

A Management Plan for the Triple N Ranch Wildlife Management Area 2021 - 2031

Osceola County, Florida

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

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Managing fish and wildlife resources for their long-term well-being and the benefit of people.

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MEMORANDUM

TO: James Parker
Office of Environmental Services
Division of State Lands
Florida Department of Environmental Protection

FROM: Dylan Haase
Land Conservation and Planning
Division of Habitat and Species Conservation
Florida Fish and Wildlife Conservation Commission

SUBJECT: Triple N Ranch Wildlife Management Area
Ten Year Management Plan Update
Acquisition and Restoration Council (ARC) Public Hearing

DATE: August 12, 2021

Enclosed are the Triple N Ranch Wildlife Management Area Management Plan and the Land Management Plan Compliance Checklist. This Plan is being submitted for the Division of State Lands compliance review and for review for the next available ARC meeting Agenda. Please contact Dylan Haase at Dylan.Haase@MyFWC.com if there are any questions related to this plan. Thank you for your assistance.

TH/DH

Enclosures

cc: Keith Singleton
Shauna Allen
Tom Houston

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PENDING DEP APPROVAL LETTER

A Management Plan
for the
Triple N Ranch Wildlife Management Area

Osceola County, Florida

Owned by the Board of Trustees of the Internal Improvement Trust Fund and St. Johns River Water Management District

Managed by the Florida Fish and Wildlife Conservation Commission

June 2021

Approved Melissa Tucker Digitally signed by Melissa Tucker Date: 2021.07.27 21:00:38 -04'00'

Melissa Tucker, Director
Division of Habitat and Species Conservation

LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

Lead Agency: Florida Fish and Wildlife Conservation Commission (FWC)
Common Name of Property: Triple N Ranch Wildlife Management Area
Location: Osceola County, Florida
Acreage Total: 16,430 acres
Acreage Breakdown:

Land Cover Classification	Acres	Percent of Total Area
Agriculture	440.77	2.69%
Artificial Pond	29.91	0.18%
Baygall	206.45	1.26%
Canal/Ditch	21.95	0.13%
Clearing/Regeneration	103.11	0.63%
Depression Marsh	745.87	4.55%
Developed	79.59	0.49%
Dome Swamp	2,393.66	14.59%
Dry Prairie	387.38	2.36%
Firebreak	46.19	0.28%
Hydric Hammock	696.18	4.24%
Linear Feature	6.70	0.04%
Mesic Flatwoods	7,857.21	47.89%
Mesic Hammock	44.73	0.27%
Pasture – Improved	1,083.72	6.60%
Pasture – Semi-Improved	85.19	0.52%
Restoration Mesic Flatwoods	104.23	0.64%
Restoration Scrubby Flatwoods	91.67	0.56%
Road	308.89	1.88%
Scrub	34.05	0.21%
Scrubby Flatwoods	307.28	1.87%
Spoil Area	1.89	0.01%
Wet Flatwoods	307.50	1.87%
Wet Prairie	1,018.49	6.21%
Xeric Hammock	5.06	0.03%

*GIS-calculated acreage for land cover classification varies slightly from actual total acreage.
Lease/Management Agreement No.: 4226 and 4116 (Appendix 12.1)
Use: Single _____ Management Responsibilities:
Multiple X Agency FWC Responsibilities
LEAD, LESSEE (Wildlife Management Area, resource protection, law enforcement)
Designated Land Use: Wildlife Management Area
Sublease (s): None
Encumbrances List: one cattle grazing contract, a utility line easement, and two housing agreements
Type Acquisition: Fish and Wildlife Habitat Program; Save Our Rivers; and Preservation-2000
Unique Features: Natural: Natural communities including mesic flatwoods, dome swamp, and wet prairie
Archaeological/Historical: Two documented within TNRWMA.
Management Needs: Habitat restoration and improvement; public access and recreational opportunities; hydrological preservation and restoration; exotic and invasive species maintenance and control; imperiled species habitat maintenance, enhancement, and restoration.

