for residents, and visitors to learn safety practices for fishing, hunting, boating and wildlife viewing.

2. Enhance the boating safety and waterway experience of residents and visitors through improved access, management, education and enforcement.

3. Promote Florida's outdoor environment as a safe and healthy recreational option for residents and visitors.

4. Address the growing disconnect between people and nature by marketing and providing opportunities and education for diverse age, race, gender, ethnic and other demographic sectors.

Goal 3: Use minimal regulations to manage sustainable fish and wildlife populations, manage access to fish and wildlife resources, and protect public safety.

Strategies:

1. Continually evaluate proposed and existing regulations, based on resource management benefits, public safety concerns, and economic and social impacts, to improve or eliminate regulations as warranted.

2. Coordinate with partners and stakeholders to ensure that appropriate authorities and regulations exist to maintain sustainable fish and wildlife populations.

3. Implement and enforce regulations in an informative, proactive and influential manner to enrich resident and visitors' outdoor experience while safeguarding the natural resources.

Goal 4: Minimize adverse environmental, social, economic and health and safety impacts from fish, wildlife and plants that are known, or have a potential, to cause adverse impacts.

Strategies:

1. Manage species and their habitats, as well as species and human interactions, to eliminate or reduce the adverse environmental, social, economic and health and safety impacts from native and non-native fish, wildlife and plants.

2. Effectively communicate to residents, visitors and businesses how to be safe and act responsibly when interacting with or possessing fish, wildlife and plants.

3. Manage captive and non-native wildlife movement and trade through proactive and responsive enforcement, regulation and education, with an emphasis on species that pose a high risk to our native fish and wildlife.

4. Enhance partnerships to address adverse environmental, social, economic and health and safety impacts from fish, wildlife and plants and ensure a consistent and integrated approach with FWC.

Theme Three – Sharing Responsibility for Fish and Wildlife Conservation and Management with an emphasis on developing conservation values in our youth

Goal 1: Ensure current and future generations support fish and wildlife conservation.

Strategies:

1. Expand and promote the Florida Youth Conservation Centers Network through leveraging FWC programs and staff, and developing public and private partnerships and sponsorships.

2. Develop and deliver standardized youth conservation curricula and fishing, hunting, boating and wildlife viewing outdoor activity programs, and assist with adapting programs and curricula to meet the needs of diverse communities.

3. Foster stewardship and shared responsibility for fish and wildlife conservation through conservation education programs.

4. Expand marketing and outreach to reach diverse audiences and engage all staff in priority outreach initiatives.

Goal 2: Ensure residents, visitors, stakeholders and partners are engaged in the processes of developing and implementing conservation programs.

Strategies:

1. Foster a common vision among partners and the FWC to maintain and enhance fish and wildlife populations and their habitats through interagency coordination, mutually beneficial goals and initiatives.

2. Engage residents, visitors, stakeholders and partners to understand their perspectives, develop and implement conservation programs, and implement fishing, hunting, boating and wildlife viewing management activities.

3. Use citizen science to enhance conservation programs.

Goal 3: Increase opportunities for residents and visitors, especially youth, to actively support and practice fish and wildlife conservation stewardship.

Strategies:

1. Inform residents and visitors about conservation stewardship and encourage their active involvement in achieving conservation of fish and wildlife.

2. Provide and promote opportunities for residents and visitors, especially youth, to participate in conservation stewardship activities, including FWC volunteer opportunities.

Goal 4: Encourage communities to conserve lands and waters critical to sustaining healthy and diverse fish and wildlife populations.

Strategies:

1. Provide communities with the necessary assistance to help them obtain the social and economic benefits of local conservation lands.

2. Provide residents and visitors with relevant information on the social and economic benefits of conservation, fishing, hunting, boating, and wildlife viewing.

3. Support community events and programs that promote fish and wildlife conservation.

Theme Four – Responsive Organization and Quality Operations

Goal 1: Integrate our commitment to benefit the community and enhance the economy through our conservation efforts and public service.

Strategies:

1. Identify and implement ways to support Florida businesses and job growth while managing fish and wildlife.

2. Identify and promote opportunities for staff to benefit local communities through participation in approved activities where FWC resources can be used (for example, the Florida State Employees' Charitable Campaign, the Guardian ad Litem Program, mentoring programs, FWC Disaster Response Teams, and American Red Cross Disaster Services).

3. Provide residents and visitors with reliable and current information on Florida's fish and wildlife.

4. Continue to attract visitors by providing top-quality fishing, hunting, boating and wildlife viewing opportunities.

Goal 2: Provide resources and support for the safety and protection of residents and visitors, our natural and cultural resources, and for emergency responses to critical incidents and environmental disasters.

Strategies:

1. Identify existing and emerging risks to the safety of residents and visitors and foster internal collaboration and external partnerships necessary to effectively manage, reduce or eliminate those risks.

2. Provide immediate and effective disaster response and recovery through mutual-aid efforts with local, state and federal partners.

3. Provide search, rescue, and recovery services in coordination with local, state and federal entities to ensure the safety of residents and visitors.

4. Protect natural and cultural resources through proactive and responsive enforcement efforts.

Goal 3: Ensure the FWC has highly effective and adaptive business practices.

Strategies:

1. Address emerging biological, social and economic trends, anticipate impacts and take advantage of opportunities to accomplish FWC's mission.

2. Expect each employee to be an ambassador for FWC and its mission to Florida's diverse residents and visitors.

3. Provide efficient and effective service to Florida's diverse residents, visitors, and FWC staff.

4. Foster a diverse, accountable, responsive and skilled workforce who effectively serves Florida's residents and visitors.

5. Manage existing and secure additional resources necessary to achieve fish and wildlife conservation and meet residents, visitor and stakeholder needs.

6. Create and maintain an effective business model that supports the FWC's mission by using continuous improvement approaches that foster a collaborative and professional culture.

13.6 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.

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: _____

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).

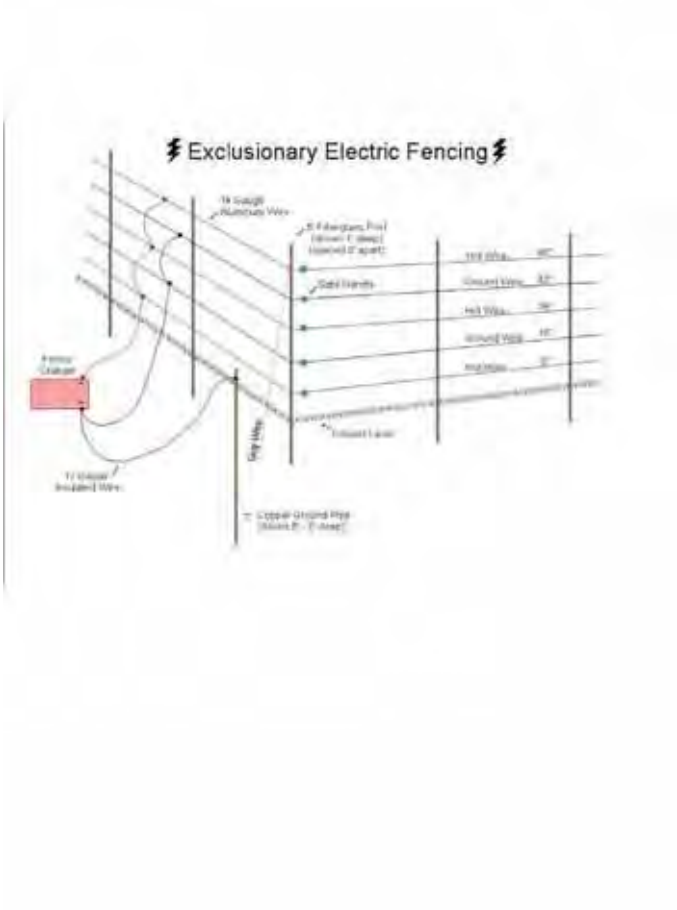
Materials:
1 - 1, 312 foot roll (1/4 mile) 14 gauge aluminum electric fence wire
1 - 50 foot roll 12 gauge insulated wire
20 - 5 foot 5/8 inch dia fiberglass fence posts
5 - plastic gate handles
1 - 110 volt fence charger
1 - 10 foot ground pipe
4 - plastic electric fence signs

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.


Exclusionary Electric Fencing

AGREEMENT
ATTACHMENT 2

Place Holder for Map

Of

Apiary Locations

At

WMA/WEA

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.

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.

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.

13.7 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 March 2013)

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

A. General Discussion

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

B. Agency Responsibilities

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

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

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

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

C. Statutory Authority

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

D. Management Implementation

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

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

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

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

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at: http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

* * *

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

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

Phone: (850) 245-6425

Toll Free: (800) 847-7278
Fax: (850) 245-6435

Historical Resource Assessment for the Janet Butterfield Brooks WEA

Cultural Resources

Florida Sites

SITE NAME	SITEID	SITETYPE1	SITETYPE2	SITETYPE3	SITETYPE4	SITETYPE5	SITETYPE6	HUMANREMNS	Total Area (acres)	Percent of Area
BAILEY HILL	HE0033 4	Homestead							13.40	4.21 %
								TOTAL:	13.40	4.21 %

Florida Structures

No Records Found

Historical Cemeteries

No Records Found

Historic Bridges

No Records Found

National Register of Historic Places

No Records Found

Resource Groups

No Records Found

Field Survey

TITLE	Total Area (acres)	Percent of Area
Excerpts from the Hernando County Comprehensive Plan, Historical and Archaeological Element	318.01	100 %
Final Environmental Impact Statement: Volume 1: Zone 2: State Road 52 to US 98 in Hernando County, Florida	13.98	4.39 %
TOTAL:	331.98	104.39 %

13.8 Wildlife Conservation Prioritization and Recovery Species Management

A Species Management Strategy for Chinsegut WEA, Janet Butterfield Brooks WEA, and Perry Oldenburg Mitigation Park WEA

March 2013

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 wildlife 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 of 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 3 Wildlife and Environmental Areas (WEAs): Chinsegut WEA (CWEA), Janet Butterfield Brooks WEA (JBBWEA) and Perry Oldenburg Mitigation Park WEA (POWEA). Natural community management focused on 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. Throughout the process, the role of the area in regional and statewide conservation initiatives was considered to maximize the potential benefit.

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 that were identified for the gopher tortoise, southeastern American kestrel, Florida mouse and rare plants.
Section 4 describes specific land management actions recommended for focal species. Staff identified the need for a CWEA Marsh Restoration Strategic Management Area (SMA). 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. For these areas, we discuss species management for the southeastern American kestrel. The monitoring that is recommended is for the gopher tortoise, southeastern American kestrel, and Florida mouse. Documentation of encounters with other focal species is recommended.
Section 6 identifies coordination that will assist in conserving these focal species. We identify coordination with 9 other units in FWC and inter-agency coordination with 5 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 resource levels are not sufficient to provide for all of the land management recommended in this document. Additional resources would be required to increase the amount of acreage treated with prescribed fire and to increase the fire return interval on these WEAs, as recommended in this Strategy. Some of the monitoring recommendations may require additional resources, while FWC can accomplish others with assistance from Brooksville Ridge Volunteers and through continuation of existing resources.

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Acronym List

AHREs	Aquatic Habitat Restoration/Enhancement Subsection
ARCI	Avian Research and Conservation Institute
CWMA	Chassahowitzka Wildlife Management Area
CNA	Core Nesting Area
CPS	Office of Conservation Planning Services (formerly Habitat Conservation Scientific Services)
CR	County Road
CWEA	Chinsegut Wildlife and Environmental Area
DEP	Florida Department of Environmental Protection
DFC(s)	Desired Future Condition(s)
FBC	Florida Bat Conservancy
FDACS	Florida Department of Agriculture and Consumer Services
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
JBBWEA	Janet Butterfield Brooks Wildlife and Environmental Area
MU	Management Unit
OBVM	Objective Based Vegetation Management
PLCP	Public Lands Conservation Planning (project)
POWEA	Perry Oldenburg Mitigation Park Wildlife and Environmental Area
PVA	Population Viability Analysis
SaMP	Survey and Monitoring Protocol database
SCP	Species Conservation Planning (section)
SGCN	Species of Greatest Conservation Need
SHCA	Strategic Habitat Conservation Area
SMA	Strategic Management Area
SR	State Road
SWFWMD	Southwest Florida Water Management District
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
WCPR	Wildlife Conservation Prioritization and Recovery
WEA	Wildlife and Environmental Area
WHM	Wildlife and Habitat Management (section)
WMA	Wildlife Management Area
WSF	Withlacoochee State Forest

Statewide Species Prioritization Parameters

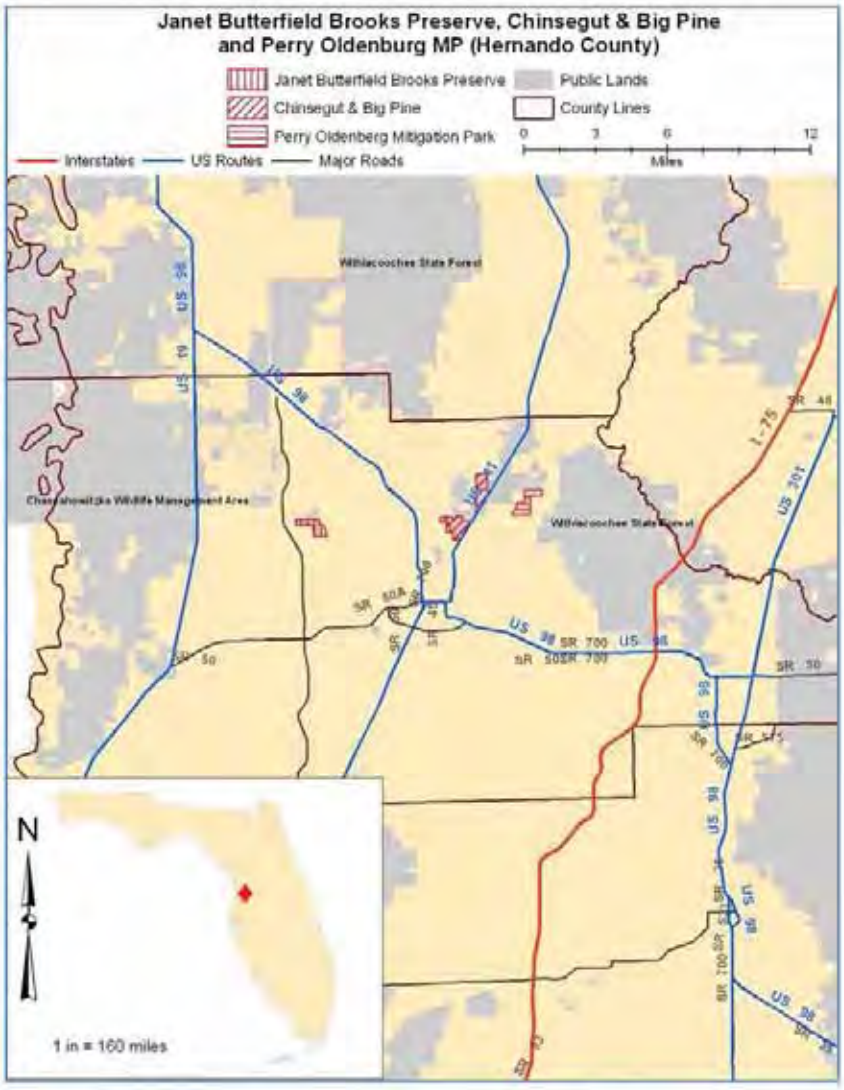
This table provides the values for the 6 prioritization parameters for the focal species. Parameters that are "triggered" (exceed the threshold) are in **bold**. Typically, the more parameters a species triggers, the higher the statewide prioritization.

Species Common Name	Millsap Report, 2008		Legacy Initiative		PVA on managed lands	
	Biological Score[1]	Supplemental Score[2]	Population Status[3]	Population Trends[4]	Probability of a 50% decline[5]	Populations persisting (to 80 or 100 years)[6]
Gopher Frog	24.6	12	Med[7]	**decl**	0	**9% (to 80)**
Striped Newt	**29**	**20**	**low**	**decl**	0	0.80
Eastern Indigo Snake	24.7	**21**	**low**	**decl**	NA	NA
Florida Pinesnake	23.7	**15**	med	**decl**	0	**31% (to 80)**
Gopher Tortoise	**27.3**	**17**	med	**decl**	0	**55% (to 100)**
American Swallow-Tailed Kite	25.7	13	**low**	**unk**	**20%**	**50% (to 100)**
Bachman's Sparrow	16.0	12	med	**decl**	0	**49% (to 80)**
Brown Headed Nuthatch	17.0	13	med	**decl**	0	**25% (to 80)**
Cooper's Hawk	15.0	12	not a SGCN[8]	not a SGCN	**96%**	100% (to 100)
Florida Mottled Duck	17.3	**18**	med	**decl**	**1%**	100% (to 100)
Florida Sandhill Crane	**27.0**	**16**	med	**decl**	0	**33 % (to 80)**
Limpkin	24.3	14	med	**unk**	0	100% (to 100)
Northern Bobwhite	11.0	14	**low**	**decl**	0	100% (to 100)
Red-Cockaded Woodpecker	**27.6**	14	**low**	**decl**	0	**45% (to 100)**
Southeastern American Kestrel	**28.0**	14	**low**	**decl**	0	**67% (to 100)**

Species Common Name	Millsap Report, 2008		Legacy Initiative		PVA on managed lands	
	Biological Score[1]	Supplemental Score[2]	Population Status[3]	Population Trends[4]	Probability of a 50% decline[5]	Populations persisting (to 80 or 100 years)[6]
Southern Bald Eagle	21.3	10	med	Inc[7]	0	100% (to 100)
Wading Birds	var	var	var	var	0	100% (to 100)
Florida Black Bear	**32.7**	13	med	stable	**5%**	100% to (100)
Florida Mouse	22.0	**19**	med	**decl**	**74% (in 83 yrs)**	**17% (to 65)**
Sherman's Fox Squirrel	24.0	**17**	**low**	**decl**	0	**28% (to 80)**
Southeastern Bat	22.6	**16**	med	stable	**0.05**	1

[1] Species trigger this parameter if the score is ≥ 25.9
[2] Species trigger this parameter if the score is ≥ 15
[3] Species trigger this parameter if the score is ≥ low or unknown (unk)
[4] Species trigger this parameter if the score is ≥ declining (decl) or unknown (unk)
[5] Species trigger this parameter if the score is > 0
[6] Species trigger this parameter if the score is ≤ 75%
[7] med = medium; inc = increasing;
[8] SGCN = species of greatest conservation need

Locator Map


Janet Butterfield Brooks Preserve, Chinsegut & Big Pine
and Perry Oldenburg MP (Hernando County)
Janet Butterfield Brooks Preserve
Chinsegut & Big Pine
Perry Oldenberg Mitigation Park
Public Lands
County Lines
0 3 6 12
Miles
Interstates
US Routes
Major Roads
Withlacoochee State Forest
Withlacoochee State Forest
Chassahowitzka Wildlife Management Area
US 98
US 301
I-75
SR 50
SR 700
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 that we then manage in a way that maintains or enhances the communities' 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 (WPCR) created this Species Management Strategy for these WEAs 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 Florida Fish and Wildlife Conservation Commission or the Department of Agriculture and Consumer Services.

Creating this Strategy involved a number of steps. First, 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 these WEAs. We then used staff knowledge, species-expert opinions, and area-specific natural community maps, to modify the statewide models to create area-specific potential habitat maps for each focal species on the areas. Next, we conducted a workshop at which local staff, species experts, and section leaders discussed and evaluated these WEAs' potential role in the conservation of focal species. For each species, workshop participants determined the status of the species on the areas, evaluated the opportunities for management on the areas; 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 the Management Plans (formerly known as Conceptual Management Plan) for these WEAs when discussing and assessing the species; therefore, this Strategy supports the goals of the Management Plan. Staff have incorporated the objectives in this Strategy into the CWEA Management Plan. Management plans are on a 10-year revision cycle. During the next revision of the Management Plans for JBBWEA and POWEA, staff will incorporate the objectives in this Strategy into the Management Plans, and append this Strategy to the revised Management Plans.

