A Management Plan for

Judges Cave

Wildlife and Environmental Area

2017 - 2027

Jackson County, Florida

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

A Management Plan

for

Judges Cave Wildlife and Environmental Area

Jackson County, Florida

Owned and Managed by the Florida Fish and Wildlife Conservation Commission

May 2017

Approved Thomas H. Eason

Dr. Thomas Eason Ph.D.
Director, Division of Habitat and Species Conservation

LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

Lead Agency: Florida Fish and Wildlife Conservation Commission (FWC)
Common Name of Property: Judges Cave Wildlife and Environmental Area
Location: Jackson County, Florida
Acreage Total: 37.3 acres
Acreage Breakdown:

Land Cover Classification	Acres	Percent of Total Area
Upland Hardwood Forest	14.75	40%
Alluvial Forest	12.93	35%
Floodplain Swamp	8.81	24%
Terrestrial Cave	<1	<1%

*GIS-calculated acreage for land cover classification varies slightly from actual total acreage.
Warranty Deed: WE-83-1 (Appendix 11.1)
Use: Single X Management Responsibilities:
Multiple __ Agency FWC Responsibilities
LEAD, SUBLESSEE (Wildlife and Environmental Area, resource protection, law enforcement)
Designated Land Use: Wildlife and Environmental Area
Sublease (s): None
Encumbrances: The Nature Conservancy warranty deed conveyance limitation agreement
Type Acquisition: Fish and Wildlife Habitat Program
Unique Features: Natural: Judges Cave, contains a terrestrial/aquatic cave housing an assemblage of imperiled wildlife species and boarders the Chipola River.
Archaeological/Historical: None documented within the area.
Management Needs: Habitat restoration and improvement; exotic and invasive species maintenance and control; imperiled species habitat maintenance, enhancement, and restoration.
Acquisition Needs/Acreage: Approximately 105 acres FWC Additions and Inholdings list; 12,447 acres remaining in the Middle Chipola River Florida Forever Project (Figure 4).
Surplus Lands/Acreage: None
Public Involvement: None

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

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

Land Management Plan Compliance Checklist

Required for State-owned conservation lands over 160 acres

Section A: Acquisition Information Items			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
1	The common name of the property.	18-2.018 & 18-2.021	i, 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	3-4
4	The legal description and acreage of the property.	18-2.018 & 18-2.021	i, 1-3, Appendix 11.1
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	6-10
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	33-35
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	44-48
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	5, 11
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)	3
10	Proximity of property to other significant State, local or federal land or water resources.	18-2.021	4-5, 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	33-35
12	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	31-32
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	33-35
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	3-4, 49
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	31, 43-44, 49, 54

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	43-49
17	A determination of the public uses and public access that would be consistent with the purposes for which the lands were acquired.	259.032(10)	32-34
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	32-34
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	Appendix 11.11
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	11-14, 22, 28-31, 33-34, 37-42, 43-51
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	N/A
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	N/A
23	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	34

*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	N/A
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)	N/A
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)	N/A
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	N/A
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)	N/A
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	N/A
30	Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.	18-2.021	N/A
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	N/A

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	11-14, Appendix 11.3
33	Insert FNAI based natural community maps when available.	ARC consensus	22
34	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding outstanding native landscapes containing relatively unaltered flora, fauna and geological conditions.	18-2.021	14, 17-22

35	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding unique natural features and/or resources including but not limited to virgin timber stands, scenic vistas, natural rivers and streams, coral reefs, natural springs, caverns and large sinkholes.	18-2.018 & 18-2.021	14, 17-22, 28-32
36	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.	18-2.021	31
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	31
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	21-28
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	26-27, 30
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	30, Appendix 11.5
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)	35-63
42	Habitat Restoration and Improvement	259.032(10) & 253.034(5)	
42-A.	Describe management needs, problems and a desired outcome and the key management activities necessary to achieve the enhancement, protection and preservation of restored habitats and enhance the natural, historical and archeological resources and their values for which the lands were acquired.	↓	35-63
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.		51-57
42-C.	The associated measurable objectives to achieve the goals.		51-57
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.*		35-63
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.		59-61, Appendix 11.7
43	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. *See footnote.*	253.034(5)	14-22
44	Sustainable Forest Management, including implementation of prescribed fire management	18-2.021, 253.034(5) & 259.032(10) ↓	

44-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).		35-63
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		51-57
44-C.	Measurable objectives (see requirement for #42-C).		51-57
44-D.	Related activities (see requirement for #42-D).		35-63
44-E.	Budgets (see requirement for #42-E).		59-61, Appendix 11.7
45	Imperiled species, habitat maintenance, enhancement, restoration or population restoration	259.032(10) & 253.034(5)	
45-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	35-63
45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		51-57
45-C.	Measurable objectives (see requirement for #42-C).		51-57
45-D.	Related activities (see requirement for #42-D).		35-63
45-E.	Budgets (see requirement for #42-E).		59-61, Appendix 11.7
46	***Quantitative data description of the land regarding an inventory of exotic and invasive plants and associated acreage. *See footnote.*	253.034(5)	42
47	Place the Arthropod Control Plan in an appendix. If one does not exist, provide a statement as to what arrangement exists between the local mosquito control district and the management unit.	BOT requirement via lease language	Appendix 11.10
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).	↓	35-63
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		51-57
48-C.	Measurable objectives (see requirement for #42-C).		51-57
48-D.	Related activities (see requirement for #42-D).		35-63
48-E.	Budgets (see requirement for #42-E).		59-61, Appendix 11.7

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*		28-31

	appropriate managing agencies that have been notified of the proposed plan.	18-2.018 & 18-2.021	
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	28-31
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	28-31
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. *See footnote.*	253.034(5)	28-31
53	Hydrological Preservation and Restoration	259.032(10) & 253.034(5)	
53-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	43
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		51-57
53-C.	Measurable objectives (see requirement for #42-C).		51-57
53-D.	Related activities (see requirement for #42-D).		35-63
53-E.	Budgets (see requirement for #42-E).		59-61, Appendix 11.7

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	31
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	31, 43-44
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	43-44, Appendix 11.9
57	Cultural and Historical Resources	259.032(10) & 253.034(5)	
57-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	35-63
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		51-57
57-C.	Measurable objectives (see requirement for #42-C).		51-57
57-D.	Related activities (see requirement for #42-D).		35-63
57-E.	Budgets (see requirement for #42-E).		59-61, Appendix 11.7

**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)	44
59	Capital Facilities and Infrastructure	259.032(10) & 253.034(5)	
59-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	51-57
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		35-63
59-C.	Measurable objectives (see requirement for #42-C).		35-63
59-D.	Related activities (see requirement for #42-D).		51-57
59-E.	Budgets (see requirement for #42-E).		59-61, Appendix 11.7
60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034(5)	N/A
61	Public Access and Recreational Opportunities	259.032(10) & 253.034(5)	
61-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	51-57
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		35-63
61-C.	Measurable objectives (see requirement for #42-C).		35-63
61-D.	Related activities (see requirement for #42-D).		51-57
61-E.	Budgets (see requirement for #42-E).		59-61, Appendix 11.7

Section H: Other/ Managing Agency Tools			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
62	Place this LMP Compliance Checklist at the front of the plan.	ARC and managing agency consensus	ii-ix
63	Place the Executive Summary at the front of the LMP. Include a physical description of the land.	ARC and 253.034(5)	i
64	If this LMP is a 10-year update, note the accomplishments since the drafting of the last LMP set forth in an organized (categories or bullets) format.	ARC consensus	N/A
65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	51-57

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)	59-61, Appendix 11.7
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)	59-61, Appendix 11.7
68	A statement of gross income generated, net income and expenses.	18-2.018	59-61, Appendix 11.7

*** = 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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Management Plan Acronym Key

ADA	Americans with Disabilities Act
ARC	Acquisition and Restoration Council
BEBR	Bureau of Economic and Business Research
CAS	Conservation Action Strategy
CLIP	Critical Lands and Waters Identification Project
DACS	Department of Agriculture and Consumer Services
DEP	Department of Environmental Protection
DSL	Division of State Lands
FAC	Florida Administrative Code
FFAIAL	Florida Forever Addition and Inholding Acquisition List
FFS	Florida Forest Service
FLEPPC	Florida Exotic Pest Plant Council
FLUE	Florida Land Use Element
FNAI	Florida Natural Areas Inventory
FS	Florida Statute(s)
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Fish and Wildlife Research Institute
FWHAP	FWC's Fish and Wildlife Habitat Acquisition Program
GFC	Florida Game and Freshwater Fish Commission
GIS	Geographic Information Systems
IMPP	Internal Management Policies and Procedures
IPCC	Intergovernmental Panel on Climate Change
IWHRS	Integrated Wildlife Habitat Ranking System
LAP	Landowner Assistance Program
LMR	Land Management Review
LPIGD	Land Parcel Inventory of Geo-Database and Process
NWFWMD	Northwest Florida Water Management District
OBVM	Objective-Based Vegetation Management
OCPB	Optimal Conservation Planning Boundary
OFW	Outstanding Florida Waters
ORB	Optimal Resource Boundary
PUD	Planned Unit Development
RSPH	Rare Species Potential Habitat
SCHA	Strategic Habitat Conservation Areas
WCPR	Wildlife Conservation Prioritization and Recovery
WEA	Wildlife and Environmental Area
WMA	Wildlife Management Area

1 Introduction and General Information

Set just on the outskirts of the city Marianna, in Jackson County, sits the Judges Cave Wildlife and Environmental Area (JCWEA). Known for its terrestrial and aquatic cave system, this FWC managed area is approximately 37.3 acres in size, and conserves and protects many unique cavern features, and array of imperiled species. Lying just north of the Chipola River, JCWEA formally contained 1 of only 4 caves in Florida known to have a maternity colony of gray bats (*Myotis grisescens)*. This area is also only 1 of 10 caves in Florida regularly used as a maternity roost by the southeastern bat (*Myotis austroriparius)*. During breeding season Judges Cave can host around 30,000 bats, making it the fifth largest maternity roost for southeastern bats in the world.

With assistance from The Nature Conservancy (TNC), the FWC holds the title and has lead management authority over JCWEA. TNC originally acquired the area and donated JCWEA to the State of Florida in order to conserve the large maternity colonies of bats that use the cave on the area, and for the conservation of imperiled and common species.

Due to the sensitive nature of the cave located on JCWEA, there is no public access permitted on the area.

1.1 Management Plan Purpose

This Management Plan serves as the basic statement of policy and direction for the management of the JCWEA. It provides information including the past usage, conservation acquisition history, and descriptions of the natural and historical resources found on JCWEA. Furthermore, it identifies 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 JCWEA'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 of the Internal Improvement Trust Fund (Board of Trustees) of the State of Florida through the Florida Department of Environmental Protection's Division of State Lands (DSL), 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 (Appendix 11.2) 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.

Although the lands covered by this Management Plan are not titled to the Board of Trustees, this Plan is being submitted to the ARC and Board of Trustees for review for a variety of important reasons. Foremost among these, is that the FWC has determined that it is essential for all of the conservation areas that it manages, including those lands titled to agencies other than the Board of Trustees, to have conservation land management plans that are in conformance with the State's statutory framework and criteria for the development of management plans for state-owned conservation lands. This ensures that each conservation area that FWC manages has a comprehensive, consistent, accountable, land management plan that is developed under and meets the current ARC, Board of Trustees, and FWC planning framework and requirements.

1.1.1 FWC Planning Philosophy

The FWC's planning philosophy includes engaging area, district, and regional agency staff, as well as other 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 JCWEA Management Plan (Sections 5 – 7).

Furthermore, the FWC maintains transparency and accountability throughout the development and implementation of this Management Plan. A "living document" concept, which is accomplished by reporting on the objectives, management activities, and projects accomplished, 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

As noted above, the JCWEA is a 37.3 acre, rectangular shaped parcel, and is located in Marianna of Jackson County, Florida. JCWEA lies just north of the Chipola River, with the southwestern tip nearing the bank of the River (Figures 1 & 2). As shown in Figure 3, the area is situated within Section 35, Township 5N, Range 10W, in Jackson County, Florida.

JCWEA stretches from approximately a half mile south of Clayton Drive in Marianna, and a half mile west of Rolling Hills Lane, down to the Chipola River. JCWEA is also located about 1 mile east of State Road 167.

The JCWEA is not within an area of critical state concern.

1.3 Acquisition

As noted above, the JCWEA was acquired with the assistance of The Nature Conservancy (TNC), on January 11, 1983, and subsequently donated to the FWC, then the Game and Fresh Water Fish Commission (GFC). The FWC then established this area as JCWEA on March 11, 1983, and currently holds the title to all lands within the area.

1.4 Purpose for Acquisition of the Property

During January 1983, TNC deeded the 37.3-acre property, then known as the "Marianna Bat Cave", to FWC. The Warranty Deed states, "...Marianna Bat Cave, shall forever be held and maintained as a natural area for management as a wildlife preserve, without any disturbance whatever of habitat or plant or animal populations…Should the premises cease to be used solely as provided herein, then the property hereby conveyed to the State of Florida, Game and Fresh Water Fish Commission may be terminated by The Nature Conservancy…" TNC purchased this property for the sole purpose of protecting the maternity colony of gray and southeastern bats, and deeded the property to FWC for permanent protection.

1.5 Management Authority

The FWC is the designated lead managing agency for JCWEA under the authority granted by Lease Agreement Establishment Order WE 83-1 from TNC. Further management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 373, 375, 378, 379, 403, 487, 870, and 597 and of the Florida Statutes. These constitutional provisions and laws provide FWC the authority to protect, conserve, and manage the State's fish and wildlife resources.

1.6 Management Directives

The Lease Agreement Number WE 83-1 with FWC directs FWC to "maintain as a natural area for management as a wildlife preserve, without any disturbance whatever of habitat or plant or animal populations."

1.7 Title Interest and Encumbrances

On January 11th, 1983, TNC deeded the JCWEA to the FWC, granting FWC ownership and management authority for JCWEA. As stated previously, and in accordance with the Warranty Deed with TNC the FWC is instructed that, "should the premises cease to be used solely as provided…then the property hereby conveyed to the GFC (now FWC) may be terminated by the Nature Conservancy…" Therefore the FWC shall maintain and manage the JCWEA as a natural area, for the preservation of habitat, plant, and animal

populations, and TNC holds the right to terminate the agreement if the area is being managed for any other purpose than what is outlined in the original agreement.

Additional FWC 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, 375, 378, 379, 403, 487, 597, and 870 of the Florida Statutes. These laws establish the authority of the FWC with regard to protection and management of the State's fish and wildlife resources.

1.8 Proximity to Other Public Conservation Lands

The JCWEA is located in the vicinity of an extensive network of conservation lands, including the Chipola River Greenway and the Marianna Greenway, which are managed by the City of Marianna and Jackson County, as well as other conservation lands managed by the FWC, DEP, the Northwest Florida Water Management District (NWFWMD) and several private conservation organizations (Table 1).

Several Florida Forever projects are also located in the vicinity of the area shown in Table 2 and in Figure 4. Tables 1 and 2 list the Florida Forever projects and conservation lands within a 15-mile radius of the JCWEA, including lands managed by public and private entities, that conserve cultural and natural resources within this region of Florida. Most of the conservation lands listed in Table 1 are owned in full-fee by a public entity. However, some of these areas fall within a less-than-fee ownership classification, where the land is owned and being managed by a private landowner while a public agency or not-for-profit organization holds a conservation easement on the land.

Table 1. Conservation Lands within a 15 miles Radius of JCWEA

State of Florida	Managing Agency
Apalachee Wildlife Management Area	FWC
Falling Waters State Park	DEP-DRP
Florida Caverns State Park	DEP-DRP
Three Rivers State Park	DEP-DRP
Water Management District	**Managing Agency**
Econfina Creek Water Management Area	NWFWMD
Upper Chipola River Water Management Area	NWFWMD
Local Government	**Managing Agency**
Chipola River Greenway	Jackson County
Eastshore Property	Jackson County
Hinson Conservation and Recreation Area	City of Marianna
Jackson County Blue Springs and Merritts Mill Pond	Jackson County
Marianna Greenway	City of Marianna

Private	Managing Entity
Apalachee Correctional Institution	PRIDE Enterprises, Inc.
Rock Hill Preserve	The Nature Conservancy
Tumble Creek Audubon Preserve	Bay County Conservancy

Table 2. Florida Forever Projects within a 15 miles Radius of JCWEA

Project Name	GIS Acres
Florida's First Magnitude Springs – Jackson Blue Springs	2078.23
Middle Chipola River	14552.15
Southeastern Bat Maternity Caves – Geromes Cave	264.71

Acronym Key	Agency Name
DEP-DRP	Department of Environmental Protection- Division of Recreation and Parks
FWC	Florida Fish and Wildlife Conservation Commission
NWFWMD	Northwest Florida Water Management District

1.9 Adjacent Land Uses

The JCWEA is located in Jackson County in the northwest Florida region. The current land use designations for areas directly adjacent to and surrounding JCWEA are conservation, agriculture, recreation and residential. The closest incorporated area to the JCWEA is the town of Marianna. The immediate area in the vicinity of JCWEA, with the exception of Marianna, is largely rural in character and composed of farms, timber lands and conservation lands, with rural residences interspersed among them. Much of the southern border of JCWEA is located near the Chipola River.

Jackson County does not utilize specific zoning categories for land use. Instead, the County relies on the policies stated in the Future Land Use Element (FLUE) of the adopted Comprehensive Plan and the land use categories defined therein. The current land use designation for JCWEA, as described in the FLUE, is conservation and recreation.
The 2013 U.S. Census population estimate for Jackson County is 48,987 residents. The 2013 population estimate for the city of Marianna is 9,320. The Bureau of Economic and Business Research (BEBR) produces Florida's official state and local population estimates and projections. The BEBR's medium-range population projection for Jackson County in 2025 is 51,300 residents. The BEBR's medium-range 2025 population projections for the counties bordering Jackson County is 27,400 residents in Washington County, 21,000 residents in Holmes County, 15,900 residents in Calhoun County, and 50,100 residents in Gadsden County.

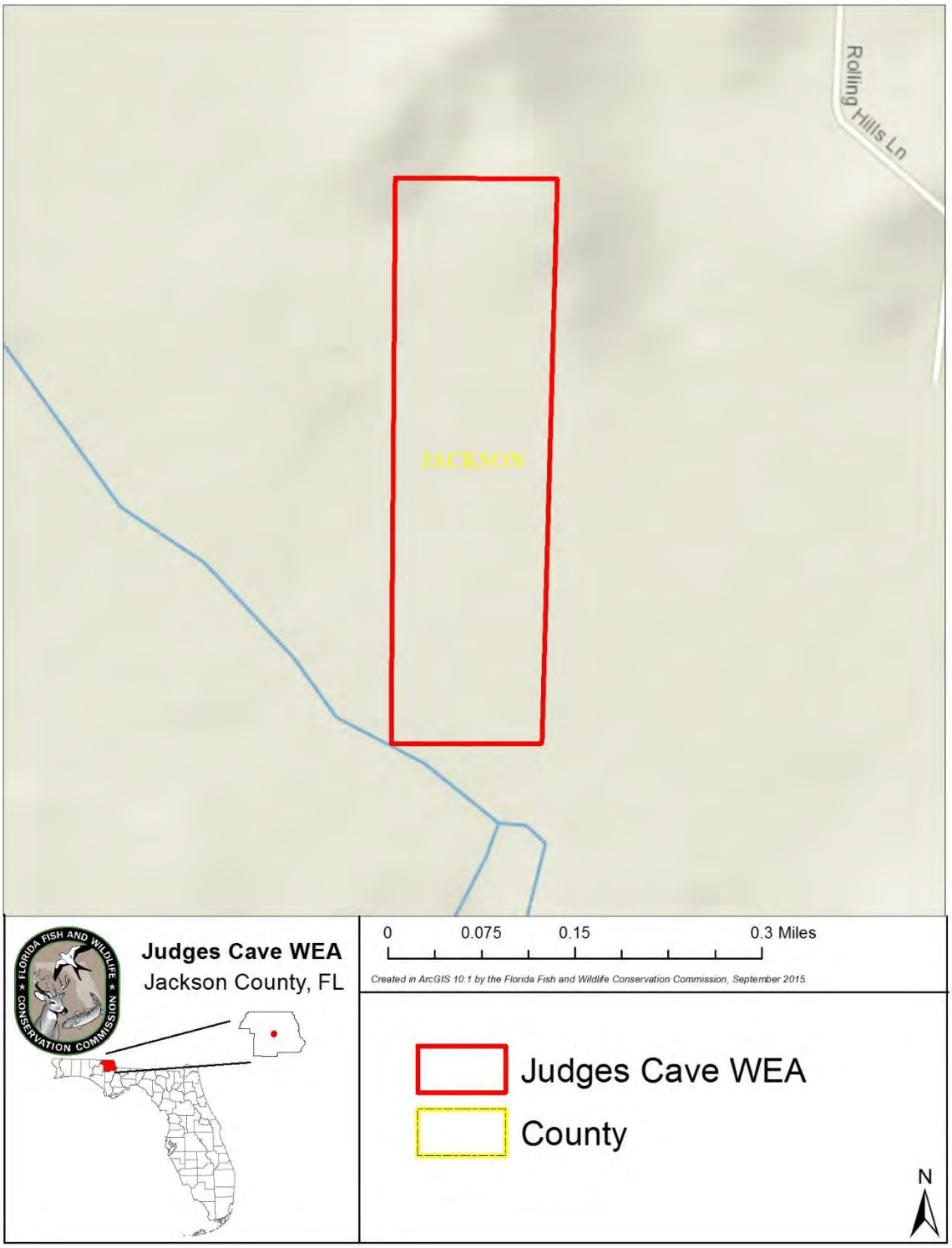


Figure 1. JCWEA Location

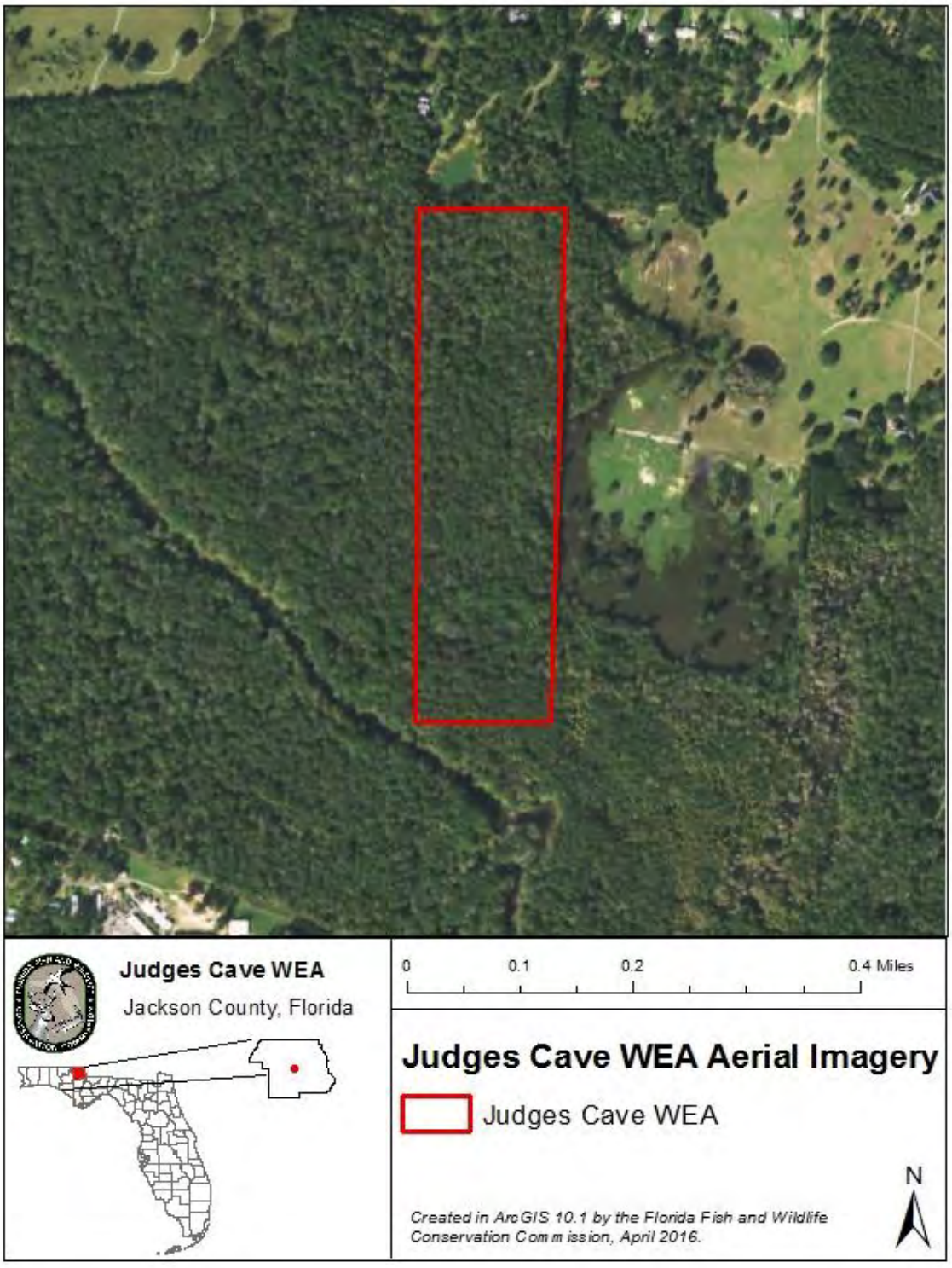


Figure 2. JCWEA Aerial Imagery

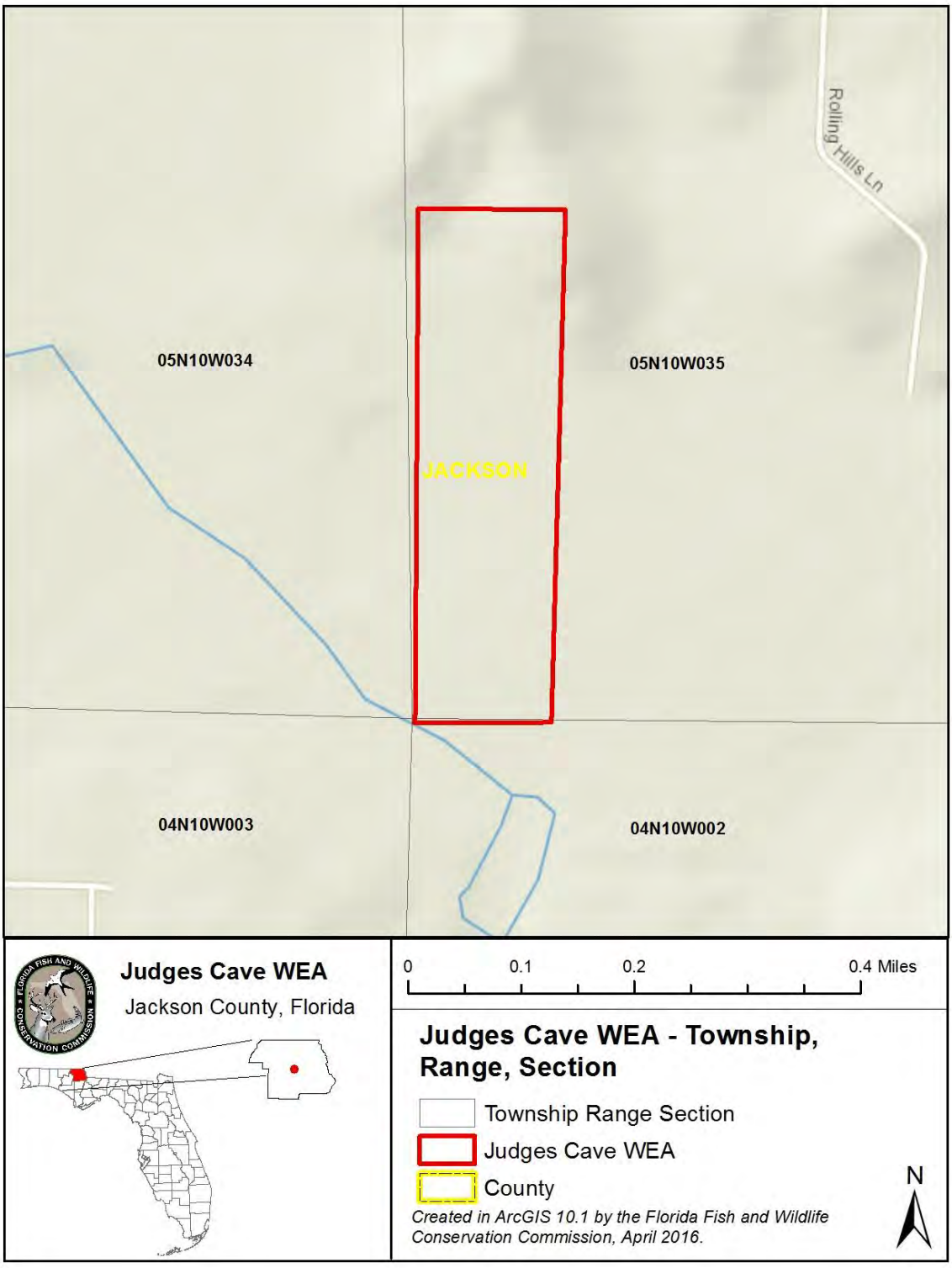
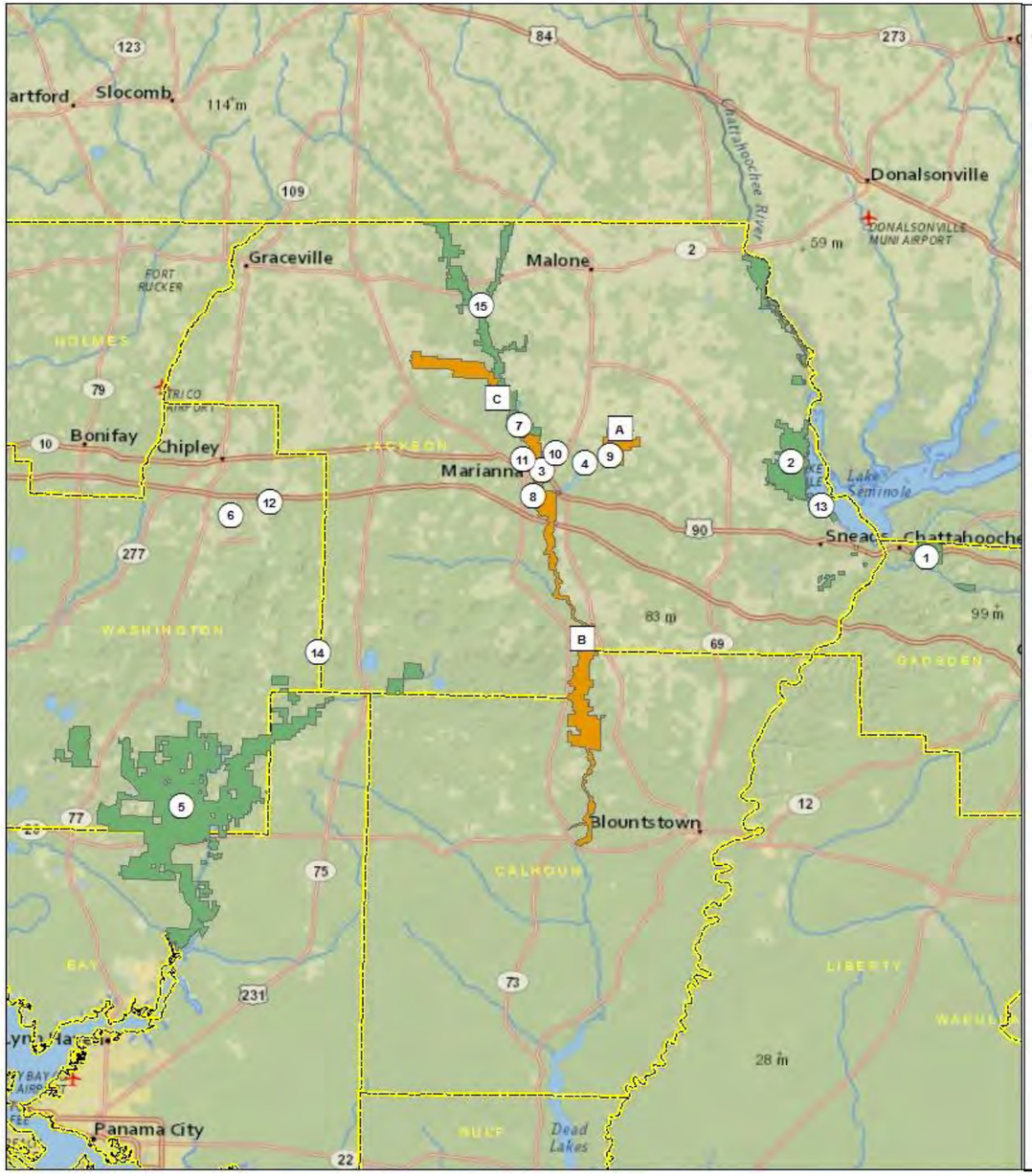


Figure 3. JCWEA - Township, Range, Section



Conservation Lands within 20 miles of JCWEA

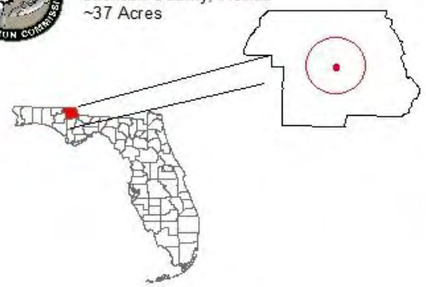
Label	Area Name
1	Apalachee Correctional Institution
2	Apalachee Wildlife Management Area
3	Chipola River Greenway
4	Eastshore Property
5	Econfina Creek Water Management Area
6	Falling Waters State Park
7	Florida Caverns State Park
8	Hinson Conservation and Recreation Area
9	Jackson County Blue Springs and Merritts Mill Pond
10	Judges Cave Wildlife and Environmental Area
11	Marianna Greenway
12	Rock Hill Preserve
13	Three Rivers State Park
14	Tumble Creek Audubon Preserve
15	Upper Chipola River Water Management Area

Florida Forever Projects within 20 miles of JCWEA

Label	Area Name
A	Florida's First Magnitude Springs Florida Forever BOT Project - Jackson Blue Springs
B	Middle Chipola River Florida Forever BOT Project Southeastern Bat Maternity Caves
C	Florida Forever BOT Project - Geromes Cave

Judges Cave Wildlife and Environmental Area

Jackson County, Florida
~37 Acres



Legend

- Judges Cave WEA
- Conservation Lands
- Florida Forever Projects
- County

0 4.75 9.5 19 Miles

N

Created in ArcGIS 10.1 by the Florida Fish and Wildlife Conservation Commission. February 2016

Figure 4. JCWEA Conservation Lands and Florida Forever Projects within a 15 mile Vicinity

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According to the Jackson County Comprehensive Plan's future land use map, the JCWEA will continue to be zoned as Recreation land. Jackson County's future land use map shows that the surrounding property will be zoned as Agriculture-2, Conservation, and Residential. Land zoned for Conservation allows for one dwelling unit per 40 acres and Agriculture-2 allows for one dwelling unit per acre.