Acquisition Needs/Acreage: 10,159.70 acres FWC Additions and Inholdings list; 41,872 acres remaining in the Big Bend Swamp/Holopaw Ranch Florida Forever Project; 27,500 acres remaining in the Osceola's Pine Savannas Ranch; 12,516 acres remaining in the Ranch Reserve Florida Forever Project (Appendix 12.12).
Surplus Lands/Acreage: None
Public Involvement: Management Advisory Group consensus building meeting and Public Hearing (Appendix 12.4)

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

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

Land Management Plan Compliance Checklist

Required for State-owned conservation lands over 160 acres

Section A: Acquisition Information Items			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
1	The common name of the property.	18-2.018 & 18-2.021	ii; 1
2	The land acquisition program, if any, under which the property was acquired.	18-2.018 & 18-2.021	3-4
3	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18-2.021	3-5
4	The legal description and acreage of the property.	18-2.018 & 18-2.021	ii; 1-4; Appendix 12.1
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	7-11;109
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	66-68
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	Appendix 12.13
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	5-13
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	5-11

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	64-66
12	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	62-64
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	64-66
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	4;101-102
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	62;97;107-108

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	83-101
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)	63-66
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	63-66
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	Appendix 12.20
20	An assessment of the impact of planned uses on the renewable and non-renewable resources of the property, including soil and water resources, and a detailed description of the specific actions that will be taken to protect, enhance and conserve these resources and to compensate/mitigate damage caused by such uses, including a description of how the manager plans to control and prevent soil erosion and soil or water contamination.	18-2.018 & 18-2.021	14-19; 60-61; 83-98
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	63-65
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	96-97
23	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	66

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

Section C: Public Involvement Items			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
24	A statement concerning the extent of public involvement and local government participation in the development of the plan, if any.	18-2.021	13; Appendix 12.4
25	The management prospectus required pursuant to paragraph (9)(d) shall be available to the public for a period of 30 days prior to the public hearing.	259.032(10)	13
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)	13; Appendix 12.4
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	Appendix 12.4.1
28	During plan development, at least one public hearing shall be held in each affected county. Notice of such public hearing shall be posted on the parcel or project designated for management, advertised in a paper of general circulation, and announced at a scheduled meeting of the local governing body before the actual public hearing. *Include a copy of each County's advertisements and announcements (meeting minutes will suffice to indicate an announcement) in the management plan.*	253.034(5) & 259.032(10)	Appendix 12.3
29	The manager shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan. *Include manager's replies to the team's findings and recommendations.*	259.036	Appendix 12.5; 83
30	Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.	18-2.021	Appendix 12.5; 83
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	Appendix 12.5; 83

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	14-19; Appendix 12.6
33	Insert FNAI based natural community maps when available.	ARC consensus	20

34	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding outstanding native landscapes containing relatively unaltered flora, fauna and geological conditions.	18-2.021	14-47
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	14-48; 62-64
36	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.	18-2.021	62
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	62
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	47-59
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	47-59
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	58-59; Appendix 12.8
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)	83-104
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.	↓	83-115
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.		104-112
42-C.	The associated measurable objectives to achieve the goals.		104-112
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.*		83-115; Appendix 12.11
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.		113-115; Appendix 12.18
43	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. *See footnote.*	253.034(5)	19-47

44	Sustainable Forest Management, including implementation of prescribed fire management		
44-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).		83-115; Appendix 12.11 and 12.15
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	18-2.021, 253.034(5) & 259.032(10) ↓	104-112
44-C.	Measurable objectives (see requirement for #42-C).		104-112
44-D.	Related activities (see requirement for #42-D).		83-115
44-E.	Budgets (see requirement for #42-E).		113-115; Appendix 12.18
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).	↓	83-115; Appendix 12.12
45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		104-112
45-C.	Measurable objectives (see requirement for #42-C).		104-112
45-D.	Related activities (see requirement for #42-D).		83-115
45-E.	Budgets (see requirement for #42-E).		114-116; Appendix 12.18
46	***Quantitative data description of the land regarding an inventory of exotic and invasive plants and associated acreage. *See footnote.*	253.034(5)	32-33;55; 92-94
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 12.19
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).	↓	83-115
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		104-112
48-C.	Measurable objectives (see requirement for #42-C).		104-112
48-D.	Related activities (see requirement for #42-D).		83-115
48-E.	Budgets (see requirement for #42-E).		113-115; Appendix 12.18