While this Strategy focuses on these WEAs, it considers the role of the areas 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: Historic, Current, and Planned Management

The WEAs addressed in this Strategy are Chinsegut WEA (CWEA), Janet Butterfield Brooks WEA (JBBWEA), and Perry Oldenburg WEA (POWEA); all located in Hernando County. The FWC manages 1,528 acres combined on these WEAs. The FWC also manages 33,919 acres on Chassahowitzka WMA (CWMA), also in Hernando County (FWC is the lead managing agency on 27,219 acres). The 157,479 acre Withlacoochee State Forest (WSF) in Citrus, Sumter, Hernando, and Pasco counties is part of the regional conservation landscape for these WEAs. The Florida Forest Service (FFS) is the lead managing agency on WSF and FWC acts as a cooperator on most of these acres (Richloam, Citrus, and Croom WMAs).

Private lands adjacent to these WEAs are a mix of rural, industrial, residential, and agricultural. The U.S. Department of Agriculture (USDA) manages the 3,800 Sub-Tropical Agricultural Research Station near CWEA and POWEA. Audubon of Florida manages the 350-acre Ahochee Hill Preserve immediately north of POWEA. Cemex, a concrete manufacturer, owns several hundred acres east of JBBWEA, and Hernando County manages the 150-acre Fickett Hammock Preserve north of JBBWEA. The city of Brooksville is within 10 miles of these WEAs.

The staff from the nearby CWMA, which consists of 3 biologists and 2 technicians, is responsible for land management and administrative activities on these WEAs in addition to responsibilities on CWMA. The CWMA field office is a half hour drive from these WEAs, and most of the land management equipment is stored at CWMA. Transporting staff and equipment to these WEAs takes additional time and planning. CWEA has 1 technician assigned to the area and there are 2 Chinsegut Conservation Center staff that periodically assist with land management activities.

2.1: Chinsegut WEA

CWEA is comprised of 2 tracts, the 420-acre Nature Center tract and the 408-acre Big Pine tract. The CWEA was once part of a large estate owned by Colonel Raymond Robins, a Brooksville native. On April 9, 1932, following a conference with President Hoover, Robins deeded his estate to the USDA under the Migratory Bird Conservation Act. This deed included lands that are now the CWEA. Robins sold this land for one dollar with the desire that it be used to educate youth and to preserve the land's last remnants of virgin longleaf pine. The CWEA still contains one of the few remaining virgin longleaf pine forests in Florida. In June 1973, ownership of the Nature Center tract was transferred by quitclaim deed to the FWC (then the Florida Game and Fresh Water Fish Commission) for continued wildlife management and environmental education. The US Department of Health, Education and Welfare (currently the Department of Education) was assigned oversight of the Big Pine parcel in 1966. The University of Florida and the FFS (then the Division of Forestry) managed the Big Pine Tract from 1973 to 1989. In 1989, the U.S. Department of Education transferred the Big Pine Tract's quitclaim deed to the State of Florida's Board of Trustees for use in conjunction with the Chinsegut Nature Center (now the Chinsegut Conservation Center), and in cooperation with the Hernando County School Board.

CWEA is located 6 miles north of Brooksville, in Hernando County, and is near a large number of conservation areas and rural private lands. The USDA's Subtropical Agricultural Research Station and the State of Florida's Board of Trustees' Chinsegut Hill property border CWEA. The FWC's POWEA, and the WSF's Fire Training Center, Croom, and Citrus tracts are all within 5 miles of CWEA.

Located on the Nature Center tract, the Chinsegut Conservation Center is an environmental education facility promoting fish and wildlife conservation through environmental education programs and nature-based recreational activities. The Conservation Center's mission is to educate a broad array of Florida citizens and visitors on various topics using an integrated curriculum that includes fish and wildlife, habitat conservation, and Florida's natural and cultural resources. The Conservation Center supports FWC's mission through its conservation education programs incorporating fish and wildlife research, programs, and curriculum developed and conducted by FWC. The Conservation Center facilitates the agency's mission by providing volunteers with opportunities to gain knowledge, skills, and abilities, and to become better educated in fish and wildlife conservation. Volunteers have diverse backgrounds, individual skills and interests, and include students, scouts, retirees, families, and professionals. Volunteer opportunities are numerous and include working at the Conservation Center, maintaining nature trails, facilities, and grounds; assisting with environmental education programs, festivals, and offsite public outreach; and participating in citizen science activities such as wildlife surveys. In 2011, volunteers began monitoring southeastern American kestrel nest boxes on FWC-managed lands in the Brooksville area.

Before 2005, CWEA received limited habitat management or improvement. Some prescribed fire records exist for the Nature Center tract during this time but none exist for the Big Pine tract. Anecdotal information from neighbors of the Big Pine tract indicates that the FFS applied prescribed fire when it managed the property prior to 1989. The lack of fire resulted in significant hardwood encroachment into the sandhill and upland pine natural communities. The hardwood encroachment had a negative influence on the animals that use

these natural communities. In 2005, FWC initiated a series of mechanical treatments to improve habitat conditions. Most units were treated with a Fecon shredder while some were treated with a front mounted hydraulic brush cutter or a hand crew utilizing chainsaws and herbicides. These treatments have had mixed results. On the Big Pine tract, despite the use of prescribed fire since the harvest, hardwoods persist and continued restoration is needed to restore optimal sandhill conditions.

From 2005 and 2012, staff burned approximately 430 acres on the CWEA. The reintroduction of fire on the CWEA presents challenges. Highways and residential properties border both tracts. Additionally, fire suppression and past mechanical treatments left behind large amounts of woody debris. A woody debris removal project on both tracts eliminated much of the debris in the targeted management units (MU). This will reduce some of the smoke issues associated with burning these WEAs. Small-scale fuel reduction burns will continue on the remainder of the CWEA. Over time, these burns will reduce the amount of downed debris and, therefore, reduce smoke management issues. After completion of the fuel reduction process, the objective will be to burn between 250 and 350 acres per year and keep units on a 1-3 year rotation.

The combination of mechanical treatment and prescribed fire will move CWEA's natural communities towards a maintenance condition. Once in a maintenance condition, staff can use frequent prescribed fire to maintain the desired vegetative parameters. Most of the acreage at the Nature Center tract is comprised of sandhill and upland pine that require a 2-3 year fire-return interval. The Big Pine tract burn units contain sandhill, upland mixed forest, and a mix of other natural communities. Most of these units also require a 2-3 year fire-return interval. Portions of the CWEA may be burned as often as once a year until the restoration process is complete and the fuel loads are manageable.

The Florida Natural Areas Inventory (FNAI) completed plant community mapping at CWEA as part of FWC's OBVM program (Table 1). Through the OBVM workshop process, staff delineated MUs and defined the desired future conditions (DFC) for the actively managed natural communities (sandhill and upland pine). Recent evaluation of the mapping of natural communities resulted in the reclassification of several acres of sandhill to upland pine. However, remapping was not done for historic natural communities. As such, when reading the acres in Table 1, one might falsely be led to the idea that upland pine should be restored to sandhill (as there are more acres in upland pine in current than historic, and less acres in sandhill in current than historic). The current thinking is that the acres mapped upland pine were historically upland pine, and should be managed as such. Additionally, historic natural community mapping was not completed for a small section of pasture on the Big Pine tract, resulting in the acreage discrepancy for the total acreages in Table 1.

Exotic plants known to occur on the CWEA include cogon grass (*Imperata cylindrica*), rose natal grass (*Melinis repens*), tropical soda apple (*Solanum viarum*), Caesarweed (*Urena lobata*), wild taro (*Colocasia esculenta*), Chinese tallow (*Sapium sebiferum*), chinaberry (*Melia azedarach*), camphor tree (*Cinnamomum camphora*), mimosa (*Albizia julibrissin*), Spanish lantana (*Lantana camara*), coral ardisia (*Ardisia crenata*), paper mulberry (*Broussonetia papyrifera*), jelly palm (*Butia capita*), skunk vine (*Paederia foetida*), air potato (*Dioscorea bulbifera*), rosary pea (*Abrus precatorius*), and Japanese climbing fern (*Lygodium japonicum*). Historically, staff focused most of the exotics treatments on cogon grass and air potato. Unfortunately, this resulted in infestations of a number of other exotics and presented an enormous challenge in achieving a DFC of 0% exotics on CWEA. The

small size of the WEA and presence of exotic species on neighboring properties further complicates efforts to control exotics. Prior to 2007, staff treated exotics as time and resources allowed. Because of extensive exotic infestations, in 2007, staff started using contractors in their efforts to control exotics. To date, only a few untreated MUs remain. The treatment for each MU consists of a complete survey followed by a treatment to kill all identified exotics within the unit. Despite efforts to kill all exotics with the initial treatment, retreatment of MUs is necessary to kill surviving exotics and re-sprouts. Due to the small size of these WEAs, new infestations are a continuing problem. To manage the exotic plant problem on CWEA, a consistent exotic treatment program, utilizing contractors and FWC staff, should continue.

Table 1. Mapped acreage of current and historic plant communities on CWEA, including management status and the number of focal species that use the community.

Natural Community	Estimated Current Acreage	Estimated Historic Acreage	# of Focal Species That Use the NC
Basin Marsh	70	83	6
Basin Swamp	11	0	8
Bottomland Forest	19	1	5
Dome Swamp	0	1	4
Hydric Hammock	0	19	5
Mesic Flatwoods	8	5	14
Mesic Hammock	93	50	5
Pasture - Improved	33	0	9
Pasture - Semi-improved	9	0	10
Ruderal	23	0	6
Sandhill[1]	103	549	14
Sinkhole Lake	0	1	2
Upland Hardwood Forest	14	24	7
Upland Mixed Forest	0	64	6
Upland Pine[1]	442	17	14
Xeric Hammock	0	5	8
TOTAL	825	819	

[1] Communities that are actively managed and will be monitored via the OBVM process. Other communities are managed, but will not be monitored via OBVM.

Past wildlife monitoring includes a herpetofauna survey on the Nature Center tract (surveys were conducted in 1995-1996 and 1998). Four eastern tiger salamanders (*Ambystoma tigrinum*), 143 gopher frogs (*Lithobates capito*) and a single short-tailed snake (*Stilosoma extenuatum*) were captured during the surveys, as well as many other reptile and amphibian species. Ongoing species management and monitoring actions include a survey modeled after the Breeding Bird Survey (BBS) conducted each spring. This survey consists

of 10 stations; 5 located on the Nature Center tract and 5 at Big Pine. The observer watches and listens for birds at each station for 10 minutes. The survey begins 30 minutes prior to sunrise and is run on 2 separate days, in opposite directions. The number of species heard has increased from 30 in 1999 to 37 in 2011. Four bat houses are located near the Conservation Center. Staff estimates that several hundred Brazilian free-tailed bats (*Tadarida brasiliensis*) occupy the houses. Staff maintains these boxes and periodically observes evening emergences.

2.2: Janet Butterfield Brooks WEA

Located in central Hernando County, JBBWEA contains 320 acres and is composed of a mix of upland hardwood forest and sandhill communities. JBBWEA shares part of its northern boundary with the Fickett Hammock Preserve, a county park owned and managed by Hernando County. Rural and residential properties, including a large pasture, surround the rest of the tract. While JBBWEA adjoins the footprint of the Annuteliga Hammock Florida Forever project, it is not within the project's boundary. If Florida is successful in acquiring parcels within the Florida Forever project, it is possible JBBWEA will be buffered by and connected to a larger conservation area. Thus, its location adjoining a current Florida Forever project should improve the long-term potential for manageability, viability, and sustainability of the WEA. This contributed to the designation of JBBWEA as a gopher tortoise mitigation park upon donation to the State.

Mrs. Janet Butterfield Brooks bequeathed the original 280 acres that became JBBWEA to The Nature Conservancy (TNC) for preservation in 1974 and added another 40 acres in 1976. The lands were donated to TNC with deed restrictions requiring that it be managed solely as an environmental preserve, with no consumptive use or general access allowed. TNC managed the property as a nature preserve within their preserve management program. As part of the preserve program, TNC managed the parcel with prescribed fire to maintain the natural condition of the near old-growth longleaf pine ecosystem. In June 2008, TNC donated JBBWEA to FWC, with the same deed restrictions related to access and management. The property's title is now held by the Board of Trustees on behalf of the citizens of the State of Florida and leased to FWC to be managed with Land Acquisition Trust Fund monies for gopher tortoises and their commensal species.

Access to JBBWEA is limited to management activities and law enforcement. However, the deed permits limited access by others for research and environmental education purposes, but only via escort by management staff. Therefore, any access other than for management or security purposes is restricted to FWC-supervised visitation for environmental education and environmental research.

The FNAI completed plant community mapping at JBBWEA as part of FWC's OBVM program (Table 2). Through the OBVM workshop process, staff delineated MUs and defined DFCs for the actively managed natural communities.

Since State acquisition, staff has conducted one prescribed burn at JBBWEA. A mechanical treatment consisting of mowing low to midstory vegetation occurred in 2011. Supplemental mowing by staff to establish edges of upland communities along firelines occurred in 2012.

Table 2. Mapped acreage of current and historic plant communities on JBBWEA, including management status and the number of focal species that use the community.

Natural Community	Estimated Current Acreage	Estimated Historic Acreage	# of Focal Species That Use the NC
Baygall	1	1	3
Bottomland Forest	5	5	5
Depression Marsh	1	1	7
Mesic Flatwoods	31	49	14
Mesic Hammock	53	33	5
Sandhill[1]	125	127	14
Upland Hardwood Forest	59	60	7
Upland Pine	42	43	14
TOTAL	318	318	

[1] Communities that are actively managed and will be monitored via the OBVM process. Other communities are managed, but will not be monitored via OBVM.

Exotic plant species known to occur on JBBWEA include air potato, cogon grass, coral ardesia, rose natal grass, Caesarweed, Chinese tallow, chinaberry, camphor tree, mimosa, skunk vine, and climbing fern (*Lygodium japonicum* and *L. microphyllum*). In fiscal year 2011-2012, staff hired contractors to treat invasive exotics on JBBWEA. Prior to this, spot treatments of peripheral infestations had been completed, but an exhaustive treatment was only possible using FWC's Invasive Plant Management Program (IPM) endorsed contractors. There is no documentation of exotic animals, including feral hogs (*Sus scrofa*), occurring on this site.

Ongoing species management and monitoring actions include an FWC gopher tortoise survey in 2006 to assess the site as a potential mitigation park (Section 3.2.4). A southeastern American kestrel nest box was installed in 2011 and is monitored by the Brooksville Ridge volunteers; this box was active in 2012. Wildlife monitoring includes documenting incidental observations of imperiled wildlife, including Sherman's fox squirrel and American swallow-tailed kite.

2.3: Perry Oldenburg Mitigation Park WEA

Located in Hernando County, POWEA encompasses 371 acres of longleaf pine-wiregrass sandhills and mixed hardwood pine oak forest. Together with nearby public lands that include CWEA, WSF, and Audubon's Ahochee Hill Preserve, the area is important for the protection of longleaf pine-wiregrass communities and their associated fauna. A mix of conservation areas, private land, and rural agricultural areas surrounds POWEA. Houses border POWEA on 3 sides, and a large USDA pasture is near the southwest corner. The Croom tract of the WSF is just east of POWEA. CWEA is only a few miles west of POWEA.

POWEA is a gopher tortoise mitigation park and is significant since it represents the first acquisition completed through the FWC's Mitigation Park program. The Mitigation Park program was established to provide an offsite compensation alternative for state and federal listed species regulatory decisions. At POWEA, approximately 90% of the funding for acquisition and management originated from state regulatory actions taken on behalf of the gopher tortoise. Offsite mitigation actions for the Florida mouse and southeastern American kestrel account for the remaining funds. The Trust for Public Lands initiated the acquisition of POWEA in December 1989, and completed acquisition in March 1995. POWEA was acquired in many parcels within 3 tracts named after the previous landowners; the Marsh Tract, the Scarborough Tract, and the Bronson Tract. Because POWEA was acquired for gopher tortoise mitigation, the primary mission is to manage the habitat in a fashion the provides optimal habitat for gopher tortoises and commensal species.

The FWC selected POWEA as a mitigation park based on its habitat quality, wildlife composition, access, cost, and manageability. Factors that were prominent in the selection of POWEA included a large gopher tortoise population, the presence of a high quality longleaf pine-wiregrass community, and its proximity to existing state-owned lands.

FNAI has completed plant community mapping at POWEA as part of FWC's OBVM program (Table 3). Through the OBVM workshop process, staff delineated MUs and defined the DFCs for the actively managed natural communities.

Table 3. Mapped acreage of current and historic plant communities on POWEA, including management status and the number of focal species that use the community.

Natural Community	Estimated Current Acreage	Estimated Historic Acreage	# of Focal Species That Use the NC
Depression Marsh	8	7	7
Mesic Flatwoods	2	2	14
Mesic Hammock	12	16	5
Pasture - Semi-improved	13	0	10
Ruderal	14	0	6
Sandhill[1]	322	346	14
TOTAL	371	371	

[1] Communities that are actively managed and will be monitored via the OBVM process. Other communities are managed, but will not be monitored via OBVM.

The Marsh Tract is the northernmost unit at POWEA and borders a FFS parcel of the same name. Prior to acquisition, in 1988, a selective timber cut was performed that reduced the longleaf pine in the canopy. Advanced oak encroachment has occurred in this area and staff contracted for the mowing (using a Fecon mulching head) of the excess hardwoods in 2006-07. In 2009-10, a contracted crew used hand removal to reduce overstory oaks. The hand crew cut, sprayed, and girdled hardwoods offsite hardwoods. The purpose of the treatment was to open the canopy to allow the penetration of sunlight to stimulate herbaceous

plant growth. Additionally, staff planted wiregrass plugs at the Marsh Tract to supplement areas that had lost groundcover because they had been shaded out by the excess hardwoods.

Grazing occurred on the Scarborough Tract until 1990. However, it does not appear that the moderate level of grazing had any serious effects on the plant community. The best available information indicates that the tract was last timbered in the early 1900s, and the tract now resembles a mature longleaf pine-wiregrass community.

No specific information is available concerning past use of the Bronson tract. However, observations support the idea that previous landowners used the tract for moderate grazing and timber harvests. Remnants of old debris and wooden structures support the idea that the area may have housed poultry. The eastern portion appears to have been replanted with longleaf pine at some time. Similar to what was done in the Marsh Tract, the FWC used contracted crews to for hand removal of excess hardwoods in select portions of this tract.

Prior to 2008, regional mitigation park program staff managed POWEA. Currently, staff from CWMA conduct or supervise most management activities on POWEA, in addition to their responsibilities on CWMA, CWEA, and JBBWEA. With the help of private contractors and the FFS, staff has applied prescribed fire to POWEA and portions of the area exhibit prime habitat for listed species such as the gopher tortoise and southeastern American kestrel. The ideal fire regime for sandhill natural communities at POWEA includes a 1.5 to 3 year fire return interval with an emphasis on growing season burns.

Exotic plants that occur on POWEA include cogon grass, rose natal grass, tropical soda apple, Caesarweed, Chinese tallow, chinaberry, camphor tree, mimosa, skunk vine, Silver thorn (*Elaeagnus pungens*), rosary pea, and Japanese climbing fern. In the fall of fiscal year 2011-12, staff contracted for the treatment of all invasive exotic plants on POWEA. Prior to this, spot treatments of peripheral infestations had been applied, but an exhaustive treatment was only possible using IPM endorsed contractors. There is no documentation of exotic animals, including feral hogs, occurring on this site.

Past wildlife monitoring on POWEA includes a 2003 gopher tortoise survey, and an assessment of the gopher tortoise population for URTD in 2005 and 2006, which included a population survey (Section 3.2.4). During 1999 and 2000, staff conducted a gopher tortoise commensal species survey that successfully documented the presence of Florida mice and gopher frogs. Staff installed 2 southeastern American kestrel nest boxes in 2011 and the Brooksville Ridge volunteers monitor kestrel use of these boxes. Both boxes have been active during the breeding season. Other wildlife monitoring includes documenting observations of imperiled wildlife, including Sherman's fox squirrel, Florida mice, gopher frogs, and American swallow-tailed kites.