2 Natural and Historical Resources

2.1 Physiography and Topography

The JCWEA is located within the Northern Highlands physiographic division. This area is also located within the northern physiographic zone within the Marianna lowlands region. Over time, due to heavy erosion within this area, this region consists of low, rolling hills, sinkholes, and caves.

2.1.1 Climate

For over half the year Jackson county experiences warm, humid weather, with the remaining part of the year consisting of mild, cool weather. In Marianna during the period of 1961-1990 the climate ranged from an average minimum temperature of 55.4 degrees F to an average maximum temperature of 78.7 degrees F. The lowest average temperatures occur during the month of January with the highest average temperatures occurring in July.

Average annual precipitation during the period of 1961-1990 was 56.89 inches of rainfall. The period of rainfall was highest during July and lowest during the month of November. Primarily in this area, the warmer months obtain the most rainfall during the year, with the cooler months being much drier.

2.1.2 Soils

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) data were used to identify JCWEA's soil series and soil depth to water table (Figures 5 and 6). Soil series descriptions were developed using NRCS geographic information system (GIS) data and are included in Appendix 11.3. Two map units described in the soil survey of JCWEA are distributed as shown in Figure 5. Analyses of depth to water table for map units occurring within JCWEA are also provided in Figure 6. The NRCS defines a soil map unit as: "a collection of soil areas or non-soil areas (miscellaneous areas) delineated in a soil survey." Soil map units may contain multiple soil components, which are given names that are unique identifiers. Figure 5 provides aggregation data for JCWEA map units.

JCWEA is mainly made up of two different soil types. The majority of the area is Yonges-Herod association, 0-2 percent slopes, with a smaller area to the northeast mostly being made up of Oktibbeha variant-Rock outcrop complex, 5-12 percent slopes.

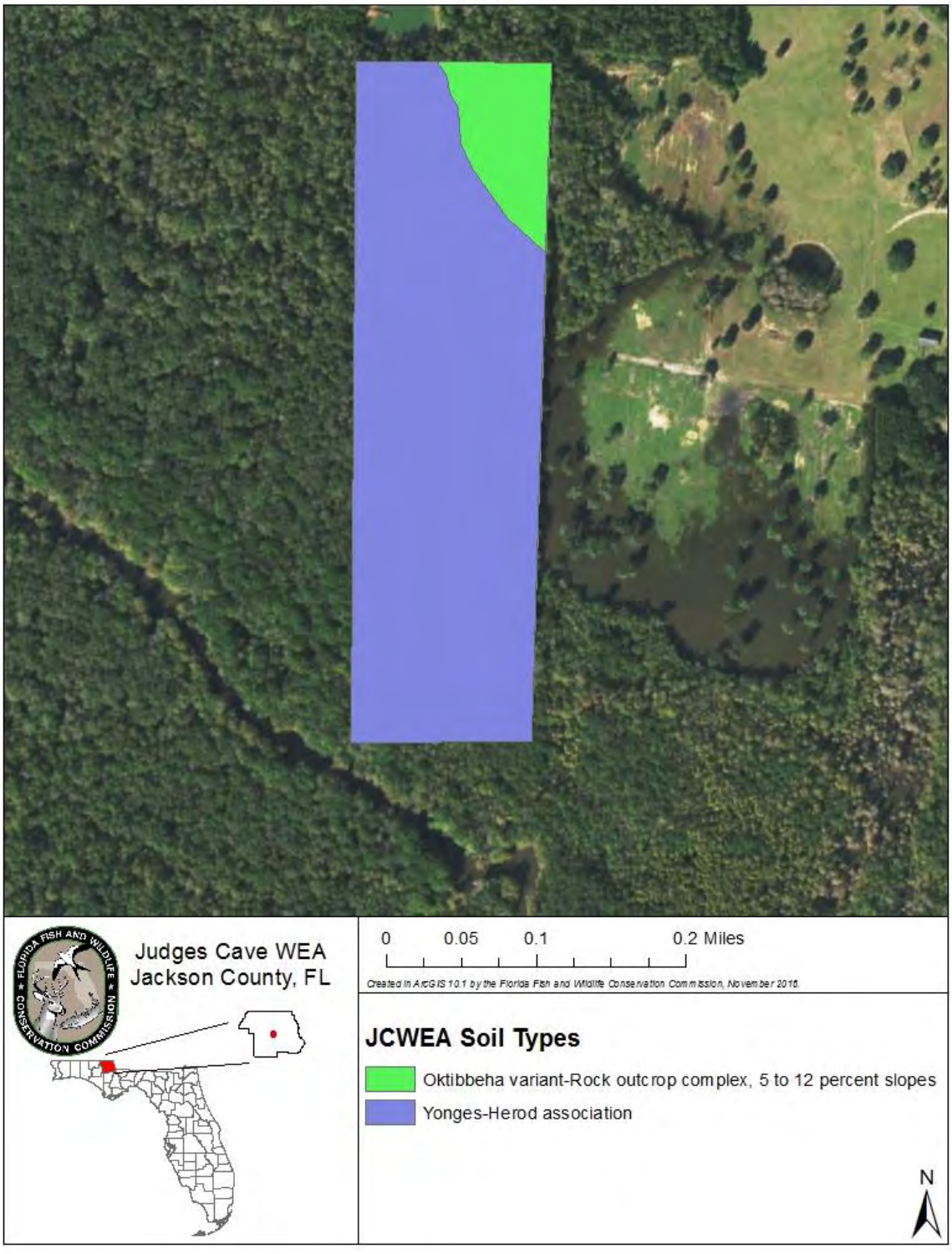

Figure 5. JCWEA Soil Types

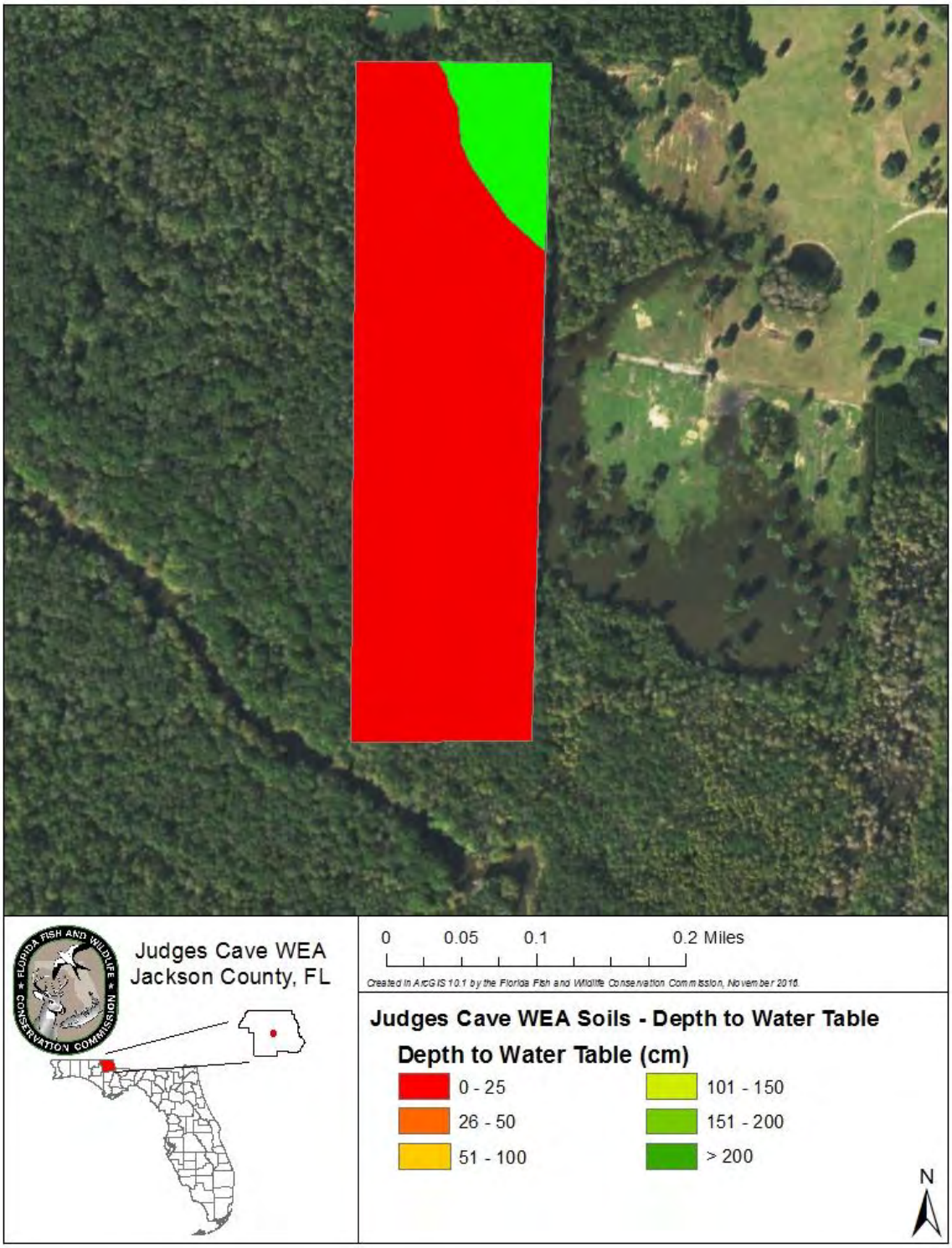

Figure 6. JCWEA Soils - Depth to Water Table

2.1.3 Geologic Conditions

The geology of JCWEA, according to the geologic map of the State of Florida, is mainly composed of Oligocene sediments. It is undifferentiated and mapped as Suwannee Limestone – Marianna Limestone, which consists of white to cream – colored variably fossiliferous limestones.

2.2 Vegetation

Through the services of the Florida Natural Areas Inventory (FNAI), FWC has mapped the current natural and anthropogenic communities of JCWEA which describes four natural and anthropogenic community types existing on JCWEA, (Table 3, and Figure 7). FWC biologists, along with contracted surveys through FNAI, have documented a variety of rare plant species (Table 4), native plant species (Table 5) and several species of invasive exotic plant species (Table 6) as occurring on the JCWEA.

Table 3. Natural Communities and Altered Landcover Types at JCWEA

Community Type	Acres	Percentage*
Alluvial Forest	12.93	35%
Floodplain Swamp	8.81	24%
Terrestrial Cave	<1	<1%
Upland Hardwood Forest	14.75	40%

Table 4. Imperiled Plant Species Known or Expected to Occur on JCWEA

Common Name	Scientific Name	Status
Cardinal flower	*Lobelia cardinalis*	ST
Carolina larkspur	*Delphinium carolinianum*	SE
Mayapple	*Podophyllum peltatum*	SE
Rain lily	*Zephyranthes atamasca*	ST
Variableleaf Indian plantain	*Arnoglossum diversifolium*	ST

Table 5. Native Plant Species Known or Expected to Occur on JCWEA

Common Name	Scientific Name
American elm	*Ulmus americana*
American holly	*Ilex opaca*
American lopseed	*Phryma leptostachya*
Arrow arum	*Peltandra virginica*
Bald-cypress	*Taxodium distichum*
Basswood	*Tilia americana*
Beautyberry	*Callicarpa americana*

Black walnut	*Juglans nigra*
Blackberry	*Rubus trivialis*
Bloodroot	*Sanguinaria canadensis*
Bluestem palm	*Sabal minor*
Bristly greenbriar	*Smilax tamnoides*
Buckthorn	*Sideroxylon lycioides*
Buttonbush	*Cephalanthus occidentalis*
Canadian blacksnakeroot	*Sanicula canadensis*
Cardinal flower	*Lobelia cardinalis*
Carolina buckthorn	*Rhamnus caroliniana*
Carolina larkspur	*Delphinium carolinianum*
Carolina laurelcherry	*Prunus caroliniana*
Carolina scalystem	*Elytraria caroliniensis*
Carolina wild petunia	*Ruellia caroliniensis*
Chattahoochee wakerobin	*Trillium decipiens*
Christmas fern	*Polystichum acrostichoides*
Coastal rosegentian	*Sabatia calycina*
Coral greenbriar	*Smilax walteri*
Crossvine	*Bignonia capreolata*
Dayflower	*Commelina virginica*
Eastern red cedar	*Juniperus virginiana*
Elephantsfoot	*Elephantopus carolinianus*
False nettle	*Boehmeria cylindrica*
Florida maple	*Acer saccharum ssp. floridanum*
Goldenrod	*Solidago sp.*
Grape-fern	*Botrychium sp.*
Green-and-gold	*Chrysogonum virginianum*
Green ash	*Fraxinus pennsylvanica*
Greendragon	*Arisaema dracontium*
Gulf Sebastian-bush	*Ditrysinia fruticosa*
Hairy angelica	*Angelica venenosa*
Hairy leafcup	*Smallanthus uvedalia*
Highbush blueberry	*Vaccinium corymbosum*
Hophornbeam	*Ostrya virginiana*
Ironwood	*Carpinus caroliniana*
Jack-in-the-pulpit	*Arisaema triphyllum*
Laurel oak	*Quercus laurifolia*
Live oak	*Quercus virginiana*
Lizard's tail	*Saururus cernuus*
Looseflower waterwillow	*Justicia ovata*

Mayapple	*Podophyllum peltatum*
Melicgrass	*Melica mutica*
Millet beaksedge	*Rhynchospora miliacea*
Morning-glory	*Ipomoea pandurata*
Muscadine	*Vitis rotundifolia*
Musky mint	*Hyptis alata*
Nutrush	*Carex sp.*
Ogeechee tupelo	*Nyssa ogeche*
Overcup oak	*Quercus lyrata*
Panicgrass	*Panicum sp.*
Parsley hawthorn	*Crataegus marshallii*
Partridgeberry	*Mitchella repens*
Peppervine	*Ampelopsis arborea*
Poison ivy	*Toxicodendron radicans*
Pop ash	*Fraxinus caroliniana*
Rain lily	*Zephyranthes atamasca*
Rattan vine	*Berchemia scandens*
Red buckeye	*Aesculus pavia*
Red maple	*Acer rubrum*
Red mulberry	*Morus rubra*
Royal fern	*Osmunda regalis*
Satincurls	*Clematis catesbyana*
Saw greenbriar	*Smilax bona-nox*
Sedges	*Carex spp.*
Sensitive fern	*Onoclea sensibilis*
Shumard's oak	*Quercus shumardii*
Slender woodoats	*Chasmanthium laxum*
Smallflower pawpaw	*Asimina parviflora*
Smartweed	*Polygonum sp.*
Southern arrowwood	*Viburnum dentatum*
Southern shield fern	*Thelypteris kunthii*
Spiderwort	*Tradescantia ohiensis*
Spinypod	*Matelea sp.*
Spruce pine	*Pinus glabra*
St. Andrew's-cross	*Hypericum hypericoides*
Swamp chestnut oak	*Quercus michauxii*
Swamp milkweed	*Asclepias perennis*
Swampprivet	*Forestiera sp.*
Sweetgum	*Liquidambar styraciflua*
Sweetleaf	*Symplocos tinctoria*

Switchcane	*Arundinaria gigantea*
Trumpet creeper	*Campsis radicans*
Variableleaf Indian plantain	*Arnoglossum diversifolium*
Violet	*Viola sp.*
Virginia creeper	*Parthenocissus quinquefolia*
Virginia snakeroot	*Aristolochia serpentaria*
Wafer ash	*Ptelea trifoliata*
Washington hawthorn	*Crataegus phaenopyrum*
Water oak	*Quercus nigra*
Wild yam	*Dioscorea floridana*
Witchgrass	*Dichanthelium sp*
Witchhazel	*Hamamelis virginiana*
Woodland pinkroot	*Spigelia marilandica*
Woodsgrass	*Oplismenus hirtellus*
Yellow-eyed grass	*Hypoxis hirsuta*

Table 6. Exotic Plant Species Known or Expected to Occur on JCWEA

Common Name	Scientific Name
Chinese privet	*Ligustrum sinense*
Chinese tallowtree	*Triadica sebifera*
Glossy privet	*Ligustrum lucidum*
Heavenly bamboo	*Nandina domestica*
Japanese climbing fern	*Lygodium japonicum*

2.2.1 FNAI Natural Community Descriptions

Alluvial forest (~12.93 acres)

Floodplain forest at JCWEA occurs down slope from the upland hardwood forest. This community regularly floods during winter high water periods and irregularly floods following exceptionally high rainfall. Silt deposited by the Chipola River provides nutrients to this community. There is a nearly closed canopy dominated by laurel oak, overcup oak and water oak. Live oak and spruce pine are occasional. The subcanopy is composed of young canopy trees and also includes red maple, sweetgum, ironwood, swamp chestnut oak, and sweetbay magnolia. Tall shrubs are common, covering about 10 percent of the stratum. Dominants are swamp dogwood, ironwood, sweetbay magnolia. Short shrubs are also common, dominated by bluestem palm, highbush blueberry, and Sebastian-bush. Herbaceous cover is moderate and includes the following species: false stinging nettle, partridge berry, yellow-eyed grass, green-dragon, Jack-in-the-pulpit, violet, Virginia snakeroot, wild petunia, elephantsfoot, royal fern, sedges, slender woodoats, and

waterwillow. Woody vines are frequent and include poison ivy, crossvine, greenbriar, muscadine, and peppervine.

Aquatic and Terrestrial Cave (~ <1 acre)

JCWEA contains Aquatic and Terrestrial Caves on the northern portion of the area. They are characterized as cavities below the surface of the ground in karst areas of the state. A cave system may contain portions classified as Terrestrial Caves and portions classified as Aquatic Caves. The latter vary from shallow pools highly susceptible to disturbance, to more stable, totally submerged systems. Because all caves initially develop under aquatic conditions, Terrestrial Caves can be considered essentially dry Aquatic Caves. The limestone aquifers that underlie the entire state of Florida could be considered vast Aquatic Cave communities. Troglobites (also called phreatobites) are organisms specially evolved to survive in deep cave habitats. The occasional observation of various species of troglobites in deep water wells from several regions in the state suggests that this community could be widespread. However, the dependence of troglobites on detrital inputs and other nutrients imported from the surface generally limits the distribution of well-developed Aquatic Cave communities to karst areas with surface connections.

The area around cave entrances may be densely vegetated with species from the surrounding Natural Community. Within the cave, however, illumination levels and, thereby, vegetation densities drop rapidly with increased distance from the entrance. Within the limits of light penetration, called the twilight zone, species of algae, mosses, liverworts, and an occasional fern or herbaceous plant may grow. Beyond the twilight zone, plants are generally absent or limited to a few inconspicuous species of fungi that grow on guano or other organic debris. Thus, Subterranean Natural Communities differ from most other Natural Communities in that living plants are not dominant elements.
Animals inhabiting Subterranean Natural Communities are generally divided into three groups according to their cave adaptations: trogloxenes, troglophiles, and troglobites. Trogloxenes spend much of their time in caves, but they must periodically return to the surface to feed or breed. Eastern woodrats, harvestmen, cave crickets, some salamanders, and many species of bats are typical examples of trogloxenes. Troglophiles may regularly live in caves, but their conspecifics also inhabit surface communities with moist microhabitats. Crickets, fish and salamanders are typical examples of troglophiles. Troglobites are obligatory cave dwellers with special adaptations for living in complete darkness. Cave crayfish (*Cambarus cryptodytes)*, Georgia blind salamander (*Eurycea wallacei)*, cave amphipods, and cave isopods are typical troglobites in Florida's Aquatic Caves; some cave spiders and cave springtails are typical troglobites in some Terrestrial Caves of north Florida. Even though they never leave their cave environments, troglobites and troglophiles depend on outside energy sources, such as detritus that washes in through sinkholes and other cave entrances. Fecal materials derived from trogloxenes which feed

outside the cave are also important nutrients for troglobites. Without these energy subsidies, the troglobitic elements could not exist.

Two geologic processes are predominantly responsible for the development of caves: phreatic and vadose. Cave waters are generally clear, with deep water appearing bluish. The water may become stained brown from tannins leached from decaying plant matter nearby and carried in with rainwater. The water may also become milky white if fine limestone mud from the bottom of the Aquatic Cave is suspended in the water column following disturbance. A bottom substrate of organic silts can also muddy the water with suspended particles.

Terrestrial Caves also are very stable environments, having relatively constant temperatures and humidities. Within the cave, however, these factors may vary with location. For example, the twilight zone (nearest to the light source) is generally warmer and experiences more temperature and humidity fluctuations than does the middle zone, a dark zone that is subject to air circulation due to "cave breathing" phenomena. The deep zone, when it occurs, is the most stable zone of a Terrestrial Cave, because the air in it is essentially static. Terrestrial Cave faunas often partition their distributions according to these zones, with trogloxenes being more common in the twilight and middle zones, and troglobites being more common in the deep zone.

Subterranean Natural Communities are extremely fragile. Their faunas are adapted to very stable environments and have a limited ability to survive even minor environmental perturbations. Terrestrial Caves are often threatened by disturbances of recreational users. The mere entry into a bat roosting, maternity, or hibernation cave is often sufficient to cause abandonment by bats, thereby causing a major reduction in an important energy source for the remainder of the cave ecosystem.

Alterations in or around cave entrances will often upset detrital input levels and may also induce significant changes in air circulation patterns and the cave microclimate. Aquatic Caves are threatened by pollution of ground and surface waters from agricultural, industrial, and residential sources, as well as by disturbances from divers. The unique troglobitic species generally have very low population levels and can be severely impacted by overcollection or by changes in nutrient input levels that result from surface manipulations or hydrological alterations. Thus, special precautions and management procedures must be invoked to protect these unique, fragile communities from deleterious activities.

Floodplain swamp (~ 8.81 acres)

Floodplain swamp occurs along the Chipola River and low areas within the adjacent floodplain forest. Floodplain swamp is primarily deciduous forest occurring along rivers and larger streams and composed of trees tolerant of prolonged flooding. It ranges from narrow strips of cypress along primary and secondary streams to expansive stands along large rivers to tidally influenced freshwater swamps near river mouths. Often, floodplain swamps immediately border the stream or river channel. In many cases, however, floodplain swamps are isolated from the main channel by riverbank levees and restricted to oxbows, overflow channels, old stream beds, and expansive flats commonly called backswamps. This forest consists of a closed canopy of tall, straight trees with little shrub or herb layer and large areas of bare mucky soil exposed. Soils are variable mixtures of alluvial and organic materials, sometimes with layers of sand in the subsoil. Inundation is seasonal and usually prolonged, restricting the growth of most shrubs and herbs and leaving most of the ground surface open or thinly mantled with leaf litter.

This community is inundated with flowing, silt laden water throughout most of the winter and during irregular flooding of the Chipola River. There is a nearly closed canopy of bald cypress, green ash, overcup oak, and laurel oak. A moderate subcanopy fills most of the light gaps in the canopy; dominant species are red maple, pop ash, ogeechee tupelo, and American elm. Young subcanopy species are occasional in the sparse tall shrub layer. Other species include hawthorn, Swampprivet, and buttonbush. Short shrubs are sparse and include an occasional bluestem palm. Herb cover is patchy, generally covering 25 percent of the ground. Species observed are waterwillow, panicgrass, sensitive fern, lizard's tail, Carolina scalystem, Arrow arum, musky mint, dayflower, swamp milkweed, millet beaksedge, coastal rosegentian, and smartweed. The sparse vine cover includes greenbriar, peppervine, and trumpet creeper.

Upland Hardwood Forest (~14.75 acres)

Upland hardwood forest occurs on rolling mesic hills, slopes above river floodplains, in smaller areas on the sides of sinkholes, and occasionally on rises within floodplains. Limestone or phosphatic rock may be near the surface. Soils are generally sandy clays or clayey sands with substantial organic and sometimes calcareous components. These soils have higher nutrient levels than the sandy soils prevalent in most of Florida. The moisture retention properties of clays and layers of leaf mulch conserve soil moisture and create decidedly mesic conditions. The dense canopy and multiple layers of midstory vegetation restrict air movement and light penetration, which maintains high relative humidity within the community.

The upland hardwood forest at JCWEA occurs on the upland portion in the northern third of the site. The highest point is in the northeastern corner where limestone is exposed at

the surface. This area has an unusual assemblage of plants that are adapted to basic soils, and often contains rare and unique plant species. Additional botanical survey may produce interesting findings. The canopy is dominated by eastern red cedar. Other species include basswood, Shumard's oak, water oak, swamp chestnut oak, spruce pine, and black walnut. Subcanopy trees include red mulberry, sweetgum, Florida maple, hophornbeam, and ironwood. Tall shrub cover is sparse, represented by young canopy species and occasional individuals of the following: buckthorn, Carolina buckthorn, Carolina laurelcherry, southern arrowwood, and red buckeye. Short shrubs are sparse and patchy, represented principally by pawpaw, beautyberry, wafer ash, and blueberry. Herb cover is abundant in the high areas. Dominant species are green-and-gold, blacksnakeroot, bloodroot, witchgrass, morning-glory, hairy leafcup, slender woodoats, southern shield fern, American lopseed, and melicgrass. Woody vines are also common and include Virginia creeper, greenbriar, poison ivy , cross vine, rattan vine, pepper vine, and muscadine. Lower slopes of the community where limestone is no longer evident are considerably less diverse. There is a broad transition into floodplain forest.

2.2.2 Forest Resources

There are no substantial timber resource on the JCWEA. As a result, the FWC and the FFS have determined that a professional forest assessment for the JCWEA is unnecessary. The FWC will cooperate with the FFS or a qualified professional forestry consultant regarding any forest management activities should they become necessary or appropriate.

2.3 Fish and Wildlife Resources

As described above, the JCWEA has a variety of natural communities and habitat types that support a wide array of imperiled, rare, and more prevalent wildlife species. The JCWEA has a diverse assortment of fish and wildlife species (Tables 7-11). The FWC also maintains a list of exotic fauna documented or expected to occur at JCWEA (Table 6). There are 8 known imperiled or protected animal species, also known as listed species, which have been documented or may occur within JCWEA (Table 13). The area's unique location near the Chipola River provides a diversity of habitat for resident and migratory birds (Table 8). Additionally, the FWC maintains an inventory of mammals (Table 7), amphibians and reptiles (Table 9), and fish (Table 10). Table 12 contains an inventory of the exotic wildlife species that have been documented on or near the JCWEA. The area's diverse mixture of upland hardwood forest, alluvial forest, floodplain swamp, and water resources provide a mosaic of habitat for wildlife.

Figure 7. JCWEA Current Vegetative Communities

Table 7. Native Mammal Species that May Occur on JCWEA

Common Name	Scientific Name
Bobcat	*Lynx rufus*
Cotton mouse	*Peromyscus gossypinus*
Coyote	*Canis latrans*
Eastern gray squirrel	*Sciurus carolinensis*
Eastern woodrat	*Neotoma floridana*
Florida black bear	*Ursus americanus floridanus*
Golden mouse	*Ochrotomys nuttalli*
Gray bat	*Myotis grisescens*
Gray fox	*Urocyon cinereoargenteus*
Nine-banded armadillo	*Dasypus novemcinctus*
Opossum	*Didelphis virginiana*
Raccoon	*Procyon lotor*
Southeastern bat	*Myotis austroriparius*
Southern flying squirrel	*Glaucomys volans*
Striped skunk	*Mephitis mephitis*
Tricolored bats	*Perimyotis subflavus*
White-tailed deer	*Odocoileus virginianus*

Table 8. Native Bird Species that May Occur on JCWEA

Common Name	Scientific Name
American crow	*Corvus brachyrhynchos*
American robin	*Turdus migratorius*
American woodcock	*Scolopax minor*
Bald eagle	*Haliaeetus leucocephalus*
Barred owl	*Strix varia*
Black vulture	*Coragyps atratus*
Blue jay	*Cyanocitta cristata*
Blue-gray gnatcatcher	*Polioptila caerulea*
Brown-headed nuthatch	*Sitta pusilla*
Brown thrasher	*Toxostoma rufum*
Carolina chickadee	*Poecile carolinensis*
Carolina wren	*Thryothorus ludovicianus*
Chimney swift	*Chaetura pelagica*
Coopers hawk	*Accipiter cooperii*
Common grackle	*Quiscalus quiscula*
Eastern bluebird	*Sialia sialis*
Eastern kingbird	*Tyrannus tyrannus*

Eastern phoebe	*Sayornis phoebe*
Eastern screech owl	*Megascops asio*
Eastern towee	*Pipilo erythrophthalmus*
Gray catbird	*Dumetella carolinensis*
Great blue heron	*Ardea herodias*
Great crested flycatcher	*Myiarchus crinitus*
Great egret	*Ardea alba*
House finch	*Haemorhous mexicanus*
Little blue heron	*Egretta caerulea*
Mourning dove	*Zenaida macroura*
Northern bobwhite	*Colinus virginianus*
Northern cardinal	*Cardinalis cardinalis*
Northern flicker	*Colaptes auratus*
Northern mockingbird	*Mimus polyglottos*
Northern parula	*Setophaga americana*
Osprey	*Pandion haliaetus*
Pileated woodpecker	*Dryocopus pileatus*
Pine warbler	*Setophaga pinus*
Purple martin	*Progne subis*
Red-bellied woodpecker	*Melanerpes carolinus*
Red-shouldered hawk	*Buteo lineatus*
Red-tailed hawk	*Buteo jamaicensis*
Red-winged blackbird	*Agelaius phoeniceus*
Ruby-throated hummingbird	*Archilochus colubris*
Scarlet tanager	*Piranga olivacea*
Snowy egret	*Egretta thula*
Tree swallow	*Tachycineta bicolor*
Tufted titmouse	*Baeolophus bicolor*
Turkey vulture	*Cathartes aura*
Veery	*Catharus fuscescens*
White-eyed vireo	*Vireo griseus*
Wild turkey	*Meleagris gallopavo*
Wood duck	*Aix sponsa*
Yellow-rumped warbler	*Setophaga coronata*

Table 9. Native Reptile and Amphibian Species that May Occur on JCWEA

Common Name	Scientific Name
American alligator	*Alligator mississippiensis*
Alligator snapping turtle	*Macrochelys temminckii*

Barbour's map turtle	*Gratemys barbouri*
Black racer	*Coluber constrictor*
Common snapping turtle	*Chelydra serpentina*
Cottonmouth	*Agkistrodon piscivorus*
Dusky pigmy rattlesnake	*Sistrurus miliarius barbouri*
Eastern coral snake	*Micrurus fulvius fluvius*
Eastern corn snake	*Pantherophis guttatus*
Eastern diamondback rattlesnake	*Crotalus adamanteus*
Eastern fence lizard	*Sceloporus undulatus*
Eastern hog-nose snake	*Heterodon platirhinos*
Eastern mud turtle	*Kinosternon subrubrum*
Eastern mud snake	*Farancia abacura abacura*
Florida cooter	*Pseudemys concinna floridana*
Florida softshell turtle	*Apalone ferox*
Georgia blind salamander	*Eurycea wallacei*
Gray rat snake	*Pantherophis spiloides*
Green anole	*Anolis carolinensis*
Gulf coast box turtle	*Terrapene carolina major*
Loggerhead musk turtle	*Sternotherus minor*
Slider	*Trachemys scripta*
Southern cricket frog	*Acris gryllus*
Southern leopard frog	*Lithobates sphenocephalus*
Southern toad	*Anaxyrus terrestris*
Squirrel treefrog	*Hyla squirella*

Table 10. Native Fish Species that May Occur on JCWEA

Common Name	Scientific Name
Black crappie	*Pomoxis nigromaculatus*
Bluegill	*Lepomis macrochirus*
Bluespotted sunfish	*Enneacanthus gloriosus*
Bowfin	*Amia calva*
Channel catfish	*Ictalurus punctatus*
Chain pickerel	*Esox niger*
Flier	*Centrarchus macropterus*
Florida gar	*Lepisosteus platyrhincus*
Green sunfish	*Lepomis cyanellus*
Largemouth bass	*Micropterus salmoides*
Longnose gar	*Lepisosteus osseus*
Mosquitofish	*Gambusia affinis*

Mud sunfish	*Acantharchus pomotis*
Redbreast sunfish	*Lepomis auritus*
Redear sunfish	*Lepomis microlophus*
Redfin pickerel	*Esox americanus*
Shoal bass	*Micropterus cataractae*
Southern brook lamprey	*Ichthyomyzon gagei*
Spotted sucker	*Minytrema melanops*
Striped bass	*Morone saxatilis*
Warmouth	*Lepomis gulosus*
Yellow bullhead	*Ameiurus natalis*

Table 11. Invertebrates that May Occur on JCWEA

Common Name	Scientific Name
Dougherty Plain Cave Crayfish	*Cambarus cryptodytes*

Table 12. Exotic Animal Species that May Occur on JCWEA

Common Name	Scientific Name
Feral pig	*Sus scrofa*

2.3.1 Integrated Wildlife Habitat Ranking System

The FWC has developed the Integrated Wildlife Habitat Ranking System (IWHRS) as a Geographic Information Systems (GIS)-based assessment tool that incorporates a wide variety of land cover and wildlife species data. The IWHRS evaluates 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 JCWEA has a very high mean wildlife value of 6.6. (Figure 8).

2.3.2 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 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." Table 13

lists the imperiled wildlife species that have been documented as occurring on or in the vicinity of the JCWEA. Figure 9 displays FWC wildlife observations and FNAI element occurrences that have been documented within the JCWEA. Six imperiled animal species have been documented or expected to occur at the JCWEA.

Table 13. Imperiled Species Documented or May Occur at JCWEA

Common Name	Scientific Name	Status
Alligator snapping turtle	*Macroclemys temminckii*	SSC
American alligator	*Alligator mississippiensis*	FT (S/A)
Barbour's map turtle	*Graptemys barbouri*	ST
Georgia blind salamander	*Eurycea wallacei*	ST
Gray bat	*Myotis grisescens*	FE
Little blue heron	*Egretta caerulea*	ST

Abbreviation	Status
FE	Federal Endangered
FT	Federal Threatened
FT(S/A)	Federally Threatened due to similarity of appearance
SSC	State Species of Special Concern
ST	State Threatened
NL	Not Listed

All abbreviations and status determinations are derived from *Florida's Endangered and Threatened Species* published by the FWC in January 2017. The FWC maintains the state list of wildlife designated as federally-designated endangered or threatened, state-designated threatened, or state-designated species of special concern, in accordance with Rules 68A-27.003 and 68A-27.005, respectively, of the Florida Administrative Code https://www.flrules.org/.