Section E: Water Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix

49	A statement as to whether the property is within and/or adjacent to an aquatic preserve or a designated area of critical state concern or an area under study for such designation. *If yes, provide a list of the appropriate managing agencies that have been notified of the proposed plan.*	18-2.018 & 18-2.021	13; 60-62
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	60-62
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	60-62
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. *See footnote.*	253.034(5)	60-62
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).	↓	96
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		104-112
53-C.	Measurable objectives (see requirement for #42-C).		104-112
53-D.	Related activities (see requirement for #42-D).		83-115
53-E.	Budgets (see requirement for #42-E).		113-115; Appendix 12.18

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	62; 97
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	62; 97
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	97; Appendix 12.7 and 12.16
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).	↓	83-115
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		104-112
57-C.	Measurable objectives (see requirement for #42-C).		104-112
57-D.	Related activities (see requirement for #42-D).		83-115

57-E.	Budgets (see requirement for #42-E).		114-116; Appendix 12.18

**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)	97-98
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).	↓	83-115
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		104-112
59-C.	Measurable objectives (see requirement for #42-C).		104-112
59-D.	Related activities (see requirement for #42-D).		83-115
59-E.	Budgets (see requirement for #42-E).		113-115; Appendix 12.18
60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034(5)	97-98
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).	↓	83-115
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		104-112
61-C.	Measurable objectives (see requirement for #42-C).		104-112
61-D.	Related activities (see requirement for #42-D).		83-115
61-E.	Budgets (see requirement for #42-E).		113-115; Appendix 12.18

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	iv-xi
63	Place the Executive Summary at the front of the LMP. Include a physical description of the land.	ARC and 253.034(5)	ii-iii
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	67-82

65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	83-115
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)	113-115; Appendix 12.18
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)	113-115; Appendix 12.18
68	A statement of gross income generated, net income and expenses.	18-2.018	113-115; Appendix 12.18

*** = 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
Board of Trustees	Board of Trustees of the Internal Improvement Trust Fund
CAS	Conservation Action Strategy
DEP	Department of Environmental Protection
DHR	Department of State Division of Historical Resources
DSL	Department of Environmental Protection Division of State Lands
FAC	Florida Administrative Code
FFS	Florida Forest Service
FLAM	Florida Landscape Assessment Model
FLEPPC	Florida Exotic Pest Plant Council
FNAI	Florida Natural Areas Inventory
FNST	Florida National Scenic Trail
FS	Florida Statute(s)
FTA	Florida Trail Association
FWC	Florida Fish and Wildlife Conservation Commission
GIS	Geographic Information Systems
GPS	Global Positioning System
IMPP	Internal Management Policies and Procedures
IPCC	Intergovernmental Panel on Climate Change
IWHRS	Integrated Wildlife Habitat Ranking System
LAP	Landowner Assistance Program
LATF	Land Acquisition Trust Fund
LMR	Land Management Review
MAG	Management Advisory Group
MOU	Memorandum of Understanding
MSL	Mean Sea Level
NRCS	Natural Resources Conservation Service
OBVM	Objective-Based Vegetation Management
OCPB	Optimal Conservation Planning Boundary
OFW	Outstanding Florida Waters
ORB	Optimal Resource Boundary
SJRWMD	St. Johns River Water Management District
SFWMD	South Florida Water Management District
TNC	The Nature Conservancy
TNRWMA	Triple N Ranch Wildlife Management Area
TPL	Trust for Public Lands
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WCPR	Wildlife Conservation Prioritization and Recovery
WEA	Wildlife and Environmental Area
WMA	Wildlife Management Area

1 Introduction and General Information

Adjacent to the small town of Holopaw in Osceola County, the 16,430-acre Triple N Ranch Wildlife Management Area (TNRWMA) is an excellent example of native pine-palmetto flatwoods scattered with wet and dry prairie, cypress domes, oak hammocks, and oak scrub. This rich tapestry of natural areas provides important habitat for a diverse assemblage of imperiled and common wildlife species.

Scenic Crabgrass Creek, a tributary of the St. Johns River, snakes across the area. On the TNRWMA limited hunting increases your chances of harvesting a mature deer or Osceola turkey. A network of well-maintained and marked roads provides ample opportunities for hiking, bicycling, and horseback riding. The TNRWMA also offers on site shooting range facilities and other recreational opportunities including camping and wildlife viewing.