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 one 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 WHCNFL 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 potential habitat models were created to generate statewide potential habitat maps for each focal species. 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 18 of the 60 focal species to have potential habitat on CWEA; one focal species group, the wading birds, was added because of potential habitat on this tract (Section 3.1). Models identified 14 focal species to have potential habitat on JBBWEA and 17 on POWEA. One additional species, the eastern indigo snake (*Drymarchon couperi*), was added to all areas because of its conservation importance. For all focal species modeled to have potential habitat on these WEAs, staff created more accurate, WEA-specific potential habitat maps by using the same statewide models but replacing the landcover data with WEA-specific natural community data. The resulting potential habitat maps were then refined based on the input of local managers and species experts.

The WCPR Workshop for the Brooksville Areas and Little Gator Creek WEA (LGCWEA), held June 6-7, 2012 brought decision makers together to assess species' opportunities and needs, identify measurable objectives, outline necessary coordination efforts, and determine required actions such as monitoring. 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 1), 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: Focal Species List

Workshop participants assessed 21 species for their level of opportunity or need on these WEAs. 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 is 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 [5]. Workshop participants and expert reviewers determined that ongoing management would meet the needs of these species, except for those species identified with a superscript number. Therefore, 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*)[3]
Striped newt (*Notophthalmus perstriatus*)*

Eastern indigo snake (*Drymarchon couperi*)
Florida pine snake (*Pituophis melanoleucus mugitus*)
Gopher tortoise (*Gopherus polyphemus*)[1, 2]

American swallow-tailed kite (*Elanoides forficatus*)
Bachman's sparrow (*Peucaea aestivalis*)
Brown-headed nuthatch (*Sitta pusilla*)
Cooper's hawk (*Accipiter cooperii*)
Florida mottled duck (*Anas fulvigula*)*
Florida sandhill crane (*Grus canadenses pratensis*)[3]
Limpkin (*Aramus guarauna*)*
Northern bobwhite (*Colinus virginianus*)
Red-cockaded woodpecker (*Picoides borealis*)*
Southeastern American kestrel (*Falco sparverius paulus*)[1, 2, #]
Southern bald eagle (*Haliaeetus leucocephalus*)
Wading birds (Multiple species)[3]

Florida black bear (*Ursus americanus floridanus*)
Florida mouse (*Podomys floridanus*)[1,2]
Sherman's fox squirrel (*Sciurus niger shermani*)
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 species' potential habitat available on the area. Because all federally listed wildlife 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 is currently in the process of developing management plans for FWC-listed species. Staff will review these plans to determine if the content warrants a revision to any of these assessments and will revise this Strategy as warranted.

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 these WEAs play 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 WEA. 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: Gopher Frog

Gopher frogs are common on CWEA but their status on POWEA and JBBWEA is unknown. The FWC used drift-fence surveys to document reptiles and amphibians occurring on CWEA. Drift-fence arrays in uplands adjacent to May's Prairie captured 74 gopher frogs in 1995–96, and 69 gopher frogs during a survey in 1998. Over 90% of the frogs trapped were juveniles. Gopher frogs were last heard calling in May's Prairie in the winter of 2010. On POWEA, staff captured gopher frogs during a commensal species survey conducted during 1999 and 2000. In 2004, staff observed a gopher frog in a gopher tortoise burrow at POWEA. Regionally, gopher frogs occur at CWMA and the Croom Tract of the WSF.

In Florida, gopher frog habitat is a subset of gopher tortoise habitat that contains the fishless ephemeral wetlands in which gopher frogs breed. After breeding, gopher frogs move back into surrounding upland habitat within a mile of the breeding pond. They prefer native, fire-maintained xeric habitats with intact groundcover but can persist in areas with some habitat alteration. Gopher frogs often occupy gopher tortoise burrows, but they will use rodent and crayfish burrows, stump holes, and hollow logs.

Gopher frogs in Florida are an FWC-listed species of special concern. Considered a moderate priority statewide, this species triggers 2 of 6 prioritization parameters (priorities table). Models indicate 226 acres of potential habitat within current natural communities on CWEA, 158 acres on JBBWEA, and 326 acres on POWEA. If management can restore all natural communities, 412 acres would be available on CWEA, 158 acres on JBBWEA, and 349 acres on POWEA. Little is known about gopher frog home range size or how much habitat is required to sustain a population, but CWEA and POWEA have at least one potential breeding pond each and contain suitable uplands to support the species.

Potential breeding ponds on CWEA are May's and Burn's Prairie, both of which are currently dry and have been for several years. Both are relatively large and contained fish at one time, which reduced their suitability to gopher frogs. May's Prairie was last stocked with largemouth bass (*Micropterus salmoides*) in 1983 and still contained bass in 1988, but subsequent droughts have eliminated fish populations. May's Prairie is relatively grassy but has a heavy muck layer. Burn's Prairie is heavily encroached by hardwoods. Because restoration of these marshes could benefit gopher frogs, staff recommends establishment of an SMA to investigate the potential for restoration (Section 4.1.1). POWEA has 1 ephemeral pond that has suitable grassy structure and limited hardwoods, but it has been dry in recent years. The only depression marsh on JBBWEA is usually dry and is encroached by hardwoods. Uplands on these WEAs are suitable or becoming suitable for use by gopher frogs, for the most part, but regional drought is limiting the use of the breeding ponds.

Planned land management actions, including frequent application of prescribed fire in sandhill, upland pine, mesic flatwoods, and isolated wetlands, are compatible with the needs of gopher frogs on these WEAs. Section 4.3.1 provides additional land management recommendations to ensure these WEAs continue to meet the needs of gopher frogs.

Monitoring should be opportunistic (Section 5.2.4). Gopher frogs can be heard calling after significant rain events. Systematic surveys of potential breeding ponds are not recommended at this time. However, visiting these ponds after significant rain events to listen for gopher frogs is suggested. If frogs are heard calling, additional monitoring may be necessary and the monitoring section of this assessment should be revisited.

The goal is to allow gopher frogs using these WEAs to function as part of a regional population. Maintaining suitable habitat will allow theses area to fulfill their role in the conservation of this species. Within the complex of conservation lands surrounding these WEAs, gopher frogs should persist as long as beneficial land management continues.

3.2.2: Eastern Indigo Snake

Eastern indigo snakes are rare on these WEAs. The species has never been observed on the Nature Center tract, and the last observations were from 1991 on the Big Pine tract and from 2006 on POWEA and JBBWEA. Indigo snakes are relatively common on nearby CWMA and the WSF, which have large tracts of contiguous habitat. Commonly associated with scrub, sandhill, and scrubby flatwoods, indigo snakes also use pine flatwoods, dry prairie, hardwood hammocks, marsh edges, and agricultural fields. Gopher tortoise burrows are important refuge sites for indigo snakes and provide protection from cold and desiccation. Indigo snakes also will use cotton rat burrows, hollowed tree stumps, ground litter, trash piles, and rock piles.

Staff added the indigo snake to the focal species list for these WEAs because it is a federally listed species and triggers 3 of 4 available prioritization parameters (priorities table). The body of research for indigo snakes suggests that at least 4,000 acres of habitat are required to support a viable population. Models indicate 729 acres of potential habitat within current natural communities on CWEA, 312 acres on JBBWEA, and 344 acres on POWEA. There is no significant change in acres of modeled potential habitat even with natural community restoration. Indigo snakes have large home ranges and are vulnerable to habitat fragmentation, including the loss of travel corridors between areas of suitable habitat. In addition, the species experiences increased mortality in areas with more roads. Impediments (e.g., roads or patches of altered, unsuitable habitat) to the movement of indigo snakes between geographically separated areas can have a negative influence on the species. Indigo snakes can utilize potential habitat on these WEAs; however, habitat fragmentation and the relatively small amount of potential habitat available per tract may indicate a low to moderate opportunity for these WEAs to contribute to the regional population.

Planned management including prescribed fire and mechanical treatments that aid in restoring natural community structure and function will benefit this species. Staff should retain stumps and other coarse woody debris during land management activities as potential refuge sites (Section 4.3.2). Equipment operators and contractors should be educated in what to do should they encounter an indigo snake, and directed to avoid damaging or destroying gopher tortoise burrows.

Opportunistic monitoring is recommended (Section 5.2.4), and the results should be shared with FWRI (Section 6.1.4). While drift-fence surveys will not provide population-level information on this species, they can be useful in documenting presence. Future drift-fence surveys conducted on the WEAs should include the use of large upland snake traps to ensure adequate detection of large snakes, such as the indigo or pine snake.

Persecution is a significant threat to this species. The Chinsegut Conservation Center provides a variety of educational and volunteer opportunities for the public that enhance people's awareness and knowledge of this species. As such, the Center plays an important role in using education to reduce persecution of indigo snakes. FWC should continue to support the Center and its positive outreach that benefits many focal species, including the eastern indigo snake.

The goal is to enhance and maintain the suitability of habitat on these WEAs to allow the individuals using these WEAs to help support the regional indigo snake population. Maintaining suitable upland habitat will allow these WEAs to fulfill their role in the conservation of this species. Given the presence of large conservation areas in the surrounding landscape, indigo snakes should persist as long as beneficial land management continues.

3.2.3: Florida Pine Snake

The Florida pine snake has not been documented on CWEA or POWEA and was not modeled to have potential habitat on JBBWEA. Pine snakes have been documented on CWMA and the WSF, which both have large tracts of contiguous habitat. Florida pine snakes use a number of plant communities but they typically occupy pine-dominated habitats with sandy soils and a well-developed grassy understory, such as upland pine and sandhill communities. Pine snakes actively seek out and burrow into pocket gopher mounds to capture pocket gophers, which are a major source of food for this species. POWEA has areas with extensive evidence of pocket gophers, but CWEA does not. Although the presence of pocket gophers is known to correlate to pine snake presence, pine snakes can utilize an area that does not contain pocket gophers.

The Florida pine snake triggers 3 of 6 prioritization parameters (priorities table) and is an FWC-listed species of special concern. According to the literature, pine snakes and indigo snakes have similar home range sizes, and at least 2,471 acres of suitable habitat are required to support a viable population of pine snakes. Models indicate 586 acres of potential habitat within natural communities on CWEA and 346 acres on POWEA. There is no significant change in acres of modeled potential habitat even with natural community restoration. Given the small size and geographic separation of these WEAs, it is likely they function in support of the regional pine snake population.

Pine snakes have large home ranges and are vulnerable to habitat fragmentation, including the loss of travel corridors between areas of suitable habitat. Roads and patches of unsuitable habitat can impede the movement of pine snakes between noncontiguous areas of preferred habitat. In addition, the species experiences increased mortality in areas with more roads. Due to the pine snakes' sensitivity to habitat fragmentation and the relatively small amount of potential habitat available per tract, these WEAs may have a low to moderate opportunity to provide significant benefit to the regional population.

Planned management actions including prescribed fire and mechanical treatments that aid in restoring natural community structure and function will benefit this species. Stumps and other coarse woody debris should be retained during land management activities (Section 4.3.2). Equipment operators and contractors should be educated in what to do should they encounter a pine snake, and directed to avoid damaging or destroying gopher tortoise burrows.

Opportunistic monitoring is recommended (Section 5.2.4). While drift-fence surveys will not provide population level information on pine snakes, they can verify presence. Future drift-fence surveys conducted on the area should include the use of large upland snake traps to ensure adequate detection of large snakes.

The goal for these WEAs is to maintain the suitability of habitat to allow the individuals using these WEAs to help support the regional population of pine snakes. Maintaining suitable upland habitat will allow theses WEAs to fulfill their role in the conservation of this species. Given the presence of large conservation areas in the surrounding landscape, Florida pine snakes should persist as long as beneficial land management continues.

3.2.4. Gopher Tortoise

On all 3 of these WEAs, gopher tortoises are common where habitat is suitable to their needs. The gopher tortoise is a management-responsive species that can serve as an indicator of properly managed upland grass and pine communities. It prefers xeric upland communities maintained with fire that helps perpetuate the groundcover on which it feeds. Ecologists often consider the gopher tortoise a keystone species because many other species use their burrows, including focal species such as the Florida mouse and gopher frog.

This FWC-listed threatened species triggers 4 of 6 prioritization parameters (priorities table), making it a high priority species statewide. In 2007, the FWC approved its' first gopher tortoise management plan. One focus of the plan was to enhance gopher tortoise habitat on conservations lands. The FWC updated the plan in September 2012, with continued emphasis on habitat restoration on public lands.

Models indicate 493 acres of potential habitat within natural communities on CWEA, 199 acres on JBBWEA, and 352 acres on POWEA, with no significant changes in acres with restoration. While restoration may not increase the acres of potential habitat, it would increase the suitability of the habitat and potentially allow for gopher tortoise population expansion. There is conflicting information in the literature about the minimum requirements to sustain a population of gopher tortoises, but a conservative estimate of 200 acres of suitable habitat is often used. While all 3WEAs meet or exceed 200 acres of potential habitat, the potential habitat on JBBWEA is on opposite ends of the tract separated by a stream with associated forest and hammock that is not gopher tortoise habitat. As such, the separated areas do not individually contain enough habitat to support a viable population on JBBWEA. Likewise, potential habitat on CWEA is divided between the Nature Center and Big Pine tracts. While potential habitat on the Nature Center tract is mostly contiguous, well stocked, and around 200 acres, gopher tortoises are not common on Big Pine and Big Pine's modeled potential habitat for gopher tortoises is divided by basin marsh. As such, it is not known if Big Pine can support a viable population, as the contiguous potential habitat is <200 acres.

As part of the statewide restocking initiative, the FWC assessed CWEA in 2007 and determined that the CWEA did not have any MUs that met the criteria for accepting translocated tortoises. Some MUs of the CWEA had a gopher tortoise density that was too high for receiving translocated tortoises, and some MUs had unsuitable habitat for receiving translocated tortoises. The analysis indicated there were enough gopher tortoises on the property to naturally re-colonize habitat as it is restored, and there is no need for

translocation. Since that time, approximately 50% of CWEA has been restored and is suitable for use by gopher tortoises; the remainder is a priority for restoration and maintenance, but resource limitations and proximity to roadways affect the application of land management on CWEA.

Prior to acquisition of JBBWEA, a 2006 survey of approximately 16% of the available habitat indicated a gopher tortoise density of 1.3 tortoises per acre. The sandhills on JBBWEA are currently suitable for gopher tortoises and the species occurs in the surrounding landscape, where pastures and ruderal areas are common.

A separate 2006 assessment of POWEA's gopher tortoise population for upper respiratory tract disease (known as URTD) found a tortoise density of 1.3 tortoises per acre. Further, this study found that gopher tortoises were moving into recently burned and mechanically treated areas. Much of POWEA is currently suitable for gopher tortoises, and the species is a high priority on this area.

FWC has an opportunity to promote habitat suitability for gopher tortoises and to increase and maintain tortoise densities on these WEAs. Improving and maintaining habitat for gopher tortoises will benefit a number of other wildlife species. Management actions that maintain or enhance habitat for this species include the frequent use of prescribed fire, which FWC has used to manage much of the potential gopher tortoise habitat on these WEAs. Mechanical and chemical treatments have been used in to improve conditions for the application of prescribed fire. As such, ongoing land management actions on these tracts are compatible with the needs of gopher tortoises. Additional land management considerations can be found in Section 4.3.3.

FWC will continue monitoring gopher tortoises on POWEA and JBBWEA (Section 5.2.1), but monitoring on CWEA is not recommended at this time. A standardized range-wide monitoring protocol is being developed and should be implemented on POWEA and JBBWEA when available.

The goal for each POWEA and CWEA is to maintain a viable gopher tortoise population. For JBBWEA the goal is to provide suitable habitat conditions that will support gopher tortoises as part of the regional population. The frequent application of prescribed fire will help maintain suitable upland habitat, and this will allow theses WEAs to fulfill their role in the conservation of this species. Given the amount of potential habitat on the large conservation areas in the surrounding landscape, gopher tortoises should persist as long as beneficial land management continues. The measurable objective is to:

1) Continue to monitor gopher tortoises on POWEA and JBBWEA.
2) On POWEA, during the next 10 years, apply appropriate management to move towards achieving OBVM DFCs on approximately 350 acres of gopher tortoise habitat. Once DFCs are achieved in MUs, maintain the habitat in this condition.

3.2.5: American Swallow-Tailed Kite

American swallow-tailed kites have not been documented on CWEA and are rarely observed on POWEA. Staff observed 2 kites circling and vocalizing at JBBWEA in early April 2012, which is a sign of possible nesting. Swallow-tailed kites are frequently observed in the Brooksville area, and presumably forage on and near all 3 WEAs. The Avian Research and Conservation Institute (ARCI), a research organization that conducts statewide research on swallow-tailed kite populations, monitors several nests in the Brooksville area, including

one on Croom WMA and several on Citrus WMA, both part of the WSF. The ARCI monitored these nests in 2010 and 2011.

American swallow-tailed kites are habitat generalists and utilize a variety of natural communities. Open areas are used for foraging, and trees that are dominant or taller than surrounding trees are preferred as nest trees. Shrub height and density tends to be higher around nest sites. Because this species has high nest site fidelity, maintaining suitability of nesting areas is important.

American swallow-tailed kites trigger 4 of 6 statewide prioritization parameters (priorities table), making them a moderate statewide priority. Models indicate 638 acres of potential kite habitat within current natural communities on CWEA, 263 acres on JBBWEA, and 337 acres on POWEA. If management can restore all natural communities, 645 acres would be available on CWEA, 283 acres on JBBWEA, and 348 acres on POWEA.

Given the generalist nature of this species and its high mobility, the American swallow-tailed kite is not considered management dependent though it does benefit from active management to restore natural communities, provided nest sites are not disturbed. The opportunity to affect this species on these WEAs is low; however, ongoing efforts to maintain natural community structure and function, such as prescribed fire and timber thinning, will benefit kites by improving foraging opportunities. If nests are located on any of these WEAs, management recommendations around nest sites will be applied (Section 4.3.4) and the nest will be reported to ARCI (Section 6.4). If kite-nesting activity is observed, this information should be documented and reported, as well (Section 5.2.4).

The goal is to provide suitable habitat for the American swallow-tailed kite that will help support the regional population. While the continued presence of this species on these WEAs is dependent on conditions affecting the regional population, the amount of potential habitat on adjacent conservation areas increases the likelihood that American swallow-tailed kites will continue to persist on these WEAs.

3.2.6: Bachman's Sparrow

The status of Bachman's sparrows on these WEAs is unknown. An annual bird survey that uses point stations similar to the BBS has been conducted at CWEA since 2005, but Bachman's sparrows have not been documented during the survey. However, in February 2012, FWC staff observed Bachman's sparrows at 2 locations on CWEA. While Bachman's sparrows have not been documented on POWEA, BBSs on adjacent areas have detected Bachman's sparrows. Given habitat conditions on POWEA, Bachman's sparrows are likely to occur on the area. Bachman's sparrows are not known to occur on or near JBBWEA.

Bachman's sparrows prefer mature pine forests with a low basal area and healthy herbaceous vegetation or early-successional old-field habitat. The Bachman's sparrow is responsive to management and the occurrence of frequent fire is critical to sustaining habitat for this species. Use of an area by Bachman's sparrows declines rapidly around 18 months post-fire and sites are typically abandoned if fire is excluded for ≥3 years. In many areas, the optimal fire return interval necessary to achieve desired vegetative parameters for Bachman's sparrow habitat is 2-3 years.

The Bachman's sparrow triggers 2 of 6 prioritization parameters (priorities table) and is currently experiencing range-wide population declines. BBS data indicate a 3.2% per year decline range-wide with a 2.7% per year decline in Florida.