At its November 2016 Commission Meeting, the FWC approved its Imperiled Species Management Plan, which includes changes to the listing status for many species. The rule changes included in the Imperiled Species Management Plan came into effect in January 2017. The list of wildlife presented here reflects those changes to the rules. All federally listed species that occur in Florida are included on Florida's list as federally-designated endangered or federally-designated threatened species. Additionally, species that are not federally listed but which have been identified by the state as being at risk of extinction are listed as state-designated threatened. Finally, the FWC maintains a separate species of special concern category. This category was reviewed as part of the January 2017 rule changes and the majority of the species contained within the category were either removed from the imperiled species list due to conservation success or had their status changed to state threatened. However, six species remain listed as species of special concern. More

detailed descriptions and management prescriptions are available on the FWC website: http://www.myfwc.com/wildlifehabitats/profiles/.

2.3.3 FWC Wildlife Observations and FNAI Element Occurrences

There are several element occurrences that have been document by FNAI. These include the Carolina larkspur, Dougherty Plain cave crayfish, Georgia blind salamander, Mayapple, rusty cebrionid beetle, gray bat, southeastern bat, variable-leaved Indian plantain, and Terrestrial and Aquatic caves. Known locations of FWC wildlife occurrences and FNAI element occurrences from the most recent GIS databases of the respective agencies are displayed in Figure 9. Appendix 11.5 contains a letter from the FNAI authorizing the FWC to utilize their database for the purpose of displaying known plant and animal resources.

A diversity of wildlife species are found on the JCWEA. The FNAI element occurrence records include several imperiled plant and animal species. As defined by FNAI, an "element" is any exemplary or rare component of the natural environment, such as a species, natural community, bird colony, 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. FNAI assigns a rank to each "element" occurrence. 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.

2.4 Native Landscapes

The predominant native landscapes occurring on the JCWEA are alluvial forest, floodplain swamp, and upland hardwood forest. Other significant native landscapes present on the area includes an aquatic and terrestrial cave. As described in detail above, complete descriptions of the natural communities found the JCWEA can be found in Section 2.2 of this Management Plan.

2.5 Water Resources

All surface waters of the State are classified by DEP according to designated uses as described in Chapter 62-302.44 FAC. JCWEA contains no natural bodies of freshwater which would be considered waters of the State. The JCWEA does not contain a first magnitude spring, nor any type of lake, nor is it designated as an aquatic preserve and is not under consideration for such designation. The southern portion of JCWEA consists of floodplain swamp which drains into the Chipola River. All waters within the JCWEA are considered Class III water by DEP, and there are no portions of the JCWEA that are designated as Outstanding Florida Waters (OFW).

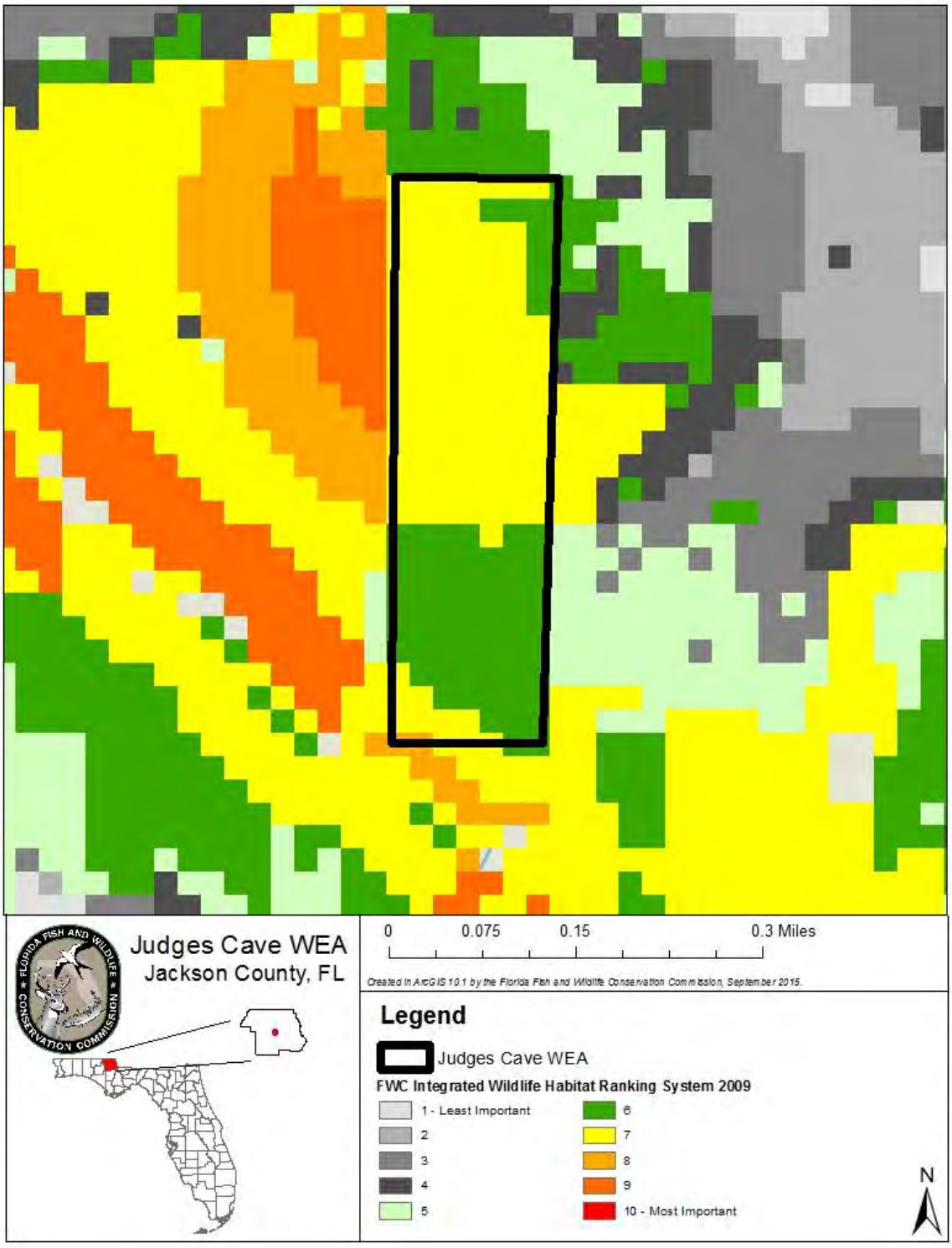

Figure 8. JCWEA Integrated Wildlife Habitat Ranking

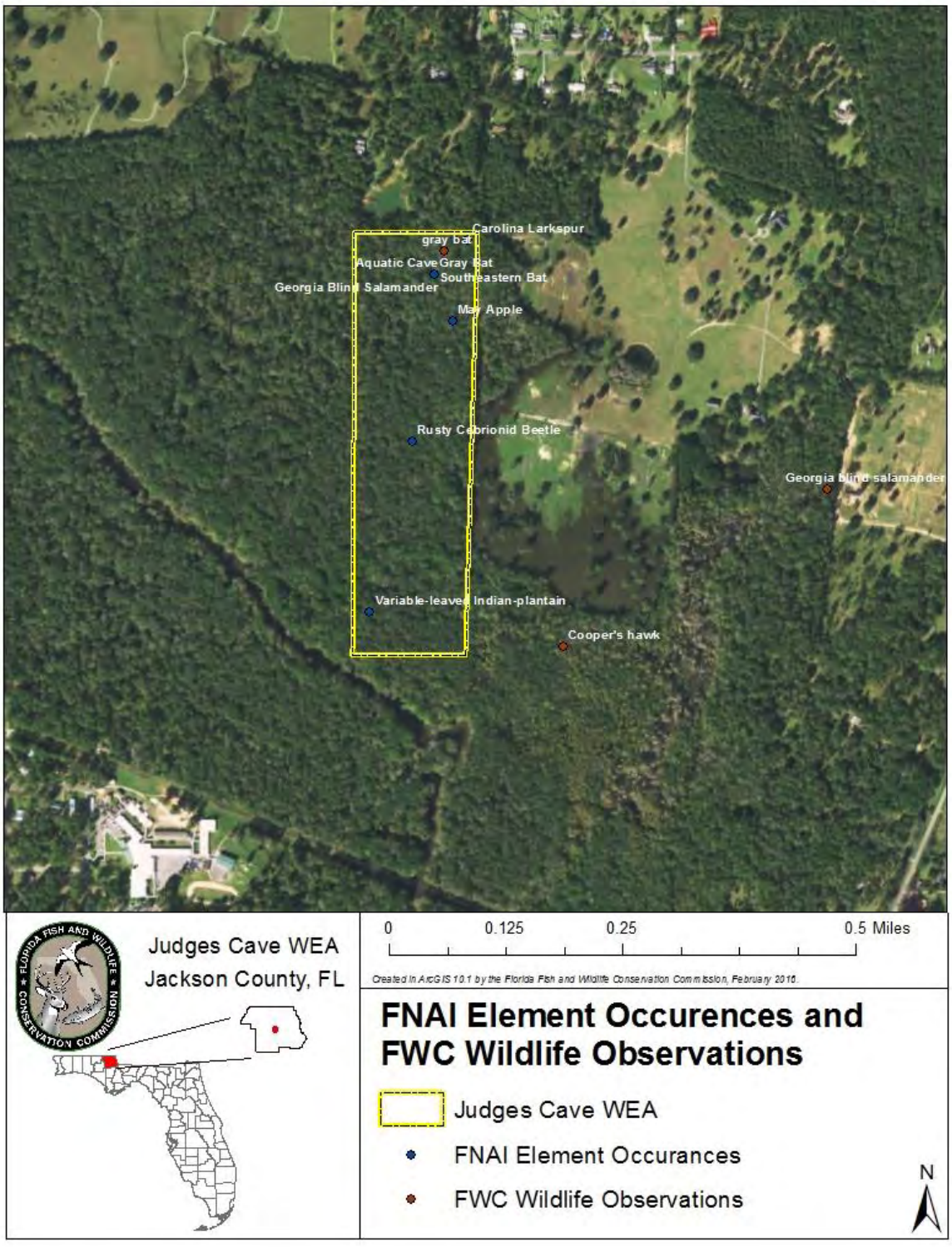

Figure 9. JCWEA - FNAI Element Occurrences and FWC Wildlife Observations

2.6 Beaches and Dunes

There are no Beaches or Dunes located on JCWEA.

2.7 Mineral Resources

Mineral resources in Jackson County include clay, dolomitic limestone, limestone and sand. Small alluvial clay deposits are scattered throughout the floodplains of the Chipola River. Dolomitic limestone mines in Jackson County are centered around the Chipola River in the south-central region of the county. Limestone is mined in the County as a base course material for roads and asphalt aggregate. Sand is found throughout Jackson County and mined for fill material. Potential mineral resources on JCWEA include sand and clay. However, there are no active or planned mineral mines located on JCWEA.

2.8 Archaeological and Historical Resources

The DHR Master Site File indicates that there are no recorded archaeological sites within the boundaries of the JCWEA. However, the FWC will coordinate with DHR to assess the need for conducting a cultural resource survey.

As a part of the objectives of this management plan, the FWC will ensure that management staff receive Archaeological Resource Management (ARM) training. Furthermore, the FWC will ensure all known sites are recorded in the DHR Master Site File.

2.9 Scenic Resources

As referenced in FNAI Natural Communities section 2.2, the JCWEA has many scenic natural communities such as upland hardwood forest, alluvial forests, and floodplain swamp. The JCWEA is also located near the Chipola River. However, as noted above, there is currently no public access permitted on the area in order to protect the natural communities and wildlife.

3 Uses of the Property

3.1 Previous Use and Development

Over 1,500 years ago, Native Americans built mound and village complexes throughout northwest Florida. The rivers of northwest Florida linked local Native American tribes with other tribes to the north and facilitated the sharing of ideas and culture, as well as trade goods. These peoples were not farmers, but rather relied on the collection of wild foods. As human populations grew, and pressure on natural resources increased, these villages either split into new, smaller villages, or were abandoned.

Consequently, prior to European settlement, the landscape of Florida, including this area of the panhandle, 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 livestock, primarily cattle and hogs, as well as horses 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 throughout much of the Florida panhandle through most of the European settlement era from the 16th through the 20th centuries. Use of these agricultural practices began an era of increased alteration of the natural landscape. However, it wasn't until the 19th and 20th centuries that major settlement and more extensive alteration of the landscape in the area began with the widespread use of agriculture and associated development.

3.2 Current Use of the Property

Currently, JCWEA is managed for the conservation and protection of fish and wildlife habitat. A range of operational and resource management actions are conducted on JCWEA each year including activities such as wildlife habitat restoration and improvement; invasive exotic species maintenance and control; imperiled species management, monitoring and protection; conservation acquisition and stewardship activities; archeological and historical resources monitoring and protection; and research related activities. As stated previously, there is no public access permitted on the area.

3.2.1 Visitation and Economic Benefits

Specific deed restrictions do not allow consumptive use and general access by the public, therefore visitation on the JCWEA is, and will remain, very low. As a result of this limited visitation and use of the area, an FWC economic analysis for the JCWEA has not been generated.

Further revenue generating potential of the JCWEA will depend upon future uses described in this Management Plan. Additional revenue from environmental lands such as the JCWEA might include sales of various permits and educational user fees and guided educational activities, if such projects could be feasibly developed. 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 JCWEA 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 JCWEA does not permit public access and will only provide limited 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 JCWEA 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 single-use concept as possible uses to be allowed on JCWEA. 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 11.6). 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 historical resources	✓		
Primitive camping			✓
Protection of imperiled species	✓		
Off-road vehicle use			✓
Shooting sports park			✓
Soil and water conservation	✓		
Timber harvest			✓
Wildlife observation		✓	

3.3.2 Incompatible Uses and Linear Facilities

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

3.3.3 Assessment of Impact of Planned Uses of the Property

To communicate 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 JCWEA (Sections 5 -7). A detailed assessment of the benefits and potential impacts of planned uses and activities on natural and historical 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 Recommended for Potential Surplus Review

On conservation lands where FWC is the lead manager, FWC evaluates and identifies recommended areas for a potential surplus designation by DSL, ARC, and the Board of Trustees. This evaluation consists of GIS modeling and analysis, aerial photography interpretation, analysis of fish and wildlife resources, a review of resource and operational management needs, and a review of public access and recreational use of the area. Also, 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 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 JCWEA by 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. Therefore, no portion of the JCWEA is recommended for potential surplus review.

4 Management Activities and Intent

The following section provides a description of agency plans to locate, identify, protect, preserve or otherwise use fragile natural resources and nonrenewable historical resources. In general, the FWC management intent for JCWEA is to restore and maintain natural communities in a condition that sustains ecological processes and conserves biological diversity, especially fish and wildlife resources. 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, as noted earlier, the management activities described in this section are in compliance with those of the Conceptual State Lands Management Plan.

4.1 Land Management Review

Pursuant to Chapter 259.036, FS, 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." However, title to the JCWEA is held by FWC and, therefore, no land management review (LMR) is statutorily required for the area. As a result, no LMR has been conducted for the JCWEA.

4.2 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, adaptive management can involve applying a conservation action at a site, observing the results and adjusting the action in the future if warranted. [2, 3]

Proposed adaptive management, monitoring and performance measures are developed through literature reviews and 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 historical resources of JCWEA.

4.2.1 Monitoring

A well-developed monitoring protocol is also one of the principal, required criteria for the management of JCWEA. 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 FWC's Objective-Based Vegetation Management (OBVM, Section 4.3.1) program, which monitors how specific vegetative attributes are responding to FWC management. For imperiled and focal fish and wildlife species, monitoring protocols are established through FWC's Wildlife Conservation Prioritization and Recovery (WCPR, Section 4.4.2) program. FWC staff may monitor additional fish and wildlife species when deemed appropriate. Exotic and invasive plant and animal species (Section 4.5) are also monitored as needed and appropriate. Recreational uses are monitored through FWC's Public Access Services Office program, and work in conjunction with the establishment and adjustment of public access carrying capacities (Section 4.6). Historical resources (Section 4.9) are monitored with guidance from the Florida Department of State's Division of Historical Resources (DHR).

4.2.2 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.

4.2.3 Implementation

The JCWEA 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, etc.) underway to accomplish needed conservation actions that are planned to manage the natural resources of JCWEA, and resolve conservation threats to fish and wildlife and the habitats they occupy. Based on evaluations of project results, the conservation actions are revised as necessary, and the adaptive management process is repeated.

4.3 Habitat Restoration and Improvement

On JCWEA, FWC will focus on managing for native habitat diversity, emphasizing maintenance of high-quality natural communities, and restoration of any disturbed areas, as needed and appropriate. Restoration may be achieved on disturbed areas by 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. JCWEA has high-quality native communities including upland hardwood forest, floodplain forest, and floodplain swamp that FWC will continue to manage and protect.

The FNAI has conducted surveys and mapped the current vegetative communities on JCWEA. This information will be used to guide and prioritize management and restoration efforts on the area.

4.3.1 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. The FWC uses 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. The 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, FWC land managers will identify those natural communities that will influence and guide management decisions, known as the actively managed natural communities. Through OBVM monitoring, FWC collects data on a number of specific vegetation attributes that provide insight about the condition of the natural community. Because FWC is interested in the overall effect of management on the natural communities, OBVM data is analyzed at the natural community level.

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. The 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.

Consistent, long-term monitoring of managed natural communities will quantify changes in habitat conditions, provide information on the cumulative effects of management activities, and measure progress towards meeting management objectives for desired habitat conditions. Measured changes in vegetation condition are intended to be used to inform future land management actions.

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 important 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. However, the JCWEA will not currently implement any OBVM monitoring due to its size and the limited management actions that can occur on the area.

4.3.2 Prescribed Fire and Fire Management

Currently there are no fire adapted communities on the JCWEA, and due to the sensitive nature of the area the FWC works to utilize other habitat management tools as needed and feasible.

4.3.3 Habitat Restoration

Due to the size and sensitivity of the habitat on the JCWEA, there is currently no habitat restoration activities occurring on the area. However, there are periodic exotic treatments that are implemented on the JCWEA, which are further described in Section 4.5.

4.4 Fish and Wildlife Management, Imperiled and Focal Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration

4.4.1 Fish and Wildlife

In managing for wildlife species, an emphasis will be placed on conservation, protection and management of natural communities. As noted above, natural communities important to wildlife include alluvial forest, floodplain swamp, and upland hardwood forest. Although aquatic and terrestrial cave comprises less than 1 acre of the natural communities on JCWEA, the primary purpose of acquisition was to protect the cave as a maternity roost for bats. Therefore, although less represented than other natural communities, the aquatic and terrestrial cave represents a significant resource to wildlife on JCWEA.

Wildlife management emphasis is placed on documenting the occurrence and abundance of rare and imperiled species on the property. 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. Concurrent with ongoing species inventory and monitoring activities, management practices are designed to restore, enhance or maintain rare and imperiled species, and their habitats. This will be further augmented by following approved Federal and FWC species recovery plans, guidelines, and other scientific recommendations for these species. Guided by these recommendations, land management activities will address rare and imperiled species requirements and habitat needs. Section 4.4.2 below provides further information on FWC's comprehensive species management strategy for rare and imperiled wildlife and their respective habitats.

4.4.2 Imperiled and Focal Species: Wildlife Conservation Prioritization and Recovery

The FWC has identified the need to: 1) demonstrate optimal wildlife habitat conservation on FWC-managed lands; 2) develop science-based performance measures to evaluate management; 3) recover imperiled species; and 4) prevent future imperilment of declining

wildlife species. To help meet these needs, the FWC uses a comprehensive resource management approach to managing 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 FWC management, and uses the WCPR program to ensure management is having the desired 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 FWC does for imperiled and focal species on 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 FWC manages.

The WCPR program helps FWC take a proactive, science-based approach to species management on 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 wildlife management strategy for the area. Each strategy contains area-specific measurable objectives for managing priority species and their habitat, prescribes management actions to achieve these objectives, and establishes monitoring protocols to verify progress towards meeting the objectives. By providing FWC managers with information on actions they should undertake, the FWC intends for the strategy to assure the presence and persistence of Florida's endangered and threatened fish and wildlife species (see http://myfwc.com/media/1515251/threatened-endangered-species.pdf), as well as select focal species found on the area.

In summary, for FWC-managed areas, the WCPR program helps assess imperiled and focal wildlife species needs and opportunities, prioritize what 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, FWC will facilitate fulfilling the needs of focal and imperiled wildlife species on JCWEA. In the long-term, by implementing these strategies on FWC-managed lands and continuing to assess wildlife species' needs, FWC will continue to play an integral role in aiding the recovery of imperiled species and preventing the future imperilment of declining wildlife species. Following are expanded habitat and population profiles, and excerpts from the FWC's WCPR Strategy for JCWEA (Appendix 11.4) for species that were the primary

purpose of acquiring the JCWEA. WCPR focal species occurring on or near JCWEA are listed in Table 13.

Gray Bat

In Florida, gray bat colonies have been found only in Jackson County, and due to the scarcity of suitable cave roosts, colonies are not likely to occur elsewhere in the state. In 1984, researchers estimated the Florida population of gray bats contained about 10,000 individuals. Recent summer surveys in Florida have failed to find any gray bats, so the population is surely smaller now and may be gone. Causes for the decline in gray bats in Florida are not known, but the population may have shifted to larger, more suitable caves in northern Alabama that have recovered from past disturbance. However, the decline of the gray bat colony at Judges Cave and other Florida caves is not suspected to be due to any management actions. Judges Cave is 1 of 4 caves in Florida known to have contained a maternity colony of gray bats. Protection of the maternity roost (for southeastern bats and gray bats) was the primary reason for acquisition of JCWEA. Many bats in the eastern United States have also been affected by a fungal disease known as White-nose Syndrome, and this fungus usually affect bats hibernating in the winter. Most likely due to the warmer climate, so far there have been no found cases of White-nose Syndrome in Florida.

Southeastern Bat

The southeastern bat is common on JCWEA and breeding has been documented. Judges Cave is 1 of 10 regularly occupied southeastern bat maternity caves in Florida, and each breeding season it supports approximately 30,000 bats. This makes it the fifth largest maternity roost for southeastern bats in the world, and by far the largest maternity roost on public lands in Florida. Protection of the maternity roost was the primary reason for acquisition of JCWEA.

Table 14. Focal Species Occurring on or Near the JCWEA

Common Name	Scientific Name
Brown-headed nuthatch*	*Sitta pusilla*
Cooper's hawk*	*Accipiter cooperii*
Florida black bear*	*Ursus americanus floridanus*
Gray bat	*Myotis grisescens*
Northern bobwhite*	*Colinus virginianus*
Southeastern bat	*Myotis austroriparius*

*Limited opportunity species: These species have the potential to occur on the area, however are not the primary management focus.

4.5 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 JCWEA. 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.

Exotic and invasive plant species known to occur on the JCWEA and treated annually by FWC include Chinese privet, Chinese tallowtree, glossy privet, heavenly bamboo, Japanese climbing fern. Exotic and invasive plant species have been identified as occurring at varying densities on approximately 37.3 acres of the JCWEA. However, the FWC's methodology for determining the number of acres "infested" with invasive exotic plants only represents a cumulative acreage, and does not reflect the degree of the invasive exotic occurrence. The degree of infestation among areas identified with invasive exotic plant occurrences often varies substantially by species, level of disturbance, environmental conditions, and the status of ongoing eradication and control efforts. The FWC will continue to focus treatments on areas identified as having invasive exotic plant occurrences, as well as treating any new occurrences as they are identified through continued monitoring.

Additionally, the FWC will continue efforts to control the introduction of exotic and invasive species, as well as pests and pathogens, on the JCWEA by inspecting any vehicles and equipment brought onto the area by contractors and requiring that they be free of vegetation and dirt. If vehicles or equipment used by contractors are found to be contaminated, they will be referred to an appropriate location to clean the equipment prior to being allowed on the area. This requirement is included in every contract for contractors who are conducting any operational or resource management work on the area. In this way, FWC implements a proactive approach to controlling the introduction of exotic pests and pathogens to the area.

An exotic animal species of concern on the JCWEA is the feral hog. These animals have high reproductive rates, and when populations reach high densities, feral hogs can significantly degrade natural communities through foraging activity (rooting). The FWC will consult with other regional natural resource managing agencies and private landowners to coordinate feral hog control measures as necessary. Trapping is another measure that may be implemented to augment ongoing feral hog control efforts and to further reduce the natural community damage and degradation caused by this species. JCWEA has also erected a fence perimeter around the cave, which has found to be a control measure for feral hogs, and has prevented their roosting around or near the cave.

4.6 Public Access and Recreational Opportunities

Due to the sensitive nature of the JCWEA, there is currently no public access permitted on the area.

4.6.1 Americans with Disabilities Act

When public facilities are developed on areas managed by 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 historical resources, or significant natural features and their characteristics.

2. Compliance will substantially alter the nature of the setting and therefore the purpose of the facility.

3. Compliance would not be feasible due to terrain or prevailing construction practices.

4. Compliance would require construction methods or materials prohibited by federal or state statutes, or local regulations.

4.7 Hydrological Preservation and Restoration

The JCWEA does not contain any surface or natural bodies of water, however the FWC will continue to work with the NWFWMD and DEP on monitoring groundwater resources and water quality. The FWC will also continue to utilize data from ground water monitoring wells, and surface water monitoring locations adjacent or nearby JCWEA.

4.8 Forest Resource Management

There are no substantial timber resources on the JCWEA. As a result, the FWC and the FFS have determined that a professional forest assessment for the JCWEA is unnecessary. The FWC will cooperate with the FFS or a qualified professional forestry consultant regarding any forest management activities should they become necessary or appropriate.

4.9 Historical Resources

Procedures outlined by DHR will be followed to preserve any historical sites found on JCWEA. The FWC will consult with DHR in an attempt to locate any additional historical features on the area. In addition, FWC will ensure management staff has DHR

Archaeological Resources Monitoring training. The FWC will refer to and follow DHR's Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties for management of these resources, and prior to any facility development or other ground disturbing activities. Furthermore, as appropriate and necessary, FWC will contact professionals from DHR for assistance prior to any ground-disturbing activity on JCWEA.

To date, the DHR Master Site File indicates zero known historic sites on JCWEA. However, the FWC believes there to be a possible limestone quarry on the site that has the potential to be listed on the Florida Master Site File. As noted in section 5.7, the FWC will consult with DHR to obtain a cultural resource survey of the area during this planning period.

4.10 Capital Facilities and Infrastructure

The FWC's land management philosophy is designed to conserve the maximum amount of wildlife habitat while providing the minimal number of capital facilities and infrastructure necessary to effectively conduct operational and resource management activities. Currently there is one capital facility and infrastructure on the JCWEA, which is a security fence surrounding the cave on the northwest portion of the area.

As described in Section 4.6.1 of this Management Plan, for any public facilities that are developed on areas managed by FWC, every effort is made to comply with the Americans with Disabilities Act (Public Law 101-336).

4.11 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 FWC to further the regional conservation of important fish and wildlife habitats through a proactive, comprehensive, and cooperative approach towards conservation.

4.11.1 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 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 an FWC managed area is contained while eliminating urban areas or lands that have already been conserved or protected.

4.11.2 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 historical resources.

The OCPB provides the basis for development of a broader CAS for JCWEA. 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.

4.11.3 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:

- FWC Landowner Assistance Program
- FWC conservation planning
- 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 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 FWC's Landowner Assistance Program (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 FWC's LAP program and online habitat management tools are available online at: http://myfwc.com/conservation/special-initiatives/lap/ .

4.11.4 FWC Florida Forever Additions and Inholdings Acquisition List

Currently, FWC has identified approximately 105 acres of potential additions for JCWEA. In addition, 12,447 acres of the Middle Chipola River Florida Forever project remain to be acquired. Upon completion of the CAS, additions to the FWC Florida Forever Additions and Inholdings acquisition list may be recommended.

4.12 Research Opportunities

The FWC intends to cooperate with researchers, universities, and others as feasible and appropriate. For JCWEA, 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 JCWEA must have prior approval by FWC.

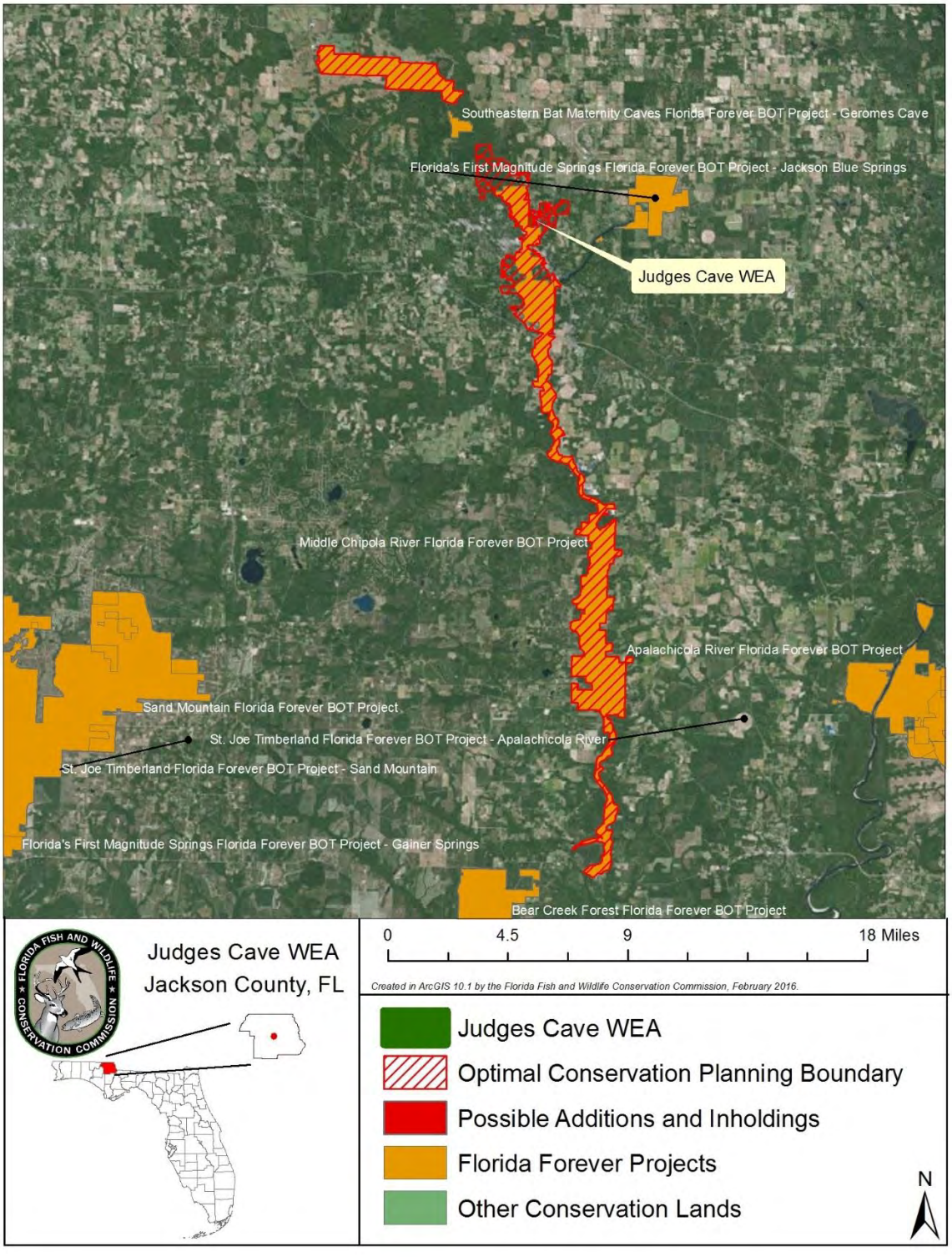

Figure 10. JCWEA Optimal Conservation Planning Boundary (Zoom Out)

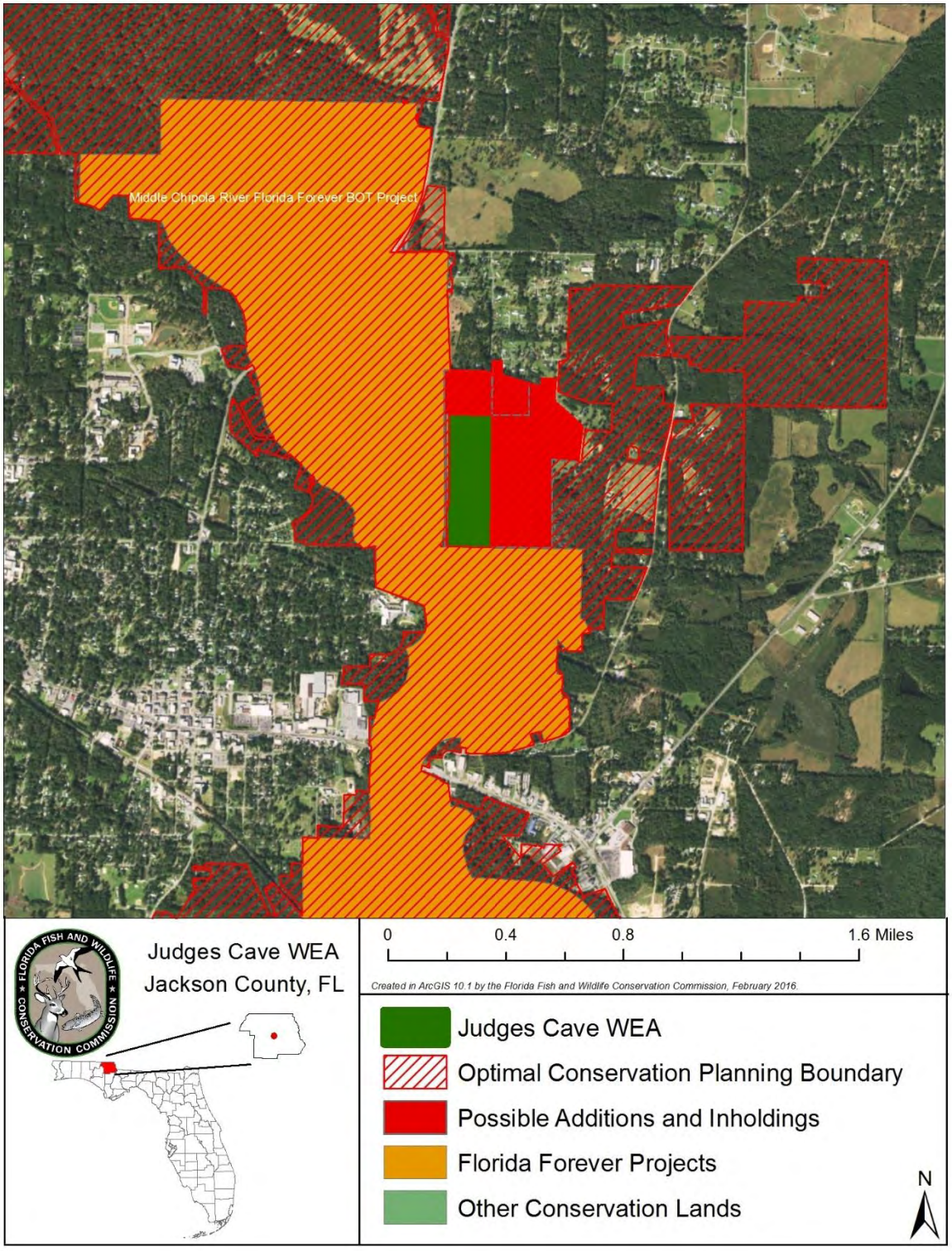

Figure 11. JCWEA - Optimal Conservation Planning Boundary (Zoom In)

4.13 Cooperative Management and Special Uses

The FWC is responsible for the overall management and operation of JCWEA as set forth in the lease agreements with TNC. In keeping with the lease agreements, and in order to conduct its management operations in the most effective and efficient manner, the FWC may cooperate 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 11.9) are followed with regard to any ground-disturbing activities. In addition, the FFS assists FWC by providing technical assistance on forest resource management. Also, FWC cooperates and consults with the NWFWMD and DEP for the monitoring and management of both ground and surface water resources and the overall management of JCWEA.