The TNRWMA is managed by the Florida Fish and Wildlife Conservation Commission (FWC) to conserve the important natural communities on site that provide habitat for a wide range of imperiled and more common wildlife species and for fish and wildlife- based public outdoor recreation. The TNRWMA is owned by the Board of Trustees of the Internal Improvement Fund (Board of Trustees) and the St. Johns River Water Management District (SJRWMD). The FWC has lead management authority for all resources within the established boundary (Figure 1 and 2).

1.1 Management Plan Purpose

This Management Plan serves as the basic statement of policy and direction for the management of the TNRWMA. It provides information including the past usage, conservation acquisition history, and descriptions of the natural and historical resources found on the TNRWMA. 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 the TNRWMA's resource and operational 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 State of Florida through the Florida Department of Environmental Protection's (DEP) Division of State Lands (DSL), in compliance with paragraph seven of Lease No. 4226 and 4116 (Appendix 12.1) and pursuant to Chapters 253 and 259, Florida Statutes (F.S.), 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 12.2) 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.

1.1.1 FWC Planning Philosophy

The FWC's planning philosophy includes emphasizing management recommendation consensus-building among stakeholders and input from user groups and the general public at the beginning of the planning process. The FWC engages stakeholders by convening a Management Advisory Group and solicits additional input from user groups and the general public at a public hearing (Appendix 12.3 and 12.4). The FWC also engages 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 TNRWMA Management Plan (Sections 5 – 7).

Further management planning input is received through Land Management Reviews (LMR) conducted every five years, which includes a review of the current Management Plan, as well as a field review of the TNRWMA. The LMR report (Section 5.1, Appendix 12.5) provides FWC staff with important information and guidance provided by a diverse team of land management auditors and communicates the recommendations of the LMR team to the FWC so they may be adequately addressed in this Management Plan, and thus guide the implementation of the LMR team recommendations on the TNRWMA.

Furthermore, the FWC maintains transparency and accountability throughout the development and implementation of this Management Plan. A "living document" concept, linking this updated Management Plan to the previous one, is accomplished by reporting on the objectives, management activities, and projects accomplished over the last planning timeframe (previous ten years; see Section 4), thereby ensuring agency accountability through time.[1] Also, in an effort to remain adaptive for the duration of this Management Plan, continuous input and feedback will be collected from 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 ARC for review and consideration.

1.2 Location

The TNRWMA consists of 16,430 acres and is located in Osceola County lying in multiple sections within Township 27 South, Ranges 32 and 33 East and multiple sections in Township 28 South, Range 33 East (Figure 3). The TNRWMA is located approximately 22 miles west of Melbourne in Brevard County, 23 miles southeast Kissimmee of in Osceola County, 33 miles east of Haines City in Polk County, and 34 miles southeast of Orlando in Orange County. The area is surrounded by privately and publicly owned forested uplands and wetlands, herbaceous wetland, citrus groves, and lands used for other agricultural practices.

The TNRWMA is bordered on the south by the newly established Broussard Conservation Easement, on the north by US 192, and the west by US 441. The TNRWMA is also bordered to the east by Herky Huffman/Bull Creek Wildlife Management Area (HHBCWMA) and is within four miles of Three Lakes Wildlife Management Area (TLWMA) which both are also managed by the FWC.

1.3 Acquisition

1.3.1 Purpose for Acquisition of the Property

The TNRWMA was purchased as an addition to the SJRWMD Bull Creek Project and was the first tract acquired within the Osceola Pine Savannas Conservation and Recreation Lands (CARL) Project boundary, priority # 22 in the 1996 CARL Annual Report. Among the State's purposes for acquisition, as expressed in the CARL Annual Report, are to link the HHBCWMA and the TLWMA, helping to ensure the survival of prairie wildlife species such as the grasshopper sparrow and crested caracara. According to the CARL Annual Report, the acquisition would also protect the watershed of Bull Creek and provide a large area for the public to enjoy hunting, wildlife observation, and other activities.



The FWC's land management objectives for the TNRWMA are consistent with the original CARL objectives and purpose. These objectives are also consistent with the acquisition purpose and management goals set forth under the Preservation 2000 (P-2000) Act and the Florida Forever Act which established the purpose for lands the FWC has acquired and continues to manage under both of these programs.