Models indicate 553 acres of potential habitat within natural communities on CWEA, 156 acres on JBBWEA, and 324 acres on POWEA. If management can restore all natural communities, 558 acres would be available on CWEA, 218 acres on JBBWEA, and 348 acres on POWEA. Literature suggests a minimum of 520 acres of contiguous habitat is required to maintain a viable population of Bachman's sparrows; CWEA is the only tract that independently meets this requirement. However, potential habitat on CWEA is divided between 2 tracts. Staff estimates that 50% of potential habitat on CWEA is currently suitable for Bachman's sparrows. To meet the needs of this and other species, the intent is to continue restoration of natural communities on CWEA and achieve a 2-4 year fire return interval across upland natural communities.

Much of the potential habitat on POWEA is suitable for Bachman's sparrows. Croom contains large expanses of suitable habitat and POWEA can help support the regional population due to its proximity to Croom and CWEA.

JBBWEA contains potential Bachman's sparrow habitat, but the surrounding landscape does not contain natural communities maintained with frequent fire, as required for the perpetuation of this species. However, this WEA could provide a stepping-stone for dispersing Bachman's sparrows. In addition, the potential habitat on JBBWEA increases the connectivity between the population in the Brooksville area and currently unoccupied habitat on CWMA and the Citrus tract of the WSF. Habitat on the northwest corner of the WEA is suitable for use by Bachman's sparrows, but the rest of the potential habitat is overgrown due to a lack of frequent fire. Staff intends to apply fire to the rest of the habitat after completing actions necessary to enhance the safety of applying this management tool. However, given the small amount of potential habitat both on JBBWEA and in the adjacent landscape, the lack of fire in this area does not jeopardize the regional Bachman's sparrow population.

In MUs where the species is known to occur, planned land management, with an emphasis on more frequent fire, is compatible with the needs of the species. Additional land management considerations are found in Section 4.3.5.

While a BBS-like annual survey is conducted on CWEA, Bachman's sparrow monitoring is not conducted on the other WEAs. Bachman's sparrows are relatively easy to detect during the breeding season, especially when managers make use of a call back tape. Managers are encouraged use call back tapes in an attempt to document Bachman's sparrow presence on each WEA. Staff and volunteers visit each of these WEAs multiple times during the spring to monitor kestrel nest boxes, and should spend a few minutes listening for Bachman's sparrows and brown-headed nuthatches while on-site (Section 5.2.4).

The goal for CWEA and POWEA is to maintain habitat suitable for use by this species to ensure Bachman's sparrows using these WEAs can help support the regional population. The goal for JBBWEA is to provide suitable habitat for the Bachman's sparrow that will allow individuals moving through the landscape to use the WEA. While the continued presence of this species on these WEAs is dependent on conditions affecting the regional population, these WEAs are within a landscape that contains large blocks of Bachman's sparrow habitat on nearby conservation lands. As long as beneficial land management continues on these conservation lands, there is an increased chance of persistence.

3.2.7: Brown Headed Nuthatch

The status of brown-headed nuthatches on these WEAs is unknown. Staff conduct point-count surveys at CWEA annually, but have not documented brown-headed nuthatches during these surveys. While this species has not been documented on any of these WEAs, BBSs on areas adjacent to POWEA and CWEA have detected brown-headed nuthatches.

The brown-headed nuthatch is dependent on open stands of mature pine interspersed with snags in which the species excavates nesting cavities. Older pine forests (>35 years for longleaf and slash pine) with basal area between 35–50 ft^2/ac (8-11 m^2/ha) are preferred. This species triggers 2 of 6 prioritization parameters (priorities table) and is currently experiencing range-wide declines due to habitat loss and degradation.

Models indicate 553 acres of potential habitat within natural communities on CWEA, 156 acres on JBBWEA, and 324 acres on POWEA. If management can restore all natural communities, there would be little change in the amount of potential habitat on CWEA, and there could be 218 acres on JBBWEA, and 348 acres on POWEA. Literature suggests 1,000 acres of habitat is necessary to support a viable population; none of the WEAs independently meets this requirement. Brown-headed nuthatches occur in the WSF. CWEA and POWEA may contribute to the regional population because of their proximity to the WSF, though JBBWEA is likely too isolated.

Management actions that aid in restoring natural community structure, such as frequent prescribed fire, or thinning and other silvicultural activities favoring mature timber, maintain or enhance habitat for this species. The application of a shorter fire-return interval and the protection of snags during land management activities will improve habitat suitability (Section 4.3.6). To increase the chances of documenting incidental observations of this species (Section 5.2.4), managers are encouraged use call back tapes in an attempt to document brown-headed nuthatch presence on each WEA. Additionally, staff and volunteers who visit these WEAs during the spring to monitor kestrel nest boxes or conduct other actions, should spend a few minutes listening for Bachman's sparrows and brown-headed nuthatches.

The goal for CWEA and POWEA is to provide suitable foraging and nesting habitat for brown-headed nuthatches to provide the opportunity for future occupation by this species. Because brown-headed nuthatches occur nearby on the WSF, we believe the species can occupy the potential habitat on CWEA and POWEA. A goal for JBBWEA is not recommended because of the small and isolated potential habitat and limited opportunity to contribute to the regional population.

3.2.8: Cooper's Hawk

Cooper's hawks have not been documented using any of these WEAs, though they have been documented during BBSs on adjacent conservation areas. Therefore, staff believes Cooper's hawks use all of these WEAs to some extent. Cooper's hawks are commonly associated with woodlands and nest in a variety of habitats, including swamps, floodplain and bottomland forests, sand pine scrub, and baygalls. Nests usually are placed near the crown of a tree close to an edge in dense stands of oaks or pine. Cooper's hawks primarily feed on other birds, so nests are located in proximity to suitable hunting areas

The Cooper's hawk triggers 1 of 6 prioritization parameters (priorities table). From a regional perspective, the mosaic of conservation areas, private lands, and residential areas within the greater Brooksville area supports a regional population of Cooper's hawks. Models indicate 674 acres of potential Cooper's hawk habitat within natural communities on CWEA, 289 acres on JBBWEA, and 351 acres on POWEA, with no significant changes in the amount of potential habitat with restoration. Even with all acres of potential habitat on these 3 WEAs combined, this is not enough to independently support a population of Cooper's hawks.

Cooper's hawks are not considered management dependent and the opportunity to affect this species on these WEAs is low. However, ongoing and planned efforts to restore natural community structure and function, including the application of prescribed fire, the control of invasive exotics, and the use of mechanical treatments, will benefit the Cooper's hawk. During the nesting season (April-July), the Cooper's hawk is secretive and sensitive to disturbance near the nest site. No attempt will be made to actively search for nests, but incidental observations of nesting or breeding behavior will be noted (Section 5.2.4) and nesting areas will be protected from disturbance (Section 4.3.7).

The goal for these WEAs is to provide suitable habitat for the Cooper's hawk that will allow individuals using these WEAs to function as part of the regional population. While the continued presence of this species on these WEAs is dependent on conditions affecting the regional population, the amount of potential habitat on adjacent conservation areas increases the likelihood that Cooper's hawks will continue to persist on these WEAs.

3.2.9: Florida Sandhill Crane

Models did not identify potential habitat for Florida sandhill cranes on POWEA or JBBWEA. They are common on CWEA, and are relatively common in the greater vicinity. Sandhill cranes nested in May's Prairie on CWEA 4-5 years ago, but the prairie has been too dry for nesting since that time.

The Florida sandhill crane is listed as threatened by the FWC and triggers 4 of 6 prioritization parameters (priorities table), making it a moderate to high statewide priority. Sandhill cranes use shallow wetlands and adjacent upland habitats. Standing water is an important component of nesting habitat for Florida sandhill cranes. Nests consist of herbaceous plant material mounded in shallow water or marshy areas. Sandhill cranes prefer uplands that have a majority of the vegetative cover ≤20 inches in height, and they do not use uplands that become overgrown or shrubby. Habitat used includes a mosaic of emergent palustrine wetlands and open uplands such as pasture, prairie, and open pinelands.

Models indicate 109 acres of potential habitat within natural communities on CWEA. If management can restore all natural communities, 82 acres would be available on CWEA. The decrease in available potential habitat predicted by the model is due to the loss of pasture with restoration. Sandhill crane home range size varies seasonally and regionally, with adult pairs requiring approximately 300-600 acres.

Most of the potential habitat on CWEA is in May's Prairie and Burn's Prairie. Both have been dry for the past several years. Grasses dominate May's Prairie, which is in good condition except for chronic drought. However, muck accumulation is a management concern on May's Prairie. Muck's tendency to burn slowly over several days and cause smoke issues can limit the use of prescribed fire. Burn's Prairie is heavily encroached with

hardwoods, and is not suitable for use by sandhill cranes. Burn's Prairie is located along a property boundary on the Big Pine Tract, and the same concerns for muck apply here, increasing the difficulty of restoring the prairie with prescribed fire. For more information on potential restoration of these basin marshes, see Section 4.1.1.

While there is little active management needed on these WEAs specifically for this species, the suitability of foraging habitat on CWEA will improve with the application of prescribed fire and other treatments that maintain upland habitat in the open condition cranes prefer. Protection of nesting habitat is also essential, but some parameters of nesting habitat, such as hydroperiod, are outside the control of land managers. Monitoring is not recommended at this time; however, nesting cranes and the presence of flightless young should be documented and reported (Section 5.2.4). Staff should protect any known nests during land management activities (Section 4.3.8).

Goals were not set for JBBWEA or POWEA as no potential habitat was identified on these WEAs. The goal on CWEA is to provide habitat for Florida sandhill cranes that will allow individuals using CWEA to function as part of a regional population. While the continued presence of this species on these WEAs is dependent on conditions affecting the regional population, the amount of potential habitat on adjacent properties increases the likelihood that Florida sandhill cranes will continue to persist on CWEA.

3.2.10: Northern Bobwhite

Northern bobwhite are occasionally observed on these WEAs and are found on other conservation lands in the region, including CWMA and the WSF. The species triggers 2 of 6 prioritization parameters (priorities table), and because of significant range-wide population declines, they are a major focus of many initiatives including the Upland Ecosystem Restoration Project.

Northern bobwhite are associated with open canopy forests and grassland communities dominated by warm-season grasses, legumes, and patchy bare ground. Weedy areas are used for raising broods and foraging; shrubs or other thickets are useful as roosting habitat or escape cover. Managers can use the frequent application of prescribed fire to create the mosaic of vegetation conditions this species requires to meet its life history needs.

Models indicate 602 acres of potential habitat within natural communities on CWEA, 125 acres on JBBWEA, and 356 acres on POWEA. If management can restore all natural communities, 609 acres would be available on CWEA, 218 acres on JBBWEA, and 348 acres on POWEA. Literature suggests this species needs 2,000–4,000 acres of contiguous, good quality habitat to support a viable population. Though portions of the potential habitat on these WEAs are currently suitable to support this species, there is not enough habitat to independently support a population. Rather, these WEAs function in support of the regional population of northern bobwhite.

Management actions that maintain or enhance habitat for northern bobwhite include prescribed fire, control of invasive exotics, and mechanical treatments designed to aid in restoring natural community structure (Section 4.3.9). As there is no small game season on these WEAs, there is no need for monitoring, and the species is too common to justify recording observations.

These WEAs have a limited role in reversing the statewide decline of this species because they are relatively small. The goal is to continue to support the regional population.

By continuing to apply prescribed fire and maintaining suitable habitat conditions, these WEAs will fulfill their role for this species. While the continued presence of this species on these WEAs is dependent on conditions affecting the regional population, these WEAs are within a landscape that contains large blocks of northern bobwhite habitat on nearby conservation lands. As long as beneficial land management continues on these conservation lands, there is an increased chance of persistence.

5.2.11: Southeastern American Kestrel

Southeastern American kestrels are relatively common in the greater Brooksville area. BBSs have been conducted at CWEA since 2005 without documenting the southeastern American kestrel. JBBWEA has 1 kestrel nest box that staff installed in 2011 and breeding kestrels used this nest box in 2012. Kestrels also were observed in a snag approximately 0.5 miles from JBBWEA in April 2012, indicating kestrel presence in the surrounding area. POWEA has 2 kestrel nest boxes that breeding kestrels have used since 2011.

Southeastern American kestrels utilize upland habitats including sandhills, longleaf savannas, pastures, sand pine scrub, and prairies. As a secondary cavity nester, southeastern American kestrels use previously excavated cavities in large snags. They will utilize artificial cavities in areas of suitable habitat. Kestrels require adequate perch sites within foraging areas; low ground cover (<1 ft) and an open canopy (<20% cover) are ideal for this species. Southeastern American kestrels are listed by the FWC as a threatened species and trigger 4 of 6 prioritization parameters (priorities table).

Models indicate 601 acres of potential habitat within natural communities on CWEA, 158 acres on JBBWEA, and 360 acres on POWEA. If management can restore all natural communities, 554 acres would be available on CWEA, 219 acres on JBBWEA, and 355 acres on POWEA. The decrease in potential habitat following restoration on CWEA is an anomaly of the model and not truly reflective of conditions on the ground. A portion of the Big Pine tract that is currently pasture did not receive historic community mapping, and therefore, these acres did not count towards acres after restoration, resulting in a perceived decrease in potential habitat. Average kestrel breeding territory size is 125 acres, though more area may be necessary if the habitat quality is marginal. All 3 WEAs contain enough potential habitat to support at least a breeding pair of kestrels, and all 3 WEAs are surrounded by large expanses of privately-owned or USDA pastures that are suitable for kestrels. However, if conditions in the surrounding pastures change, these WEAs may not continue to support breeding kestrels.

Much of the modeled potential habitat on both CWEA and POWEA is currently suitable for kestrels. It is not known why kestrels have not been documented on CWEA, as they do occur in the surrounding landscape and habitat on CWEA is suitable. A powerline corridor bisects POWEA, but management actions on the powerline easement are compatible with the needs of kestrels. FWC periodically mows the corridor, and the power company is rarely on-site. Managers should coordinate with the power company to ensure future actions avoid affecting the kestrel nest boxes on the powerline corridor.

Potential habitat on the north end of JBBWEA is suitable for kestrels but habitat on the south end is marginal. Continued kestrel presence on JBBWEA is dependent more on

surrounding pastures than on the suitability of the small amount of potential habitat on-site. However, habitat conditions will improve with continued application of prescribed fire.

Management that aids in restoring natural community structure, including control of invasive exotic plants and managing for mature, open stands of longleaf pine maintained with prescribed fire, will maintain or enhance habitat for this species. For additional land management considerations, including the protection and creation of snags see Section 4.3.10.

Monitoring will continue according to a protocol developed by FWRI as part of a statewide kestrel nest box monitoring program (Section 3.2.2). Brooksville Ridge volunteers conduct this monitoring, with assistance from CWMA staff and the regional conservation biologist. As the nest box program expands in the Brooksville area, continued coordination with the Brooksville Ridge Volunteer Coordinator will be necessary (Section 6.1.9). Staff shares the results of this monitoring with FWRI (Section 6.1.4) and uses the results to assess the need for additional boxes (Section 3.1.1).

The goal is to provide suitable foraging and nesting habitat for southeastern American kestrels that will allow individuals using these WEAs to continue to function as part of a regional population. Staff will achieve the goal by installing and maintaining nest boxes and applying appropriate habitat management. The measurable objectives are to:

1) Maintain at least 2 functional nest boxes within suitable habitat on POWEA, and 1 functional nest box within suitable habitat on JBBWEA.
2) For the next 10 years (or duration of this Strategy), evaluate all 3 WEAs for suitability and install boxes where appropriate.
3) Annually assess habitat conditions around nest boxes and adjust land management actions accordingly to ensure continued suitability to support kestrels using nest boxes.

3.2.12: Southern Bald Eagle

Bald eagles are rarely observed on these WEAs. There are 23 known bald eagle nests in Hernando County, though none occur on these WEAs. The FWC approved a Bald Eagle Management Plan in 2008 to ensure the continued recovery of this species. This plan identified 16 Core Nesting Areas (CNAs), which are defined as areas containing high densities of bald eagle nesting territories. From a regional perspective, the central Gulf coast CNA is located in coastal Hernando County, west of these WEAs.

The bald eagle does not trigger any of the prioritization parameters, but is protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Models indicate 313 acres of potential habitat within natural communities on CWEA and no potential habitat on JBBWEA or POWEA. While the model predicted a significant decrease in acres of potential habitat following restoration, this is an anomaly within the model. In reality, there will be no decrease in potential habitat. All of the potential habitat on CWEA is on the Big Pine tract, and it is currently suitable for use by bald eagles. Though the models did not identify any potential habitat on JBBWEA or POWEA, occasional non-foraging use by bald eagles could occur. However, eagles tend to be found near large bodies of water, which are not common on or near these areas. Thus, the opportunity to influence this species on these WEAs is low.

While bald eagles are not considered management-dependent, ongoing efforts to manage for mature stands of trees will benefit this species, provided nest protection guidelines are followed. Any activities around nest sites will be conducted according to guidance in the management plan (Section 4.3.11). New nesting sites will be documented and reported (Section 5.2.4 and Section 6.1.1).

The goal is to continue to provide habitat for the southern bald eagle that will allow individuals using these WEAs to function as part of a regional population. While the lack of open water near these WEAs limits how much these WEAs can support the regional population, their location near a CNA increases the chance of occasional use by bald eagles.

3.2.13: Wading Birds

Models did not identify potential habitat for wading birds on CWEA, but staff added this group of focal species because several species forage in a large basin marsh on the area. Six of the 8 focal species of wading birds [great egret (*Ardea alba*), snowy egret (*Egretta thula*), little blue heron (*E. caerulea*), tricolored heron (*E. tricolor*), white ibis (*Eudocimus albus*), and wood stork (*Mycteria americana*)] have been documented on CWEA. The roseate spoonbill (*Platalea ajaja*) and reddish egret (*Egretta rufescens*) have not been documented on CWEA. Regionally, these WEAs fall within the core foraging area for several wood stork colonies (based on 2010 data). Wood storks and other wading birds travel long distances in search of food, and regional water levels have a big influence on their activity patterns. While 6 of these species do forage on the property, nesting has never been documented on CWEA.

Statewide, this group of species is a moderate priority. Several species are FWC-listed species of special concern and the US Fish and Wildlife Service (USFWS) lists the wood stork as endangered. The Millsap biological scores for the reddish egret, little blue heron, and wood stork are high. Florida's Wildlife Legacy Initiative identified a declining trend for the snowy egret, little blue heron, and roseate spoonbill, and unknown trends for the tricolored heron and white ibis.

Models indicate 80 acres of potential habitat within natural communities on CWEA. If management can restore all natural communities, 102 acres could be available on CWEA. Most of the potential habitat on CWEA is in May's Prairie and Burn's Prairie. Both have been dry in recent years. Grasses dominate May's Prairie, which is in good condition except for chronic drought. Muck accumulation in May's Prairie is a management concern, as the presence of muck limits the ability to apply prescribed fire, because of muck's tendency to burn slowly, over several days, creating smoke management issues. Burn's Prairie is located along a property boundary on the Big Pine Tract and is heavily encroached with hardwoods. The same concerns for muck apply here, increasing the difficulty of restoring the Burn's Prairie with prescribed fire. Because of the potential importance of these prairies to a number of focal species, staff recommends a SMA to investigate the potential for restoration of these basin marshes (Section 4.1.1).

Given the small amount of potential habitat on CWEA, and the limitations created by regional drought, CWEA has a minor role in supporting the regional wading bird population. Wading birds benefit from a variety of foraging opportunities within their range, regardless of the size of the wetland. While not dependent on actively managed natural communities, wading birds benefit from the application of prescribed fire in wetland habitats. Where

possible, allow fire to burn across marshes and wetlands to decrease shrub encroachment. It is unlikely that wading birds would establish a breeding colony on CWEA; however, if breeding colonies are found on the area, managers will provide appropriate protection during land management activities (Section 4.3.12) and document and report those colonies (Section 5.2.4).

The goal for the Brooksville area WEAs is to continue to provide suitable foraging habitat for wading birds that will allow individuals using these WEAs to function as part of the regional population. While the lack of potential habitat on these WEAs limits how much the WEAs can support the regional population, the amount of potential habitat on adjacent properties increases the likelihood that wading birds will continue to persist on these WEAs.