4.13.1 First Responder and Military Training

Given the area's characteristics, first responder (public governmental police department or agency, fire and emergency medical service personnel) training and military training are not allowed on JCWEA.

4.13.2 Apiaries

Currently, there are no apiaries operating on JCWEA.

4.14 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, 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, 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 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, FWC will participate in organizations such as the Peninsular Florida Land Conservation Cooperative or similar organizations so that FWC continues to gain understanding and

share knowledge of key issues related to potential climate change. In addition, 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 FWC managed land.

To address the potential impacts of climate change on the JCWEA, Goals and Objectives have been developed as a component of this Management Plan (Section 5.12). FWC also maintains dataloggers inside and around JCWEA to record temperature, and this data can assist with detecting changes in the cave environment associated with any climate change. 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 JCWEA Management Plan in the future.

4.15 Soil and Water Conservation

Soil disturbing activities will be confined to areas that have the least likelihood of experiencing erosion challenges. On areas that have been disturbed prior to acquisition, an assessment will be made to determine if soil erosion is occurring, and if so, appropriate measures will be implemented to stop or control the effects of this erosion.

5 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 JCWEA. 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.

5.1 Habitat Restoration and Improvement

Goal: Improve extant habitat and restore disturbed areas.

Long-term

5.1.1 Update mapping of historic and current natural communities, as needed.

5.1.2 Update plant survey, as needed.

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

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

Short-term

5.2.1 Continue to implement the WCPR strategy by managing identified habitats and monitoring identified species.

5.2.2 Monitor 2 imperiled and focal species. (Southeastern and Gray Bat)

5.2.3 Continue to collect opportunistic wildlife species occurrence data.

5.2.4 Continue to protect and maintain habitat for bat species using Judges Cave by treating invasive exotic plants, removing any vegetation obstructing the cave entrance, and taking corrective actions to prevent trespass, if necessary.

5.2.5 Continue to coordinate with FWRI on monitoring and research projects that will enhance management and protection of focal species using Judges Cave.

Long-term

5.2.1 Continue to implement WCPR strategy by managing identified habitats and monitoring identified species.

5.2.2 Continue to monitor 2 imperiled and focal species. (Southeastern and Gray Bat)

5.2.3 Continue to collect opportunistic wildlife species occurrence data.

5.2.4 Continue to protect and maintain habitat for bat species using Judges Cave by treating invasive exotic plants, removing any vegetation obstructing the cave entrance, and taking corrective actions to prevent trespass, if necessary.

5.2.5 Continue to coordinate with FWRI on monitoring and research projects that will enhance management and protection of focal species using Judges Cave.

5.2.6 Revise and update the area's WCPR Strategy.

5.2.7 Update rare plant survey.

5.3 Other Wildlife (Game and Nongame) habitat maintenance, enhancement, restoration, or population restoration.

Short-term

5.3.1 Continue to collect opportunistic wildlife occurrence data.

5.3.2 Continue to monitor for bat use.

Long-term

5.3.3 Continue to collect opportunistic wildlife occurrence data.

5.3.4 Continue to monitor for bat use.

5.4 Exotic and Invasive Species Maintenance and Control

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

Short-term

5.4.1 Biennially treat at least 37 acres of EPPC Category I and Category II invasive exotic plant species.

Long-term

5.4.2 Continue to biennially treat at least 37 acres of EPPC Category I and Category II invasive exotic plant species.

5.5 Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities.

Short-term

5.5.1 Cooperate with other agencies, County, stakeholders, and regional landowners to investigate regional recreational opportunities including linking hiking, and multi-use trail systems between adjacent public areas.

5.5.2 Continue to identify partnerships that could provide for environmental educational programs and outreach.

Long-term

5.5.3 Cooperate with other agencies, County, stakeholders, and regional landowners to investigate regional recreational opportunities including linking hiking, and multi-use trail systems between adjacent public areas.

5.5.4 Continue to identify partnerships that could provide for environmental educational programs and outreach.

5.6 Hydrological Preservation and Restoration

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

Short-term

5.6.1 Continue to cooperate with NWFWMD and DEP, and utilize data from ground water monitoring wells and surface water monitoring location adjacent or nearby JCWEA, for monitoring groundwater resources and water quality.

Long-term

5.6.2 Continue to cooperate with NWFWMD and DEP, and utilize data from ground water monitoring wells and surface water monitoring location adjacent or nearby JCWEA, for monitoring groundwater resources and water quality.

5.7 Historical Resources

Goal: Protect, preserve and maintain historical resources.

Short-term

5.7.1 Ensure all known sites are recorded in the Florida Division of Historical Resources Master Site file.

5.7.2 Coordinate with DHR to assess the need for conducting a cultural resource survey.

Long-term

5.7.3 Cooperate with DHR to manage and maintain known existing cultural resources.

5.7.4 Coordinate with DHR for cultural resource management guideline staff training.

5.8 Capital Facilities and Infrastructure

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

Short-term

5.8.1 Continue to maintain, improve, or repair 1 facility. (cave security fence)

Long-term

5.8.2 Maintain, improve, repair, or replace 1 facility. (cave security fence)

5.9 Land Conservation and Stewardship Partnerships

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

Short-term

5.9.1 Identify potential important wildlife habitat, landscape-scale linkages, wildlife corridors, and operational/resource management needs.

5.9.2 Identify and develop conservation stewardship partnerships.

5.9.3 Identify and pursue conservation acquisition needs.

5.9.4 Develop and maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC OCPB and for FWC's LAP and Land Acquisition Programs.

5.9.5 Develop a Conservation Action Strategy.

5.9.6 Contact and inform adjoining landowners about the FWC LAP to pursue non-acquisition conservation stewardship partnerships.

5.9.7 Determine which parcels should be added to the FWC acquisition list.

5.9.8 Identify potential non-governmental organization partnerships and grant program opportunities.

5.9.9 Determine efficacy of conducting an adjacent landowner's assistance/conservation stewardship partnership workshop.

5.9.10 Identify potential conservation easements donations.

5.9.11 Evaluate and determine if any portions of JCWEA are no longer needed for conservation purposes, and therefore may be designated as surplus lands.

Long-term

5.9.1 To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed OCPB for JCWEA as appropriate and necessary.

5.9.2 Continue to identify and develop conservation stewardship partnerships.

5.9.3 Continue to identify and pursue conservation acquisition needs.

5.9.4 Continue to maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC OCPB and for the FWC LAP and Land Acquisition Program.

5.9.5 Continue to propose nominations of selected properties as additions to the FWC acquisition list.

5.9.6 Continue to pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow.

5.9.7 As feasible, continue to periodically contact and meet with adjacent landowners for willingness to participate in the Conservation Action Strategy, and coordinate landowner assistance/conservation stewardship partnership workshops as deemed appropriate.

5.9.8 As feasible, coordinate and conduct landowner assistance/conservation stewardship partnership workshop(s) as necessary and appropriate.

5.9.9 Continue to identify potential conservation easements donations.

5.9.10 Continue to evaluate and determine if any portions of JCWEA are no longer needed for conservation purposes, and therefore may be designated as surplus lands.

5.10 Cooperative Management and Special Uses

Short-term

5.10.1 Continue to cooperate with adjacent landowners regarding access and ongoing management activities.

Long-term

5.10.2 Continue to cooperate with adjacent landowners regarding access and ongoing management activities.

5.11 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 JCWEA.

Long-term

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

5.11.2 Incorporate appropriate climate change monitoring protocols and management strategies into the OBVM program for the JCWEA.

5.11.3 As science, technology, and climate policy evolve, educate natural resource management partners and the public about the agency's policies, programs and efforts to study, document and address potential climate change; assess the need to incorporate public education about climate change into FWC's public education curriculum.

5.12 Research Opportunities

Goal: Explore and pursue cooperative research opportunities.

Long-term

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

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

5.12.3 Continue to assess the need for and pursue research and environmental education partnership opportunities as appropriate.

6 Resource Management Challenges and Strategies

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

6.1 Challenge: Along the deeded easement, currently there is no vehicular access to the area for area staff.

6.1.1 Strategy: Continue to work with adjacent landowners for access.

6.1.2 Strategy: Improve the deeded easement to accommodate vehicle access.

6.2 Challenge: Currently there is a threat of illegal use and activity ongoing on the area.

6.2.1 Strategy: Continue to work with FWC LE and Jackson County Law Enforcement to patrol illegal use on the area.

6.2.2 Strategy: Install cameras and remote sensory monitoring on the area.

6.2.3 Strategy: Improve existing fence structure and increase buffer around the cave entrance.

6.3 Challenge: Currently there is threat of possible diseases affecting the bat population on the area.

6.3.1 Strategy: Continue to limit access to the area.

6.3.2 Strategy: Continue to monitor the cave and bat populations on the area.

6.3.3 Strategy: Continue to incorporate disease prevention measures.

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

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

6.4.2 Strategy: Explore conservation stewardship and acquisition opportunities to secure habitat necessary to preserve the area's resources.

6.5 Challenge: Exotic invasive plants from adjacent private lands are spreading to JCWEA.

6.5.1 Strategy: Coordinate with FWC's Landowner Assistance Program to work with adjacent landowners to control and manage exotic invasive plants on adjacent properties.

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

6.6 Challenge: Working with ongoing requests or pressures from outside entities for public use.

6.6.1 Strategy: Work with other governmental and private organizations regarding incompatible and recreational uses on the area, in order to protect the area's resources.

7 Cost Estimates and Funding Sources

The following represents the actual and unmet budgetary needs for managing the lands and resources of JCWEA. This cost estimate was developed using data developed by 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 estimate below, although exceeding what FWC typically receives through the appropriations process, is estimated to be what is necessary for optimal management, and is consistent with the current and planned resource management and operation of JCWEA. Cost estimate categories are those currently recognized by FWC and the Land Management Uniform Accounting Council. More information on these categories, as well as the Fiscal Year 2016 operational plan showing detailed cost estimates by activity and categories of expenditures, may be found in Appendix 11.7.

Judges Cave WEA Management Plan Cost Estimate

Maximum expected one year expenditure

Resource Management	Expenditure	Priority
Exotic Species Control	$1,019	(1)
Prescribed Burning	$0	(1)
Cultural Resource Management	$1,280	(1)
Timber Management	$314	(1)
Hydrological Management	$0	(1)
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	$8,331	(1)
Subtotal	**$10,944**	
Administration		
General administration	**$1,072**	(1)
Support		
Land Management Planning	$13,201	(1)
Land Management Reviews	$2,787	(3)
Training/Staff Development	$314	(1)
Vehicle Purchase	$0	(2)
Vehicle Operation and Maintenance	$966	(1)
Other (Technical Reports, Data Management, etc.)	$888	(1)
Subtotal	**$18,157**	
Capital Improvements		
New Facility Construction	$0	(2)
Facility Maintenance	$4,442	(1)
Subtotal	**$4,442**	
Visitor Services/Recreation		
Info./Education/Operations	**$758**	(1)
Law Enforcement		
Resource protection	**$0**	(1)
Total	**$35,372**	*

Priority schedule:
(1) Immediate (annual)
(2) Intermediate (3-4 years)
(3) Other (5+ years)

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

Judges Cave WEA Management Plan Cost Estimate
Ten-year projection

Resource Management	Expenditure	Priority
Exotic Species Control	$8,952	(1)
Prescribed Burning	$0	(1)
Cultural Resource Management	$11,245	(1)
Timber Management	$2,756	(1)
Hydrological Management	$0	(1)
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	$73,200	(1)
Subtotal	**$96,153**	
Administration		
General administration	**$9,416**	(1)
Support		
Land Management Planning	$115,987	(1)
Land Management Reviews	$7,979	(3)
Training/Staff Development	$2,756	(1)
Vehicle Purchase	$0	(2)
Vehicle Operation and Maintenance	$8,488	(1)
Other (Technical Reports, Data Management, etc.)	$7,806	(1)
Subtotal	**$143,016**	
Capital Improvements		
New Facility Construction	$0	(2)
Facility Maintenance	$39,028	(1)
Subtotal	**$39,028**	
Visitor Services/Recreation		
Info./Education/Operations	**$6,659**	(1)
Law Enforcement		
Resource protection	**$0**	(1)
Total	**$294,272**	*

Priority schedule:
(1) Immediate (annual)
(2) Intermediate (3-4 years)
(3) Other (5+ years)

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

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

The following management and restoration activities have been considered for outsourcing to private entities. It has been determined that items selected as "approved" below are those that 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 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		✓	

9 Compliance with Federal, State, and Local Governmental Requirements

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

When public facilities are developed on areas managed by 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 JCWEA 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 FWC as described in its Agency Strategic Plan (Appendix 11.6). Such uses also comply with the authorities of the FWC as derived from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters, 253, 259, 327, 370, 379, 403, 870, 373, 375, 378, 487, and 597 FS.

The FWC has developed and utilizes an Arthropod Control Plan for JCWEA in compliance with Chapter 388.4111 F.S. (Appendix 11.10). This plan was developed in cooperation with the local Jackson County arthropod control agency. This plan is also in conformance with the Local Government Comprehensive Plan as approved and adopted for Jackson County, Florida, (Appendix 11.11).

10 Endnotes

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[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.

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[16] 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.

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11 Appendices

11.1 Lease Agreement

13.00 R.
1.45 at
13.45

OR
BOOK 277 PAGE 299

SPECIAL WARRANTY DEED

THIS WARRANTY DEED, made this 11th day of January, 1983 between THE NATURE CONSERVANCY, a nonprofit corporation organized and existing under the laws of the District of Columbia, and having its principal place of business at 1800 North Kent Street, Suite 800, Arlington, Virginia 22209, and lawfully authorized to transact business in the State of Florida, party of the first part, and the STATE OF FLORIDA, GAME AND FRESH WATER FISH COMMISSION, party of the second part,

W I T N E S S E T H :

That the said party of the first part, for and in consideration of the sum of Ten Dollars ($10.00) cash and other good and valuable consideration to it in hand paid, the receipt of which is hereby acknowledged, has granted, bargained, sold and conveyed to said party of the second part, its successors and assigns forever, the following described land situate, lying and being in the County of Jackson, State of Florida, and more fully described as follows:

Commencing at the Southwest Corner of Section 35, Township 5 North, Range 10 West, Jackson County, Florida; thence South 89° 14' 17" East along the South line of said Section 35, 40.28 feet to the POINT OF BEGINNING: Thence North 00° 48' 36" West, 2400.85 feet; thence South 89° 14' 17" East, 718.12 feet; thence South 01° 07' 13" West, 2400.00 feet to said South line of Section 35; thence North 89° 14' 17" West, along said South line, 637.25 feet to the Point of Beginning. Said parcel contains 37.33 acres more or less.

And the said party of the first part 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 Party of the First Part.

THIS INSTRUMENT PREPARED BY
Camilla M. Herlevich
The Nature Conservancy
P.O. Box 270
Chapel Hill, NC 27514

RECEIVED THIS 17 DAY OF
Jan 19 83 $ 45
IN PAYMENT OF DOCUMENTARY STAMPS
AND $ -0- INTANGIBLE TAX
DAUN CREWS
CLERK OF COURT
JACKSON COUNTY, FLORIDA
BY Dorothy Spence D.C.

EXCEPTING HOWEVER, that the Grantor, its successors and assigns reserve and retain all oil, gas and mineral rights in and under said property which are currently owned by Grantors.

THIS CONVEYANCE is made subject to the express condition and limitation that the premises herein conveyed, known as Marianna Bat Cave, shall forever be held and maintained as a natural area for management as a wildlife preserve, without any disturbance whatever of habitat or plant or animal populations, excepting as may be appropriate to effectuate the foregoing purpose to-wit: management as a wildlife preserve without impairing the essential natural character of the premises. Should the premises cease to be used solely as provided herein, then the property hereby conveyed to the State of Florida, Game and Fresh Water Fish Commission may be terminated by The Nature Conservancy under a power of termination in the nature of a right of entry for condition broken or executory interest, which right, if exercised by The Nature Conservancy upon violation of the above conditions, is exercised by mailing a notice of violation by certified mail to the Grantee, its successors or assigns. Said notice shall declare that the power of termination has been exercised and shall state the breach which caused the action. A copy of the notice shall simultaneously be recorded on the appropriate land records.

AS PART CONSIDERATION for this deed and by acceptance thereof, the Grantee agrees to erect and maintain a permanent plaque or other appropriate marker at a prominent location on the within described premises bearing the following statement: "This Area Was Acquired With The Assistance Of The Nature Conservancy," as well as any other such similar and appropriate recognition monuments.

IN WITNESS WHEREOF, the said party of the first part has caused these presents to be signed in its name by its proper officers, and its corporate seal to be affixed, attested by its Secretary, the day and year first above written.

Signed, sealed and delivered in the presence of us:

Susan Baum

Eva Lively

THE NATURE CONSERVANCY

Thomas M Massengale

Its: Vice President

ATTEST:

Camilla M. Herlevich

Its Assistant Secretary

Dale Dennis

'83 JAN 17 AM 8 52

FILED FOR RECORD

OR 277 PG 299

374621

STATE OF NORTH CAROLINA §
§
COUNTY OF ORANGE §

I, Jeannette M. Gunther, a Notary Public duly authorized in the County and State aforesaid, do hereby certify that on this day personally appeared before me THOMAS M. MASSENGALE and CAMILLA M. HERLEVICH, who executed the foregoing writing as the Vice President and Assistant Secretary of The Nature Conservancy, and acknowledged before me that they executed the same as such officers in the name of and for and on behalf of the said entity.

IN WITNESS WHEREOF I have hereunto set my hand and seal this 11th day of January, 1983.

Jeannette M. Gunther

NOTARY PUBLIC

My Commission Expires: March 23, 1987

JEANNETTE M. GUNTHER NOTARY PUBLIC

My Commission Expires ... 1987

SCHEDULE B

This policy does not insure against loss or damage by reason of the following:

1. The lien of all taxes for the year 19 , and thereafter.
2. Any lien, or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
3. Any encroachments, easements, measurements, variations in area or content, party walls or other facts which a correct survey of the premises would show.
4. Rights or claims of parties in possession.
5. Roads, ways, streams or easements, if any, not shown of record, riparian rights and the title to any filled-in lands.
6. Easements or claims of easements not shown by the public records.
7. Title to personal property not insured.
8. All Applicable zoning ordinances and regulations.
9. Any right of way for public road or public utility purposes now in use.
10. Taxes: State and County taxes for the year 1983 and subsequent years.
11. Any City assessment for street paving, curbing, sidewalks, etc.
12. Title to bottoms of lakes, rivers or other bodies of water located on or within the land described herein.
13. Power Line Easement deed from Ronnie G. Myers and Kitty Nell Myers to Florida Public Utilities Company dated 9/15/80 and recorded 9/16/80 in OR Book 233, page 507, public records of Jackson County, Florida.

Item No.1 is hereby eliminated and replaced with time No. 10.

FORM T-423 (B) 1/77

ALTA Owner's Policy - Form A - (Amended 10/17/70)

american title insurance company

Rate $ Premium $

SCHEDULE A

Date of Policy 1/17/83 POLICY NO. O 061929

Amount of Insurance $ 30,000.00 Related Commitment No. 813242

1. Name of Insured:

State of Florida, Game and Fresh Water Fish Commission

2. The estate or interest in the land described herein and which is covered by this policy is:

fee simple

3. The estate or interest referred to herein is at date of policy vested in:

State of Florida, Game and Fresh Water Fish Commission

4. The land referred to in this policy is situated in the County of Jackson State of Florida and is described as follows:

Commencing at the Southwest Corner of Section 35, Township 5 North, Range 10 West Jackson County, Florida; thence S89°14'17"E along the South line of said Section 35, 40.28 feet to the POINT OF BEGINNING; thence N00°48'36"W, 2400.85 feet; thence S89°14'17"E, 718.12 feet; thence S01°07'13"W, 2400.00 feet to said South line of Section 35; thence N89°14'17"W along said South line, 637.25 feet to the Point of Beginning.

TOGETHER WITH an easement for the purpose of ingress and egress described as: Commencing at the Southwest Corner of Section 35, Township 5 North, Range 10 West, Jackson County, Florida; thence S89°14'17"E along the South line of said Section 35, 677.53 feet; thence N01°07'13"E, 2400.00 feet to the Beginning of an Ingress and Egress Easement lying 20.0 feet to the left of the following described line: Thence N01°07'13"E, 1000.35 feet to the South side of Clayton Drive and the Point of Termination.

Florida Land Title & Trust Company

Countersigned and Validated

BY _____
AUTHORIZED REPRESENTATIVE

Harry W. Dunaway, Vice President

POLICY OF TITLE INSURANCE

Issued by

american title insurance company

Miami, Florida
A STOCK COMPANY

a subsidiary of The Continental Corporation

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS CONTAINED IN SCHEDULE B AND THE PROVISIONS OF THE CONDITIONS AND STIPULATIONS HEREOF, AMERICAN TITLE INSURANCE COMPANY, a Florida corporation, herein called the Company, insures, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the amount of insurance stated in Schedule A, and costs, attorneys' fees and expenses which the Company may become obligated to pay hereunder, sustained or incurred by the insured by reason of:

1. Title to the estate or interest described in Schedule A being vested otherwise than as stated therein;
2. Any defect in or lien or encumbrance on such title;
3. Lack of a right of access to and from the land.

This policy shall not be valid or binding until Schedule A has been countersigned by either a duly authorized agent or representative of the Company and Schedule B has been attached hereto.

IN WITNESS WHEREOF, American Title Insurance Company has caused its corporate seal to be hereunto affixed and these presents to be signed in facsimile under authority of its by-laws.

american title insurance company

President

ATTEST:

Secretary

AMERICAN TITLE INSURANCE COMPANY INCORPORATED 1936 SEAL FLORIDA

ORM T-423 1/77

AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY – FORM A 1970 (AMENDED OCTOBER 17, 1970)

11.2 Definition of Management Plan Terms

Management Plan Goals and Objectives

Terms and Definitions

Assessment: Assessment—when a historic resource professional determines the possible effects—positive or negative—that an action or inaction may have on a historical resource (e.g., site, building, object or structures) by analyzing its current condition and documenting any modifications and changes to its original state as well as identifying any potential human or natural threats to its existence.

Capital Improvement: Capital improvement" or "capital project expenditure" means those activities relating to the acquisition, restoration, public access, and recreational uses of such lands, water areas, and related resources deemed necessary to accomplish the purposes of this chapter. Eligible activities include, but are not limited to: the initial removal of invasive plants; the construction, improvement, enlargement or extension of facilities' signs, firelanes, access roads, and trails; or any other activities that serve to restore, conserve, protect, or provide public access, recreational opportunities, or necessary services for land or water areas. Such activities shall be identified prior to the acquisition of a parcel or the approval of a project. The continued expenditures necessary for a capital improvement approved under this subsection shall not be eligible for funding provided in this chapter.

Desired future condition: Desired Future Condition is a description of the land or resource conditions that are believed necessary if management goals and objectives are fully achieved. Desired Future Condition varies by specific habitat and ecosystem. It can also vary, based upon a specific agency's management goals.

Evaluation: Review by a professional in archaeology, history or architecture as to the integrity and significance of the site, building or structure. The criteria of the National Register of Historic Places will be applied.

Facility: All developed structures and improvements provided for a specific purpose or contained within a clearly defined area.

Fire management plan: An element of the land management plan or an independent document that outlines the goals and objectives of a fire management program (prescribed and wildfire) for a predetermined period of time.

Historic: An object, site or structure that is 50 years or older.

Hydrological assessment: A documented, systematic evaluation by a qualified professional of the existing and historical quantity, quality, movement and function of water resources (e.g., computer modeling).

Imperiled species: A species or subspecies that is listed by the U.S. Fish and Wildlife Service as Endangered or Threatened; Florida Fish and Wildlife Conservation Commission (FWC) as Endangered, Threatened, or Special Concern; Florida Department of Agriculture and Consumer Services (FDACS) as Endangered or Threatened; or is tracked by Florida Natural Areas Inventory (FNAI) as globally or state Critically Imperiled or Imperiled. Imperiled Species does NOT refer to species that are on the FDACS list of commercially exploited plants that are not Endangered or Threatened.

Improve: The enhancement or expansion of facilities, roads and trails.

Maintenance: The daily or regular work of keeping facilities, roads and trails in proper condition.

Monitoring: Periodic examination of the site, building or structure to determine the current condition and threats such as erosion, structural deterioration, vegetation intrusion, poaching or vandalism. An updated Florida Master Site File form is used to complete this assessment.

Natural community/habitat/ecological improvement: Similar to restoration but on a smaller, less intense scale. Typically includes small scale vegetation management activities, spot treatments of exotic plants, or minor habitat manipulations. Any habitat alteration that increases the diversity of a habitat or increases the population of a particular species.

Natural community/habitat/ecological restoration: The process of assisting the recovery and natural functioning of degraded natural communities to desired future condition, including the re-establishment of biodiversity, ecological processes, vegetation structure, and physical characters. Activities may include vegetative treatments (e.g., hardwood removal, mechanical treatment, pine tree thinning, etc.), groundcover establishment, non-commercial tree plantings, erosion control, hydrological manipulation (filling ditches), and beach management.

Not in maintenance condition: Species composition and/or structure is outside the targeted range. The natural community is in need of more frequent or recurring management treatments that are beyond maintenance activities. Examples include natural communities with exotic plant or animal infestations that are at levels requiring significant treatment,

natural communities that have exceeded maximum targeted fire return intervals, and natural communities in need of restoration treatments.

Poor, fair, good condition: Evaluating the condition of cultural resources is accomplished using a three-part evaluative scale, expressed as good, fair and poor. These terms describe the present condition, rather than comparing what exists against the ideal. "Good" describes a condition of structural stability and physical wholeness, where no obvious deterioration other than normal occurs. "Fair" describes a condition in which there is a discernible decline in condition between inspections, and the wholeness or physical integrity is and continues to be threatened by factors other than normal wear. A "fair" assessment is cause for concern. "Poor" describes an unstable condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests immediate action is needed to reestablish physical stability.

Population survey: Using broadly accepted methodologies to detect changes in population trends over time.

Public access: Access by the general public to state lands and water, including vessel access made possible by boat ramps, docks, and associated support facilities, where compatible with conservation and recreation objectives.

Recorded: A Florida Master Site File form has been completed and filed with the Florida Department of State, Division of Historical Resources.

Recreational/visitor opportunity: Measure of potential number of users based on existing resource conditions and developed facilities.

Repair (major): The restoration of facilities, road and trails to proper condition after damage or failure.

Restoration underway: Restoration planning/design, executing, evaluating and reporting.

Restored/Maintenance condition: (refers to natural community) - Within the range of target species composition and structure such that nosignificant, non-recurring alterations to structure or species composition are needed for ecological restoration. Invasive exotic plants or animals are absent or at levels requiring minimal recurring treatments, and prescribed fire rotations are within target intervals. Refers to Natural Communities. Includes NCs that meet DFC, and NCs that have received restoration action (such as thinning, clear-cut and native species planting) and only require time and recurring maintenance actions such as prescribed fire, maintenance level exotics control, or sustainable forestry practices if applicable.

Road: A paved or unpaved motor vehicle route unless identified and managed as a trail.

Significant: Listed in or determined eligible for listing in the National Register of Historic Places as an individual property, element of a multiple listing or in an historic district. Cultural resource professionals are able to make the determination, but final determination rests with the Director of the Division of Historical Resources.

Sustainable forestry: The stewardship and harvest of forest products in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality, and potential to fulfill, now and in the future, relevant ecological, economic, and social functions at local, national and global levels, and that does not cause damage to other ecosystems.

Systematic survey: A sampling protocol designed to assess the occurrence or population status of a species or a suite of species (e.g., presence/absence, mark and recapture, transect survey, etc.).

Trail: A linear route or path which has been specifically prepared or designed for one or more recreational functions such as hiking, biking, horseback riding or multiple use. In many cases, unimproved service roads are also designated as trails.

Treatment: A mechanical, chemical, biological or manual action that changes the structure or composition of an area in order to facilitate restoration or improvement.

Visitor carrying capacity: An estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site.

Wildlife activities: Wildlife-associated recreation such as birdwatching, fishing, hunting, etc.

11.3 Soil Series Descriptions

Map Unit Description

Jackson County, Florida

[Minor map unit components are excluded from this report]

Map unit: 44 - Oktibbeha variant-Rock outcrop complex, 5 to 12 percent slopes

Component: Oktibbeha variant (60%)

The Oktibbeha variant component makes up 60 percent of the map unit. Slopes are 5 to 12 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of clayey marine deposits. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 50 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. 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 4 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Rock outcrop (20%)

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

Map unit: 64 - Yonges-Herod association

Component: Yonges (40%)

The Yonges component makes up 40 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is 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 frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Herod (35%)

The Herod component makes up 35 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

11.4 WCPR Species Management Strategy

Apalachee WMA and Judges Cave WEA
Species Management Strategy
February 2012

Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Terrestrial Habitat Conservation and Restoration Section
A product of the Wildlife Conservation,
Prioritization and Recovery Program

Executive Summary

The Florida Fish and Wildlife Conservation Commission's (FWC) Terrestrial Habitat Conservation and Restoration section (THCR) takes a proactive, science-based approach to species management on lands in the Wildlife Management Area/Wildlife and Environmental Area (WMA/WEA) system. This approach uses information from statewide models in conjunction with input from species experts and people with knowledge of 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. FWC intends for this strategy to: 1) provide land managers with information on actions they should take 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 an approach to evaluating focal species needs within an ecosystem management approach for Apalachee Wildlife Management Area (AWMA) and Judges Cave Wildlife and Environmental Area (JCWEA). Natural community management focused on a set of focal species provides benefits to a host of species reliant upon these natural communities. Monitoring select species provides information that verifies whether natural community management is having the desired effect on wildlife. Throughout the process, to maximize the potential benefit of management on these areas, we considered the role of these areas in regional and statewide conservation initiatives.

Section 1 informs the reader about the process used to generate this document. Section 2 describes the historic and ongoing management actions on the properties. Section 3 provides a list of focal and listed species on the areas, and an assessment of each species' level of opportunity/need. This includes species-specific goals and objectives when appropriate. Objectives are identified for 5 species on these areas: gopher frog, Bachman's sparrow, brown-headed nuthatch, northern bobwhite, and southeastern American kestrel. Section 4 describes specific land management actions recommended for focal species. This includes Strategic Management Areas (SMA) and Objective-Based Vegetation Management (OBVM) considerations. An SMA is an area in which FWC will apply specific land or species management action(s) to facilitate conservation of a species or group of species. Staff identified 1 SMA focusing on northern bobwhite on AWMA, and 1 SMA focusing on cave protection and research at JCWEA. This section also discusses management necessary to facilitate continued persistence of focal species. Section 5 describes species-specific management (e.g., restocking, nest structures), species monitoring prescribed for the area, and research that would be necessary to guide future management efforts. We describe species management actions for the southeastern American kestrel. We describe monitoring efforts for gopher frogs, gopher tortoises, Bachman's sparrows and brown-headed nuthatches (avian spring call-count survey), northern bobwhite, and gray and southeastern bats. Opportunistic monitoring is suggested for a number of other focal and imperiled species. The conservation of JCWEA and AWMA wildlife requires interaction with other entities. Intra-agency coordination with 7 other units in FWC and inter-agency coordination with 6 other entities are identified in Section 6. Section 7 describes efforts prescribed "beyond the area's boundaries" to help effect conservation of the species on the area.

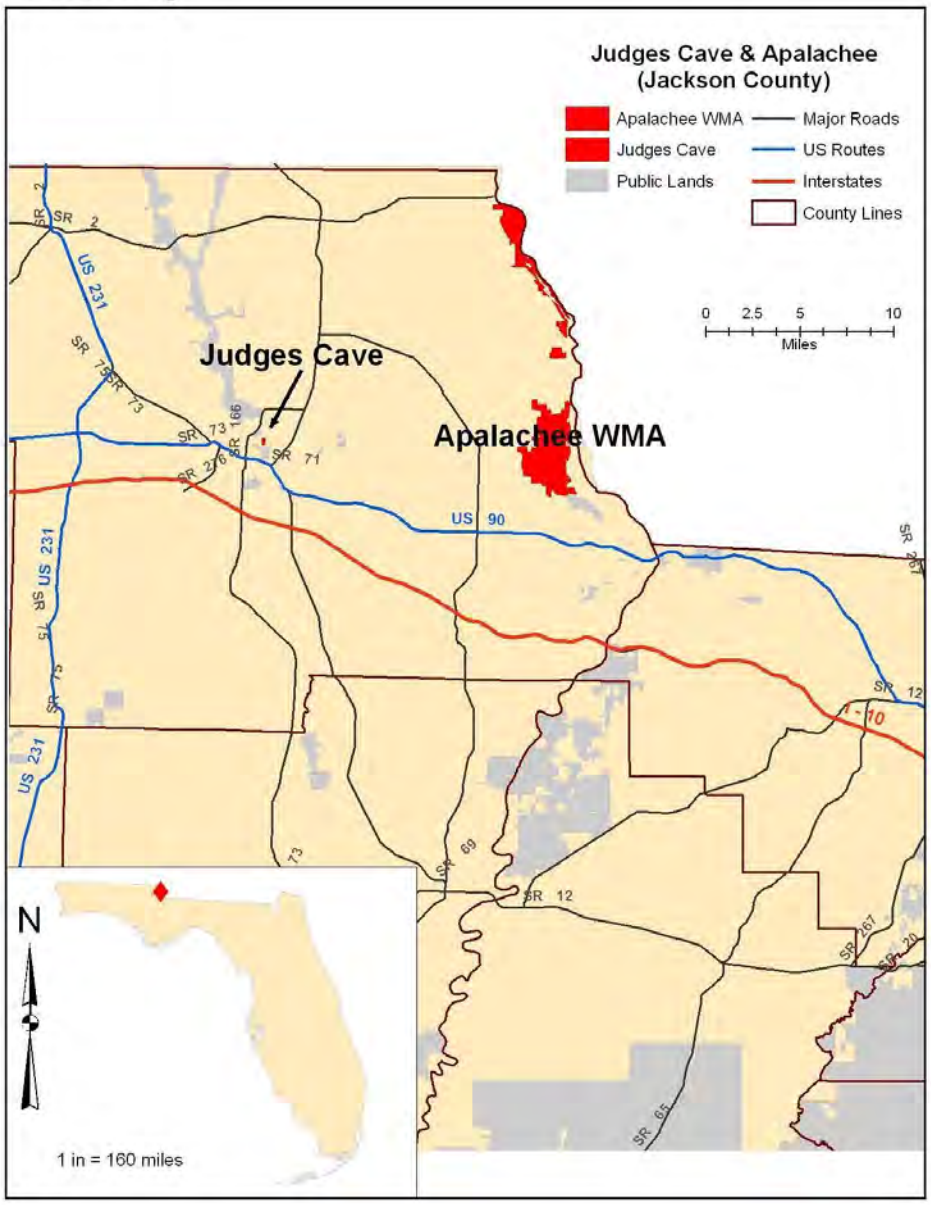
Continuation of current resource levels would be required to provide for most of the land management recommended in this document. The FWC will use a combination of private sector contract work and efforts of area staff to accomplish these activities. Some of the monitoring recommendations will require additional resources, while FWC can accomplish others with continuation of existing resources. Additional resources will be required to achieve desired removal of exotic invasive plant species on the property.

Table of Contents

Acronym List

ACOE	United States Army Corps of Engineers
AWMA	Apalachee Wildlife Management Area
DFC	Desired Future Condition
FNAI	Florida Natural Areas Inventory
FTE	Full Time Equivalent (employment classification)
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Florida Wildlife Research Institute
GFC	Florida Game and Freshwater Fish Commission
GIS	Geographic Information System
JCWEA	Judges Cave Wildlife and Environmental Area
MU	Management Unit(s)
OBVM	Objective Based Vegetation Management
PBG	Potential Breeding Group
PLCP	Public Lands Conservation Planning (project)
PVA	Population Viability Analysis
SCP	Species Conservation Planning (section)
SGCN	Species of Greatest Conservation Need
SHCA	Strategic Habitat Conservation Area
SMA	Strategic Management Area
THCR	Terrestrial Habitat Conservation and Restoration (section)
TNC	The Nature Conservancy
UERP	Upland Ecosystem Restoration Project
WCPR	Wildlife Conservation Prioritization and Recovery
WEA	Wildlife and Environmental Area
WMA	Wildlife Management Area
USFWS	United States Fish and Wildlife Service

Locator Map


Judges Cave & Apalachee
(Jackson County)
Apalachee WMA
Judges Cave
Public Lands
Major Roads
US Routes
Interstates
County Lines
0 2.5 5 10
Miles
Judges Cave
Apalachee WMA
US 231
US 90
SR 2
SR 71
SR 73
SR 166
SR 276
SR 69
SR 12
SR 267
SR 20
SR 65
I - 10
N
1 in = 160 miles

Section 1: Introduction

The FWC takes a proactive, science-informed approach to species management on lands in the WMA/WEA system. Staff integrates conservation planning, Population Viability Analysis (PVA) results, and geospatial analytical techniques to model potential habitat to help FWC determine where to affect focal species conservation. Staff combines the landscape level assessments with input from species experts and people with knowledge of the area to create site-specific wildlife assessments for a number of focal species. Staff combines these assessments with management considerations to develop a wildlife management strategy for the area or WMA complex.

The FWC intends for this Strategy to: 1) provide land managers with information on actions they should take provided the necessary resources are available, 2) promote the presence and facilitate the persistence of focal wildlife species on the area, and 3) provide measurable species objectives managers can use to evaluate the success of wildlife management on the area. On FWC lead areas, we reference goals and objectives included in the Management Plan when discussing the species and drafting the Strategy; therefore this Strategy will help guide and support the goals of the Management Plan. The species-specific objectives identified in this Strategy will be incorporated into the Management Plan and this Strategy will be appended to the Management Plan.

In this document, we define goals, objectives and strategies as follows: 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. Strategies are the actions that will be taken to accomplish a goal or objective, and strategies may be measurable.

Staff uses species-specific habitat models to create statewide potential habitat maps. A GIS analysis was conducted to determine which of the focal species were modeled to have potential habitat on each area. We use local staff's knowledge, species-expert knowledge, and area-specific maps of natural communities to refine habitat information for each species and evaluate the area's potential role in conservation of the species. A workshop is conducted at which all individuals involved in the decision making process discuss the focal species status, evaluate opportunities for land and species management on the area, and decide on appropriate monitoring and/or research actions. Some species cannot be expected to persist on an area based solely on area-specific measures; therefore, this strategy identifies intra- and interagency coordination and any "beyond the boundary" considerations (i.e. working with neighboring landowners) necessary for the management of focal species. Area-specific species objectives, a list of necessary actions to achieve these objectives, and the monitoring necessary to verify progress towards objectives are agreed upon and used to create the area's Strategy.

The primary focus of this approach is non-game species; however, two of the focal species are game birds. Game management actions are considered when drafting the Strategy and are compatible with the actions prescribed by this Strategy. While this Strategy focuses on Apalachee WMA and Judges Cave WEA, it considers the role of the areas within the larger State and/or regional context. Similarly, while the Strategy has species-specific objectives and actions, it does not endorse single-species management. The FWC's land

management focuses on natural community management that benefits the host of species that naturally occur in each natural community. However, some species may need directed actions if they are to recover from past declines or be restored to habitat from which they were extirpated. By implementing the Strategy, FWC believes our management will benefit the largest suite of native wildlife by keeping common species common and aiding in the recovery of listed species.

Section 2: Current and Historic Management Actions

2.1: Apalachee Wildlife Management Area

Apalachee Wildlife Management Area (AWMA) was established in 1955. The U.S. Army Corps of Engineers (ACOE) leased the original 5,027-acre parcel now designated as Zone A to the FWC, then the Florida Game and Freshwater Fish Commission (GFC), following the completion of the Jim Woodruff Lock and Dam. Another 256 acres were added to the WMA between 1955 and 1985. A separate 2,669-acre unit (now Zones B and C) of primarily bottomland forest was added in 1987, bringing the current total acreage for AWMA to 7,952 acres. The ACOE and the FWC finalized the most recent lease agreement relating to AWMA in 2005, with the option to renew for an additional 25 years. FWC personnel conduct all land management activities comparable to that of traditional FWC lead areas, except for timber harvesting and cultural resource monitoring, which the ACOE conducts. Nearly all management activities are completed on Zone A, which is comprised of primarily upland community types; Zones B and C are not actively managed.

Between 1825 and 1838, a portion of Econchatimico's Indian Reservation was located on what is now Zone A, from River Road east to the Chattahoochee River. The waters of Lake Seminole now inundate most of what was reservation land. From the mid 19th century to 1955, most of AWMA's uplands were converted to family homesteads used for farming and cattle grazing. There is evidence of turpentine production occurring on northwest portions of the property and of timber harvests in the bottomlands before the creation of Lake Seminole.

The Florida Master Site File lists 85 cultural sites occurring on AWMA, but none meet the criteria established for monitoring by FWC. Although no monitoring is required by the FWC, 29 sites are monitored annually by ACOE. Area staff plans to conduct informal monitoring on other sites, and follow appropriate measures to avoid potential disturbance to sites when conducting management activities.

Soon after acquisition, the GFC tried to incorporate waterfowl management on the area using levees and water control structures to manipulate water levels. This ultimately failed because most pond water levels on AWMA are dependent on the level of Lake Seminole. The interest and success of northern bobwhite hunters prompted increased efforts to manage the uplands. Emphasis on northern bobwhite (*Colinus virginianus*) has driven most of the management activities conducted on the area since the 1960s. In the uplands, management strives to create mature, low-density stands of native pines with a diverse and healthy native groundcover, maintained with frequent fire.

Prescribed fire continues to be the most prominent management tool used on the area. Although burn history and methodology were incompletely documented prior to 1991, records and evidence indicated that approximately 80-90% of the longleaf pine habitat was

burned annually. During the 1990s, managers lengthened the fire return interval, relied more heavily on dormant season burns and excluded fire from some units. This management resulted in an increased hardwood understory. Since 2005, efforts have been made to burn 60-70% of the northern bobwhite habitat annually (1-2 year rotation). This includes incorporating more growing season burns applied in a mosaic pattern intended to improve habitat diversity and reduce hardwoods. From 2005-2009, 6 new burn units were added totaling 422 acres. These units consist primarily of degraded upland pine forest and upland mixed woodland and have received 1 to 2 burns to date. In total, AWMA has 3,430 burnable acres included in 58 burn units that range in size from 4-159 acres.

The Florida Natural Areas Inventory (FNAI) completed natural community mapping on AWMA in 2009 (Table 1), and identified reference sites for upland pine forest and upland mixed woodland natural communities on the area. Reference sites are considered exemplary examples of a given natural community, and habitat conditions found within them are used as the basis for setting Desired Future Conditions (DFCs) for the given natural community at other locations.

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

Natural Community	Acreage mapped	Actively Managed[1]	# of Species That Use the NC
basin marsh	92.0		6
basin swamp	40.0		5
bottomland forest	595.2		4
clastic upland lake	298.0		1
cultural hardwood forest	63.0		0
depression marsh	5.6		4
dome swamp	4.0		6
mesic hammock	18.6		4
pine plantation	26.2		4
ruderal	1,776.2		5
sandhill	402.1	Yes	12
sandhill upland lake	37.3		0
upland hardwood forest	19.0		5
upland mixed woodland	298.1	Yes	12
upland pine forest	1,794.0	Yes	11
TOTAL ACRES	5,468		

[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.

FNAI has documented several State-listed plant species and 1 federally endangered plant, gentian pinkroot (*Spigelia gentianoides*) on AWMA (Section 3.2.15). The largest

known population of gentian pinkroot occurs on AWMA. This species responds well to prescribed fire. To ensure the protection of gentian pinkroot, when conducting land management activities near known populations of gentian pinkroot, staff follows avoidance measures as prescribed by the United States Fish and Wildlife Service (USFWS). For example, the USFWS is consulted, and buffer areas are established around known populations before timber thinning operations. The extreme rarity of *Spigelia gentianoides* has drawn interest to the area from plant enthusiasts, botanists, and nearby chapters of the Native Plant Society.

Some stands of upland pine forest have served as wiregrass (*Aristida stricta*) seed donor sites for other conservation lands. Although most of the natural communities on AWMA are in maintenance condition, there are about 30% that require additional management activities to improve, and in some cases restore, preferential habitat. Where lack of fire has facilitated hardwood proliferation into historically fire maintained communities, area staff uses herbicide and mechanical treatments in conjunction with prescribed fire to restore a more natural condition. A significant amount of hardwood control has been conducted for sandhill community restoration, and this work was partially supported by Florida's State Wildlife Grants Program and gopher tortoise (*Gopherus polyphemus*) mitigation funds from the FWC Species Conservation Planning Section (SCPS). Current ground cover restoration activities on AWMA include seed collection in donor sites as well as site preparation and planting native grass seed on a 17.8 acre abandoned agricultural field that was historically upland pine forest.

Thinning of stands is often required to promote herbaceous plant diversity, which is beneficial for many species of wildlife. Since 1997, the ACOE with FWC input has conducted timber thinning on approximately 1,543 acres of AWMA and there are plans to thin another 1,137 acres over the next 5 years. All revenue generated from timber sales belongs to ACOE. Timber management on AWMA is a cooperative program between the FWC and ACOE and a vital part of the management strategy for maintaining and restoring natural communities. FWC's role is to propose potential thinning treatments and the ACOE has made concerted efforts to accommodate these proposals. ACOE is sensitive to the impacts of timber management on wildlife and consults with area staff on concerns pertaining to specific projects. As an example, to prevent disturbance to gopher tortoises and their burrows during thinning operations, ACOE staff mark gopher tortoise burrows and make loggers aware of the presence of burrows.

In 2005, FWC staff implemented an invasive-exotic plant control program utilizing "in-house" resources and grants provided from the FWC Upland Invasive Plant Section. Japanese climbing fern (*Lygodium japonicum*), which has expanded on the area and is threatening many of the upland communities, is a primary target for plant control treatments. Other invasive plants treated include Chinese tallow (*Sapium sebiferum*), Chinaberry (*Melia azedarach*), mimosa (*Albizia julibrissin*) and tung tree (*Aleurites fordii*).

There are 518 acres of agricultural fields ranging in size from 2.4 to 26.4 acres on AWMA. Approximately 228 acres are leased to local farmers under indefinite sharecrop agreements and 110 acres are allocated for a revenue contract or paid lease. Farmers plant FWC approved crops (generally peanuts, corn, wheat, and soybeans) and leave 10% of the crop for wildlife as directed by the area manager. Area personnel conduct agronomic activities on the remaining 180 acres, most of which are planted in small grains such as benne and grain sorghum. Once crops have matured in the fall, staff systematically mows

fields to make seed available for consumption by wildlife. To provide nesting cover and promote seed-producing grasses and forbs, some fields are intentionally left fallow. Staff has established wildlife openings on lands that were previously agricultural fields to provide enhanced northern bobwhite habitat. Most wildlife openings occur around field margins and hedgerows and they are mowed, disced, or burned to maintain these important ecotones in early-successional herbaceous vegetation, which produces a variety of cover, forbs, seeds, and insects throughout the year. These wildlife openings account for 118 acres.

Game wildlife has been the focus of monitoring on AWMA. Staff has completed traditional spotlight surveys for white-tailed deer (*Odocoileus virginianus)* on AWMA since 1983. In conjunction with traditional spotlight surveys, counts using line-transect methodology have been accomplished since 2006. Both spotlight count surveys indicate a stable deer population and suggest a population sufficient to maintain adequate hunter satisfaction.

Staff initiated fall covey call-count surveys for northern bobwhite in 2008 using methodology developed by Tall Timbers Research Station for the Upland Ecosystem Restoration Program (UERP). Staff established 9 listening stations to include as many different habitats used by northern bobwhite as possible. Surveys indicate a mean bird density of approximately 0.41 birds/acre. Other northern bobwhite surveys completed in the past included: roaming spring cock call-counts, flush counts, hunter covey finds, and mark recapture. However, these survey techniques did not provide data rigorous enough to use in making management decisions.

Staff monitors and maintains 150 wood duck (*Aix sponsa*) nesting boxes that are dispersed throughout the natural ponds and ruderal impoundments on AWMA. The boxes are checked annually in January to determine usage, clean out debris, and make necessary repairs. Typically, over 75% of boxes are used each year for at least 1 nesting attempt. Part of the maintenance of nesting boxes includes using an airboat to conduct some herbicide treatments of encroaching cattails and other aquatic weeds around the boxes. This is normally done in concert with herbicide spraying to keep waterways, which are utilized as firebreaks, open and suitable as effective fire breaks.

As a condition of the funds used to match the State Wildlife Grant for sandhill restoration, a baseline gopher tortoise survey was conducted on sandhill communities. The results of this survey indicated a population density of 1.16 gopher tortoises/acre in surveyed sandhills.

Although there is no official wading bird survey completed on AWMA, 2 nesting colonies exist on the area. Bird species observed nesting in these colonies include the great blue heron (*Ardea herodias*), great egret (*A. alba*), and anhinga (*Anhinga anhinga*).

Area staff includes a full time equivalent Fish and Wildlife Biological Scientist III, one full time equivalent Fish and Wildlife Technician, and one other personal services Field Technician. This staff is responsible for completing all land management activities on AWMA and JCWEA, including maintaining 13.6 miles of road and 7.5 miles of firebreaks. AWMA provides hunting opportunities from mid-October to mid-February administered by a manned check station where hunting and biological data are collected. Other general duties include but are not limited to equipment and facility maintenance, reporting, and administration.

2.2: Judges Cave Wildlife and Environmental Area

During January 1983, The Nature Conservancy (TNC) deeded the 37.3-acre property then known as the "Marianna Bat Cave" to FWC (then known as the GFC). The Warranty Deed states, "...Marianna Bat Cave, shall forever be held and maintained as a natural area for management as a wildlife preserve, without any disturbance whatever of habitat or plant or animal populations…Should the premises cease to be used solely as provided herein, then the property hereby conveyed to the State of Florida, Game and Fresh Water Fish Commission may be terminated by The Nature Conservancy…" TNC purchased this property for the sole purpose of protecting the maternity colony of gray (*Myotis grisescens*) and southeastern bats (*Myotis austroriparius*) that use the cave, and deeded the property to GFC for permanent protection. Shortly following the issuance of the Warranty Deed, the GFC established this area as Judges Cave Wildlife and Environmental Area (JCWEA) on March 11, 1983.

During 2004-2005, FNAI conducted natural community mapping on the area. This indicated JCWEA is comprised of 16.2 acres of floodplain forest, 5.3 acres of floodplain swamp, and 15.8 acres of upland hardwood forest. During natural community mapping, FNAI recorded the presence of 3 State-listed plants (Section 3.2.15): variable leaf Indian plantain (*Arnoglossum diversifolium*), Carolina larkspur (*Delphinium carolinianum*), and May apple (*Podophyllum peltatum*).

The deed restrictions, small size of the property and the fact that there are no actively managed natural communities occurring on JCWEA minimize the need for active management. THCR staff maintains signage, assists FWC bat researchers as necessary, monitors and maintains the fence that surrounds the cave site, monitors the area for signs of disturbance, and treats exotic plant species that occur on the area. Staff has treated exotic species on JCWEA since 2008. There is currently a high occurrence of nandina (*Nandina domestica*) and a low occurrence of Chinese tallow and Japanese climbing fern. Staff will continue to use appropriate control measures to treat exotic species occurrences.

Though THCR staff's involvement on the area is limited to maintenance and treating exotics, Fish and Wildlife Research Institute (FWRI) researchers conduct bat-related research at JCWEA, including efforts to determine seasonality of use, and species composition. Most recently, researchers affixed radio tags to southeastern bats in an effort to determine where bats using the cave as a maternity colony were going when they emerged at night. Other than bat-related monitoring and research, no additional wildlife monitoring or management takes place on JCWEA.

Section 3: Area Focal Species

The FWC's land management focuses on restoring the natural form and function of natural communities. However, in some instances, it is important to consider the needs of specific species, and it is necessary to monitor the impacts of natural community management on select wildlife to ensure management is having the desired effect. To ensure a focused, science-based approach to species management the FWC uses the focal species concept embraced by the Wildlife Habitat Conservation Needs in Florida project. The focal species approach incorporates a variety of concepts and considerations that, if applied correctly, allow one to identify the needs of wildlife collectively by strategically selecting a subset of wildlife species. The species selected as focal species include umbrella species,

keystone species, habitat specialists, and indicator species. The Public Lands Conservation Planning (PLCP) project selected 60 focal species for the statewide assessment. The PLCP project used potential habitat models to create statewide potential habitat maps for each species. Models were created using relevant available data. The base layer for all models was the FWC 2003 landcover data. Staff selected additional data layers such as the species range, soils, land use, etc., based on the natural history of the species. As such, each model is species specific. Once statewide potential habitat maps were available, a PVA was conducted for each focal species.

Using the statewide landcover based habitat maps, models identified 13 and 6 of the 60 focal species as having potential habitat on AWMA and JCWEA, respectively (Section 3.1). In addition to the species modeled to occur on the area, 3 additional species were identified as occurring or having the potential to occur on AWMA: the southeastern American kestrel, red-cockaded woodpecker, and the fox squirrel. To create more accurate area-specific potential habitat maps, we used the same statewide model for each focal species on the area but replaced the landcover data with area-specific natural community data. The resulting potential habitat map was then refined using input from local managers and species experts. All potential habitat acres provided in Section 3.2 are the results of this area-specific model and resulting map. Acreages provided are estimates.

The AWMA and JCWEA Wildlife Conservation Prioritization and Recovery (WCPR) Workshop held July 20-21, 2011 brought decision makers together to discuss an assessment of the opportunity and needs; identify measurable objectives; determine necessary actions including monitoring; and identify necessary coordination efforts. WCPR staff compiled information on the focal species in a workbook to facilitate informed discussion. Participants at the workshop discussed the "level of opportunity and need" for each species. This included analyzing the long-term security of the species (i.e., examine PVA results), considering if the species occurs in actively managed communities (Table 1), if the species is management responsive, and any other local overriding considerations (e.g., status of species in the region, local declines/extirpations). A summary of this assessment of each species is available in Section 3.2.

3.1: Apalachee WMA and Judges Cave WEA Focal Species

3.1.1 Apalachee WMA

The following 16 species were assessed for their level of opportunity or need on AWMA. Species that have a measurable objective are indicated with a [1] and species for which monitoring is recommended are indicated with a [2]. Occasionally, models indicate species have potential habitat on the area when using statewide data; however, the local assessment indicates there is little opportunity to manage for these species on the area and they are not a focus of management on the area. These species are identified with an *.

Gopher frog (*Lithobates* [*Rana*] *capito*) [1, 2]
Reticulated flatwoods salamander (*Ambystoma bishopi*)*

Florida pine snake (*Pituophis melanoleucus mugitus*)
Gopher tortoise (*Gopherus polyphemus*) [2]

Bachman's sparrow (*Peucaea aestivalis*) [1, 2]
Brown-headed nuthatch (*Sitta pusilla*) [1, 2]
Cooper's hawk (*Accipiter cooperii*)
Northern bobwhite (*Colinus virginianus*) [1, 2]
Red-cockaded woodpecker (*Picoides borealis*)*
Southeastern American kestrel (*Falco sparverius paulus*) [1, 2]
Southern bald eagle (*Haliaeetus leucocephalus*)
Wading birds (*Multiple spp.*)

Florida black bear (*Ursus americanus floridanus*)*
Fox squirrel (*Sciurus niger*)
Gray bat (*Myotis grisescens*)
Southeastern bat (*Myotis austroriparius*)

3.1.2 Judges Cave WEA

The following 6 species were assessed for their level of opportunity or need on JCWEA. However, due to the extremely small size of JCWEA (37.3 acres), the small amount of upland habitat (15.8 acres), and its location within a human altered landscape, the area does not have a role in management for the 4 species indicated with an *. Bats and cave protection are the primary focus of management at JCWEA and the reason for acquisition. Therefore, all species except for the gray and southeastern bat are considered "limited opportunity species" on JCWEA and are not discussed any further below. The role of JCWEA for the bat species will be covered in their respective sections below.

Brown-headed nuthatch*
Cooper's hawk*
Northern bobwhite*

Florida black bear*
Gray bat
Southeastern bat

3.2: Focal Species Opportunity/Needs Assessment

This section provides an assessment of the opportunity and needs of each of the focal species. As the gray bat and southeastern bat are the only species assessed on JCWEA, the species assessments for these species below include their assessment on both AWMA and JCWEA. All other assessments are for AWMA only.

Because all federally listed animal species are FWC-listed, for species listed at the federal level, we will provide the federal listing. When a species is not federally listed but is listed by the FWC, we will provide the FWC listing category. Unless otherwise noted, all

acres of potential habitat are the result of using the area-specific natural community data in the species potential habitat model. We presume that by doing the actions called for in this strategy, we will ensure the area fulfills its role in the conservation of wildlife.

FWC is currently in the process of developing management plans for FWC-listed species. Staff will monitor these plans to determine if the content of the plans would warrant a revision to any of these assessments. Revisions will be amended to the strategy.

3.2.1: Gopher Frog

The status of the gopher frog on AWMA is currently unknown, but they are presumed absent. During 2002-2004, FWC staff surveyed many potentially suitable ponds for flatwoods salamanders by dip netting. No gopher frogs were detected during these surveys, though they were not targeted. Additional dip-netting surveys conducted on the area also failed to detect any gopher frogs. However, no auditory surveys to document presence have been conducted on the area.

Gopher frogs breed in seasonally flooded grassy ponds that lack predatory fish. After breeding, frogs move into xeric uplands that have an open canopy and healthy native groundcover. Frequent prescribed fire is essential to maintain high-quality gopher frog habitat. Gopher frogs often occupy gopher tortoise burrows, but also use rodent and crayfish burrows, stump holes, or hollow logs. They are rarely found more than 1 mile from breeding habitat.

This FWC-listed species of special concern is responsive to management actions making it likely that management on AWMA will benefit this species if present. The gopher frog triggers 2of 6 statewide prioritization parameters (Species of Greatest Conservation Need [SGCN] population trend and PLCP PVA proportion of populations to persist on public lands). Models identified 841 acres of potential habitat with 982 acres modeled to occur if management could restore all natural communities to their historic condition. Little is known about specific habitat requirements or home range size, but it is likely that AWMA has enough potential habitat to support a viable population provided there are suitable breeding ponds.

The frequent fire return interval and suitable soils found on AWMA support a healthy gopher tortoise population, and therefore provide suitable upland habitat for gopher frogs. Though dip netting revealed many of the ponds contain fish, there are likely ponds located adjacent to suitable uplands that lack fish. Though suitable conditions exist on AWMA, there are no current or historic records of gopher frogs in Jackson County. The closest records occur in Calhoun County to the south. Because of the lack of nearby records, it is unlikely for gopher frogs to colonize AWMA if they are currently absent. As such, the ability to affect this species locally may be limited if the species is not currently present.

Even though past dip netting efforts failed to document this species, an auditory survey of gopher frogs within potential breeding ponds is recommended to determine presence or presume absence (Section 5.2.1). If gopher frogs are not documented during these surveys, there may be a need to explore the possibility of restocking this species on the area in the future should this be deemed necessary.

Because existing natural community management and other management actions on AWMA are compatible with the needs of this species, no SMA is

recommended. See Section 4.3.1 for additional land management recommendations to benefit this species. There is a need to determine if the gopher frog is present or absent from AWMA. If monitoring confirms presence, the area goal will be to maintain a viable population of the species on the area. If measures to detect the species fail to document presence, we will presume the area has no role in the conservation of this species unless a FWC or federal plan identifies the need for restocking the area. The measurable objective is to:

1) Conduct the initial auditory survey to determine the presence/absence of gopher frogs on the area by 2014. If necessary, conduct the second survey within 3-5 years, per the protocol.

3.2.2: Florida Pine Snake

The Florida pine snake is considered rare on AWMA. Though a survey capable of detecting large-bodied snakes has not been conducted on the area, the area manager recently observed this species in a sandhill area that recently received mechanical and herbicide treatments. While pine snakes use a number of plant communities, they typically occupy pine-dominated locations that have sandy soils and a well-developed grassy understory. Pocket gophers are a major source of food for this species and it appears pine snakes actively seek out pocket gopher mounds and burrow-in to capture prey. However, the absence of pocket gopher burrows does not mean that pine snakes are also absent.

The Florida pine snake triggers 3 of 6 prioritization parameters (PLCP PVA proportion of populations to persist on public lands, Millsap supplemental score and SGCN population trend) and is a FWC-listed species of special concern. Similar to other large snakes, pine snakes occur in low-density populations and require large acreages of suitable habitat for populations to persist. Models identified 3,205 acres of potential habitat with 4,223 acres modeled to occur if management could restore all natural communities to their historic condition. However, due to ongoing agricultural leases, roads and ditches that cannot be restored, only 3,533 acres are potentially available after restoration. According to the literature, this is enough habitat to support a viable population (> 2,500 acres). The status of pine snakes in the surrounding landscape is unknown. There are no FNAI Element Occurrences in the area; however, it is presumed the species does occur at a low density.

Much of the habitat on AWMA is considered high quality due to the suitable soils, presence of pocket gophers, and frequent fire regime. As such, AWMA plays an important role for this species in the local landscape. This makes this species a high priority on AWMA. Management actions that maintain or enhance habitat for this species include prescribed fire and mechanical actions in sandhill, upland pine and upland mixed woodland that aid in restoring natural community structure and function, provided efforts are taken to reduce direct mortality of snakes during these activities. Stumps and other coarse woody debris should be retained during land management activities as potential refuge sites (Section 4.3.2). Because efforts to restore and maintain AWMA natural community structure and function will benefit pine snakes on AWMA and the SMA proposed for northern bobwhite will increase the amount of suitable habitat for this species, no SMA is recommended.

Opportunistic observation of pine snakes is recommended (Section 5.2.6). While drift-fence arrays will not provide population level information on pine snakes, future drift-fence surveys conducted on the area should include the use of upland snake traps to ensure adequate detection of large snakes.

The area goal is to enhance and maintain the suitability of habitat to support pine snakes on AWMA. By maintaining the acres of potential habitat in a condition that is suitable to this species, we will ensure we are achieving the goal.

3.2.3: Gopher Tortoise

Gopher tortoises are common on AWMA and there is evidence of reproduction occurring on-site. The gopher tortoise is a management-responsive species that can serve as an indicator of properly managed upland pine or grassland communities. This species is often considered a keystone species because many other species use their burrows, including the gopher frog. This FWC-listed threatened species triggers 4 of 6 prioritization parameters (PLCP PVA proportion of populations modeled to persist on public lands, Millsap biological score, Millsap supplemental score, and SGCN population trend), making it a high-priority species statewide. The FWC recently approved a management plan for the species that places emphasis on increasing the number of tortoises on public lands.

AWMA received a State Wildlife Grant and gopher tortoise mitigation funds to begin a sandhill restoration project on the area. Funds from this project supported the construction of firebreaks, burning, and mechanical and herbicide treatments. In January 2010, 0.6 miles of firebreaks were created to establish a new burn unit encompassing 51.2 acres of which 28.7 acres are sandhill. Staff burned this unit in February 2010. The unit has great restoration potential due to the overstory of 60-80 year old longleaf pines and intact native groundcover. Another 470.8 acres of sandhill have been burned using project funds on this property since January of 2010. Additionally, mechanical and herbicide treatments were used for hardwood control and longleaf thinning. Prior to beginning restoration work, a gopher tortoise survey was conducted within sandhill habitats on AWMA using the protocol established in the gopher tortoise management plan. This survey indicated sandhill habitats on AWMA had a relatively high density of gopher tortoises (1.16 tortoises/acre). Though not surveyed as part of this effort, gopher tortoise burrows are common in both upland pine and upland mixed-woodland habitats on the area.

Models identified 3,188 acres of potential habitat with 4,223 acres modeled to occur if management could restore all natural communities. However, due to ongoing agricultural leases, roads and ditches that cannot be restored, only 3,533 acres are potentially available after restoration. Based on the amount and quality of potential habitat on the area and the recently completed burrow survey, AWMA likely supports a viable population of gopher tortoises. Gopher tortoises are present in the surrounding agriculturally dominated landscape; however, AWMA contains the largest amount of intact habitat in this area. Because of this, and the lack of conservation lands in the area, AWMA plays an important role in the regional conservation of this species.

Ongoing natural community management and restoration activities that promote an open canopy with a diverse understory in upland natural communities will continue to benefit this species. Additionally, ongoing sandhill restoration work and the proposed northern bobwhite SMA will increase the amount and quality of potential habitat on the area. Therefore, no SMA is recommended. See Section 4.3.3 for additional land management recommendations to benefit this species. A future survey using the same methodology as the 2010 survey is recommended to determine the effect sandhill restoration activities have on the gopher tortoise population (Section 5.2.2). Because the species is common on the area and experience indicates the species does well under proposed management, there is no need to monitor the population area-wide. The area goal is to maintain a viable population of gopher tortoises on AWMA. By maintaining the acres of potential habitat in a condition that is suitable to this species, and having the species remain common, we will ensure we are achieving the goal.

3.2.4: Bachman's Sparrow

Bachman's sparrows are common on AWMA and nesting has been documented. However, no formal survey to document density, trend or extent of presence has been conducted. This species prefers open stands of mature pine forests with a healthy herbaceous groundcover that is maintained with frequent prescribed fire, such as occurs on approximately 70% of AWMA's uplands. The Bachman's sparrow is responsive to management and the occurrence of fire is critical to sustaining 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 greater than 3 years.

The Bachman's sparrow triggers 2 of 6 prioritization parameters (PLCP PVA proportion of populations modeled to persist on public lands and SGCN population trend) and is currently experiencing range-wide population declines. From a regional perspective, AWMA likely serves as an island of suitable habitat within a matrix of agricultural lands. There is a relatively large tract of privately owned land to the northwest of AWMA that is not currently actively managed and not enrolled in any incentives programs. Some native groundcover persists among the old growth pines. However, its suitability is deteriorating due to lack of fire. The regional population of Bachman's sparrows including those using AWMA would benefit if the landowner could be encouraged to use prescribed fire or mechanical treatments to restore and maintain these habitats (Section 6.1.4).

Models identified 2,494 acres of potential habitat with 4,223 acres modeled to occur if management could restore all natural communities. However, due to ongoing agricultural leases, roads and ditches that cannot be restored, only 3,533 acres are potentially available after restoration. Literature suggests a minimum of 520 acres is required to maintain a viable population of Bachman's sparrows; therefore, AWMA could support a viable population. Due to frequent growing season prescribed fire, the open overstory and abundant herbaceous vegetation found on AWMA provides very good habitat for this species. Restoration of the 286 acres in management units

(MU) 28, 27, 18, 2, and 3 identified in the SMA for the northern bobwhite will add to the amount of suitable habitat for the Bachman's sparrow.

Section 7 discusses consideration for this and other species beyond the boundaries of AWMA. Because this species is an indicator of well-managed pinelands, we propose monitoring this species through a spring bird survey with the purpose of tracking changes in distribution and relative abundance across the area to ensure management is having the desired effect (Section 5.2.3).