3.2.14: Florida Black Bear

Florida black bears or their sign have not been observed on these WEAs, which are outside of primary or secondary bear range. The WEAs are within 15 miles of CWMA, which contains the Chassahowitzka bear subpopulation, part of the Big Bend Bear Management Unit. During 2009 and 2010, FWRI conducted a hair snare study of this bear subpopulation to define the primary and secondary ranges of bears in the Chassahowitzka area (Citrus, Pasco, and Hernando counties). The study resulted in samples from 11 bears, only 1 of which was a female. This suggests a very small subpopulation in the region. Hair samples were only found on snares on CWMA and the Weeki Wachee Preserve.

The Florida black bear is a wide-ranging species capable of significant dispersal; however, it is typically dispersing males that move long distances. 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 provides adequate den sites, a diversity of seasonally abundant food sources, and cover when traveling between these habitat types.

This species triggers 2 of 6 prioritization parameters (priorities table). In June 2012, the FWC approved a Black Bear Management Plan and removed the species from the threatened list. The FWC intends for the management plan to guide continued recovery of this species.

Models indicate 75 acres of potential habitat within natural communities on CWEA, 128 acres on JBBWEA, and no potential habitat on POWEA. If management can restore all natural communities, 57 acres would be available on CWEA, 90 acres on JBBWEA, and no habitat on POWEA. As such, none of these WEAs has enough potential habitat to support even a single bear. Given the relatively small size of these WEAs, the small amount of potential habitat, and the location within an urban and rural landscape, these WEAs have a low opportunity to support bears. They do have potential to contribute to the connectivity between the existing Chassahowitzka and Ocala bear subpopulations. They also contribute to the connectivity between the Chassahowitzka bear subpopulation and unoccupied but suitable habitat within the WSF and the Green Swamp.

Land management activities that promote a mosaic of vegetation structure across the landscape will provide forage and cover for bears. See Section 4.3.13 for more information

on land management. Because FWC monitors this species at the subpopulation level, local monitoring for bears should be opportunistic (Section 5.2.4).

The goal is to provide habitat for bears that may move through these WEAs. The amount of potential habitat within the surrounding landscape increases the likelihood that bears will periodically use habitat on or around these WEAs, but the long-term persistence of bears in this part of Florida is dependent on factors that influence regional subpopulations.

3.2.15: Florida Mouse

Small mammal trapping has not been conducted on all of these WEAs, and the status of the Florida mouse on these WEAs is unknown. However, there is documentation of a Florida mouse on POWEA from the early 2000s. Regionally, the species occurs on CWMA and in scrub habitats on the WSF.

The Florida mouse triggers 4 of 6 prioritization parameters (priorities table) and is listed by FWC as a species of special concern. The Florida mouse lives in xeric uplands and relies almost exclusively on gopher tortoise burrows for refuge. On all 3 of these WEAs, gopher tortoises are common in habitat that meets their needs. While acorns are an important food source for the Florida mouse, having a diverse ground cover that provides a diversity of food throughout the year is equally important.

Models indicate 103 acres of potential habitat within natural communities on CWEA, 125 acres on JBBWEA, and 322 acres on POWEA. If management can restore all natural communities, 431 acres would be available on CWEA, 126 acres on JBBWEA, and 346 acres on POWEA. Literature suggests this species needs 75–200 acres to support a viable population, indicating opportunity on all 3 WEAs. As it is not known if the species occurs on these WEAs, the level of opportunity is unknown.

The majority of potential habitat on CWEA is located on the southwest corner of the Nature Center Tract. More of the Nature Center Tract could provide potential habitat, if management can restore natural communities. However, as this tract is small and surrounded by paved roads, smoke management remains an issue in managing this habitat. Most of POWEA is potential habitat, a large portion of which is in a condition that could support Florida mice. Suitability will continue to improve with continued management. There is enough suitable habitat on CWEA and POWEA to support a population, but whether the species occurs on-site, or could disperse from surrounding areas, is unknown.

A creek with associated forest divides the potential habitat at JBBWEA. Further, only about half of the potential habitat is in a condition that could support the species. Given the division of habitat across the WEA, it is not known if JBBWEA could independently support a viable population. The ability of the surrounding landscape to support a population or promote dispersal is unknown, and the altered condition (small development and pasture) may effectively isolate any Florida mice that do occur on JBBWEA. As such, JBBWEA may have a limited role in supporting the regional Florida mouse population.

The Florida mouse benefits from a mosaic of vegetation conditions in a given MU. Managers can achieve this mosaic by applying a variety of land management techniques. When using mechanical treatments, applying the 'sloppy chop' method will leave patches of oaks untouched. Using a variety of ignition patterns and burning during different weather conditions can help promote patchy burns that provide the desired mosaic. Ongoing and

planned efforts to apply prescribed fire and non-ground disturbing mechanical actions will improve and maintain the suitability of habitat for this species.

Incidental monitoring is not likely to detect Florida mice on these WEAs. Monitoring to document presence on these WEAs is recommended, but resources to conduct small mammal trapping are limited. Volunteers with the Brooksville Ridge Volunteer Program have assisted with small mammal trapping for Florida mice on other FWC areas and could assist with surveys on these WEAs (Section 5.2.3).

A goal is not appropriate for JBBWEA because of the division of potential habitat across the WEA and the condition of the surrounding landscape. However, if monitoring indicates that the species does occur on JBBWEA, this goal should be re-evaluated.

For POWEA and CWEA, the goal is to support a viable population of Florida mice. This will be accomplished by managing the habitat to meet the needs of the species. The measurable objective is:

1) By 2016, conduct a Florida mouse survey on CWEA, POWEA, and JBBWEA.

3.2.16: Sherman's Fox Squirrel

Sherman's fox squirrels are rarely observed on CWEA and JBBWEA and are occasionally seen on POWEA. Regionally, fox squirrels are found throughout the greater Brooksville area, including CWMA and the WSF.

The Sherman's fox squirrel is an FWC-listed species of special concern and triggers 4 of 6 prioritization parameters (priorities table). Suitable habitat for Sherman's fox squirrel includes longleaf pine sandhills or flatwoods with a mixture of mature pines and oaks and a sparse to moderate shrub layer. Sherman's fox squirrels appear to do best in mature longleaf pine stands maintained with fire that results in an open understory with an oak component. Fox squirrels often use large oaks for nest sites and for daytime refugia. In addition, acorns provide a major part of their diet. Mature longleaf pines produce seed bearing cones that are an important energy-rich food source, particularly during summer. A mosaic of habitat conditions across the landscape ensures a year-round supply of forage that varies seasonally.

Models indicate 319 acres of potential habitat within natural communities on CWEA, 298 acres on JBBWEA, and 349 acres on POWEA. If management can restore all natural communities, 675 acres would be available on CWEA, 298 acres on JBBWEA, and 365 acres on POWEA. The fox squirrel is a wide-ranging species and the literature suggests 2,000-9,000 acres of suitable habitat are required to support a population. Given this, these WEAs function in support of the regional fox squirrel population. Across all WEAs, potential habitat is, for the most part, suitable for use by fox squirrels. Habitat that is not currently suitable will improve with planned management. Because of the relatively small amount of potential habitat, there is a low opportunity to affect this species on these WEAs.

Management actions that maintain or enhance habitat for fox squirrels include prescribed fire, control of invasive exotic plants, and timber management that results in open, mature pine forests with an oak component. As these are planned and ongoing management actions on these WEAs, the WEAs should continue to support this species. Because this species naturally occurs at low densities and can be difficult to detect, no specific monitoring, aside from opportunistic observation, is recommended (Section 5.2.4).

The goal is to continue to provide suitable habitat for Sherman's fox squirrels that allows the fox squirrels on these WEAs to function as part of a regional population. While

the continued presence of fox squirrels on these WEAs may be dependent on conditions affecting the regional population, these WEAs are within a landscape that contains large blocks of contiguous fox squirrel habitat on nearby conservation lands. As long as beneficial land management continues on these conservation lands, there is an increased chance of persistence.

3.2.17 Limited Opportunity Species

Five focal species (striped newt, Florida mottled duck, limpkin, red-cockaded woodpecker, and southeastern myotis) were modeled (using statewide data) to have potential habitat on one or all WEAs but lack reasonable opportunity for management. Opportunistic observations of these species should be documented (Section 5.2.4). If any of these species are documented with increasing regularity, the areas' role in their conservation should be re-visited. As limited opportunity species, there is no need for SMAs, specific monitoring, goals, or measurable objectives.

Striped Newt - The striped newt has never been detected on these WEAs. Striped newts are not known to occur in Hernando County but have been documented in neighboring Sumter County. CWMA, CWEA, and the WSF have all been surveyed for striped newts with no recorded occurrences.

Striped newts are a moderate to high statewide priority and trigger 4 of 6 prioritization parameters (priorities table). However, because this species has not been detected on these WEAs or adjacent lands, and these WEAs may be outside of the range of this species, there is little opportunity to affect the statewide population of striped newts.

Potential habitat models indicated no potential habitat within current natural communities on any WEAs in the Brooksville area and only 37 acres on CWEA if management can restore all natural communities. The CWEA is at the southern extent of the range of the species and there are no recorded occurrences on the WEA or within the county. These facts mean there is no reasonable opportunity to manage for striped newts, making it a limited-opportunity species.

Planned land management on these WEAs including applying prescribed fire to depressional wetlands and the surrounding uplands, will benefit many species, including striped newts if they are present. Because this species is unlikely to occur on the WEAs, the striped newt is a limited opportunity species on these WEAs. However, the needs of striped newts will be re-evaluated and addressed should this species be detected on or near these WEAs.

Florida Mottled Duck - Florida mottled ducks are not a focal species modeled to occur on CWEA or JBBWEA and very little potential habitat is available on POWEA. Nesting females tend to locate their nests on the ground in dense vegetation clumps (tall grasses, rushes, or palmetto thickets) occurring in otherwise open habitat near water. Mottled ducks have been documented nesting in dry marshes, pine flatwoods, citrus groves, and urban areas. Habitats that are avoided include wet prairies, shrub and forested wetlands, open water and flooded areas. This species prefers shallow water less than 10 inches deep and wetlands with emergent vegetation. Potential foraging habitat can be enhanced through

management activities that promote a mosaic of open water and cover within shallow emergent wetlands.

The mottled duck is not listed at either the state or federal level. This species triggers 2 of the 6 statewide prioritization parameters (priorities table), making it a medium priority statewide. Natural community models identified only 8 acres on POWEA and only 7 acres if management can restore all natural communities. Given the small amount of potential habitat on POWEA, the area lacks reasonable opportunity to manage for mottled ducks and it is considered a limited-opportunity species.

Limpkin – Limpkin have not been documented on CWEA, the only WEA in the Brooksville area where statewide landcover data indicated potential limpkin habitat. The Limpkins are influenced by regional water levels and the availability of prey items, primarily fresh water mollusks. Limpkins typically inhabit freshwater marshes, swamps, springs, and spring runs. Limpkins are a FWC species of special concern and trigger 1 of 6 prioritization parameters (priorities table). While statewide landcover models identified a small amount of potential habitat, local natural community models indicate no potential habitat within current or historic natural communities on CWEA. Given this, there is a lack of reasonable opportunity to manage for limpkin on CWEA, making it a limited opportunity species.

Red-Cockaded Woodpecker – Red-cockaded woodpeckers are not found on these WEAs, though they historically occurred on CWEA and POWEA. Models did not identify potential habitat for red-cockaded woodpeckers on JBBPWEA. Red-cockaded woodpeckers occur in the WSF on both the Croom and Citrus WMAs. CWEA and POWEA are located between Croom and Citrus, within a matrix of rural private residential and pasture lands.

Red-cockaded woodpeckers inhabit open, mature pine woodlands with a diversity of grass, forb, and shrub species. A basal area of 40-80 ft^2/acre is preferred. As cavity nesters, individuals excavate cavities in the heartwood of older (typically >60 years) living pine trees. Suitable cavities and potential cavity trees are often the limiting factor for this species. Artificial cavities have been effective in increasing local populations when combined with appropriate habitat management.

The red-cockaded woodpecker is a federally endangered species that triggers 4 of 6 prioritization parameters (priorities table). An FWC Management Plan and a USFWS Recovery Plan have been developed for this species, making it a high statewide priority.

Models indicate 553 acres of potential habitat within current natural communities on CWEA and 324 acres on POWEA. If management can restore all natural communities, 558 acres would be available on CWEA and 348 acres on POWEA. Models indicate over 23,000 acres of potential habitat within the WSF. Red-cockaded woodpeckers have home range sizes ranging from 100-400 acres per territory. While there may be enough potential habitat on these WEAs to support one or more red-cockaded woodpecker territories, given the distance from existing populations and the lack of suitable habitat connectivity, it is unlikely that the species will naturally colonize these WEAs. Because POWEA is closer to occupied territory, POWEA has more potential than CWEA. However, since there are no suitable cavity trees between POWEA and the WSF, red-cockaded woodpeckers may occasionally forage on POWEA, but are unlikely to nest on the WEA. Planned management will maintain habitat in a condition that is suitable for occasional foraging by red-cockaded woodpeckers; however, the opportunity to manage these WEAs for this species is limited. If information

becomes available that alters the role of these WEAs for this species, this should be reflected in future Strategies.

Southeastern Myotis – The status of the southeastern bat is unknown on these WEAs. In 2007, the Florida Bat Conservancy (FBC) documented southeastern bats at CWMA during a species inventory. Several bat houses are present on CWEA, near the Conservation Center, and Brazilian free-tailed bats occupy these bat houses. Citrus WMA has 4 known maternity caves, and there is also a maternity cave in nearby Sumter County.

Southeastern bats forage over marshes, creeks, rivers, and ponds, but they will forage in flatwoods and along the edges of hammocks. Roosting habitat varies seasonally. Individuals may roost in caves, culverts, bridges, hollow trees, and occasionally houses. In Florida, most of the known maternity sites are located in caves. Hollow trees and manmade structures also serve as maternity sites, but the prevalence and importance of these to the population is not fully understood.

This species is not listed at the FWC or federal level and it triggers 2 of the 6 prioritization parameters (priorities table). However, this species has experienced significant declines in the past 50 years. Models indicate 588 acres of potential habitat within current natural communities on CWEA, 233 acres on JBBPWEA, and 322 acres on POWEA. If management can restore all natural communities, 596 acres would be available on CWEA, 235 acres on JBBPWEA, and 346 acres on POWEA.

Southeastern bats are not typically considered management dependent and the opportunity to influence this species on these WEAs is low. Furthermore, most of the potential habitat on WEAs in the Brooksville area is upland pine or sandhill natural communities. Though southeastern bats may use these natural communities, the value to southeastern bats is not well understood, and they are not considered optimal habitat. Given the low amount of primary foraging habitat and the distance of these WEAs from known roost sites, there is a limited opportunity to support southeastern bats on these WEAs, and low opportunity to affect the regional population.

3.3 Other Listed and 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 these WEAs, 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 Focal and Imperiled Wildlife Species

American Alligator - The American alligator (*Alligator mississippiensis*) was documented on CWEAs. The alligator is only listed due to similarity of appearance to other listed crocodilians; alligator populations are not imperiled. Ongoing management to maintain healthy wetland habitats should ensure the continued existence of the alligator on these WEAs.

Short-tailed Snake - The short-tailed snake was documented in sandhill on CWEA's Nature Center tract during herpetofauna surveys in the 1990s. At that time, this capture was only the second record for the species from Hernando County. Since then, short-tailed snakes have been documented twice on the Nature Center tract, in 2000 and 2010. An individual was documented on Citrus WMA in May 2009. Little is known about the habitat requirements of this species, including the potential impact of land management. Opportunistic observations should be documented and reported (Section 5.2.4 and 6.1.4)

3.3.2: Rare Plants

While no formal rare plant inventory has been conducted, at least 6 imperiled plant species have been documented. The USFWS lists the Brooksville bellflower (*Campanula robinsiae*), and Cooley's water-willow (*Justicia cooleyi*) as endangered, and have developed a recovery plan for these species. Florida Department of Agriculture and Consumer Services (FDACS) lists the Florida spiny pod (*Matelea floridana*; also known as milkvine) and incised agrimony (*Agrimonia incisa*) as endangered. The FDACS lists the Florida mountain-mint (*Pycnanthemum floridanum*) and rainlily (*Zephyranthes atamasca*; also known as Treat's zephyr-lily and atamasco lily) as threatened. The protections afforded plants by existing on conservations lands, in conjunction with management actions considerate of the needs of these species, will continue to maintain habitat for these and other rare plants. As such, these species should persist under current management on these WEAs.

While planned management is compatible with the needs of most imperiled plants, contracting for a rare plant inventory is suggested. This will require additional resources. The measurable objective is:

1) Seek funding to allow for contracting for the completion of a rare plant inventory on all 3 WEAs.

Brooksville Bellflower - The Brooksville bellflower grows on the edge of wet prairie near pasture or grassy slopes. The USFWS completed a 5-year review of the species in 2010; this document has some of the most recent information on the species. There are only 4 known populations, and 1 possible location. One of these populations occurs just north of the Big Pine tract on the portion of Burn's Prairie that extends into the pasture that the USDA owns and manages. Initial searches for the Brooksville bellflower on the Big Pine portion of Burn's Prairie were unsuccessful, possibly due to dry conditions at the time of the search. Searches in 2010 did locate the species, which also has 3 locations on Hillsborough River

State Park, in Hillsborough county. Due to the extreme rarity of this plant, any efforts to restore the natural community or control exotics in and around Burns Prairie should take potential populations of the Brooksville bellflower into account.

Cooley's Water-willow – The Cooley's water willow grows in hardwood forests, on hills or sometimes situated on low rises in wet hammocks or swamps. The USFWS completed a 5-year review of the species in 2010; this document has some of the most recent information on the species. More common than the Brooksville bellflower, there are over 12 documented populations, including sites in the WSF. Cooley's water-willow occurred at the same location on Big Pine as the Brooksville bellflower, but has not been found at this site in recent years. Due to the extreme rarity of this plant, any efforts to restore the natural community or control exotics in and around Burns Prairie should take potential populations of Cooley's water willow into account.

Florida spiny pod - The Florida spiny pod occurs in uplands on both the Nature Center and Big Pine tracts of CWEA, and on POWEA. Often found in open, sunny habitat, this plant probably benefits from frequent fire. Due to the similarity in appearance to air potato, any staff or contractors involved in exotic control should be made aware of the presence of the Florida spiny pod on the area.

Incised Agrimony – The incised agrimony is found in longleaf pine-oak communities and appears to benefit from fire. It can occur in wetter habitats, and may benefit from disturbance.

Florida Mountain-mint – The Florida mountain mint is found in wet depressions in pine flatwoods, wet prairies, and floodplain forest. It has been documented in 4 locations on Big Pine, but its current status on the area is unknown.

Rainlily – The rainlily is a wetland species occurring in mixed forests, moist clearings, meadows, and moist to wet pastures. It has been documented in 2 locations on Big Pine, but its current status on the area is unknown.

Section 4: Land Management Actions and Considerations

Models identified potential habitat for 18 focal species on these WEAs (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 prescribed fire methods that produce a mosaic of burned and unburned areas, 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 these WEAs 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 MUs with the highest possibility of success, or MUs most critical for the conservation of a species on these WEAs. 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.

Workshop participants agreed on the need for 1 SMA on CWEA, to evaluate the potential for basin marsh restoration. Staff developed SMA-specific goals and objectives to guide management for the SMA. We define goals and objectives in Section 1.

Section 4.1.1 CWEA Basin Marsh Restoration SMA

The purpose of this SMA is to investigate the potential for restoration for May's Prairie and Burn's Prairie on CWEA (Figure 1). Both are basin marshes that have been dry in recent years. May's Prairie, on the Nature Center tract, is dominated by grasses, and is in relatively good condition except for chronic drought, and excess muck. The accumulation of muck on May's Prairie is cause for management concern because of muck's tendency to burn slowly, over several days, and creating smoke management issues, which limits the use of prescribed fire. Burn's Prairie, on the Big Pine tract, is heavily encroached with hardwoods. Burn's Prairie is located along a property boundary on the Big Pine Tract, and the same concerns for muck apply here, increasing the difficulty of restoring the prairie with prescribed fire. We will work with staff in the Aquatic Habitat Restoration and Enhancement subsection (AHRES) to determine if restoration actions are appropriate and feasible.