Because ongoing natural community management and planned restoration activities will benefit this species, no SMA is recommended. By providing suitable foraging and nesting sites that maintain the presence of Bachman's sparrows on the area, AWMA will fulfill its role in reversing the ongoing decline of this focal species. The area goal is to maintain a viable population of Bachman's sparrows on AWMA. By maintaining the acres of potential habitat in a condition that is suitable to this species, and having the species remain common, we will ensure we are achieving the goal. The measurable objective is to:

1) Conduct an initial spring call-count survey by 2014, and repeat the survey once every 3 years thereafter.

3.2.5: Brown-Headed Nuthatch

Brown-headed nuthatches are commonly seen and heard throughout AWMA and nesting has been documented. However, no formal survey to document density, trend or extent of presence has been conducted. Brown-headed nuthatches use sandhill, upland pine, and upland mixed-woodland habitats on AWMA. This species is dependent on open stands of mature pine interspersed with snags for excavating nesting cavities. Older pine forests (> 35 years for longleaf-slash pine) and stands with basal area between 35-50 ft^2/ acre are preferred, and found throughout the uplands of AWMA.

The brown-headed nuthatch triggers 2 of 6 prioritization parameters (PLCP PVA proportion of populations modeled to persist on public lands and SGCN population trend) and is currently experiencing range-wide declines due to habitat loss and degradation. From a regional perspective, AWMA likely serves as an island of suitable habitat within a matrix of agricultural lands. There is a relatively large tract of privately owned land to the northwest of AWMA that is not currently actively managed and not enrolled in any incentives programs. Some native groundcover persists among the old growth pines. However, its suitability is deteriorating due to lack of fire. The regional population of brown-headed nuthatches including those using AWMA would benefit if the landowner could be encouraged to use prescribed fire or mechanical treatments to restore and maintain these habitats (Section 6.1.4).

Models identified 2,520 acres of potential habitat with 4,223 acres modeled to occur if management could restore all natural communities. However, due to ongoing agricultural leases, roads and ditches that cannot be restored, only 3,533 acres are potentially available after restoration. Literature suggests 1,000 acres of habitat is necessary to support a viable population, therefore, AWMA could support a viable population on its own. Management actions that maintain or enhance habitat for this species include prescribed fire, silvicultural thinning and management favoring

mature timber, and mechanical actions that aid in restoring natural community structure providing snags are retained. Therefore, efforts to restore the 286 acres in management units within the northern bobwhite SMA will also benefit the nuthatch. Given these factors and the fact that the brown-headed nuthatch is highly responsive to management actions, it has a high level of opportunity on AWMA. Ongoing natural community management and restoration including mechanical treatments and timber thinning when combined with a short fire return interval will maintain and improve the suitability of habitat for the brown-headed nuthatch; therefore, no SMA is required.

Additional land management considerations for this species are found in Section 4.3.4. Section 7 discusses consideration for this and other species beyond the boundaries of AWMA. Because this species is an indicator of well-managed pinelands, we propose monitoring this species through a spring bird survey with the purpose of tracking changes in distribution and relative abundance across the area to ensure management is having the desired effect (Section 5.2.4).

The area goal is to maintain a viable population of brown-headed nuthatches on AWMA. By providing suitable foraging and nesting sites that maintain the presence of nuthatches on the area, AWMA will fulfill its role in reversing the ongoing decline of this focal species. The measurable objective is to:

1) Conduct an initial spring call-count survey by 2014, and repeat the survey once every 3 years thereafter.

3.2.6: Cooper's Hawk

The Cooper's hawk is considered common on AWMA. Commonly associated with woodlands, this species will nest in a variety of habitats including swamps, floodplain and bottomland forests, sand pine scrub and baygalls. Nests are usually placed near the crown of a tree close to an edge in dense stands of oaks. Cooper's hawks primarily feed on other birds, so nests are located in proximity to suitable hunting areas. While nesting has not been documented, staff believes nesting is occurring on AWMA.

The Cooper's hawk triggers 1 of 6 prioritization parameters (PLCP PVA probability of a 50% decline on public lands). There are 3,721 acres of potential habitat with 4,286 acres modeled to occur if management could restore all natural communities. Cooper's hawks are not typically considered management-dependent and the opportunity to affect this species at the management-area level on AWMA is low. However, this species thrives in landscapes managed for the northern bobwhite. Therefore, ongoing efforts to maintain AWMA's natural community structure and function will benefit the Cooper's hawk. Management actions that maintain or enhance habitat for this species include prescribed fire and mechanical actions that aid in restoring natural community structure. Ongoing management will maintain existing habitat in a suitable condition, and restoration of the approximately 286 acres included in the northern bobwhite SMA will increase the amount of suitable habitat.

Because the Cooper's hawk is not management dependent, the species is likely to persist on AWMA without directed management. Despite the low level of management opportunity, planned and ongoing natural community management will

benefit this species by improving conditions for their prey; therefore, no SMA or species-specific management is required.

During the nesting season (April-July), the Cooper's hawk is secretive and sensitive to human disturbance near the nest site. No attempt will be made to actively search for nests, but if individuals are observed exhibiting nesting behavior (e.g., carrying nesting material to/from an area, acting aggressively), the location will be noted (Section 5.2.6) and the area will be protected from disturbance (Section 4.3.5). The area goal is to promote suitable habitat that will allow individuals using AWMA to function as part of a regional population. By maintaining the acres of potential habitat in a condition that is suitable to this species, and having the species remain common, we will ensure we are achieving the goal. It is unlikely any single management area could independently sustain a population of Cooper's hawks. However, the recent population increases experienced by this species and the amount of potential habitat on AWMA and the surrounding landscape greatly increase the chances of persistence of this species in this area.

3.2.7: Northern Bobwhite

Northern bobwhite are commonly heard on AWMA and nesting has been documented. This species is a focus of management on AWMA, and staff uses fall covey call counts to track relative abundance and distribution over time. Monitoring on AWMA has shown a relatively stable number of coveys since monitoring began in 2007-2008. Northern bobwhite have experienced significant range-wide population declines since the 1980s and are currently a major focus of many initiatives including the UERP. Northern bobwhite are typically associated with open canopy forests and grassland communities dominated by warm-season grasses, legumes, and patchy bare ground. Areas with dense herbaceous cover are used for brooding and foraging; shrubs or other thickets are useful as roosting habitat or escape cover.

The northern bobwhite triggers 2 of 6 prioritization parameters (SGCN population trend and population status). From a regional perspective, this species historically was common in the landscape around AWMA. Open canopy sandhill and upland pine, maintained with frequent fire created the appropriate matrix of habitat for bobwhites. Many of these communities are now in agricultural production or pasture, or subject to incompatible silviculture. While there is no data on the occurrence of northern bobwhite in the surrounding landscape, they are known to occur on adjacent private lands.

On AWMA, models identified 3,233 acres of potential habitat with 4,223 acres modeled to occur if management could restore all natural communities. However, due to ongoing agricultural leases, roads and ditches that cannot be restored, only 3,533 acres are potentially available after restoration. The literature indicates 2,000-4,000 acres of potential habitat is capable of supporting a viable population even when subjected to moderate hunting pressure. Based on data collected at check stations, hunters harvest about 10% of the population annually on AWMA, with 137 northern bobwhite harvested during the 2010-2011 season.

Management actions taken to benefit the bobwhite including the application of frequent growing season burns (staff burns 60% to 70% of northern bobwhite habitat

annually) has benefited many other focal species. This is apparent when considering that brown-headed nuthatches, Bachman's sparrows, and gopher tortoises are common on the area. In addition to the frequent fire return interval, staff maintains wildlife openings and agricultural fields, use mechanical treatments to control hardwoods, and maintain a staffed check station to collect data on quail harvest.

Ongoing efforts to maintain AWMA's natural community structure through frequent fire will continue to maintain the suitability of habitat for this species. About 70% of the potential habitat for northern bobwhite on AWMA is in maintenance condition, with an open overstory and suitable herbaceous vegetation. However, approximately 286 acres in MUs 28, 27, 18, 2, and 3 are currently in need of thinning. Reducing the basal area in these management units to approximately 50 ft^2/acre and burning more frequently will increase the amount of suitable habitat for northern bobwhite, as well as for the Bachman's sparrow, brown-headed nuthatch, gopher tortoise, and pine snake. Because there is such a large opportunity to increase the amount of suitable habitat for the northern bobwhite, an SMA is recommended (Section 4.1.1).

Section 7 discusses consideration for this and other species beyond the boundaries of AWMA. We propose continued monitoring of this species through fall covey call counts and the use of check stations to evaluate exploitation rates and to make informed decisions regarding harvest (Section 5.2.4).

The area goal is to maintain a viable population of northern bobwhite while enhancing the quality of the northern bobwhite hunting experience. This can be achieved by providing a traditional hunting opportunity in an aesthetically pleasing environment with ample coveys of wild birds. The measurable objectives are to:

1) Increase the density of northern bobwhite to 0.5 birds/acre as determined through covey call surveys by 2016.
2) Maintain a 3-year average density of $\geq$0.5 birds/acre indefinitely once this level is reached.
3) Over the life of this Strategy, monitor harvest and consider additional regulations if the 3-year average harvest rate exceeds $\geq$ 15% of the area's estimated northern bobwhite population.

3.2.8: Southeastern American Kestrel

The status of the southeastern American kestrel on AWMA is unknown; however, the migratory American kestrel is common during the fall and winter months. There was a recent reported sighting of a kestrel on AWMA in April 2011. It is possible that a kestrel present in April could be the southeastern subspecies. Efforts to confirm this sighting in June were unsuccessful. Presence of this species on the area would be significant because there are no records of this species in Jackson County documented in the Breeding Bird Atlas and they have not been detected on any of the nearby Breeding Bird Survey routes.

Southeastern American kestrels utilize upland habitats including sandhills and longleaf savannas, pastures, sand pine scrub and prairies. As a secondary cavity nesting species, southeastern American kestrels use previously excavated cavities in large snags. They will utilize artificial cavities when placed in areas of suitable

habitat. They require adequate perch sites within foraging areas for hunting, and low ground cover (<1 ft) and an open canopy (<20% canopy closure) are ideal for this species. Average breeding territory size is 125 acres, though more area may be necessary if the habitat quality is marginal.

Southeastern American kestrels are a FWC-threatened species and trigger 4 of 6 prioritization parameters (PLCP PVA proportion of populations modeled to persist on public lands, Millsap updated biological score, SGCN population trend, and population status). From a regional perspective, the landscape around AWMA has the potential to support this species. While much of the former sandhill has been destroyed or degraded, the open pasture and agricultural lands around AWMA can be suitable for foraging kestrels. Though this suitable habitat exists, there are no records of southeastern American kestrels in Jackson County.

On AWMA, models identified 2,914 acres of potential habitat with 3,750 acres modeled to occur if management could restore all natural communities. AWMA contains suitable habitat in the form of quality sandhill and upland pine habitats, as well as 626 acres of ruderal type habitats that could provide foraging habitat. Due to the lack of species records in the county and lack of confirmed observations on the area, kestrels currently have a low opportunity on AWMA. However, if a kestrel is documented nesting on the area in subsequent years (Section 5.2.6), this assessment will change. Breeding bird surveys alone are not suitable for documenting this species and staff should actively search for kestrels while in sandhill and ruderal habitats during the breeding season (mid-April through July). Additionally, staff should revisit the area of the suspected sighting periodically during the breeding season.

Ongoing natural community management combined with a shorter fire return interval will improve the suitability of habitat for kestrels. As the pines on AWMA mature, they will increase in size. This, combined with an active burning program, should increase the suitability of the area to this species by ensuring a continuing supply of large snags to act as potential nesting sites in the future. Additionally, while the status of this species on AWMA is unknown, the species has not been documented breeding in the county. Therefore, no SMA is recommended. Additional land management considerations including the protection and creation of snags can be found in Section 4.3.6. Species management recommendations can be found in Section 5.1.2. The area goal is to have southeastern American kestrels nest on the area. However, the use of the area by the southeastern American kestrel may be dependent on conditions that influence the regional population.

The measurable objectives are to:

1) Determine if southeastern American kestrels are present on the area during the life of this Strategy.
2) Install nest boxes if southeastern American kestrels are documented on the area.

3.2.9: Southern Bald Eagle

Bald eagles are seen occasionally on AWMA, with 2 active nests observed over the last several years. There are an additional 2 known bald eagle nests within

~2 miles of AWMA. These nests and several other nests are located along the banks of Lake Seminole, which provides ample foraging habitat. Bald eagles use a number of natural communities with the best nesting habitat occurring in forested areas close to open water. While not considered management dependent, this species does benefit from active management to restore natural communities provided managers follow nest protection guidelines.

The bald eagle does not trigger any of the prioritization parameters, but is protected by the Bald and Golden Eagle Protection Act. Furthermore, the FWC approved a Bald Eagle Management Plan in 2008 to ensure the continued recovery of this species in Florida. Models identify 2,838 acres of potential habitat on AWMA with 3,800 acres modeled to occur if management could restore all natural communities. Bald eagles are not typically considered management-dependent and the opportunity to affect them at the management area-level is low. However, ongoing efforts to maintain AWMA's natural community structure and function will benefit this species. Management actions that maintain or enhance habitat for this species include managing for mature stands, prescribed fire, and mechanical actions that aid in restoring natural community structure. This species will also benefit from the protections to water quality provided by having conservation lands bordering the lake in which the species feeds. Habitat suitability for this species should be maintained or increase with management.

Bald eagle nests on AWMA are monitored as part of a large statewide monitoring effort. Additional monitoring would be inefficient as information from the statewide effort can provide meaningful results to area staff. As there are no specific management activities recommended for this species, there is no need to establish a SMA and no need to establish measurable objectives. If eagle behavior indicative of nesting (e.g., courtship flights, carrying sticks) is observed, an effort will be made to determine the location of any potential nest on the area (Section 5.2.6). If bald eagle nesting is documented on site, the nest will be reported and the taxa coordinator for this species notified (Section 6.1.1). Managers will follow management guidelines around existing and future nesting sites (Section 4.3.7).

Section 6.1.3 describes other coordination recommendations. The area goal is to promote suitable foraging and nesting habitat that will allow individuals using AWMA to function as part of a regional population. While the continued use of AWMA by the bald eagle is dependent on conditions that influence the regional population, AWMA's location along a major lake and associated river system greatly enhances the chance for persistence.

3.2.10: Wading Birds

Four of the 8 focal species of wading birds [snowy egret (*Egretta thula*), tricolored heron (*E. tricolor*), white ibis (*Eudocimus albus*), and wood stork (*Mycteria americana)*] are occasionally seen on AWMA. Two others, the little blue heron (*Egretta caerulea*) and the great egret are considered common. The roseate spoonbill (*Platalea ajaja*) and the reddish egret (*Egretta rufescens*) have not been documented. Two breeding colonies comprised of great egrets, great blue herons, and anhingas have been documented on the area for several years. Due to the

location of these colonies, there is little concern for disturbance from land management activities.

Statewide, this group of species is a moderate priority. Several species are FWC-listed species of special concern and the wood stork is federally listed as endangered. The Millsap biological scores for the reddish egret, little blue heron and wood stork are high. The snowy egret, little blue heron, and roseate spoonbill have SGCN declining population trends, while the tricolored heron and white ibis have unknown SGCN trends. From a regional perspective, there are a few other wading bird colonies on the landscape; however, while the colonies on AWMA have remained active, the closest documented historic colony outside of AWMA has not been active since 1999.

On AWMA, models identify 439 acres of potential habitat with 108 acres modeled to occur if management could restore all natural communities. Despite the small amount of potential habitat modeled to occur on AWMA, due to the proximity to Lake Seminole, the area has a large amount of important foraging habitat that was not identified in the models. Wading birds may travel great distances between foraging and roosting habitat, and the opportunity to affect the regional populations of these species at the management area level is low because they tend to use habitats that are not actively managed. Wading bird population levels are highly influenced by regional conditions, especially water level conditions, therefore no SMA or measurable objectives are recommended. Managers should protect breeding colonies by providing a 330-ft buffer around the colony (Section 4.3.8). New wading bird colonies should be documented and reported (Section 5.2.6). Coordination recommendations are described in Section 6.1.3.

The area goal is to maintain the suitability of habitat for these species to allow the wading birds using AWMA to continue nesting and functioning as part of the regional population. It is unlikely that any WMA will independently support these wide-ranging, mobile species. However, the FWC manages AWMA in a manner that accommodates the needs of these species, and the continued presence of these species on the area is relatively secure due to the amount of habitat in and around AWMA.

3.2.11: Fox Squirrel

Fox squirrels are common on AWMA and reproduction has been documented. Though the Sherman's fox squirrel subspecies is unlikely to occur here, we chose to include fox squirrels as a focal species, regardless of sub-species, due to their importance in the ecosystem. Biologists believe fox squirrels need a mosaic of habitat conditions to ensure a year-round supply of food that consists of a variety of seasonally abundant items. Suitable habitat for fox squirrels includes longleaf pine sandhills or flatwoods with a mixture of pines and oaks, such as along the edges of longleaf pine savannas and live oak forests. There is excellent habitat on AWMA for this species, with mature trees, open canopies and diverse groundcover found within upland pine, upland mixed-woodland and sandhill natural communities on the area. Additionally, agricultural fields are suitable when interspersed among suitable habitat, as is the case on AWMA. Large oaks, such as those found within upland mixed-woodland habitats on AWMA are ideal for use as nest sites by fox squirrels.

On AWMA, models identified 3,309 acres of potential habitat with 4,254 acres modeled to occur if management could restore all natural communities to their historic condition. However, due to ongoing agricultural leases, roads and ditches that cannot be restored, only 3,533 acres are potentially available after restoration. This species is most common within upland pine and upland-mixed woodland natural communities on AWMA. They also occur within sandhill habitats on the area; however, they seem to use the more mature sites.

The fox squirrel is a wide-ranging species and it is not known if the potential habitat on AWMA combined with adjacent habitats could support an independent population of this species. Literature suggests fox squirrels require 2,000–9,000 acres of habitat to support a population. Ongoing efforts to restore and maintain natural community structure and function will benefit this species. Management actions that maintain or enhance habitat for fox squirrels include prescribed fire and mechanical actions that aid in restoring natural community structure and timber management that results in open, mature pine forests, provided appropriate species and densities of oaks are retained. Further land management recommendations can be found in Section 4.3.9.

From a regional perspective, the landscape around AWMA supported a good population of this species historically. Much of the sandhill and open-canopied flatwoods desired by fox squirrels, however, has been converted to agriculture. Woodlots and small tracts of habitat within the agricultural matrix, particularly when located adjacent to remaining small, isolated patches of pine forests may provide some suitable habitat.

As ongoing natural community management and restoration efforts on AWMA will benefit this species, no SMA is recommended. Because this species naturally occurs at relatively low densities and is difficult to count with statistical confidence, no specific monitoring action is recommended. No measurable objective for this species is recommended at this time.

The area goal is to maintain a robust population of fox squirrels that allows squirrels using the area to function as part of the regional population. By maintaining the acres of potential habitat in a condition that is suitable to this species, and having the species remain common, we will ensure we are achieving the goal.

3.2.12: Gray Bat

In Florida, gray bat colonies have been found only in Jackson County, and due to the scarcity of suitable cave roosts, colonies are not likely to occur elsewhere. In 1984, researchers estimated the Florida population of gray bats contained about 10,000 individuals. Recent summer surveys in Florida have failed to find any gray bats, so the population is surely smaller now and may be gone. Judges Cave is 1 of 4 caves in Florida known to have contained a maternity colony of gray bats. Protection of the maternity roost (for southeastern bats and gray bats) was the primary reason for acquisition of JCWEA.

This federally endangered species triggers 4 of 6 prioritization parameters (PLCP PVA probability of a 50% decline on public lands, Millsap biological score, declining SGCN population trend, and low SGCN population status) and is a high

statewide priority. Roost sites are restricted to caves throughout the year. Because this species has very specific tolerances for cave microhabitat, only a small percentage of available caves are suitable. To be suitable as a maternity roost, caves must be located close to suitable foraging habitat and have rooms that provide warm stable temperatures for efficient growth and development of young bats. Additionally, most maternity caves contain pools of ground water and have high, horizontal ceilings at least 6 feet above the water. Forested areas along the banks of streams and lakes provide important foraging habitat. Availability of foraging habitat is not believed to be a limiting factor for this species, however, little is known about gray bat foraging habitat requirements.

Though gray bats have not been documented in Florida in recent years, they are doing well in other portions of their range. Jackson County, Florida is the southernmost extent of this species range, and due to the scarcity of suitable cave roosts, colonies are not likely to occur elsewhere in Florida. The reason for the relatively recent decline or disappearance of gray bats in Florida is unknown. Some speculate that bats formerly roosting in Florida have moved to large caves in other portions of this species' range where cave protection efforts have increased the suitability. However, the exact reason remains unknown. The effect that factors such as changing water levels within the cave and climate change would have on the suitability of Judges Cave to bats is also unknown.

As mentioned, Judges Cave is 1 of only 4 caves in Florida known to have historically contained a maternity colony of gray bats. Furthermore, it is the only former gray bat maternity cave owned by Florida. This allows FWC researchers unrestricted access to study the cave and factors that influence bat usage. Additionally, it places a great deal of responsibility on FWC to protect the cave from current and future potential threats. Due to these factors, an SMA encompassing all of JCWEA focusing on cave protection and research for both gray bats and southeastern bats is recommended (Section 4.1.2).

Gray bats have not been documented on AWMA. Models identified 1,053 acres of potential habitat for gray bats within current natural communities with 679 acres modeled to occur if management could restore all natural communities. Roost sites for gray bats are restricted to caves. Because of the lack of suitable caves on AWMA, the role for the area in the conservation of this species is to provide suitable foraging habitat. However, part of AWMA contains limerock outcroppings that may contain undiscovered caves capable of being suitable to this species. Therefore, these areas should be surveyed for bat presence (Section 5.2.5). If potentially suitable caves are found, staff will work with FWC's bat experts to determine the appropriate course of action.

This species is not typically considered management dependent and the opportunity to affect this species at the management-area level on AWMA is low. However, ongoing efforts to maintain AWMA's natural community structure and function will benefit gray bats should they be present. Management actions that maintain or enhance habitat for this species included the use of prescribed fire along habitat edges to prevent shrubby encroachment.

The area goal for JCWEA is to continue to protect the cave and promote conditions that allow for the use of the cave as a maternity colony. The area goal for

AWMA is to promote suitable foraging for bats that will allow individuals using AWMA to function as part of a regional population. However, most factors that influence the continued persistence of this species in Florida are beyond the control of area managers, and the long-term potential for this species in Florida is unknown.

3.2.13: Southeastern Bat

The southeastern bat is common and breeding has been documented on JCWEA. Judges Cave is 1 of 9 active southeastern bat maternity caves in Florida, each breeding season hosting approximately 30,000 bats. This makes it the fifth largest maternity roost for southeastern bats in the world, and by far the largest maternity roost on public lands in Florida. Protection of the maternity roost was the primary reason for acquisition of JCWEA.

This species triggers 2 of 6 prioritization parameters (PLCP PVA probability of a 50% decline on public lands and Millsap updated supplemental score) and is a moderate statewide priority. This species primarily forages over rivers, creeks and lakes and to a lesser degree, along hammock edges and in flatwoods. Roosting habitat varies seasonally. Outside the breeding season, individuals may roost in caves, culverts, under bridges, hollow trees and occasionally houses. During the maternity season, most known maternity roosts in Florida occur in caves where females gather to bare and rear young. Hollow trees and manmade structures also serve as maternity sites, but the prevalence and importance of these to the population is not fully understood.

The primary focus of management at JCWEA is protection of Judges Cave. However, areas surrounding JCWEA are already developed or will soon be developed. As a result, the entire area contained within JCWEA serves as an important buffer for the cave. Additionally, the area provides bats using Judges Cave permanently protected access to the Chipola River, which is thought to be an important corridor for foraging bats. Though not actively managed, these wooded areas contained within JCWEA are vitally important to the continued use of Judges Cave by bats. However, many other factors that are important to continued use of Judges Cave by bats are unknown. For example, it is unknown where bats using Judges Cave forage when they emerge from the cave. It is also unknown where bats using Judges Cave as a maternity roost winter. It is important to answer these and other questions so that we can take protective measures to mitigate any potential threats to bats that use Judges Cave. Additional research needs are discussed in the Judges Cave Protection and Research SMA (Section 4.1.2).

As mentioned, Judges Cave supports the fifth largest maternity colony of southeastern bats in the world, and by far the largest maternity colony on State lands in Florida. This allows FWC researchers unrestricted access to study the cave and factors that influence bat usage. Additionally, it places a great deal of responsibility on FWC to protect the cave from current and future potential threats. Due to these factors, an SMA encompassing all of JCWEA focusing on cave protection and research for both gray bats and southeastern bats is recommended (Section 4.1.2). Further land management recommendations for this species can be found in Section

4.3.10. The area goal for JCWEA is to continue to promote conditions that allow for the use of the cave by bats as a maternity colony.

This species likely forages over AWMA, though it has not been officially documented. No caves capable of supporting large colonies of bats are known to occur on the area, however, an area containing limerock outcroppings has the potential to provide roosting habitat and should be surveyed for bat presence (Section 5.2.5). If potentially suitable caves are found, staff will work with FWC's bat experts to determine the appropriate course of action. Additionally, the area manager has witnessed many bats emerging from an old hollow snag in standing water. This snag, and others like it, has the potential to provide important roosting habitat on the area.

On AWMA, models indicate 3,152 acres of potential habitat for southeastern bats within current natural communities and 4,373 acres modeled to occur if management could restore all natural communities. Any bats using AWMA are likely foraging over the many wetlands and adjacent Lake Seminole. Management actions that maintain or enhance habitat for this species included the use of prescribed fire along habitat edges to prevent shrubby encroachment. This species is not typically considered management dependent and the opportunity to influence this species at the management-area level on AWMA is low. However, ongoing efforts to maintain AWMA's natural community structure and function will benefit southeastern bats by maintaining foraging habitat and potentially providing roost sites. The area goal for AWMA is to provide suitable foraging and roosting habitat for bats that will allow individuals using the area to function as part of a regional population.

3.2.14: Limited Opportunity Species

Reticulated Flatwoods Salamander - The reticulated flatwoods salamander is considered absent from AWMA. Suitable upland habitat consists principally of open-canopied, mesic longleaf pine-wiregrass savannas and flatwoods, while ideal breeding ponds lack predatory fish, have an open overstory and support herbaceous vegetation throughout the basin.

During 2002-2004, FWC staff conducted extensive dipnetting on AWMA to determine the presence/absence of flatwoods salamanders and other pond-breeding amphibians. Flatwoods salamanders were not detected during these surveys, and many of the ponds sampled were found to contain fish. The closest known population is approximately 10 miles away and AWMA occurs in an agriculturally dominated landscape. Therefore, it is highly unlikely that this species would naturally colonize the area. Additionally, there are no flatwoods on AWMA. When the potential habitat models are run using upland pine occurring on mesic and hydric soils, the results indicate 950 acres of currently potential habitat and 1,581 acres modeled to occur if management could restore all natural communities to their historic condition. Due to the lack of suitable habitat types, distance to the closest known occupied area, and the absence of the species on the area, there is limited opportunity for this species on AWMA.

Red-Cockaded Woodpecker - The red-cockaded woodpecker has never been documented on AWMA. Red-cockaded woodpeckers inhabit open, mature pine woodlands with a diversity of grass, forbs 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; however, there are ample amounts of suitable trees on AWMA. Artificial cavities have been effective in increasing local populations when combined with appropriate habitat management.

Models identified 2,222 acres of potential habitat with 3,737 acres modeled to occur if management could restore all natural communities. With a home range of 100-400 acres per territory, a population of 5.5 to 22 territories on AWMA could be possible with the current estimates. Using the historic estimate of 3,737 acres of potential habitat, AWMA could support a local population of 9 to 38 territories. Populations with 30-100 potential breeding groups aggregated are considered moderately secure.

From a regional perspective, the nearest known population of red-cockaded woodpeckers occurs on the Silver Lake Tract in Georgia, approximately 10 miles east of AWMA across Lake Seminole. This tract of land was designated as a mitigation site for red-cockaded woodpeckers found on other International Paper lands and currently supports approximately 18 potential breeding groups.

The chance of red-cockaded woodpeckers colonizing AWMA naturally is extremely low. Red-cockaded woodpeckers have a limited dispersal capability, and their populations tend to grow around the edges of existing populations, rather than pioneering into unoccupied territory. Any colonization would likely come from the population at the Silver Lake Tract expanding its range northward where dispersers could cross the Chattahoochee River and then expand their range southward towards AWMA. This scenario would require many, many years even if with strategic creation of recruitment clusters.

Red-cockaded woodpeckers will not occur on AWMA in the near future without directed restocking efforts. Even though AWMA could support a small population, neither the FWC nor the federal recovery plan identified AWMA as a potential restocking site. Restocking AWMA would be a low priority, as the property has no potential to interact with other red-cockaded woodpecker populations, and no specified recovery role in existing recovery plans. As such, there is limited opportunity for this species on AWMA.

Florida Black Bear – The Florida black bear is a wide-ranging species capable of significant dispersal. 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 foraging opportunities, cover when traveling between these habitat types and adequate den sites.

This FWC-listed threatened species triggers 2 of 6 prioritization parameters (PLCP PVA probability of a 50% decline on public lands and Millsap biological score). While models identified 798 acres of potential bear habitat, AWMA is >13 miles from secondary range, and > 20 miles from primary range. Further, the bear management program did not identify AWMA as a first priority area for bear, and

AWMA was not modeled to be an important dispersal corridor for bear. There have been a limited number of nuisance bear complaints in the area of AWMA in the past, but the number has been very low. Any bear in this area is likely a young dispersing male. Because of the small acreage of potential habitat, the distance of the area for primary or secondary bear range, and the fact the area has not been identified as important to bear for dispersal, AWMA currently has a limited opportunity in the conservation of this species. If a bear is observed on the property, the observation will be recorded (Section 5.2.6).

3.2.15: Other Focal and Imperiled Species

In addition to the listed species discussed above, the American alligator (*Alligator mississippiensis*) is the only listed animal known to occur on AWMA, and no other listed animal species have been documented on JCWEA. The American alligator is common on AWMA and occurs in ponds within the WMA and portions of Lake Seminole encompassed by the WMA. The USFWS lists the alligator due to its similarity in appearance to other listed crocodilians, not due to actual imperilment. Planned and ongoing management activities that include allowing prescribed fire to run into wetland communities will continue to provide habitat for the American alligator.

Six listed plant species have been documented on AWMA. The USFWS lists Gentian pinkroot (*Spigelia gentianoides*) as threatened. Leopard's-bane (*Arnica acaulis*), sweet shrub (*Calycanthus floridus*), Catesby's bindweed (*Calystegia catesbaeiana*), and Barbara's buttons (*Marshallia obovata*) are listed as endangered by the State of Florida. The rainlily (*Zephyranthes atamasco*) is listed as threatened by the State of Florida.

Gentian pinkroot is a small herbaceous plant found in fire-dependent ecosystems. Variety *gentianoides* (found on AWMA) is restricted to longleaf pine-wiregrass and pine-oak-hickory woods of Florida and Alabama. Since this plant appears to prefer partially open canopies, canopy shading is assumed to negatively affect this species. Because of this, staff should continue to work with the ACOE and USFWS to overcome the challenges of completing timber harvests in upland mixed-woodland habitats where this species occurs. The USFWS has recently completed a Draft Recovery Plan for this species.

Leopard's-bane, Catesby's bindweed, and Barbara's buttons occur within upland pine and sandhill habitats on AWMA. The open overstory and frequent application of prescribed fire will continue to benefit theses species. Rainlily occurs in rich moist woods, or low ground, typical of wet pastures and meadows. These areas are interspersed among actively managed natural communities on AWMA, and ongoing management will continue to provide suitable conditions. Sweet shrub is found within bottomland hardwood forest habitats on AWMA. Because this natural community is not actively managed, area staff has little opportunity to manage for this species. Ongoing treatment of exotic vegetation in bottomland hardwood forests and the protections afforded species occurring on conservation lands will benefit this species.

Three listed plant species have been documented on JCWEA. Variable leaf Indian plantain is listed as threatened by the State of Florida, and Carolina larkspur and May apple are listed as endangered by the State of Florida.

Variable leaf Indian plantain occurs in the river swamps along the Chipola River, while Carolina larkspur and May apple occur on the slopes and bluffs found around the entrance to Judges Cave. None of the natural communities where these species occur are actively managed; however, ongoing treatment of exotic species will continue to provide benefits.

It is possible that additional imperiled species occur on these areas and if encountered, staff will document these encounters (Section 5.2.6). Imperiled species should continue to benefit from FWC's ongoing management actions that aim to restore natural community structure and function. Florida's imperiled species are adapted to these natural communities and have a higher probability of persistence under FWC management actions than in the absence of management.

Section 4: Land Management Actions and Considerations

Models identified potential habitat for 13 focal species on AWMA, and area staff identified 3 other focal species that may occur on the property (Section 3.1). Additionally, models indicated 6 focal species on JCWEA. However, not all of these species have the same level of management opportunity or need (Section 3.2). On AWMA, FWC's natural community-based management, which emphasizes prescribed fire methods that promote 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. On JCWEA, FWC's management is focused on protection of the cave and bat research.

We may designate Strategic Management Areas (SMAs) when actions over and above ongoing natural community management are required (Section 4.1). The designation of SMAs allows for identification of an area in which managers can apply specific land or species management action(s) to facilitate conservation of a species or group of species. An SMA is an area in which specific actions will occur that typically will not occur area-wide and can be used to do the following:

- Identify the area in which to apply specific land or species management that creates the highest probability for persistence/conservation of a species/suite of species. These specific actions may aid in restoring, enhancing or maintaining the habitat or population.
- Identify an area in which to focus specific management actions (land management or species management) for the best chance of success on large areas with more restoration/enhancement than can be accomplished in short order. 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 area that it warrants identification to ensure protection against negative alteration.
- Focus efforts on restoration/enhancement of a natural community that will benefit a priority species or a group of focal species. The SMA should identify the area in which these actions have the greatest positive impact for the species of interest.
- Identify areas that are critical for research or monitoring.

- Recommend specific OBVM DFCs in a specific area to benefit a specific species when we would not want to change the DFCs in the natural community area-wide.

We designated 1 SMA on AWMA to guide efforts aimed at increasing the amount of habitat for northern bobwhite (Section 4.1.1), and 1 SMA on JCWEA to identify important cave protection measures and identify research opportunities (Section 4.1.2).