Restoring these marshes could benefit focal and listed species such as wading birds, Florida sandhill cranes, gopher frogs, and possibly the Brooksville bellflower.

SMA Goal: Enhance habitat conditions for a number of focal species that use the basin marsh natural community.

SMA Objective 1: By the end of 2013, coordinate with AHRES to evaluate if restoration is appropriate and feasible.

SMA Objective 2: If determined to be appropriate and feasible, seek funding for and initiate restoration when resources are available.

Description of the SMA: This SMA contains 43 acres of basin marsh natural community in MU 13 on the Nature Center Tract (referred to as May's Prairie) and 14 acres of basin marsh natural community in MU 997 on the Big Pine Tract (referred to as Burn's Prairie). May's Prairie is grassy with little to no hardwoods in the marsh but it has been dry for several years and has a deep muck layer. Burn's Prairie is dominated by hardwoods and is dry with a deep muck layer.

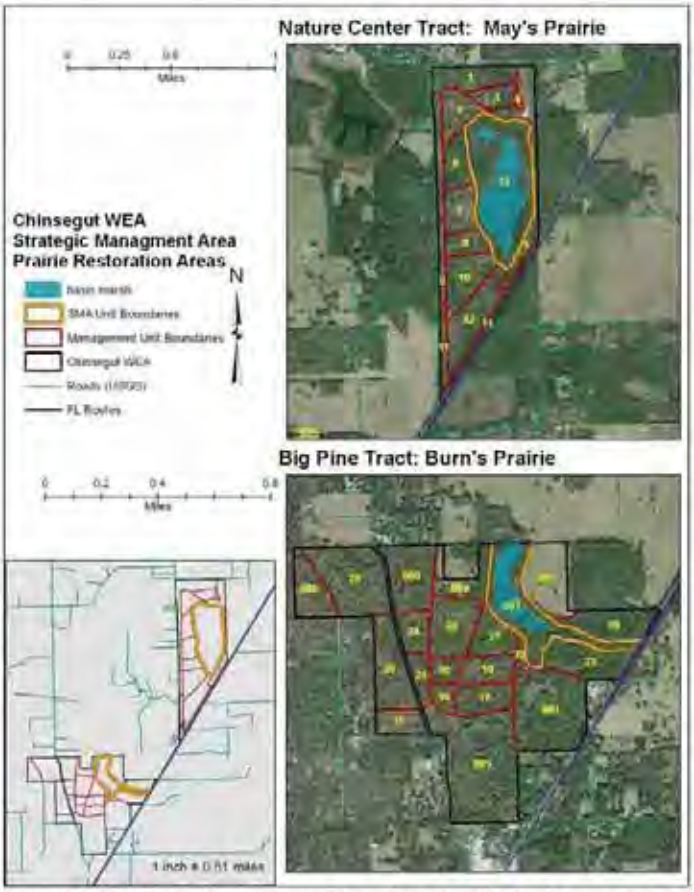


Figure 1. Strategic Management Area for potential basin marsh restoration on CWEA.

Strategy: Because specific actions to enhance or restore the basin marsh are uncertain at this time, the strategy for this SMA is to initiate discussion on what enhancements are feasible, determine the potential cost of the project, and identify steps managers will take to affect restoration, if appropriate and feasible. Restoration and management of these marshes with prescribed fire alone are difficult because of smoke management concerns when burning muck. Managers will work with staff in the AHRES to assess the marshes and outline potential steps to take toward restoration. In order for managers to continue to focus efforts on increasing prescribed fire acreage and intervals on these WEAs, as well as completing management objectives on CWMA, it is critical that any restoration activities determined to be appropriate be conducted by a contractor and that managers receive assistance with administrative responsibilities involved in contract management.

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 4) target a range in values for various habitat attributes within actively managed communities. However, if a focal species requires a different range in habitat attributes than is reflected in the area-wide DFCs, or depends on a vegetative attribute that is not currently monitored on these WEAs, 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 different range of DFC values than the statewide or 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 parameter definitions have changed since the OBVM workshops for CWEA and POWEA. Additionally, the OBVM workshops 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. As such, WCPR workshop participants compared the attribute values on references sites to the previously defined DFCs. At the WCPR workshop, participants agreed use of the reference sites values would best meet the needs of the focal species. As such, Table 4 reflects the recommended OBVM DFCs for these WEAs.

Table 4. Desired Future Conditions for specific vegetative attributes in actively managed natural communities at CWEA, JBBWEA, and POWEA, as identified via the WCPR workshop process.

Sandhill Attributes	DFC Value Range	Upland Pine Attributes[1]	DFC Value Range
Basal Area of Pine (sq ft per acre)	20-60	Basal Area of Pine (sq ft per acre)	20-80
Non-Pine Stem Density	≤3	Pine Regeneration	>0
Subcanopy (stems within 7m radius)	≤1	Non-Pine Stem Density	≤1
Average Max Serenoa Height (ft)	≤3	Subcanopy (stems within 7m radius)	≤1
Serenoa Cover (%)	≤5	Average Max Serenoa Height (ft)	≤3
Serenoa Petiole Density >3ft	0	Serenoa Cover (%)	≤5
Shrub Cover (%)	10-20	Serenoa Petiole Density > 3ft	0
Shrub Stem Density >3 ft	0	Average Maximum Shrub Height (ft)	≤2
Maximum Shrub DBH (in)	≤1	Shrub Cover (%)	≤10
Bare Ground Cover (%)	1-10	Shrub Stem Density >3 ft	≤1
Herbaceous Cover (%)	≥25	Maximum Shrub DBH (in)	<0.5
Wiry Graminoid Cover (%)	≥10	Bare Ground Cover (%)	≤5
Exotic Plant Cover (%)	0	Herbaceous Cover (%)	≥50
Weed Cover (%)	≤2	Wiry Graminoid Cover (%)	≥25
		Exotic Plant Cover (%)	0
		Weed Cover (%)	≤2

[1] Upland Pine occurs only on CWEA.

4.3: Further Land Management Considerations

Most generalist or wide-ranging species benefit from management that maintains or restores the structure and function of the 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 these WEAs continue to fulfill their role in the conservation of these species.

4.3.1: Gopher Frog

Gopher frogs frequently move between wetland breeding ponds and adjacent uplands. Do not place new firebreaks or roads along wetland ecotones because they can alter or destroy the herbaceous component of pond margins preferred by this species and other amphibians. Wet-lining can be an alternative to mineral firebreaks around wetlands if necessary; however, it is preferable to allow fire to burn through the wetland. Use prescribed fire as the primary tool to remove shrubs and other thick vegetation from pond margins; use mechanical and chemical treatments sparingly to reduce effects on pond-breeding amphibians. Because it is important to maintain potential breeding ponds in good condition, minimize soil disturbance within 500 yards of potential breeding ponds.

Growing season (April–September) burns, preferably after April, are more beneficial to the gopher frogs than dormant season (October–March) burns. Growing season burns are more effective at reducing shrub cover and litter in the wetland basin, stimulating the growth of herbaceous emergent vegetation, enhancing the wetland to upland ecotone, and stimulating the reproduction of wiregrass in the surrounding uplands. The most beneficial time to burn is when the wetland is dry. While growing season fires are preferred, a burn during dormant season is preferable to not burning.

4.3.2: Eastern Indigo Snake and Florida Pine Snake

Large upland snakes such as the eastern indigo and Florida pine snake are relatively wide-ranging and elusive. Ongoing land management activities will enhance the suitability of habitat for this species, but also could be directly detrimental. When using heavy equipment during land management activities, it is important to avoid direct mortality. When practical, keep heavy equipment at least 25 feet from areas with a high density of pocket gophers mounds or gopher tortoise burrows, as pine snakes regularly use gopher tortoise burrows and forage on pocket gophers. When conducting treatments, management should avoid removing stumps and leave some coarse woody debris as these structures provide cover for large snakes and their prey. While it is acceptable to pile and burn excess logging slash when necessary, ensure some debris remains in the stand. Creating brush piles can provide cover for these species if escape cover is lacking.

4.3.3: Gopher Tortoise

In areas where gopher tortoises occur, the timing of mechanical treatments should occur, when appropriate, during the dormant season to minimize negative impacts to gopher tortoises. Gopher tortoises are generally less active and remain in burrows during the winter months; therefore, mechanical equipment at this time will be less likely to crush or otherwise harm foraging tortoises. Because it is difficult for equipment operators to see hatchling tortoises, avoid mechanical treatments during September and October, when hatchlings are most abundant. However, also consider how timing of the treatment will affect management results, as growing season treatments frequently are more successful in creating the diverse groundcover required by the gopher tortoise. Regardless of timing, make efforts to minimize impacts to known burrows, whether active, inactive, or abandoned.

4.3.4: American Swallow Tailed Kite

Swallow-tailed kites exhibit high nest site fidelity; therefore, protect known nest sites from disturbance and alteration, and retain all of the tallest pines in the area of nest sites. Maintaining a 330-foot protective buffer around active nests during nesting season should 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. If kite activity is observed during nesting season, particularly if kites are observed carrying nesting material, mobbing, or congregating in groups of 3 or more, document this information and try to locate the nest. For information on how to locate nests, see:

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.

While kites have not been documented nesting on these WEAs, it is important to preserve future potential nest trees. This can be done by retaining the largest, oldest trees on the landscape during land management activities.

4.3.5: Bachman's Sparrow

Prescribed fire improves habitat quality for Bachman's sparrows, and is the primary land management tool recommended to promote habitat for this species on these WEAs. Suitable habitat can be created and maintained through frequent (≤3 year rotation) use of prescribed fire in sandhills and flatwoods. 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, apply the "sloppy chop" technique when using mechanical treatments to reduce understory. Follow mechanical treatment with a prescribed burn.

4.3.6: Brown-Headed Nuthatch

Brown-headed nuthatches have not been documented on these WEAs and current conditions are not optimal. However, management can be applied to increase habitat suitability, which will increase potential for future occupation by the species. This cavity-nesting species is dependent on the presence of snags for suitable nesting habitat. As such, retain snags during land management activities and evaluate the affect of management activities on snags to ensure that new snags are replacing consumed snags. Old short snags with flaking bark and soft wood, and old decaying oaks with a diameter at breast height of ≥10 inches are important nesting sites for this species. Take care to retain these particular types of snags.

If brown-headed nuthatches are documented in a specific MU, an effort should be made to avoid prescribed fire during February and March in the MU. The loss of nests early in the season frequently results in re-nesting attempts, and most re-nesting occurs during

periods of increased snake activity, which results in greater predation on nesting females, their eggs, and young. However, if this is the only time in which suitable conditions occur for a burn, it is better to burn than to avoid burning.

4.3.7. 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. For this reason, protect known nests from disturbance during land management activities by maintaining a 50-foot buffer around the nest during the nesting season. When practical, avoiding 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.

4.3.8. Florida Sandhill Crane

Prescribed fire improves the quality of upland habitat for this species. In known nesting areas, fires should occur outside of the nesting season (December - June) and after the young are able to fly. A 400-foot buffer around known nests should reduce the likelihood of disturbance, which decreases chances of abandonment or other negative impacts. Consider seasonality of wetland management activities to avoid flooding of nests or reductions in foraging habitat. To ensure management is consistent with the needs of this species, follow the management guidelines found at:

Stys, B. 1997. Ecology of the Florida sandhill crane. Florida Game and Fresh Water Fish Commission, Nongame Wildlife Program Technical Report No. 15. Tallahassee, Florida, USA.

4.3.9. Northern Bobwhite

The primary land management tool used to benefit northern bobwhite is the frequent use of prescribed fire. Ignite fires using a variety of firing techniques and environmental conditions with the goal of promoting a mosaic burn. Mosaic burns result in a patchwork of burned and unburned areas that meet different life history requirements for northern bobwhite. Growing season fires are generally preferred as they trigger flowering and viable seed production in many native species. Recent evidence suggests that the frequency of fire in flatwoods communities may be just as important as the seasonality of burn. Thus, if growing season burns do not occur, it is better to burn the unit during the following dormant season rather than waiting until the following summer.

Pine stands with basal areas >70 ft^2/acre should be thinned to trigger herbaceous growth and improve habitat conditions for this species. Ruderal areas can be managed for northern bobwhite through mechanical actions like mowing and or disking strips during the summer months to promote herbaceous growth.

4.3.10: Southeastern American Kestrel

Southeastern American kestrels are dependent on the occurrence of open upland habitats that contain a number of snags for nest sites and perches. While ongoing management will encourage the open foraging condition this species requires, make an effort to retain large snags during land management activities. The practice of snag management (i.e., protecting snags when safe and practical, promoting the creation of new snags in areas currently lacking) will benefit southeastern American kestrels. If nesting is documented, minimize the amount of mechanical activity within 500-feet of the nest during the nesting season and protect the snag during prescribed fire activities. For more information on management for kestrels, see:

Stys, B. 1993. Ecology and habitat protection needs of the southeastern American kestrel (*Falco sparverius paulus*) on large-scale development sites in Florida. Florida Game and Fresh Water Fish Commission, Nongame Wildlife Program Technical Report No. 13. Tallahassee, Florida, USA.

4.3.11: Southern Bald Eagle

State and federal law requires protection of bald eagles, including avoiding disturbance of nesting eagles. Managers will follow the management guidelines in the state management plan when planning activities within 660-feet of known eagle nests. Any new nests that are located will be documented. As this species is surveyed on a statewide basis, the bald eagle nest locator will be checked annually to determine if any new nests are detected via the survey. It is undesirable to have unnaturally dense stands around eagle nests. Continue to manage stands in which eagle nests occur, but avoid negative impacts to the eagles per the guidance of the management plan. During management activities, retain large, mature pines as potential future eagle nesting sites.

4.3.12: Wading Birds

It is possible that ongoing actions (e.g., prescribed fire, timber harvest) could have negative impacts on wading birds if the needs of the species are not considered during the planning of these actions. During the nesting season, providing a 330-foot buffer around nesting colonies will ensure adequate protection. Additionally, 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 where nests are constructed.

4.3.13: Florida Black Bear

Bears require large areas of dense vegetation for escape and denning cover. They also require a mosaic of dense cover and edge habitat, in both uplands and wetlands, which provides seasonally abundant forage. Efforts to restore flatwoods 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 forage availability of some berries and tubers.

Land management activities that provide a mosaic habitat structure, particularly with multi-aged palmetto patches, will provide escape cover and foraging habitat for bears. During mechanical treatment along the transitional zone between hardwood swamps and uplands, retain patches of dense vegetation to provide foraging cover for bears. Preserve connectivity between cypress heads, depressional wetlands, and hardwood swamps to allow bears to move across the area with appropriate cover.

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. Section 5.3 identifies research necessary to guide future management.

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 that are not present on a site, have limited dispersal capabilities, or are unlikely to occupy a site without reintroduction, may require species-specific management. Section 2 and Section 4 provide information on land management actions, such as prescribed fire or mechanical treatments. Section 5.2 covers monitoring related actions, including banding or tagging.

5.1.1: Southeastern American Kestrel Nest Box Program

Staff installed southeastern American kestrel nest boxes in January 2011 on POWEA and JBBWEA. Kestrels occupied a box on POWEA during the 2011 breeding season and occupied boxes on both areas in 2012. The area-specific purpose of the southeastern American kestrel nest box program is to promote nesting opportunities for this species on these WEAs. These boxes are maintained and monitored by area staff according to protocol developed by FWRI. The FWRI project is part of a statewide effort to erect and monitor southeastern American kestrel nest boxes. The project also provides for data collection about habitat structure near successful boxes, and researchers hope to use this data to gain a greater understanding of preferred nesting habitat. As monitoring identifies the need, staff will erect, maintain, and monitor new nest boxes.

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 these WEAs, the recommended monitoring

assesses species in all actively managed communities, and includes opportunistic monitoring for uncommon or hard to monitor species. Data collected will be reported to the regional conservation biologist for inclusion in the appropriate database developed for the WCPR program. The FWC will make monitoring data available to cooperating agencies and organizations, such as FNAI (Section 6.5).

This section lists the monitoring recommended for these WEAs. 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. 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 is included in the central database.

5.2.1: Gopher Tortoise Monitoring

The FWC will continue monitoring gopher tortoises on POWEA and JBBWEA, but monitoring on CWEA is not recommended at this time. The purpose of monitoring is to track the population through time. The FWC is a member of a Candidate Conservation Agreement to which members agree to implement a standard monitoring protocol, once one is agreed upon. Both POWEA and JBBWEA were last surveyed in 2006 and a repeat survey should be conducted as soon as a range-wide protocol is available. While the 2006 survey counted burrows and provided an index of population trend, the new protocol uses line-distance-sampling and burrow scoping to generate a population estimate.

5.2.2: Southeastern American Kestrel Nest Box Monitoring

The purpose of monitoring kestrel nest boxes is to determine the extent of nesting by southeastern American kestrels on these WEAs, and to track nesting in boxes over time. Monitoring is currently conducted using a protocol developed by FWRI. Brooksville Ridge volunteers, with assistance from CWMA staff and the regional conservation biologist, conduct monitoring activities. Data will be reported to the conservation biologist for submission to FWRI as part of the statewide study (Section 6.1.4).

5.2.3: Florida Mouse Monitoring

The purpose of monitoring for the Florida mouse is to determine whether the species is present on these WEAs. A formal protocol is available through the Conservation Biologist and includes instructions for designing a trapping event, collecting biological information, and determining where to locate trapping stations. The protocol should be adapted for use on these WEAs, focusing on how best to utilize limited staff time and resources. The recommended amount of trapping stations per 20 acres may not be appropriate for monitoring on these WEAs, and would be too time intensive to conduct with current resources. To determine if the species is present, staff will adapt the protocol to adequately survey MUs containing Florida mouse potential habitat on all 3 WEAs. In attempting to complete this monitoring, staff will seek the assistance of the Brooksville Ridge Volunteer program. The monitoring may not be possible without this or other assistance.

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 standardized monitoring protocol for wildlife and plants, staff ensures their data are compatible with other opportunistic observations. Documentation of opportunistic sightings including species, date of the observation, observer, approximate lat/long or appropriate MU, number of individuals, behavior, and habitat type should be forwarded to the regional conservation biologist. Monitoring data will be made available to cooperating agencies and organizations such as FNAI (Section 6.5). Record encounters with or sign of the following focal species:

- Gopher frogs
- Striped newts
- Eastern indigo snake
- Florida pine snake
- American swallow-tailed kite (aggregations of 3 or more birds on regular basis in one area during spring and any nesting activity)
- Bachman's sparrow (consider use of playback occasionally)
- Brown-headed nuthatch (consider use of playback occasionally)
- Cooper's hawk (only if exhibiting nesting or breeding behavior)
- Florida mottled duck (nesting females or females with juveniles)
- Florida sandhill crane (nesting and/or presence of flightless young)
- Limpkin
- Red-cockaded woodpecker
- Southern bald eagle (record and report new nests)
- Wading bird colonies
- Florida black bear
- Florida mouse
- Sherman's fox squirrel
- Southeastern myotis
- Any 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 these 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. Beyond these basic informational needs, workshop participants did not identify any species research specific to these WEAs.

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 section 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 people 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 animal populations on a WMA/WEA gives managers a way to gauge animal response to management. If this information is not shared with others, valuable data that can be used to assess statewide conservation efforts is 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 6.1.4: FWRI and Section 6.1.7: Florida's Wildlife Legacy Initiative.

Contacts:
Elsa Haubold, Species Conservation Planning Section Leader: (850) 488-3831
Robin Boughton, Avian Taxa Coordinator: (352) 732-1225
Melissa Tucker, Mammalian Taxa Coordinator: (386) 758-0525 ext 114
Bill Turner, Herpetofauna Taxa Coordinator: (850) 921-1143
Brad Gruver, Endangered Species Coordinator: (850) 488-3831
Deborah Burr, Gopher Tortoise Management Plan Coordinator: (850) 921-1019
Michelle Vandeventer, Bald Eagle Management Plan Coordinator: (941) 894-6675
Nancy Douglass, Regional Biologist: (863) 648-3200
Amy Clifton, Assistant Regional Biologist: (863) 648-3200

6.1.2: Division of Hunting and Game Management (HGM)

As the FWC has a statewide quail strategy, coordination with HGM is recommended if issues regarding northern bobwhite quail arise on these WEAs.

Contacts:
Joe Benedict, Waterfowl and Small Game Management Program Coordinator
(850) 488-5878
Greg Hagan, Northern Bobwhite Coordinator: (850) 893-4153 x 340

6.1.3: Aquatic Habitat Restoration and Enhancement Subsection (AHREs)

A number of focal and imperiled species on these WEAs depend on quality aquatic ecosystems to meet their life requirements (e.g., wading birds, limpkin). WHM should maintain contact with AHREs when conducting hydrologic evaluations to determine opportunities for hydrologic improvements on these WEAs. Additionally, staff will need to interaction with AHREs staff to determine the potential for conducting basin marsh restoration (Section 4.1.1).

Contact:
Steve Shea, Section Leader: (850) 488-3831
Bill Coleman, Biological Administrator: (352) 357-2398
Don Fox, Biological Administrator: (863) 462-5190
Beacham Furse, Biological Administrator: (863)462-5192
Steven Gornak, Biological Scientist: (863) 462-5190

6.1.4: Fish and Wildlife Research Institute (FWRI)

Area staff will cooperate with FWRI staff conducting monitoring and research for bald eagles by reporting new eagle nests through the FWC bald eagle database. Area staff will cooperate with Kevin Enge on herpetofauna monitoring and report documentation of these species to FWRI. Staff will communicate with Karl Miller on an assessment of the current location of kestrel nest boxes and on the identification of more suitable sites for additional nest boxes. Jim Rodgers administers the FWC's migratory bird scientific collection permit. Report handling of migratory birds covered by the permit to Mr. Rodgers in January of each year.

Contacts:
Tim O'Meara, Section Leader: (850) 488-3831
Jeff Gore, Biological Administrator (mammals): (850) 265-3677
Ron Bielefeld, Wildlife Biologist (Florida mottled duck): (772) 228-9125
Janell Brush, Avian Research Biologist (bald eagle): (352) 955-2081
Karl Miller, Biological Administrator (avian): (352) 955-2081
Kevin Enge, Associate Research Scientist (herps): (352) 055-2081
Walter McCown, Biological Scientist (bears): (352) 955-2081
Brian Scheick, Biological Scientist (bears): (352) 955-2081
Jim Rodgers, Research Administrator: (352) 955-2081

6.1.5: 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. Maintaining communication regarding current and future projects will be critical.

Contacts:
Scott Sanders, CPS Office Director: (850) 488-3831
Luis Gonzalez, Regional Coordinator: (863) 648-3200

6.1.6: Imperiled Species Management Section (ISM)

The Imperiled Species Management Section is responsible for the implementation and evaluation of imperiled species management and recovery plans. The ISM section has staff dedicated to management of the Florida black bear, one of the focal species identified in this Strategy.

Contacts:
Kipp Frohlich, Section Leader: (850) 922-4330
Dave Telesco, Biological Administrator (bears): (850) 922-4330
Mike Orlando, Biological Scientist (bears): (386) 965-2464

6.1.7: Florida's Wildlife Legacy Initiative (FWLI)

Monitoring animal populations on a WMA/WEA gives managers a way to gauge response to management. If this information is not shared with others, valuable data that can be used to assess statewide conservation efforts often is lost. FWLI can assist in identifying potential partners and assisting with collaborating efforts for monitoring and management. FWLI also might be a source of funding via the State Wildlife Grants program. Therefore, regular communication with this section will be valuable.

Contacts:
Katherine Haley, Program Coordinator: (850) 410-0656 x17297
Kelly Rezac, Wildlife Legacy Biologist: (863) 648-3200

6.1.8: Invasive Plant Management Section (IPM)

The Invasive Plant Management Section provides technical and financial assistance for 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.

Contact:
Bill Caton, Section Leader: (850) 617-9428
Donald Eggeman, Biological Administrator: (850) 410-0656
Danielle Schobl: (863) 534-7074

6.1.9: Office of Public Access and Wildlife Viewing Services (OPAWVS)

Chinsegut Conservation Center is staffed by the OPAWVS. The Center is an environmental education facility promoting fish and wildlife conservation through environmental education programs and nature-based recreational activities. The mission is to educate a broad array of Florida citizens and visitors on various topics including fish and wildlife, habitat conservation, and Florida's natural and cultural resources through an integrated curriculum.

Another OPAWVS asset is the Brooksville Ridge Volunteer Program. This program is based at the Chinsegut Conservation Center and is the primary outreach and education program for these WEAs. The Brooksville Ridge Volunteer Coordinator manages the program. Volunteer opportunities are numerous and include working at the Conservation Center; maintaining nature trails, facilities, and grounds; assisting with environmental education programs, festivals, and offsite public outreach; and participating in citizen science and wildlife surveys.

Contacts:
Anne Glick, Section Leader: (850) 922- 0664
Sharon Tatum, Volunteer Manager: (850) 921-1047
Annemarie Hammond, Volunteer Coordinator: (352) 753-3722
Pam Murfey, Chinsegut Nature Center Coordinator: (352) 753-3722

6.2: Southwest Florida Water Management District (SWFWMD)

The SWFWMD manages conservation areas near these WEAs. Opportunities to coordinate management actions, or initiate monitoring or research efforts for focal species should be discussed with SWFWMD staff.

Contact:
David Carr, Staff Environmental Scientist: (352) 540-0056

6.3: Florida Forest Service (FFS)

The FFS provides authorizations for prescribed burning and assists in controlling escaped fires. The FFS can provide assistance with timber management including administration of contracts for thinning operations. Staff should continue to coordinate prescribed fire and timber management activities with FFS. The FFS also manages the WSF. Staff should continue to coordinate with FFS for imperiled species management and monitoring on the WSF, as needed.

Contacts:
Tim Fox, Forest Area Supervisor, Withlacoochee District: (352) 754-6777
Justin Draft, Forester, Withlacoochee District: (352) 754-6777
Butch Mallett, Senior Forester: (850) 228-7809

6.4: Avian Research and Conservation Institute (ARCI)

ARCI surveys and keeps information on American swallow-tailed kite and short-tailed hawk populations. Location information on the swallow-tailed kite and short-tailed hawk, particularly nests or nesting behavior, should be shared with ARCI.

Contacts:
Dr. Ken Meyer, Avian Researcher: (352) 335-4151; meyer@arcinst.org
Gina Kent, Research Ecologist and Coordinator: (352) 514-5607;
ginakent@arciinst.org

6.5: 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. As such, staff should share information about tracked species occurrences on these WEAs with FNAI to ensure this information is included in their 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

6.6: Audubon of Florida

Audubon of Florida manages the Ahochee Hill Preserve, immediately north of POWEA. FWC will coordinate with Audubon for management activities on the boundary.

Contact:
Julie Brashears Wraithmell, Director of Wildlife Conservation: (850) 224-7546

Section 7: Beyond the Boundaries Considerations

CWEA, POWEA and JBBWEA are relatively small and do not have enough potential habitat to support independent, viable populations of most of these focal species. However, with appropriate management, these WEAs will continue to fulfill a conservation role in the surrounding landscape. Through proper management of sandhill and upland pine natural communities, these WEAs can help support a number of fire dependent species, such as the gopher tortoise, Bachman's sparrow, northern bobwhite, and Sherman's fox squirrel. Many of the wide-ranging focal species (e.g. Florida black bear, Cooper's hawk, southern bald eagle and American swallow-tailed kite) are not common on these WEAs, but will likely continue to occur because of the proximity of these WEAs to nearby conservation lands, including the WSF and CWMA. Furthermore, the surrounding regional network of

conservation lands will help ensure the persistence of many of the wide-ranging focal species.

The current management boundaries identified for these WEAs do not include all of the important habitat for focal species, such as the lands identified as Strategic Habitat Conservation Areas (SHCAs) for American swallow-tailed kite and Cooper's hawk. The FWC originally identified SHCAs in the Closing the Gaps in Florida's Wildlife Habitat Conservation System report. 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 the Closing the Gaps entitled "Wildlife Habitat Conservation Needs in Florida" identified new SHCAs. The American swallow-tailed kite, Cooper's hawk, Florida mouse, and striped newt are species for which an SHCA was identified within 3 miles of these WEAs. Although it is unlikely Florida will acquire all property identified in SHCAs, property acquisition and encouraging land use and management that is compatible with the needs of focal species should be a priority in these areas.

Models have projected that, by the year 2060, significant human population growth will occur in the area surrounding the complex of conservation lands that include these WEAs. While the current conditions on these WEAs and neighboring conservation lands provides an opportunity to further the conservation of many focal and imperiled species, changes in management or land use beyond the boundaries could have a significant effect. Any changes that further impede the ability to use prescribed fire would be detrimental to fire-dependent species such as Bachman's sparrow and gopher tortoise. Any changes that alter hydrologic resources would be detrimental to gopher frogs and wading birds. Species that require large home ranges, or are dependent on dispersal for maintaining a population, are affected by adjacent land management or development. Any one of these factors could limit the ability of these WEAs to fulfill their conservation role for focal wildlife species.

All focal species on these WEAs are dependent on the availability of suitable habitat on adjacent private and public lands. The largest nearby public lands are the WSF and CWMA. Because these WEAs are relatively small, the actions of adjacent landowners will determine if these focal species will persist on these WEAs. Staff should coordinate with CPS to ensure private landowners are informed about incentive programs that encourage conservation-based management, and that they receive the proper technical assistance to affect this management. CPS should ensure environmental commenting includes recommendations for compatible uses of lands adjacent to these WEAs.

Document Map

Species	Species Assessment	Land Management Actions	Species Management Actions	Species Monitoring	Research	Coordination
Gopher Frog	Section 3.2.1	Section 4.3.1		Section 5.2.4		Section 6.1.4
Eastern Indigo Snake	Section 3.2.2	Section 4.3.2		Section 5.2.4		Section 6.1.4
Florida Pine Snake	Section 3.2.3	Section 4.3.2		Section 5.2.4		
Gopher Tortoise	Section 3.2.4	Section 4.3.3		Section 5.2.1		Section 6.1.1
American Swallow-tailed Kite	Section 3.2.5	Section 4.3.4		Section 5.2.4		Section 6.4
Bachman's Sparrow	Section 3.2.6	Section 4.3.5		Section 5.2.4		
Brown-headed Nuthatch	Section 3.2.7	Section 4.3.6		Section 5.2.4		
Cooper's Hawk	Section 3.2.8	Section 4.3.7		Section 5.2.4		
Florida Sandhill Crane	Section 3.2.9	Section 4.3.8		Section 5.2.4		
Northern Bobwhite	Section 3.2.10	Section 4.3.9				
Southeastern American kestrel	Section 3.2.11	Section 4.3.10	Section 5.1.1	Section 5.2.2		Section 6.1.4, 6.1.9
Southern Bald Eagle	Section 3.2.12	Section 4.3.11		Section 5.2.4		Section 6.1.1
Wading Birds	Section 3.2.13	Section 4.3.12		Section 5.2.4		Section 6.1.3
Florida Black Bear	Section 3.2.14	Section 4.3.13		Section 5.2.4		Section 6.1.4, 6.1.6
Florida Mouse	Section 3.2.15			Section 5.2.3		Section 6.1.9
Sherman's Fox Squirrel	Section 3.2.16			Section 5.2.4		
Limited Opportunity Spp.	Section 3.2.17			Section 5.2.4		

13.9 Land Management Uniform Accounting Council Categories - FWC Operation Plan Fiscal Year 2013 – 2014

Land Management Uniform Accounting Council Categories and Subcategories

Resource Management

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.

Prescribed Burning. -- Prescribed burning activities and costs for assessing, planning, preparing, executing, evaluating and reporting. Also includes equipment, protective clothing and supplies.

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.

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.

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.

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.

Administration

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.

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.

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.

Support

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.

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.

Training/Staff Development. -- Staff training and development costs incurred in any facet of the agency's land management activities.

Vehicle Purchase. -- Acquisition of any vehicle purchased primarily for land management purposes or to support any category of land management activity by the agency.

Vehicle Operation and Maintenance. -- Costs of operating and upkeep of any vehicle used by the agency to support any category of land management activity.

Other. -- Any other support activity or cost not captured by other categories or subcategories.

Capital Improvements

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.

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.

Visitor Services/Recreation

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.

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.

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 Categories and FWC Activity Codes

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

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

Janet Butter Field Brooks WEA Operational Plan Cost Estimate - Fiscal year 2013 - 2014

Activity	Title	Man Days	Salary	Fuel Cost	Other	Total	Units
100	Administration	10.00	$2,004.40	$132.40	$500.00	$2,636.80	0
200	Resource Management	0.00	$0.00	$0.00	$0.00	$0.00	0
204	Resource planning	7.00	$1,403.08	$92.68	$1,500.00	$2,995.76	0
206	Prescribed burning - growing season	4.00	$801.76	$52.96	$6,125.00	$6,979.72	20
207	Prescribed burning - dormant season	4.00	$801.76	$52.96	$6,125.00	$6,979.72	20
208	Firebreaks	4.00	$801.76	$52.96	$1,000.00	$1,854.72	5
212	Exotic plant control (chemical)	4.00	$801.76	$52.96	$10,000.00	$10,854.72	10
235	Vegetation and plant surveys	2.00	$400.88	$26.48	$15,000.00	$15,427.36	0
289	Native vegetation management (mechanical)	3.00	$601.32	$39.72	$2,000.00	$2,641.04	5
928	FEM -- fences	0.00	$0.00	$0.00	$0.00	$0.00	0
All totals		38.00	$7,616.72	$503.12	$42,250.00	$50,369.84	60

13.10 Prescribed Burning Plan

Janet Butterfield Brooks Preserve Mitigation Park and Wildlife and Environmental Area
Prescribed Burning Plan

INTRODUCTION

Fires, naturally occurring or man-induced, are an integral part of the ecology of the southern pine (*Pinus spp.*) region (Miller 1963) and have maintained a fire-dependent plant community in the southeast for thousands of years. Exclusion of fire reduces nutrient cycling and can cause successional change in fire-adapted ecosystems (Monk 1968), often culminating in a climax hardwood community. In the absence of fire, hardwood species encroach on the landscape and inhibit the growth of shade-intolerant, fire-dependent plant species. Consequently, there is an adverse affect on fire-dependent wildlife such as the gopher tortoise.

Prescribed burning is used extensively in forestry and wildlife management for fuel reduction, brush control, disease and insect control, site preparation and wildlife habitat improvement and maintenance. It is a recommended tool for management of such game animals as white-tailed deer (*Odocoileus virginianus*), northern bobwhite (*Colinus virginianus*), mourning dove (*Zenaida macroura*) and wild turkey (*Meleagris gallopavo*) (U. S. Forest Service 1969, Stoddard 1971). The value of prescribed fire to these and other animals, such as raptors and some songbirds, is well documented (Givens 1962, Miller 1963, Stoddard 1963). Prescribed fire benefits wildlife by improving mobility through reducing underbrush density, promoting growth of succulent vegetation, and lowering browse to a usable feeding height for deer. Additionally, fire increases natural aesthetics and enhances growth and fruiting of important wildlife food plants, such as dewberries (*Rubus spp.*) and blueberries (*Vaccinium spp.*) (Halls 1977).

BURN OBJECTIVES

Prescribed fire will be used on Janet Butterfield Brooks Preserve Mitigation Park and Wildlife and Environmental Area (JBBPWEA) as a habitat management tool

exclusively or in conjunction with other management techniques to accomplish a variety of objectives. The primary objective for using prescribed fire on JBBPWEA is to restore and/or maintain fire-dependent native habitat communities. This will result in preserving native plant communities while simultaneously improving wildlife habitat. Secondary objectives for the use of prescribed fire include the maintenance of early successional habitats. Early successional habitats are important for many species of wildlife found on JBBPWEA.

The benefits that will be derived from prescribed burning on JBBPWEA include not only long term preservation of native plant communities and improved wildlife habitat but numerous others as well:

1) Reduction of fuel loads, which will help to prevent or mitigate effects of wildfires.
2) Enhancement of the areas aesthetics by controlling undesirable vegetation.
3) Control of exotic plant species.
4) Improved access.
5) Increased success of longleaf pine regeneration.

DESCRIPTION OF AREA

JBBPWEA is 318 acres and located in central Hernando County, northwest of Brooksville, Florida. JBBPWEA is bordered on the east by County Road 491 and shares part of its northern border with the Ficket Hammock Preserve, a county park owned and managed by Hernando County within the Annuteliga Hammock Florida Forever Project. JBBPWEA is 4.5 miles east of Chassahowitzka WMA, 7.5 miles west of Chinsegut WEA, and 10 miles south of the Citrus tract of Withlacoochee State Forest. The WEA is comprised primarily of sandhill habitat along with upland hardwood forest, mesic hammock, upland pine, mesic flatwoods, bottomland forest, depression marsh, and baygall. The Florida Natural Area Inventory (FNAI) has prepared a community classification map for

JBBPWEA showing the extent of each of these communities (Figure 1). The area of coverage and a portion of the FNAI description for each community follows.

***Sandhill (125 acres)*:**

Sandhill is characterized by a canopy of widely spaced pine trees, a sparse midstory of deciduous oaks, and a moderate to dense groundcover of grasses, herbs, and low shrubs occurring over a rolling topography with deep, well drained sands. Sandhill occurs on the southernmost and westernmost portions of the JBBPWEA. Portions of these sandhills that are receiving regular fire represent high quality examples of this natural community. The primary canopy tree is longleaf pine (*Pinus palustris*), with swamp laurel oak (*Quercus laurifolia*) and water oak (*Quercus nigra*) co-occurring in more fire excluded sections of this community. Many areas of sandhill at the JBBPWEA are currently in reference quality condition. Invasive exotic plant management and fire should be the tools used to manage this sensitive community.

Upland Hardwood Forest (59 acres):

Upland hardwood forest is a well-developed, closed-canopy forest dominated by deciduous hardwood trees on mesic soils in areas sheltered from fire. This community typically has a diverse assemblage of deciduous and evergreen tree species in the canopy and midstory, shade-tolerant shrubs, and a sparse groundcover. The moisture retentive properties of clayey soils 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, helping to maintain high relative humidity within the community. The diverse and well-developed canopy layer includes pignut hickory (*Carya glabra*), sugarberry (*Celtis laevigata*), sweetgum (*Liquidambar styraciflua*), southern magnolia (*Magnolia grandiflora*), eastern hophornbeam (*Ostrya virginiana*), loblolly pine (*Pinus taeda*), Carolina laurelcherry (*Prunus caroliniana*), swamp laurel oak (*Quercus laurifolia*), swamp chestnut oak (*Quercus michauxii*), water oak, and live oak (*Quercus virginiana*).

Mesic Hammock (53 acres):

Mesic hammocks are closed-canopy forests of temperate hardwood species occurring along wetlands or as islands within wetlands where they are sheltered from fire. Fire is rare, and when mesic hammocks burn they may convert to the pyrogenic community they border. The mesic hammock and upland hardwood forest at JBBPWEA account for the southern terminus of the unique Annutteliga Hammock. Canopy trees within the mesic hammock include red cedar (*Juniperus virginiana*), sweetgum, loblolly pine, sand live oak (*Quercus geminata*), swamp chestnut oak (*Quercus michauxii*), water oak (*Quercus nigra*), and live oak.