As AWMA had yet to undergo the OBVM workshop process, actively managed communities and DFCs were established as part of the WCPR workshop process (Section 4.2). Additionally, an OBVM-oriented objective was determined to be necessary.

Some species have specific protective measures or land management considerations that are necessary to ensure their continued use of the property. Section 4.3 provides these recommendations.

4.1: Strategic Management Areas

The intent on AWMA is to restore most restorable natural communities to a more natural condition, while retaining a certain amount of agricultural fields and early successional habitat, primarily for quail management. The intent on JCWEA is to apply management focused on cave protection. However, SMAs allow focus on areas with the highest possibility of success and/or areas most critical for the conservation of a species on the area. The WCPR process identified 1 area for which an SMA was established on AWMA and established 1 SMA that encompasses all of JCWEA. For each SMA, staff developed an area-specific goal, measurable objectives, and a strategy to guide management. We define goals, objectives and strategies in Section 1.

4.1.1: Northern Bobwhite

We designated a northern bobwhite SMA on AWMA in order to identify areas in which restoration efforts should be focused to provide the greatest benefit for this species on the area. Northern bobwhite are typically associated with open canopy forests and grassland communities dominated by warm-season grasses, legumes, and patchy bare ground. Areas with dense herbaceous cover are used for brooding and foraging; shrubs or other thickets are useful as roosting habitat or escape cover. Though about 70% of AWMA currently contains suitable habitat in the form of an open overstory with diverse herbaceous vegetation, approximately 286 acres in management units 28, 27, 18, 2, and 3 are currently in need of thinning and/or more frequent application of prescribed fire. Reducing the basal area in these management units to approximately 50 ft^2/acre and burning more frequently will increase the amount of suitable habitat for northern bobwhite.

Northern bobwhite have been the focus of management on AWMA since the 1960s and the population is carefully managed. The application of frequent growing season burns (60% to 70% of northern bobwhite habitat is burned annually) to increase the quality of northern bobwhite habitat, has greatly benefited many other focal species. This management is compatible with the needs and supports the current populations of Bachman's sparrows, brown-headed nuthatches, gopher tortoises, fox squirrels, and pine snakes currently found on the area.

All of the management units identified as part of the SMA occur on the periphery of the area. Prior management has focused on maintaining the high quality of the habitats on the interior of the area. By focusing on these peripheral areas, staff can increase the overall acreage of high-quality habitat, and have the opportunity to expand the current population of northern bobwhite.

SMA Goal: Expand the current population of northern bobwhite within the SMA by increasing the amount of suitable habitat.

SMA Objective 1: Determine a baseline density of northern bobwhite within the SMA by 2013. This baseline density should be the average density over a period of 2 years.

SMA Objective 2: Following the establishment of a baseline density in the SMA, increase the density of northern bobwhite to 0.5 birds/acre as determined through covey call surveys. However, it may take longer than the term of this Strategy to reach this objective.

SMA Objective 3: Apply 3 prescribed burns in the SMA within 10 years after completion of timber thinning in stands where thinning is required.

Description of the SMA: The SMA focuses on 5 MUs spread around the periphery of the area and includes approximately 28 acres of sandhill, 107 acres of upland pine, 151 acres upland mixed-woodland, and 101 acres of agricultural fields (Figure 1). These units each have their own management needs and are discussed in detail below.

Strategy: Management units within this SMA are spread throughout the area and each has its own management history and needs. Management Unit 28 is the southernmost MU in the SMA and is dominated by upland mixed-woodland (86 acres) and 1 large agricultural field. All areas to the east of the agricultural field have been thinned to a basal area of approximately 70-90 ft^2/acre, and are in need of midstory control in the form of herbicide application or mechanical treatments, and a frequent fire return interval. Areas to the west of the agricultural field are currently at a basal area of approximately 90-100 ft^2/acre. These areas have not been thinned due to the presence of the federally endangered gentian pinkroot. The USFWS has been reluctant to allow thinning in areas where this species occurs; however, if opening up the canopy can be shown to benefit gentian pinkroot it may be allowed. Before thinning is considered, the DFC for basal area within upland mixed woodland natural communities must be determined (Section 4.2). Following the establishment of DFCs for this community type, the DFCs for upland-mixed woodland habitats occurring throughout the SMA should be adjusted to the lower end of the range in basal areas found on the reference site while balancing the needs of the federally endangered gentian pinkroot and the northern bobwhite. Coordination with the USFWS regarding thinning in areas with gentian pinkroot and the ACOE who retain rights to the timber on the area is necessary (Section 6.4 and 6.5). As such, it is not within

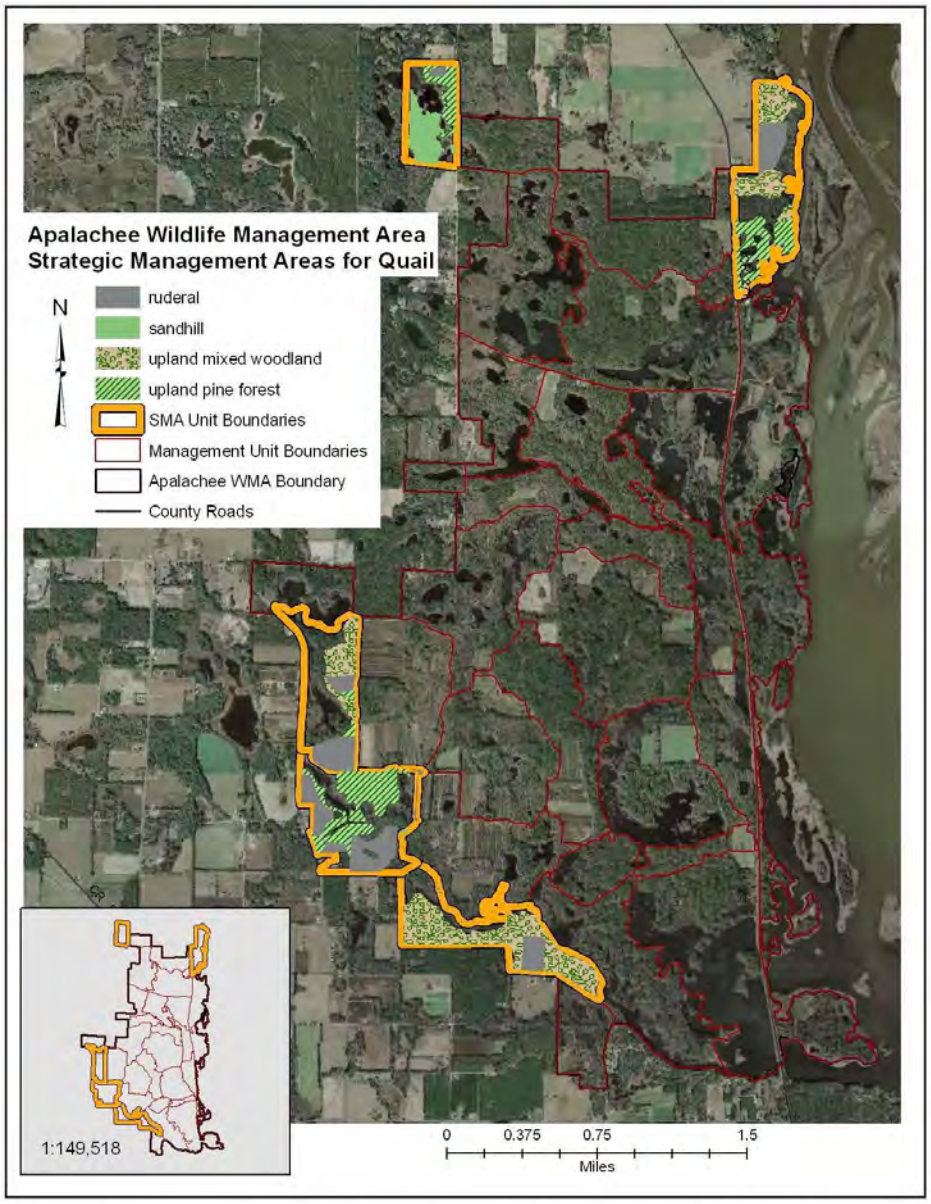


Figure 1: Management units targeted for management and restoration associated with the northern bobwhite SMA on Apalachee Wildlife Management Area.

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FWCs authority to conduct timber thinning on AWMA. Therefore, any thinning identified in this strategy is considered a recommendation.

Management units 18 and 27 consist of upland pine (60 acres), upland-mixed woodland (26 acres), and a number of agricultural fields. Thinning has already occurred in both management units including the upland-mixed woodland areas where gentian pinkroot locations were flagged and buffered during timber thinning operations. As basal area in these MUs is currently in the 70-90 range ft^2/acre, the focus should be on a frequent fire return interval focusing on growing season burns, and mechanical and/or herbicide treatments to control midstory growth. Appropriate precautions will be enacted to ensure protection of the gentian pinkroot.

Management Unit 2 is the area that received mechanical treatments and its first burn in 2010. This area was thinned in 2002 and contains both sandhill (28 Acres) and upland pine (16 acres) habitats that are dominated by old-growth longleaf pines. The area contains relatively intact groundcover that has benefitted from the recent management. Continued focus on growing season burns and limited midstory control in this area is needed for this area to become optimal habitat.

Management Unit 3 consists of upland pine (31 acres), upland mixed-woodland (39 acres), and a large agricultural field. The basal area within this MU is currently in the range of 120-220 ft^2/acre, and needs to be thinned to provide optimal northern bobwhite habit. The desired BA within upland pine habitats is 40-90 ft^2/acre. This MU is currently on the ACOE schedule for thinning, however, it is possible the desired basal area will not be achieved on the first thin. Staff should keep this area a high priority when submitting thinning recommendations to the ACOE in the future.

Monitoring is necessary to determine if management is having the desired effect and to determine progress towards reaching objectives for the species. See Section 5.2.4 for monitoring recommendations and Section 6.1.2 for coordination recommendations.

4.1.2: Judges Cave Protection and Research

Judges Cave found within JCWEA is 1 of only 4 caves in Florida known to have contained a maternity colony of gray bats and 1 of only 9 caves in Florida currently used as a maternity roost by the southeastern bat. Each breeding season Judges Cave hosts approximately 30,000 bats making it the fifth largest maternity roost for southeastern bats in the world, and the largest maternity roost on public lands in Florida. The cave and the large maternity colonies of bats that use the cave are the reason TNC acquired and donated JCWEA to the State of Florida, and the bats and the cave are the focus of management on the area. State ownership allows FWC researchers easy access to study the cave and factors that influence bat usage. Additionally, it places a great deal of responsibility on FWC to protect this critical resource from current and future potential threats. As such, an SMA encompassing the entire area of JCWEA is recommended. The focus of the SMA is on current and future cave protection and research needs.

SMA Goal: Maintain or increase the population of southeastern and gray bats using the cave as a maternity roost within the timeframe of this strategy.

Factors outside of the control of area managers influence the ability to achieve this goal. However, staff will fulfill their role in achieving this goal by providing conditions that allow for the use of the cave by bats as a maternity colony.

SMA Objective 1: By 2022, determine timing of seasonal cave usage and what factors may influence timing of usage by southeastern and gray bats within 10 years.

SMA Objective 2: Until deemed unnecessary, maintain conditions around the cave and at the cave entrance to enhance potential for continued use by bats.

Description of the SMA: The SMA consists of the entire 37.3 acres that comprises JCWEA. This includes 5.3 acres of floodplain swamp, 16.2 acres of floodplain forest, and 15.8 acres of upland hardwood forest. The entrance to Judges Cave is located in the northeast corner of the property (Figure 2).

Strategy: Staff designated this SMA to outline cave protection efforts and identify factors that may influence use of the cave by bats. Disturbance of a maternity roost can decrease bat use and even cause bats to abandon a cave permanently. Additionally, the fungal disease White-Nosed Syndrome has affected bats in the northern portion of their range. Humans can spread this fungus between caves and this should be prevented. As many of the factors that affect bat use of the area are not in our control, cave protection is the single most important aspect FWC can influence.

In 1983, when TNC deeded the property to FWC (then GFC), TNC included a clause in the deed stating that ownership would revert to TNC if there were "…any disturbance whatever of habitat or plant or animal populations…." due to FWC allowing public access on the area. As such, there is no public access allowed on JCWEA. Currently, the perimeter of JCWEA is posted as "Closed to Hunting" but not "No Trespassing", though it is in the establishment orders. Judges Cave WEA is located in a human altered landscape, and access to the area is provided via an easement on private lands. There are no signs indicating the area is a WEA and there is an approximately 50-ft X 50-ft chain-linked fence about 8-ft tall surrounding the cave entrance. Management actions in this area include treating invasive exotic plants, fence maintenance and removing any vegetation that may fall and obstruct the cave entrance. Staff and researchers believe these measures are currently sufficient to protect the cave, as trespass is currently very rare. However, due to the potential for future development and the possibility of a trail, proposed by Jackson County and the Office of Greenways and Trails that would link Florida Caverns State Park and the Chipola Greenway, would increase the probability of trespass and cave disturbance, future protection efforts should be considered. As this proposed trail may come close to the boundary of JCWEA, if given the opportunity, staff should provide comments and recommendations to limit potential negative consequences.

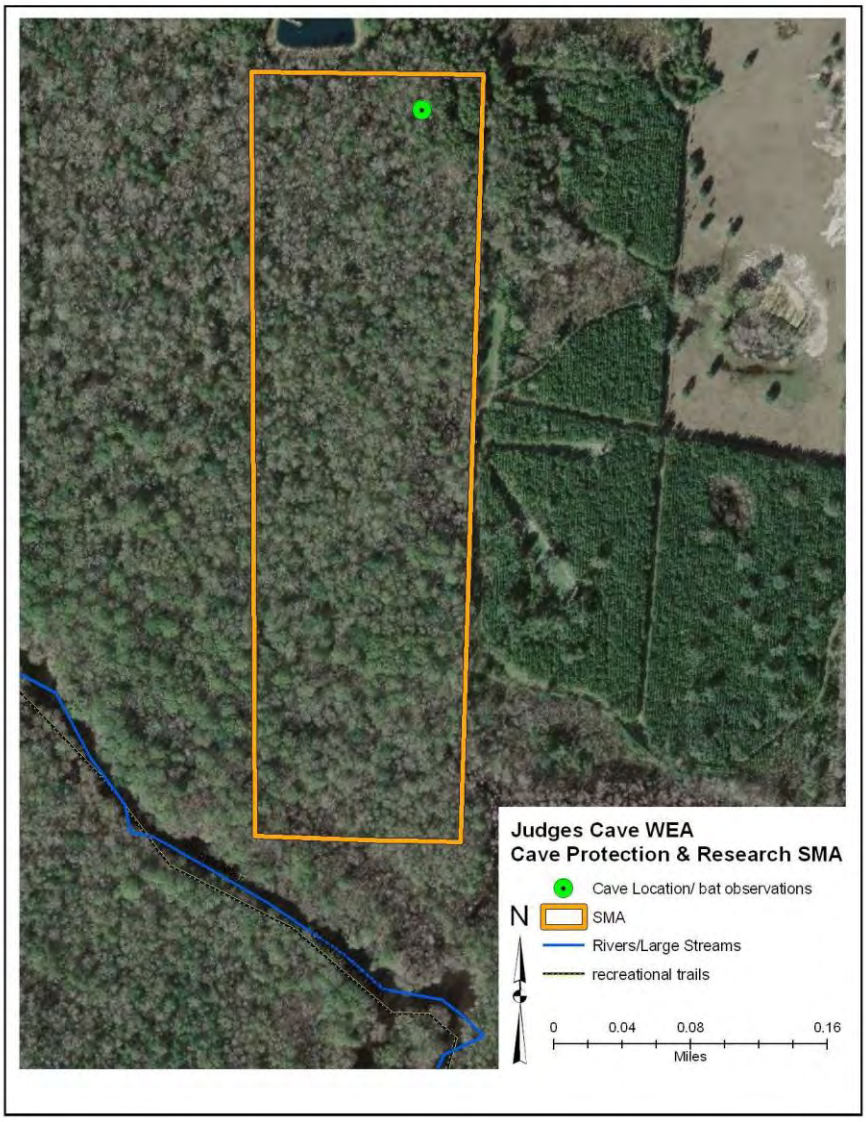


Figure 2: Map of Judges Cave Wildlife and Environmental Area showing the location of the cave entrance.

In order to determine if increased trespass is taking place and additional protection measures are necessary, monitoring of the cave site is necessary. Area staff, law enforcement, and researchers are not at JCWEA frequently enough to monitor trespass. By the time trespass is noticed (trash, vandalism, etc.), it may have been months since it occurred. Options for monitoring entrance into caves include the use of motion detection counters and/or cameras. As motion detection counters cannot differentiate between human and animal use, motion detection cameras are recommended. The ability of motion detection cameras to differentiate between animals and humans can serve a dual purpose on JCWEA. Not only will they inform us about trespass, they can help answer the important question of the exact dates of cave use by bats. This information is very important to researchers (see below) and can be used to further protect bats by increasing staff or law enforcement presence during periods of bat use. These cameras should be installed at the cave entrance as soon as adequate funding is available.

If cave disturbance is determined to be a problem, the FWC should take action to protect the cave. Cave protection measures including gating and fencing cave entrances have been used with some success and some failures for various bat species at other caves. Due to the biological importance of Judges Cave and the reported adverse impacts (cave abandonment) cave entrance gating and fencing have had on southeastern bats and gray bats in Florida, they should not be considered at Judges Cave. If the proposed trail connecting the Chipola Greenway to Florida Caverns State Park is built, and problems with trespass increase, FWC should install and maintain "No Trespass" signs along the boundary. Additionally, FWC could install a fence along the JCWEA boundary between the cave entrance and the trail. If other trespass problems arise, fencing the entire perimeter of JCWEA should be considered.

Most bat maternity colonies in Florida are located on private lands. Because of this, it is difficult for researchers to conduct research and answer important questions regarding these species. JCWEA is extremely valuable to FWC researchers as it offers unrestricted access for research. Timing of seasonal usage of caves by bats is important from both a cave protection and bat management prospective. If we can determine the timing of seasonal use, we can hypothesize what influence other factors such as climate change might have on bats. Other research topics include:

1) Does the water level of the Chipola River affect the water in the cave? How are they related? What is the probability of cave flooding during times of bat use?
2) Does the quality of the water in the cave influence bats or bat use of the cave?
3) Is the temperature in the cave changing? Will this affect bat use of the cave?
4) Is the humidity in the cave changing? Will this influence bat use of the cave?
5) Where do the bats that use the cave as a maternity colony forage and what routes do the bats take to get there? What habitats are they using? Are the foraging areas or travel corridors being affected by current land-use?
6) Where are the bats wintering?
7) What environmental factors influence cave use by bats?

FWRI staff monitors the maternity colony at the cave on an annual basis and intends to continue to do so in the future. Area staff should continue to monitor the condition of the

fence and the cave entrance, and make repairs as necessary. If either FWRI researchers or area staff notice problems with trespass or cave disturbance, this information should be shared so corrective action can be taken. See Sections 6.1.1, 6.1.3, 6.1.7, 6.2, and 6.3 for coordination recommendations.

4.2: Objective-Based Vegetation Management (OBVM) Considerations

On JCWEA, staff does not apply natural community management that would trigger OBVM monitoring. On AWMA, staff will use OBVM to monitor progress towards DFCs of various natural community parameters. As such, OBVM will be effective in monitoring progress towards land management strategies on AWMA.

The OBVM DFCs target a range in values for various habitat parameters within actively managed communities. The AWMA and JCWEA WCPR workshop gave participants the opportunity to suggest DFCs that meet the needs of the focal species considered for AWMA. This resulted in establishment of DFCs for 2 of the 3 actively managed natural communities (Table 2).

Table 2. Desired Future Conditions for specific vegetative parameters in actively managed natural communities at AWMA as determined through the WCPR process.

Upland Pine		Sandhill	
Total Basal Area	40-90 ft^2/acre	Total Basal Area	20-60
Pine Basal Area	40-80 ft^2/acre	Pine Basal Area	20-60
Non-Pine Density	≤2	Non-Pine Density	≤3
Shrub Stems	≤ 1	Shrub Stems	≤ 1
Shrub cover	<10	Shrub cover	20-40
Mean Shrub Height	≤2ft	Mean Shrub Height	≤3ft
Herbaceous Cover (%)	20-60	Herbaceous Cover (%)	10-30
Wiry Cover (%)	5-25	Wiry Cover (%)	5-10
Weedy Cover (%)	0-5	Weedy Cover (%)	0-5
Exotics (%)	0	Exotics (%)	0

Through the workshop process, it was determined that we did not have enough information to make an informed decision on the DFCs for the upland mixed woodland natural community type. The FNAI only recently described the upland mixed woodland natural community type that occurs on portions of AWMA. As this is a new natural community type, quantitative descriptions outlining ideal conditions found in reference areas have yet to be completed.

FNAI indicates that some of the upland mixed woodland habitats found on AWMA are high quality and should be considered a reference area for the community type. Therefore, the goal for upland mixed woodland is to manage the natural community in a manner that provides for the needs of the many plant and animal species that depend on the community. In order to accomplish this goal, FWC will contract with FNAI to have FNAI identify appropriate reference areas for this natural community. Once reference sites have been identified and quantitative data describing a number of vegetative parameters are available, the measurable objective is to:

1) By 2014, recommend DFCs for upland mixed woodland on AWMA based on the quantitative data collected from the reference site while considering the needs of focal species that may use this natural community.

4.3: Further Land Management Considerations

Most generalist or wide-ranging species benefit from management that restores the natural structure and function of natural communities they use. However, for some species, specific management recommendations and precautions are necessary to ensure continued suitability of the area for the species. The following recommendations should help ensure AWMA continues to fulfill its 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 ground disturbing firebreaks along wetland ecotones because they can alter/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 preferred to allow fire to burn through the wetland. Managers will use prescribed fire as the primary tool to remove shrubs and other thick vegetation from pond margins; mechanical treatments may be needed initially, but prescribed fire should be the main management tool in suitable wetlands.

Growing season (April–September) burns, preferably after April, are more beneficial to gopher frogs than dormant season (October–March) burns. This is because they are more effective at reducing shrub cover and litter in the wetland basin, stimulating the growth of herbaceous emergent vegetation, enhancing the wetland/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, it is better to burn during the dormant season than to avoid burning.

Because it is important to maintain potential breeding ponds in good condition, minimize soil disturbance within 500 yards of potential breeding ponds and continue the prohibition on public off-road vehicle use. Timber management around known or potential breeding ponds should focus on selective thinning and natural regeneration enhanced by prescribed fire.

4.3.2 Florida Pine Snake

Large upland snakes such as the Florida pine snake are relatively wide-ranging and elusive. Ongoing land management activities will enhance the suitability of habitat for this species, but could also 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 or gopher tortoise burrows, as pine snakes regularly use their burrows. Coarse woody debris and residual stumps should be left intact when possible to provide cover for these species. In general, avoid removing stumps.

While it is acceptable to pile and burn excess logging slash if necessary to reduce smoke management issues, ensure some debris remain in the stand to provide cover for these species. Creating brush piles can provide cover for these species if natural cover is sparse or absent.

4.3.3: Gopher Tortoise

In areas where gopher tortoises occur, the timing of land disturbance activities (e.g. roller-chopping, timber removal) should, whenever possible, occur during the dormant season to minimize negative impacts to gopher tortoise. This species generally is less active and spends more time in burrows during the winter months. Therefore, disturbances at this time will be less likely to crush or otherwise harm foraging tortoises. Regardless of timing, minimize impacts on known burrows. Gopher tortoise burrows tend to be clumped even in good habitat; avoid using heavy equipment in clusters of burrows. All mechanical treatments should be followed with a prescribed burn, when conditions are suitable. Additionally, continue to support the ACOE flagging all burrows prior to timber thinning operations.

4.3.4: Brown-Headed Nuthatch

This species is a cavity nester and is dependent on the presence of snags for suitable nesting habitat. Unfortunately, and to the detriment of the nuthatch, management activities frequently knock over snags, especially the old, soft snags on which the nuthatch is dependent. The impact of land management on snags should be evaluated to ensure new snags are replacing consumed snags. If there is a net loss of snags during prescribed fire or mechanical treatments, consider taking efforts to protect snags or taking actions to create new snags. It is possible to create future suitable snags by girdling oaks with a diameter at breast height of < 10 inches. Over time, these snags become soft and become preferred nest sites. Managers should take care to keep this particular type of snag.

When possible, avoid prescribed fire during February and March in management units known to contain brown-headed nuthatches. The loss of nests early in the season frequently results in re-nesting attempts. Most re-nesting occurs during periods of increased snake activity which results in greater predation on nesting females and their eggs and young. However, if this is the only time in which suitable conditions occur for a burn, it is better to burn than to avoid burning.

4.3.5: 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, whenever possible, protect known nesting sites from human disturbance (e.g., prescribed fire, timber thinning, mechanical treatments) by maintaining a 50-foot (15.2 m) buffer around the nest during the nesting season, and avoid heavy alteration of the nesting location. Whenever signs of

Cooper's hawk nesting (e.g., carrying nesting material, aggressive dive bombing) are encountered, the location should be documented and an effort made to locate the nest.

4.3.6: Southeastern American Kestrel

Southeastern American kestrels are dependent on the occurrence of open upland habitats that contain a number of snags for nest sites. 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, the amount of mechanical activity within 500 feet of the nest will be minimized during the nesting season and the snag will be protected 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, Fl. 35 pp.

4.3.7: Southern Bald Eagle

Protection of bald eagle nests, including avoiding disturbance of nesting eagles, is necessary to continue the recovery of this species. Managers will consider the management guidelines available at FWC Bald Eagle Management Plan (or any subsequent version) when planning activities within 660 feet of known eagle nests. Staff will document and report any new nests that are located. Staff will check the bald eagle nest locator (FWC Bald Eagle Nest Locator) annually to determine if any new nests are detected within 660 feet of the WMA via the statewide monitoring efforts. It is undesirable to have unnaturally dense stands around eagle nests. Continue to manage stands in which eagle nest buffers occur, but with proper planning to avoid negative impacts to the eagles, per the guidance of the management plan. During management activities, retain large mature pines as potential nesting sites.

4.3.8: 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 activities. Providing a 330-foot buffer around nesting colonies during nesting season will ensure adequate protection of these resources. Additionally, plan any mechanical and/or chemical control of aquatic vegetation at a time that avoids disturbance to the colony, and using methods that do not damage the plants in which wading birds construct their nests.

4.3.9: Fox Squirrel

As habitat restoration occurs on AWMA, it is likely the area will become more suitable for fox squirrels. To ensure the area reaches its potential for fox squirrels, prescribed fire and thinning should continue to create an open, mature forest structure. Efforts to reduce the dense shrub layer will benefit this species by providing the open conditions the species prefers, as well as promoting food producing species such as runner oak (*Quercus pumila*). As fox squirrels require an oak component, some oaks should be retained within upland pine natural communities. Ideally, a variety of oak species in a range of age classes should be retained, but not to the extent that it would interfere with other species needs and natural community management.

4.3.10: Southeastern Bat

Large hollow trees, particularly hardwoods or cypress in the basin swamp are potential roost sites for southeastern bats. Protect these important resources when possible during land management activities. Prior to removing old culverts or abandoned buildings, check for occupancy by bats.

While not pertinent to the southeastern bat, some species of tree bats roost in leaf litter on the ground when the temperature goes below freezing. When temperatures are this low, the bats are in a state of torpor that may prevent them from arousing to escape. To avoid negative impacts to tree bats, following nights when the temperature drops below freezing, when possible, delay initiation of prescribed fire until the air temperature has warmed to 50°F. This will allow bats to have warmed sufficiently to become active enough to escape fire. However, if this is the only time in which suitable conditions occur for a burn, it is better to burn than to avoid burning.

Section 5: Species Management Opportunities

The focal species approach taken here represents a science-based approach to ecosystem management. Though this method relies on a suite of individual species, land management actions focused on these species directly benefit associated species. For some species, land management actions alone are insufficient in aiding recovery. These include species that are not present on a site and have limited dispersal capabilities or are unlikely to occupy a site without reintroduction once habitat restoration is complete. Additionally, species that are currently present but occur at low densities, have low reproduction potential, or have other limitations that inhibit recovery, may require species-specific management. This section provides species management recommendations (Section 5.1) as well as monitoring recommendations (Section 5.2) to assess species response to land management and to determine the need for additional species management. Section 5.3 identifies research necessary to guide future management

5.1: Species Management

Species management as used here refers to non-monitoring actions taken for a specific species. It can include actions such as translocation, restocking, installing artificial cavities, etc. Specific actions were identified for 1 species, however, additional actions may become necessary following documentation of certain species such as the southeastern American kestrel. Section 5.2 covers monitoring related actions, including banding or tagging. Section 2 and Section 4 provide information on land management actions, such as prescribed fire or mechanical treatments.

5.1.1: Southeastern American Kestrel Nest Box Program

If southeastern American Kestrels are determined to be present on AWMA, staff should begin a kestrel nest box program. The number of nest boxes and their location will be determined after the species presence is confirmed. These boxes will be maintained and monitored by area staff according to protocol developed by FWRI as part of a statewide effort to erect and monitor southeastern American kestrel nest boxes. This effort will collect data on habitat structure around these boxes to gain a greater understanding of preferred nesting habitat. The purpose of monitoring southeastern American kestrel nest boxes on AWMA is to promote nesting opportunities and track kestrel use of the nest boxes.

5.2: Species Monitoring

Monitoring is critical to evaluating the impact of the management actions described in this Strategy. While we are unable to monitor all of the focal species on AWMA and JCWEA, the recommended monitoring will assess species in all actively managed communities, select wetland dependant species, 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. We will make monitoring data available to cooperating agencies and organizations such as FNAI (Section 6).

This section provides the list of monitoring actions recommended for the area, and provides the purpose for the monitoring. The FWC is in the process of standardizing monitoring protocols for a number of these species. Approved protocols are available at Monitoring Protocol Section of the WCPR SharePoint Site. When protocols are finalized, they will be implemented in accordance with the timeframe described in this Strategy.

5.2.1: Gopher Frog Monitoring

The purpose of gopher frog monitoring is to determine the presence or absence of the species on the area. Call surveys will be completed following a THCR standard protocol. The gopher frog typically breeds following heavy rains. Therefore, surveys should occur at potential wetlands after major rain events during the winter/early spring months. If gopher frogs are not detected either in the baseline

surveys or in a second survey 2-5 years later, the surveys should be discontinued, and we will presume absence of the species from the area.

5.2.2: Gopher Tortoise Monitoring

The purpose of monitoring gopher tortoises on the area is to determine the effect sandhill restoration activities had on abundance. A survey using the protocol outlined in the gopher tortoise management plan was completed in 2010 as a requirement of the restoration grant. To provide an adequate comparison, staff should complete a follow-up survey using the same methodology including conducting the survey during the same time of year as the original survey, and this should occur in FY 2014/2015. Additionally, the width of each burrow should be measured as this information can be used to determine the demographic makeup of the population. Staff should coordinate with the regional conservation biologist for assistance with the protocol and survey.

5.2.3: Avian Spring Call Count Survey

Bachman's sparrows and brown-headed nuthatches have been identified as 'indicator' species; species whose continued presence is an indicator of good upland pine communities. The purpose of monitoring Bachman's sparrows, brown-headed nuthatches, and other grassland birds is to establish a baseline and track relative abundance and distribution of these species across the area over time to ensure management is having the desired effect. These surveys will use a standardized point count protocol currently under development. If necessary to achieve results, it may be appropriate to incorporate the use of callback tapes to illicit responses from Bachman's sparrows and brown-headed nuthatches. These surveys should be completed every 3 years.

5.2.4: Northern Bobwhite Fall Covey Call Survey

The purpose of monitoring northern bobwhites is to determine if management is having the desired effect, to determine progress towards reaching objectives for the species, and to determine if additional hunting regulations are necessary. Survey stations should occur throughout potential habitat on the area using the protocol used on AWMA since 2007. In order to determine the response of northern bobwhite to management activities in the northern bobwhite SMA, staff should coordinate with the regional conservation biologist to add additional survey points within these areas.

5.2.5: Bat Monitoring on AWMA

AWMA contains suitable foraging habitat for both gray and southeastern bats. Bats have been seen emerging from large hollowed-out snags, and lime rock outcroppings occur on the area that may contain caves capable of providing adequate roost conditions for both species. Staff should use bat detectors to determine what species are using the hollowed-out snags, and what species if any are using the lime

rock outcroppings. The purpose of the monitoring is to identify the species of bats using these areas so managers can determine if there are other management implications, or actions required. Area staff will work with the conservation biologist and could seek assistance from FWRI and SCP staff to complete these surveys.

5.2.6: Opportunistic Monitoring

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. Staff will document opportunistic sightings by recording information including the species, approximate lat/long or appropriate MU, number of individuals, behavior, and habitat type. Record encounters with or sign of the following focal species:

- Cooper's hawk (nesting activity)
- Florida Pine Snake (presence)
- Southeastern American kestrel (presence mid-April – June)
- Southern bald eagle (nesting activity)
- Wading bird (colony locations and composition)
- Florida black bear
- Road kills of rare, listed, and focal species
- Any listed species not mentioned in this section

5.3: Species Research Needs

Species management recommendations in other sections of this document are based on the most current information regarding management strategies for a given species. However, cases arise when little or no information is available to guide management. This section outlines research needs identified through the WCPR process. Workshop participants did not identify any research needs on AWMA or any research needs in addition to those identified in the Cave Protection and Research SMA (Section 4.1.1) on JCWEA.

Section 6: Intra/Inter Agency Coordination

Throughout the WCPR process, there were many recommendations regarding possible management strategies for focal species. THCR staff can handle most proposed management actions; however, cases may arise when coordination with other sections in FWC or other agencies is necessary or increases efficiency. This section identifies cases in which coordination is necessary outside of THCR, 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 this Strategy is drafted. As positions experience turnover, when in doubt, contact the current Section Leader/supervisor to determine the appropriate individual.

6.1: Florida Fish and Wildlife Conservation Commission (FWC)

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 often is lost. Therefore, share monitoring data with the appropriate taxa coordinator and program coordinator for species in which conservation initiatives or other management programs have been developed. 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 if it is done consistent with the requirements of the agency's Endangered Species Act Section 6 Cooperative Agreement. To meet these requirements, staff will provide reporting as outlined in the Agreement to the agency's Endangered Species Coordinator. Please note some contacts will also be covered under Section 6.1.3; FWRI, and Section 6.1.5; Florida's Wildlife Legacy Initiative.