Upland Pine (43 acres):

Upland pine is a woodland or forest of widely spaced pines with an intermittent subcanopy layer of smaller pines and hardwoods, a sparse to moderate shrub layer, and a dense, species-rich groundcover of grasses and herbs that occurs on gently rolling terrain. Though typically present as low shrubs and occasional midstory trees, hardwood species can form a dense midstory (subcanopy and tall shrub layers) in areas that have experienced a lack of fire for many years. Fire frequency is closely tied to herb diversity and fire excluded upland pine typically has a sparse herb layer. Much of the upland pine at JBBPWEA is currently experiencing woody encroachment and extended periods of fire exclusion. This community supports a canopy of longleaf pine with included pignut hickory, sweetgum, southern magnolia, swamp laurel oak, swamp chestnut oak, and live oak.

Mesic Flatwoods (31 acres):

Mesic flatwoods is characterized by an open canopy of tall pines and a dense, low ground layer of low shrubs, grasses, and forbs. This community currently occupies 31 acres of JBBPWEA, a reduction of some 18 acres from its historic extent. Reduced fire frequency has allowed mesic hammock to advantageously expand into these former mesic flatwoods. Historically, mesic flatwoods gently

graded into hammock as dictated by irregular natural fire events. In the future, fires from the surrounding sandhill community should be allowed to creep into and spread through this community if fuels and weather permit. The moderate to well-developed canopy includes mature longleaf pine and loblolly pine.

Bottomland Forest (5 acres):

Bottomland forest is characterized as a low-lying, closed-canopy forest of tall, straight trees with either a dense shrubby understory and little ground cover, or an open understory and groundcover of ferns, herbs, and grasses. JBBPWEA supports two examples of this community. This community occurs as a transition situation between hydric communities and surrounding forested uplands. Canopy constituents of bottomland forest at JBBPWEA include sweetgum, swamp laurel oak, live oak, and cabbage palm (*Sabal palmetto*).

Depression Marsh (1 acre):

Depression marshes are typically small wetlands that are round in shape and are dominated by herbaceous species. These marshes often dry out during periods of low rainfall, and as a result, burn more frequently and completely than basin marshes. The substrate is usually sand with deepening peat toward the center. Because water depth in depression marshes usually increases toward the center, vegetation typically forms distinctive zones corresponding to water depth and permanence. Only one example of depression marsh exists at JBBPWEA. This community is currently surrounded entirely by mesic hammock. The sparse canopy of younger mature trees in the depression marsh includes sweetgum.

Baygall (1 acre):

Baygall is an evergreen, forested wetland of bay species with an open to dense tree canopy and is situated at the base of a slope or in a depression. This is a small community at JBBPWEA and occupies less than one acre. The canopy includes loblolly bay (*Gordonia lasianthus*) and sweetbay (*Magnolia virginiana*). Large gallberry (*Ilex coriacea*) is the primary shrub. Herbs are typically absent or

few in baygall and are represented here by two exotic species: old world climbing fern (*Lygodium microphyllum*) and Caesar's weed (*Urena lobata*). These species are found along the forest perimeter where offsite disturbance is high.

PRESCRIBED BURNING PROGRAM

A. Firelines

Natural features (e.g. drains and hammocks) and existing roads are utilized as firelines whenever feasible. Lines disked to mineral soil will be used when necessary. Nearby vegetation may be mowed or chopped to reduce fire intensity along firelines.

B. Size and Arrangement of Compartments

Seven compartments have been delineated on JBBPWEA, averaging 45 acres in size (range: 3-176; Figure 2). Burns will be conducted at 2-3 year intervals for most units. The size and arrangement of compartments is static since we have no plans to construct new firelines. When possible, fires will be allowed to meander and burn in a mosaic pattern so species with small home ranges, such as northern bobwhite, have nearby escape cover. If burn days are limited due to weather constraints, several burn units may be burned on the same day.

C. Type of Burn

Most burns will begin with a backfire along the downwind side of the unit. The rest of the unit will be burned with spot, flank, or headfires depending on fuel loads and desired fire intensity. Due to good fuel continuity and access on JBBPWEA, the majority of burns will be ignited using ground crews instead of aerial ignition.

D. Season and Time of Day

Initially, in compartments with heavy fuel loads, most prescribed burning will be conducted during the dormant season (October-March). When the

heavy fuel loads have been reduced, growing season (April-September) burns will be added to the rotation. Growing season burns will stimulate wiregrass (*Aristida stricta*) seed production and aid in wiregrass reestablishment. Most burning will be done during daylight hours. In general, fire conditions become most volatile in the mid-afternoon hours, so we will plan burns accordingly. If conditions allow we may conduct burns at night as well.

E. Optimal Weather Conditions

Natural communities within burn units will be evaluated beforehand to determine the desired wind direction. Areas we want to burn at a low intensity should be on the downwind side of the unit, and high intensity (scrub or encroaching hardwoods) on the upwind side whenever possible.

Areas surrounding the burn unit will also be used to determine the best wind direction. In general, we will favor winds that blow away from private property and areas where containment would be difficult should we have an escape.

Other parameters, such as time since last rain and desired relative humidity, will be prescribed based on fire objectives within the unit and containment concerns. We will not burn on days that are deemed too volatile or days in which we are not meeting our objectives.

F. Smoke Management

Direction, volume and dissipation of smoke from prescribed burning on JBBPWEA are of primary concern due to the proximity of smoke-sensitive areas. Areas that may be affected by smoke (or particulates carried by smoke) include Suncoast Parkway, County Road 491, County Road 476, and nearby residents.

To minimize smoke problems, preferred conditions will include a minimum mixing height of 1,700 feet and transport wind speed of 7 mph or more. We will favor winds that blow away from smoke-sensitive areas. Additionally, the use of backfires, as prescribed, will produce less smoke and consume fuel more completely than headfiring. Residual smoke problems (such as stumps, snags, or logs near state or county roads) will be promptly mopped-up and monitored to minimize smoke hazards.

Smoke management is difficult when night burning because smoke often stays close to the ground and smoke drift is difficult to predict. Additionally, smoke tends to seek low-lying areas (along streams and creeks). In general a surface wind speed of greater than 4 mph and relative humidity under 80 percent are recommended for night burns. Any night burning will be approached with caution and in close association with the Florida Forest Service (FFS) to avoid these problems.

G. Personnel

Under ideal conditions, burning can be conducted with a minimum crew of four. Most burns will be conducted with a crew size minimum of 4-6. Burn crew members will be assigned tasks according to their training, equipment, and burn requirements. Personnel from other state and federal agencies such as FFS, Florida Department of Environmental Protetction (DEP), and Southwest Florida Water Management District (SWFWMD) will be used if needed.

H. Equipment

All members of the fire crew will wear, at a minimum, the PPE required by FWC's Prescribed Burning and Wildfire Suppression Standards. Type V and VI engines, tractor-plows, farm tractors, 4-wheelers, and other equipment may be used as conditions require. Smoke caution signs for nearby roads will be deployed as necessary.

I. Permits and Notifications

A permit will be obtained from FFS on the afternoon before or the morning of the burn in accordance with the provisions of FS 590.125. Notifications of burning will be given to:

1. Hernando County Sherriff's Office and Fire Department
2. Residents of the surrounding areas that request notification
3. FWC LE/FHP dispatch (e-mail)
4. Southwest Regional Staff (e-mail)

J. Evaluation of Burn

Burns will be evaluated informally during and shortly after each burn by comparing burn objectives with burn effects. Objective Based Vegetation Monitoring (OBVM) data will be used to determine if the fire intensity is maintaining the desired vegetative composition and structure.

K. Special Considerations

Special attention will be given to ensure our burns do not adversely affect adjacent landowners and nearby roads. We will minimize smoke impacts on nearby roads and residents by utilizing a smoke screening map and responding to changing weather conditions during the burn. Attention will be given to the safety of surrounding residences. The firebreaks near residences will be reinforced; a pumper unit and/or a fireplow will be stationed nearby to expedite response time to the area if required.

Sensitive wildlife resources will be depicted on burn maps and protected. Infrastructure within the burn unit such as signs and gates will be depicted on burn maps and protected as well.

LITERATURE CITED

Givens, L. S. 1962. Use of fire on southeastern wildlife refuges. Proc. Annu. Tall Timbers Fire Ecol. Conf. 1:121-126.

Halls, L. K. 1977. Southern fruit-producing woody plants used by wildlife. U. S. For. Serv. Gen. Tech. Rep. SO-16.

Miller, H. A. 1963. Use of fire in wildlife management. Proc. Annu. Tall Timbers Fire Ecol. Conf. 2:19-30.

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Stoddard, H. L. 1971. Wildlife habitat management handbook--southern region. FSH 2609.23R, U. S. For. Serv., Atlanta, Ga.

U. S. Forest Service. 1969. Wildlife Habitat Improvement Handbook. FSH 2609.11, U.S. For. Serv., Washington, D.C.

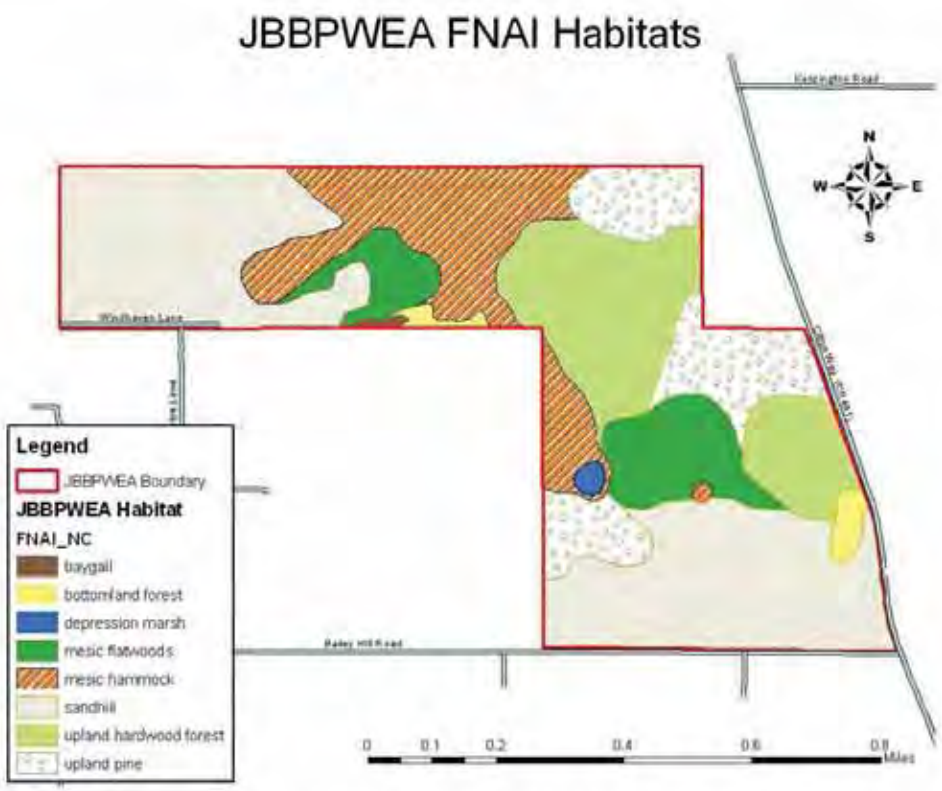

Figure 1. Janet Butterfield Brooks Preserve WEA Habitat Classifications

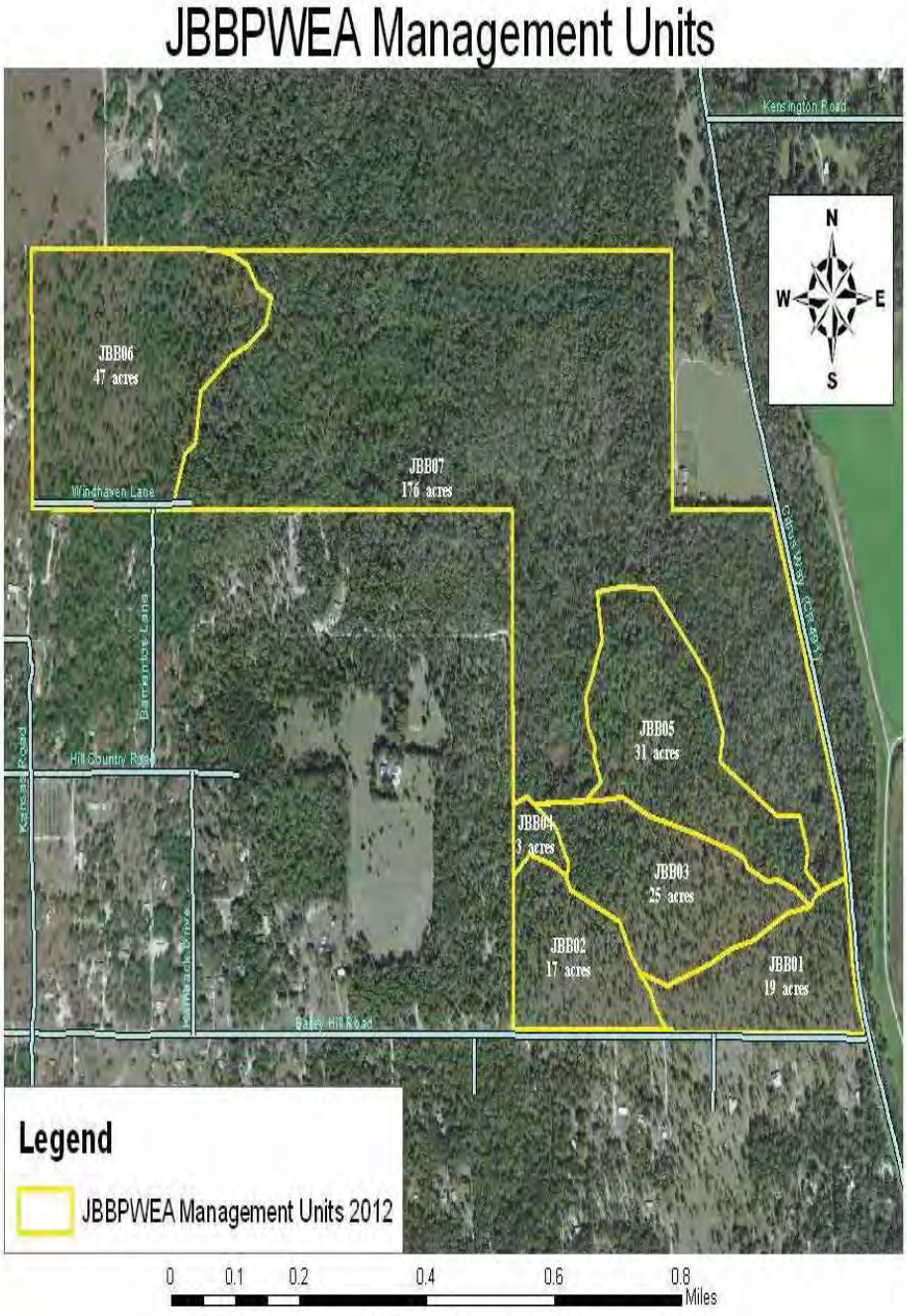

Figure 2. Janet Butterfield Brooks Preserve WEA Management Units

13.11 Arthropod Control Plan

Florida Department of Agriculture and Consumer Services
Division of Agricultural Environmental Services

CHARLES H. BRONSON
COMMISSIONER

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

Chapters 388.4111, F.S. and 5E-13.042(4)(b), F.A.C.
Telephone: (850) 922-7011

For use in documenting an Arthropod control plan for lands designated by the State of Florida or any political subdivision thereof as being environmentally sensitive and biologically highly productive therein.

Name of Designated Land.

Janet Butterfield Brooks Wildlife Environmental Area

Is Control Work Necessary: ☒ Yes ☐ No

Location:
South of Centralia Road (CR 476), East of Suncoast Parkway (589 toll), West of Citrus way (CR 491)

Land Management Agency:
Florida Fish and Wildlife Conservation Commission

Are Arthropod Surveillance Activities Necessary? ☒ Yes ☐ No
If "Yes", please explain:
Before any treatment is done we need to define and verify the problem by using surveilance measures.

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:

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Arthropod Species for Which Control is Proposed:
Aedes vexans, Ae. infirmatus, Ae. atlantics, Anopheles crucians, An. quadrimaculatus.

Proposed Larval Control:

Proposed larval monitoring procedure:

Are post treatment counts being obtained: ☒ Yes ☐ No

Biological Control of Larvae:

Might predacious fish be stocked: ☐ Yes ☒ No

Other biological controls that might be used:

Material to be Used for Larvaciding Applications:

(Please Check All That Apply:)

☒ Bti
☒ Bs
☒ Methoprene
☐ Non-Petroleum Surface Film
☐ Other, please specify:

Please specify the following for each larvacide:

Chemical or Common name: Mosquito dunks, Altosid

☒ Ground ☐ Aerial

Rate of application: Label rates.

Method of application: Hand distribution, truck-mounted spraying.

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Proposed Adult Mosquito Control:

Aerial adulticiding ☐ Yes ☒ No

Ground adulticiding ☐ Yes ☒ No

Please specify the following for each adulticide:

Chemical or common name: NA

Rate of application: NA

Method of application: NA

Proposed Modifications for Public Health Emergency Control: Arthropod control agency may request special exception to this plan during a threat to public or animal health declared by State Health Officer or Commissioner of Agriculture.

Adulticidng will only be used while the area is declared by the State Health Department as Medical Emergency.

Proposed Notification Procedure for Control Activities:
Notify the land user by phone or fax, notify the public by advertising in newspapers and County news channel.

Records:

Are records being kept in accordance with Chapter 388, F.S.:

☒ Yes ☐ No

Records Location: Hernando County Mosquito Control Department, 1525 E.Jefferson St, Brooksville, FL 34601.

How long are records maintained:
Three years.

Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?
No.

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed:
No.

Include proposed operational schedules for water fluctuations:
No.

List any periodic restrictions, as applicable, for example peak fish spawning times.
No.

Proposed Modification of Aquatic Vegetation:
No.

Land Manager Comments:
Notify FWC when larvaciding application will be conducted.

Arthropod Control Agency Comments:

D. J. B. 2/27/14
Signature of Lands Manager or Representative Date

2/11/13
Signature of Mosquito Control Director / Manager Date

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13.12 FNAI 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

April 11, 2014

David Alden
Land Conservation & Planning
Florida Fish and Wildlife Conservation Commission
Tallahassee, FL

Dear David,

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 GIS database to FWC on a quarterly update basis;
- The FNAI GIS data will be available to FWC staff for reference and incorporation as required in management plan review and preparation.

Our database manager, Frank Price, currently provides this update via ftp to FWC staff on a quarterly basis. Current FWC contacts for the quarterly update are Beth Stys and Ted Hoehn. We are pleased to continue this beneficial collaboration with the Florida Fish and Wildlife Conservation Commission.

Sincerely,

Gary Knight

Gary Knight
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

13.13 Hernando County Letter of Compliance with Local Government Comprehensive Plan

Board of County Commissioners

Hernando County

PLANNING DEPARTMENT

Government Center / Administration Building
20 North Main Street, Room 262
Brooksville, Florida 34601-2828

Planning - (352) 754-4057
Fax - (352) 754-4420
E-Mail: planning@co.hernando.fl.us

February 19, 2015

David Alden
Florida Fish and Wildlife Conservation Commission
Bryant Building
620 South Meridian Street
Tallahassee, FL 32399-1600

RE: Janet Butterfield Brooks Wildlife and Environmental Area (JBBWEA) Management Plan: Compliance with Local Comprehensive Plan

Dear Mr. Alden:

Thank you for your email of February 17, 2015 transmitting the link to the referenced draft management plan. We have reviewed the plan and find it consistent with the Hernando County Comprehensive Plan, particularly with respect to future land use and planned management activities. We are pleased to know you are completing this important step towards long-term management of this area. Should you have any questions or need additional information or assistance, please do not hesitate to contact me at 352-754-4057, ext. 28016, or, pmcneese@hernandocounty.us. Thank you!

Sincerely,

Patricia L. McNeese

Patricia L. McNeese, AICP
Planner II

cc: Paul Wieczorek, Senior Planner
Dawn Velsor, Lead Environmental Planner
Jim King, Conservation Lands Specialist
Mary Elwin, Planning & Development Operations Assistant

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