Contacts:
Elsa Haubold, Species Conservation Planning Section Leader: (850) 488-3831
Robin Boughton, Avian Taxa Coordinator: (352) 732-1225
Michelle Vandeventer, Bald Eagle Management Plan Coordinator: (941) 894-6675
Deborah Burr, Gopher Tortoise Plan Coordinator: (850) 921-1019
Melissa Tucker, Mammalian Taxa Coordinator: (386) 758-0525 ext 114
Bill Turner, Herp Taxa Coordinator: (850) 921-1143
John Himes, Regional Biologist: (850) 767-3623
Brad Gruver, Endangered Species Coordinator: (850) 488-3831

6.1.2: Hunting and Game Management (HGM)

As the FWC has a statewide northern bobwhite strategy, information collected on northern bobwhite should be shared with the small game coordinator. Staff should keep informed with monitoring protocol for northern bobwhite and other grassland birds (e.g., Bachman's sparrow) being developed via the UERP and Tall Timbers Research Station. The FWC small game coordinator is the current contact for this program. Additionally, questions pertaining to possible changes to hunting regulations for northern bobwhite should be directed to the regional public hunting areas coordinator.

Contacts:
Paul Schulz, Section Leader: (850) 488-3831
Chuck McKelvy, Small Game Program Coordinator: (850) 342-0256
Roger Shields, Regional Public Hunting Areas Coordinator: (850) 767-3611

6.1.3: Fish and Wildlife Research Institute (FWRI)

Area staff should share any new eagle nest locations and wading bird colonies with the appropriate contact listed below. Staff should also coordinate with Jeff Gore regarding cave protection efforts at JCWEA as well as bat surveys using bat detectors on AWMA.

Contacts:
Tim O'Meara, Section Leader: (850) 488-3831
Janell Brush, FWRI Wildlife Biologist (bald eagle): (352) 955-2081
Jim Rodgers, FWRI Wildlife Biologist (wading birds): (352) 955-2081
Danny Caudill, FWRI Wildlife Biologist (upland game birds): (352) 955-2081
Jeff Gore, FWRI Wildlife Biologist (southeastern bat, gray bat): (850) 767-3624
Karl Miller, FWRI Wildlife Biologist (kestrel, Bachman's sparrow): (352) 955-2081

6.1.4: Habitat Conservation Scientific Services (HCSS)

Private lands biologists within FWCs HCSS section work to provide technical and financial assistance to landowners interested in managing their properties. These biologists are able to write management plans for landowners and can get them enrolled in cost-share programs that will offset some of the financial costs associated with land management. If private landowners near AWMA or JCWEA express an interest in management of their lands, HCSS biologists should be contacted and given the landowners information.

Contacts:
Scott Sanders, HCSS Section Leader: (850) 488-3831
Arlo Kane, HCSS Regional Coordinator: (850) 767-3616

6.1.5: Florida's Wildlife Legacy Initiative (FWLI)

Monitoring animal populations on a WMA gives managers a way to gauge animal response to management. If staff does not share this information with others, valuable data that can be used to assess statewide conservation efforts often is lost. FWLI can be helpful in identifying and assisting with partnering efforts, and might be a source of funding via the State Wildlife Grants program. Therefore, regular communication with this section will be a priority.

Contacts:
Katherine Haley, Florida's Wildlife Legacy Initiative: (850) 617-9503
Heather Hitt, Northwest Region Legacy Biologist: (850) 767-3617

6.1.6: Invasive Plant Management Section (IPM)

The Invasive Plant Management Section provides technical and financial assistance to assist in the control of upland invasive exotic plants. The Invasive Plant

Management Section may serve as a critical resource in determining appropriate solutions to and identifying funding for exotic plant issues.

Contacts:
Bill Caton, Section Leader: (850) 617-9428
Jeff Schardt, Aquatics sub-section administrator: (850) 245-2815
Greg Jubinsky, Uplands sub-section administrator: (850) 245-2821

6.1.7: Division of Law Enforcement (LE)

The most important factor relating to the persistence of bat maternity colonies occurring at JCWEA is protecting the cave from disturbance. If trespass or disturbance of the cave is determined to be a problem, coordination with law enforcement will be necessary to ensure enhanced patrols are conducted in the area.

Contacts:
Mark Clements, Lieutenant: (850) 233-5175

6.2: Florida Park Service

The only county in Florida where maternity colonies of gray bats have been documented is Jackson County. Florida Caverns State Park, which is located just a few miles away from JCWEA, has historically contained gray bats. It is likely bats move between caves on Florida Caverns State Park and JCWEA. FWRI researchers have collaborated in the past with Florida Park Service staff on bat research projects, and will likely continue to do so in the future. Coordination between the 2 agencies is important, as factors that impact one cave may have indirect impacts on the other

Contacts:
Mark Ludlow, Wildlife Biologist: (850) 643-2674

6.3: Jackson County and the City of Marianna

Currently, trespass and cave disturbance are not significant problems on JCWEA. However, a proposed trail linking Florida Caverns State Park and the Marianna Greenway may be located very close to JCWEA, thereby increasing the risk of disturbance. It is recommended that area staff keep informed about the planning process and attempt to mitigate any problems and share our concerns prior to the trail being completed.

Contacts:
Chuck Hatcher, Jackson County Parks and Recreation Director: (850) 718-0437

6.4: United States Fish and Wildlife Service (USFWS)

AWMA contains by far the largest population of the federally endangered plant gentian pinkroot. This species occurs in many areas of AWMA within upland mixed-

woodland natural communities. Area staff should coordinate with ACOE and USFWS staff concerning the legalities and protection measures necessary when planning to harvest timber in stands that contain this species.

Contacts:
Dr. Vivian Negron-Ortiz, Botanist: (850) 769-0552 x231

6.5: United States Army Corps of Engineers (ACOE)

AWMA is leased to FWC by the ACOE. FWC staff conducts all management on the area, with the exception of timber harvest. Currently, ACOE staff takes recommendations from AWMA's lead area biologist regarding which stands to consider for timber harvest. This working relationship should continue, and close coordination will be necessary with both the ACOE and USFWS staff when planning timber-thinning operations in areas that contain gentian pinkroot.

Contacts:
Don Morgan, Project Manager: (850) 662-2001
Jody Timmons, Natural Resource Manager: (850) 662-2001
Angela Griffin, Natural Resource Specialist: (850) 662-2001

6.6: Florida Natural Areas Inventory (FNAI)

The 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 often is used for planning purposes. As such, staff should share information about element occurrences on the WMA 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
Amy Jenkins, Senior Botanist (Spigelia): (850) 224-8207

Section 7: Beyond the Boundaries Considerations

There is enough potential habitat to support many of AWMA's focal species under an appropriate management regime. AWMA can support a viable population of several species, including northern bobwhites, Bachman's sparrows, brown-headed nuthatches, and gopher tortoises. Wide-ranging species such as Cooper's hawks, bald eagles, and wading birds will continue to exist on AWMA as long as regional conditions are conducive to their persistence. While AWMA can play a role in supporting the regional population of many focal species, ultimately, the continued existence of these species on AWMA is dependent on what happens to the regional populations, and continuation of funding for management.

Due to the extremely small size of JCWEA, it is not large enough to support viable populations of any of the focal species. Regardless, the importance of Judges Cave to the regional persistence of the southeastern bat and possibly the gray bat cannot be overstated. Judges Cave is 1 of only 4 caves documented to contain a maternity colony of gray bats in Florida, and is 1 of only 9 caves in Florida used as a maternity colony by southeastern bats. Though protection of Judges Cave is the focal point of management for the area, the wooded areas contained within the boundaries of JCWEA are essential to the persistence of these species on the area. The area surrounding JCWEA will continue to become more developed, increasing the importance of the wooded areas within JCWEA. These areas provide a buffer to Judges Cave and provide a natural corridor for emerging bats to travel to foraging habitats. If future development continues at past rates, the land encompassed within the boundaries of JCWEA may provide the only natural corridor left for emerging bats.

The current management boundaries identified for AWMA and JCWEA do not include all important habitat for focal species, such as the lands identified as Strategic Habitat Conservation Areas (SHCAs) for the gray bat, Cooper's hawk, and Florida black bear. The FWC originally identified SHCAs in the Closing the Gaps in Florida's Wildlife Habitat Conservation System report (Cox et al. 1994). 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 remaining habitat conservation needs. New SHCAs have been identified in recent FWC efforts to update the Closing the Gaps entitled "Wildlife Habitat Conservation Needs in Florida: Updated Recommendations for Strategic Habitat Conservation Areas". 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 AWMA and JCWEA's focal species should be a priority in the area.

While the current conditions and management of JCWEA and AWMA and neighboring lands provide an opportunity to further the conservation of many focal and imperiled species, significant changes in management or land use beyond the boundaries may have a significant impact on some species. As many of the area's species are dependent upon fire-maintained habitat, any change beyond the boundaries that impedes the ability of area staff to conduct prescribed fire would be detrimental to the persistence of species such as northern bobwhite and gopher tortoise. Much of the land surrounding AWMA is used for agriculture, and remaining intact wooded areas are overgrown due to fire exclusion. If these lands could be enrolled in conservation programs, or if the landowners actively managed their woodlands, the effective acreage of potential habitat for many focal species on AWMA would increase. Alternatively, if these lands were cleared for more agriculture or development, species that require large home ranges or are dependent on dispersal for maintaining a population would be negatively affected.

Document Map

Species	Species Assessment	Land management actions	Species management actions	Species monitoring	Research needs	Intra/inter agency coordination
Gopher frog	3.2.1	4.3.1		5.2.1		
Florida pine snake	3.2.2	4.3.2		5.2.6		
Gopher tortoise	3.2.3	4.3.3		5.2.2		6.1.1
Bachman's sparrow	3.2.4			5.2.3		6.1.2, 6.1.3
Brown-headed nuthatch	3.2.5	4.3.4		5.2.3		6.1.2
Cooper's hawk	3.2.6	4.3.5		5.2.6		
Northern bobwhite	3.2.7	4.1.1		5.2.4		6.1.2, 6.1.3
Southeastern American kestrel	3.2.8	4.3.6	5.1.1	5.2.6		6.1.3
Southern bald eagle	3.2.9	4.3.7		5.2.6		6.1.1, 6.1.3
Wading birds	3.2.10	4.3.8		5.2.6		6.1.3
Fox squirrel	3.2.11	4.3.9				
Gray bat	3.2.12	4.1.2		5.2.5	4.1.2	6.1.1, 6.1.3, 6.1.7, 6.2, 6.3
Southeastern bat	3.2.13	4.1.2, 4.3.10		5.2.5	4.1.2	6.1.1, 6.1.3, 6.1.7, 6.2, 6.3
Limited opportunity species	3.2.14			5.2.6		
Other imperiled species	3.2.15			5.2.6		

11.5 FNAI Element Occurrence Data Usage Letter

FLORIDA
Natural Areas
INVENTORY

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
850-224-8207
fax 850-681-9364
www.fnai.org

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
Director
Florida Natural Areas Inventory

Florida Resources
and Environmental
Analysis Center

Institute of Science
and Public Affairs

The Florida State University

Tracking Florida's Biodiversity

11.6 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.

11.7 Land Management Uniform Accounting Council Categories – Operation Plan Fiscal Year 2016

Land Management Uniform Cost Accounting Council

Uniform Land Management Cost Categories and Subcategories

1. Resource Management

a. Exotic Species Control. -- Invasive exotic plant and animal removal activities and costs for inventorying, planning, preparing, executing, evaluating, monitoring and reporting. Also includes equipment, chemicals, protective clothing and supplies. Includes nuisance native feral animal and plant control.

b. Prescribed Burning. -- Prescribed burning activities and costs for assessing, planning, preparing, executing, evaluating and reporting. Also includes equipment, protective clothing and supplies.

c. Cultural Resource Management. -- Management activities and costs for assessing, planning, executing, evaluating and reporting, and for all maintenance, restoration or monitoring activities for prehistoric and historic sites, features and collection objects.

d. Timber Management. -- Activities and costs related to the establishment of a stand of potentially merchantable timber, harvest of merchantable timber, and cultural treatments intended primarily to improve the growth and overall health of a stand of merchantable timber. Also includes activities and costs related to the cutting of merchantable timber in natural community and habitat restoration projects.

e. Hydrological Management. -- Hydrological management and restoration activities and costs for assessing, monitoring, planning, preparing, executing, evaluating and reporting. Includes water level management, repair, removal or back-filling of ditches, canals, berms and dams. Also includes water quality and water quantity monitoring.

f. Other. -- All other resource management activities and costs not captured in other specific subcategories. Examples include natural community and habitat restoration through other techniques; plant, animal or biological community survey, monitoring and research; listed species management; technical assistance; and evaluating and commenting on resource impacts to parks.

2. Administration

a. Central Office/Headquarters. -- Headquarters units conducting general administration of land under management by the agency. Includes upper management direction, administration and fiscal, budget, personnel, purchasing and record keeping required for operations oversight and specific programs. Includes all duties unless they specifically relate to other categories or subcategories.

b. Districts/Regions. -- Sub-state administrative districts or regions conducting general administration of the properties under their management. Includes all duties, unless they specifically relate to other categories or subcategories. General operating costs of district or region administrative facilities are included.

c. Units/Projects. -- Conducting general administration duties at a specific management unit (state park, state forest, state wildlife management area, etc.). Includes supervisory duties, fiscal and record keeping duties, and any other duties that do not specifically relate to other categories or subcategories. General operating costs for the property, such as utilities, telephones and garbage collection, are included.

3. Support

a. Land Management Planning. -- Developing land management plans required by Sec. 253.034, F.S. Includes researching and compiling plan information, materials and maps, coordinating planning activities, conducting review activities (internal reviews, public meetings, advisory group meetings, ARC, etc.), and promulgating draft plans and final plans.

b. Land Management Reviews. -- Planning, organizing and conducting land management reviews by teams created under Sec. 259.036, F.S. Includes preparing and responding to land management review reports. Also includes similar work conducted as part of internal agency land management reviews.

c. Training/Staff Development. -- Staff training and development costs incurred in any facet of the agency's land management activities.

d. Vehicle Purchase. -- Acquisition of any vehicle purchased primarily for land management purposes or to support any category of land management activity by the agency.

e. Vehicle Operation and Maintenance. -- Costs of operating and upkeep of any vehicle used by the agency to support any category of land management activity.

f. Other. -- Any other support activity or cost not captured by other categories or subcategories.

4. Capital Improvements

a. New Facility Construction. -- Use of Fixed Capital Outlay (FCO) or other budget authority for all new facility design and construction activities. Includes new roads, parking and all other infrastructure.

b. Facility Maintenance. -- Use of Fixed Capital Outlay (FCO) or other budget authority for all repairs or renovations to existing facilities, roads or other infrastructure. Also includes ADA accessibility improvements and renovations.

5. Visitor Services/Recreation

a. Information/Education Programs. -- Interpretive, environmental education and marketing programs that explain or promote the agency's mission or instill in visitors an understanding and appreciation for Florida's natural and cultural resources and their proper use and care. Includes signs, brochures, maps and other public information materials that are produced or disseminated.

b. Operations. -- Includes the non-administrative and non-support costs involved in providing public access to lands. Includes all actions required to manage visitor activities in a way to ensure safe and enjoyable use by the public. Includes routine maintenance, cleaning and other work required to provide safe and efficient utilization of facilities and resources that support visitor use and recreation. Includes protection activities required by staff to safeguard natural and cultural resources, facilities, material, staff and visitors.

6. Law Enforcement

The provision of all activities for enforcing criminal, conservation and boating laws on land, freshwater and marine environments and all costs associated with these services. Includes the provision of uniform patrol. Includes overt and covert criminal investigations. Includes regulation of commercial wildlife trade. Also includes the direction and administration of all law enforcement programs and activities, and all associated costs.

Land Management Uniform Accounting Council and FWC Activity Code Groupings

Resource Management

Exotic Species Control

210 Exotic species control
211 Exotic plant control (mechanical)
212 Exotic plant control (chemical)

Prescribed Burning

205 Prescribed burning
206 Prescribed burning C growing season (April 1 to September 30)
207 Prescribed burning C dormant season (October 1 to March 31)
208 Firebreaks

Cultural Resource Management

201 Cultural resource management

Timber Management

202 Timber management

Hydrological Management

215 Hydrology management
216 Dams, dikes, levees
217 Canals
218 Water level management
194 Lake restoration

Other

185 GIS
186 Biometrics
200 RESOURCE MANAGEMENT
203 Tree and shrub planting
213 Wildlife management
214 Listed Species management
219 Upland restoration
282 Herbaceous seeding
283 Clearings
289 Native vegetation management (mechanical)
290 Native vegetation management (chemical)
221 Animal surveys
228 Inland aerial surveys
235 Vegetation and plant surveys
250 MONITORING AND ASSESSMENTS
252 Biomedical monitoring
253 Ecological monitoring
256 Habitat monitoring analysis
263 Nest box monitoring
264 Population demographics

295 Biological data collection, analysis, and reporting
275 Permits and authorizations
276 Commission rule development and review
277 Relocation
278 CITES tags
281 Other resource management
284 Feeding/watering
285 Nest structures
286 Population control
287 Stocking enhancements/population augmentation
288 Nuisance animal complaints
293 Mortality investigations
294 Program coordination and implementation C inter- and intra-agency coordination and program implementation at the section, bureau, or division level
296 Habitat protection technical assistance
750 URTD assessment
789 Site Preparation – GCR
790 Irrigation – GCR
791 Seed Collection – Hand
792 Seed Collection – Mechanical
793 Herbicide Maintenance Treatment

Administration

Central Office/Headquarters

100 ADMINISTRATION C administrative tasks, including preparation of forms, word processing, photocopying, filing, and other clerical/secretarial duties.
104 Budget/purchasing/accounting

Districts/Regions

See Location code

Units/Projects

See Location code

Support

Land Management Planning

103 Meetings C includes workshops, conferences, staff, and other meetings.
204 Resource planning

Land Management Reviews

209 Land Management Reviews
101 Project inspection C field inspections of projects.

Training/Staff Development

150 PERSONNEL MANAGEMENT C recruitment, hiring, training, counseling, and supervising.

Vehicle Purchase

128 New Vehicle and Equipment Purchase

Vehicle Operation and Maintenance

923 FEM C vehicles/equipment

Other

140 REPORT WRITING/EDITING/MANUSCRIPT PREPARATION
141 Grant applications
180 SYSTEMS ADMINISTRATION AND MANAGEMENT
182 Data management
184 Metadata development and management
187 IT
188 Web development
721 Geospatial analysis techniques
191 Stamp design coordination
226 Human dimensions surveys

Capital 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

Fiscal year 2015 Projects: 7276

Activity Title	Man Days	Salary	Fuel Cost	Other	Total	Units
101 Project inspection	0.00	$0.00	$0.00	$0.00	$0.00	0
185 GIS	0.00	$0.00	$0.00	$0.00	$0.00	0
212 Exotic plant control (chemical)	2.00	$435.96	$36.50	$0.00	$472.46	37
281 Other resource management	0.00	$0.00	$0.00	$0.00	$0.00	0
291 Technical assistance	0.00	$0.00	$0.00	$0.00	$0.00	0
294 Program coordination and implementation	4.00	$871.92	$73.00	$0.00	$944.92	0
311 Boundary signs	0.00	$0.00	$0.00	$0.00	$0.00	0
312 Informational signs	1.00	$217.98	$18.25	$0.00	$236.23	0
342 Public use administration (non-hunting)	0.00	$0.00	$0.00	$0.00	$0.00	0
928 FEM -- fences	1.00	$217.98	$18.25	$200.00	$436.23	0
All totals	8.00	$1,743.84	$146.00	$200.00	$2,089.84	37

11.8 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.

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 affect the ability to create a good ground and has sometimes been a problem during drought conditions. Pipe may be a better choice than a solid rod during drought conditions, because water may be poured down the ground pipe to improve the ground. Some fence configurations use wires as the grounding system, rather than relying solely on the soil as a ground.

Recommended Electric Fence to Deter Black Bears

Conditions at fence sites will vary and will determine what the most effective fence configuration will be. Commission biologists welcome the opportunity to visit sites and provide custom tailored advice on constructing an effective electric fence. The following recommendation will cover most situations with low to moderate pressure from black bears. Use a five-strand aluminum wire fence that is 40 inches high with wire spacing every eight inches apart using the previously mentioned wired grounding system (see Figure 1). The wire closest to the ground level (the lowest wire) should be a charged or “hot” wire. The second wire should be grounded. The third wire should be hot. The fourth wire should be grounded and the fifth wire should be hot. If using metal or wood posts, insulators must be used to keep the hot wires from grounding out. The cost of this type of electric fence utilizing fiberglass posts and a 110 volt fence charger is approximately $200 for a 40' x 40' area (160 linear feet of fence).

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

Installation. These instructions are for a square shape fence exclusion, but the process would be very similar for other applications. Drive 4 corner posts 1-foot deep into ground and stake with guy wires. Clip, rake, and keep clear any vegetation in a 15-inch wide strip under the fence and apply herbicide. Attach and stretch the aluminum wire at 8-inch increments starting 8 inches from ground level. A loop of wire should be left on each wire at the first corner post. Once the wire has been stretched around the outside of all the corner posts back to the first post a plastic gate handle should be attached to each wire and the gate handles should be attached to each corresponding loop on the first corner post. Drive in the remaining 16 posts to the same depth at 8-foot intervals between corner posts. Secure each of the five wires to each of the posts with additional wire. Attach four plastic electric fence signs (one on each side) to the top wire of the fence. Attach a 12-gauge strand of insulated wire to the positive terminal of the fence charger and attach it to the first, third, and fifth wires of the fence. Attach another 12 gauge insulated wire to the negative terminal of the charger and attach this wire to the ground pipe which has been driven into the ground 6 to 8-feet deep. Attach another 12 gauge insulated wire from the negative terminal of the charger to the second and fourth wires on the fence. Plug the charger into a 110 volt power supply and the fence is in operation.

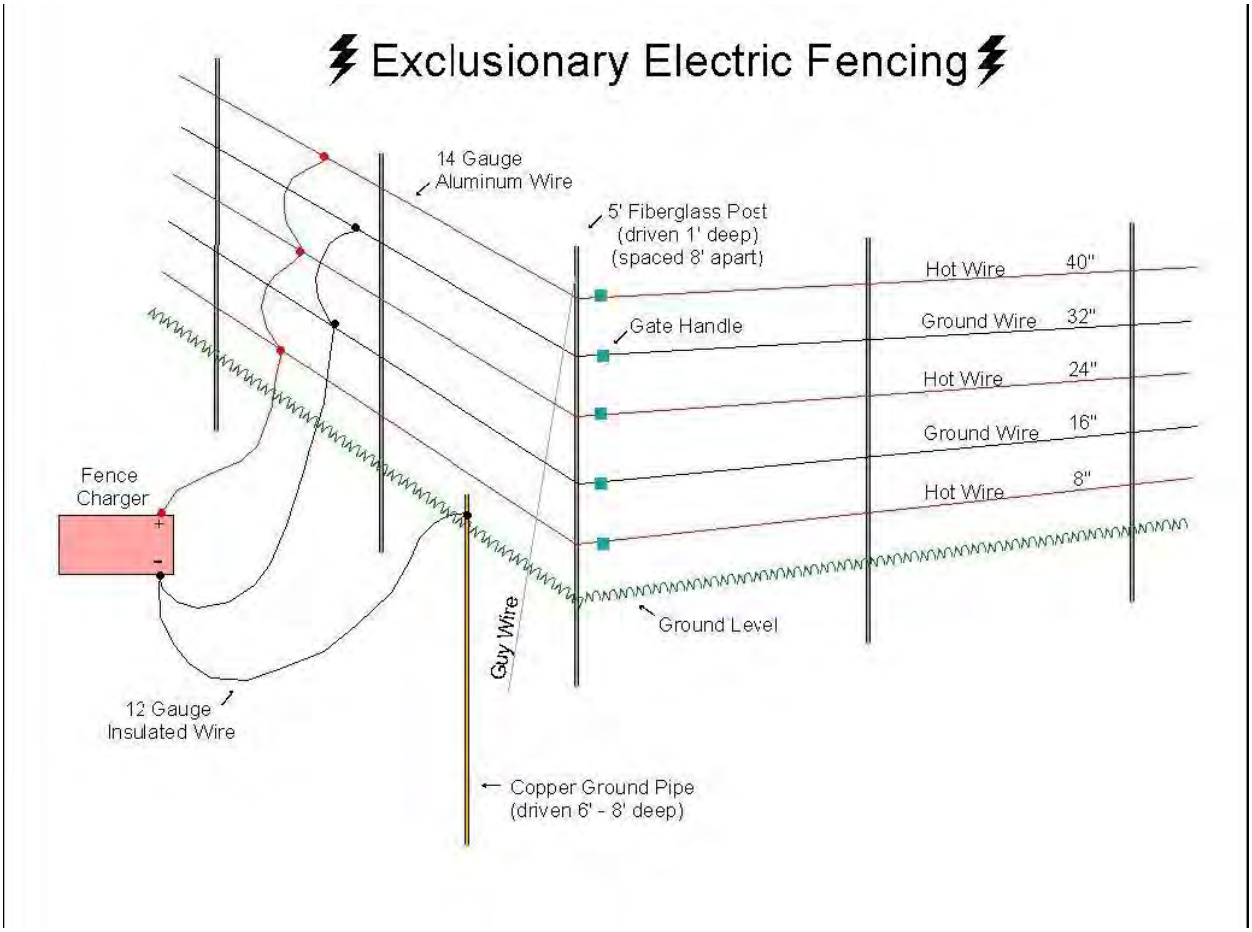
Tips to improve the effectiveness of your electric fence to deter black bears:

1. If using a 12-volt fence charger, ensure that the battery is charged; check every two weeks.
2. Make sure terminals on the charger and battery are free of corrosion.
3. Make sure hot wires are not being grounded out by tall weeds, fallen tree branches, broken insulators, etc.
4. If fence wires have been broken and repaired, make sure wires are corrosion free where they have been spliced together. Also, tighten the fence at each corner post as wires that have been spliced and are loose make poor connections.
5. Be sure to rake vegetation from under and around the outside of the fence as this may act as an insulator.
6. To improve the ground around the perimeter of the fence add a piece of 24 inch chicken wire laying on the ground around the outside of the fence. This should be connected to ground.
7. During periods of drought pour water down the ground pipe and around the ground pipe to improve the ground. Digging a 6 inch deep 6 inch diameter hole around the ground pipe and back filling with rock salt will also improve the ground. Additional ground pipes may also be added to portions of the fence farthest from the charger.

8. To ensure that the bear solidly contacts the charged portion of the fence, a bait like bacon strips, a can of sardines, or tin foil with peanut butter may be attached to one of the top hot wires. Make sure these do not contact the ground, thus shorting out the fence.
9. When protecting a specific structure (like a shed or rabbit hutch), the fence should be placed 3 to 5 feet away from the structure (rather than on it) so that the bear encounters the fence before reaching the attractant.
10. Protect the fence charger from the elements by covering it with a plastic bucket or a wooden box.
11. Place plastic electric fence signs around the perimeter of your fence to improve visibility and to warn other people.

LITERATURE CITED

FitzGerald, James (1984), *The Best Fences*. Storey Publishing Bulletin A-92, Pownal, Vermont. p. 14-16.


Exclusionary Electric Fencing
14 Gauge
Aluminum Wire
5' Fiberglass Post
(driven 1' deep)
(spaced 8' apart)
Hot Wire
40"
Gate Handle
Ground Wire
32"
Hot Wire
24"
Ground Wire
16"
Hot Wire
8"
Fence
Charger
+
-
Ground Level
Guy Wire
12 Gauge
Insulated Wire
Copper Ground Pipe
(driven 6' - 8' deep)

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 supersedure queens mating with AHB drones.

11. To protect public safety and reduce beekeeping liability, do not site apiaries in proximity of tethered or confined animals, students, the elderly, general public, drivers on public roadways, or visitors where this may have a higher likelihood of occurring.

12. Treat all honey bees with respect.

RANDOM

SELECTION PROCESS

FOR VACANT APIARY SITE

When an apiary site becomes available the following procedure is used to randomly select the next apiarist (beekeeper) for an available apiary site on a WMA or WEA. Only those who have been evaluated and deemed qualified to be an apiarist on a WMA/WEA through the Apiary Application process will be eligible for this selection process. The steps below will be followed by the THCR Contract Manager when a site becomes available to be filled by a qualified apiarist:

1. The THCR Contract Manager will maintain an "Apiary Wait List Folder" on the THCR SharePoint for each WMA/WEA with apiary sites.
2. A wait list is either created or updated when an Apiary Application(s) is received by the THCR Contract Manager from a qualified apiarist.
3. Upon receipt of an apiary site application, the THCR Contract Manager will review the WMA/WEA folder to see if there is an "Apiary Wait List".
4. If a list exists then the qualified applicant will be added to the list.
5. When an apiary site becomes available if there are more than one qualified apiarist then these apiarists will be contacted by certified letter to determine their interest.
6. The letter will request a response within 10 working days to make them eligible for the random drawing.
7. If there is no response or is negative then that apiarist will not be included in the random drawing and the name will be removed from the waiting list*.

8. If only one apiarist responds positively to the certified letter then the available site will be awarded to that interested apiarist.

9. If there are no apiarists on a wait list or all responses are negative then apiarists who currently have site(s) under Agreement and where not on the waiting list will be contacted to see if any have interest in the available site. If more than one responds then the random drawing process will be used to determine who will be awarded the site.

10. Steps to be performed by the THCR Contract Manager to execute the random selection for an available apiary site are listed below:

    a. The names of each interested apiarist will be noted on a 1" X 2" piece of paper and folded in half.

    b. The pieces of paper will be inserted into a "black film canister" which has a snap top and placed into a container and stirred up prior to the selection.

    c. A non-biased person will be selected to reach into the bowl (which will be held above the selection person's eyesight) and randomly select one of the canisters.

    d. The canister will be opened by the person performing the selection and the name is read aloud for those in attendance. Everyone in attendance will sign a witness sheet.

    e. The apiarist whose name is selected will be awarded the available site.

    f. A new Agreement will be developed by the THCR Contract Manager.

*****A new apiary application must be submitted once requestor's name is removed from a waiting list.

11.9 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

11.10 Arthropod Control Plan

Florida Department of Agriculture and Consumer Services
Division of Agricultural Environmental Services

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

Section 388.4111, F.S.
Telephone: (850) 617-7995

Return to:
Mosquito Control Program
3125 Conner Blvd, Bldg 6,
Tallahassee, Florida 32399-1650

ADAM H. PUTNAM
COMMISSIONER

For use in documenting an Arthropod Control Pan for lands designated by the State of Florida or any political subdivision thereof as being environmentally sensitive and biologically highly productive therein. Fill this form out if control work is necessary or planned.

Name of Designated Land: Judges Cave Wildlife and Environmental Area

Is Control Work Necessary: ❑ Yes ☒ No

Location:

Land Management Agency: Florida Fish and Wildlife Conservation Commission

Are Arthropod Surveillance Activities Necessary? ❑ Yes ☒ No
If "Yes", please explain:

Which Surveillance Techniques Are Proposed?
Please Check All That Apply: N/A

❑ Landing Rate Counts	❑ Light Traps	❑ Sentinel Chickens
❑ Citizen Complaints	❑ Larval Dips	❑ Other

If "Other", please explain: N/A

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Arthropod Species for Which Control is Proposed: N/A

Proposed Larval Control: N/A

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: N/A

Material to be Used for Larvaciding Applications: N/A

(Please Check All That Apply:) N/A

❑ Bti

❑ Bs

❑ Methoprene

❑ Non-Petroleum Surface Film

❑ Other, please specify:

Please specify the following for each larvacide: N / A

Chemical or Common name: N/A

❑ Ground ❑ Aerial

Rate of application: N/A

Method of application: N/A

Proposed Adult Mosquito Control:

Aerial adulticiding ❑Yes ☒No

Ground adulticiding ❑ Yes ☒No

Please specify the following for each adulticide: N / A

Chemical or common name:

Rate of application:

Method of application:

Proposed Modifications for Public Health Emergency Control: In the event of a declared public health emergency, control may be preformed by the arthropod control agency, as part of a larger treatment plan to safeguard public health. Land managers of the area will be notified prior to treatment.

Proposed Notification Procedure for Control Activities:

Manager of the area will be notified by e-mail when treatment of the area will occur. The notice should include a map of the area being treated, the material to be used and the general time of day the treatment will occur.

Records:

Are records being kept in accordance with Chapter 388, F.S.:

❑ Yes ❑No

Records Location:

How long are records maintained:

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Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?

None

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed:

None

Include proposed operational schedules for water fluctuations:

None

List any periodic restrictions, as applicable, for example peak fish spawning times.

None

Proposed Modification of Aquatic Vegetation:

None

Land Manager Comments:

Arthropod Control Agency Comments:

David B. Johnson

Digitally signed by David B. Johnson
DN: cn=David B. Johnson, o, ou, email=David.Johnson@MyFWC.com, c=US
Date: 2017.05.11 08:17:22 -04'00'

Signature of Lands Manager or Representative Date

Signature of Mosquito Control Director / Manager 5/9/2017 Date

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11.11 Jackson County Letter of Compliance with Local Government Comprehensive Plan

JACKSON COUNTY COMMUNITY DEVELOPMENT
4487 Lafayette Street
Marianna, Fl 32448
Phone: (850) 482-9637
Fax: (850) 482-9846

May 15, 2017

Ms. Dylan Imlah
Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Land Conservation and Planning
Land Conservation Planner
620 S. Meridian Street
Tallahassee, FL 32399

To Whom It May Concern:

Thank you for the opportunity to review the management plan for the Judges Cave Wildlife and Environmental Area for the ten-year period from 2017-2027.

Judges Cave WEA management plan appears to be in compliance and consistent with the policies and regulations of Jackson County. The associated parcel is designated as Recreation and Conservation on the Future Land Use Map of the county. Jackson County does not utilize traditional zoning but instead relies on broad land use categories as noted.

Jackson County supports the goals and objectives detailed in the JCWEA management plan for 2017-2027, specifically preservation of historical resources and protection of imperiled species. Because of the importance of undisturbed nesting places for bats in order that they may thrive and maintain sufficient populations for ecological balance, it is critical that this WEA remain protected. It is the position of county staff that this property is important for the ecological balance of Jackson County and the health of the Chipola River. The county is pleased to note that it has been determined the parcel is of sufficient importance for the conservation of important fish and wildlife species to constitute continued protection and remain under FFWCC ownership and control.

If you need further assistance or have any questions regarding this determination, please contact me at (850)482-9637 or by e-mail at **ksweazy@jacksoncountyfl.com**.

Sincerely,

Kimberly R. Cole Sweazy

Kim Cole Sweazy, Senior Planner