1.3.2 Acquisition History

The TNRWMA has 50%/50% undivided title interest to the Board of Trustees and the SJRWMD (Figure 4).

The first purchase of the TNRWMA was accomplished in November 1994 from the Maury L. Carter Trust III, Maury L. Carter Trust II, and the Hilltop Trust. This 8,893-acre tract was acquired by the FWC and the SJRWMD using Save Our Rivers funds partly appropriated to the SJRWMD from P-2000 bonds, and funds appropriated to the FWC as its share of the Inholdings and Additions Acquisition Program funding provided from P-2000

bond series. The tract lies completely within the SJRWMD and was established by the FWC in July 1995 as the TNRWMA.

In 1996, the management boundary between the TNRWMA and the HHBCWMA was adjusted. The HHBCWMA took over management for a 1,279-acre portion of the original acquisition, previously managed under the TNRWMA. Also, in 1996, the 1,366-acre Carter tract, which lies within the South Florida Water Management District (SFWMD), was acquired by the FWC utilizing P-2000 funds. Additionally, using P-2000 funds, the FWC acquired the 1,915-acre McNamara tract in 1997, the 3,594-acre Equitable tract in 2000, the 161 acres Campos-Haviland tract in 2000, and the 903-acre Yates tracts in 2000. In 2006, the FWC acquired the 904-acre Vanosdol tract utilizing Florida Forever funds. Recently, in 2018, another one-acre tract was acquired by the Board of Trustees and amended to the FWC lease agreement for the area.

1.4 Management Authority

The FWC is the designated lead managing agency for the TNRWMA under the authority granted by Lease Number 4226 from the Board of Trustees agent, DSL, as well as Lease 4116 from the SJRWMD and the Board of Trustees. Further management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 373, 375, 378, 379, 403, 487, 597, and 870 of the F.S.. These constitutional provisions and laws provide the FWC the authority to protect, conserve, and manage the State's fish and wildlife resources.

1.5 Management Directives

The 50-year Board of Trustees' Lease Agreement Number 4226 and 4116 with the FWC directs the FWC to "manage the leased premises only for the conservation and protection of natural and historical resources and resource-based, public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 253.023(11), F.S...." The lease agreement further directs the FWC to "implement applicable Best Management Practices for all activities under this lease in compliance with paragraph 18-2.018(2)(h), FAC, which have been selected, developed, or approved by lessor, lessee, or other land managing agencies for the protection and enhancement of the leased premises."

1.6 Title Interest and Encumbrances

The TNRWMA is owned by the citizens of the State of Florida under the acquisition agreement for the TNRWMA, approved by the FWC, the SJRWMD, and the Board of Trustees on November 1, 1994. The FWC and the SJRWMD jointly acquired 8,893 acres in the initial TNRWMA acquisition. However, as noted above, 1,279 acres of that original acquisition was transferred for management to the HHBCWMA, leaving 7,614 net acres from the original acquisition to be managed as the TNRWMA. Title to lands acquired in the original TNRWMA acquisition jointly acquired by the FWC and the SJRWMD is vested

equally in the Board of Trustees and the SJRWMD, through lease agreement 4116, with each holding an undivided 50% interest in fee title to the land. Title to approximately 8,681 acres of land within the TNRWMA that were acquired subsequent to the initial joint acquisition with the SJRWMD is vested solely with the Board of Trustees through leave agreement 4226 (Figure 4). Currently, there is one cattle grazing contract, a utility line easement, and one housing agreement on the TNRWMA.

1.7 Proximity to Other Public Conservation Lands

The TNRWMA is located in the vicinity of an extensive network of conservation lands, including lands managed by the SJRWMD, the DEP, the Florida Forest Service (FFS), and Osceola County. Federally owned properties in the vicinity include Camp Lonesome Conservation Easement that is near the TNRWMA. Several Florida Forever projects (Figure 5), are also located in the vicinity of the area.

Tables 1 and 2 list the Florida Forever projects and conservation lands within a 15-mile radius of the TNRWMA, including lands managed by public and private entities that conserve cultural and natural resources within this region of Florida.

Most of the conservation lands listed in Table 2 are owned 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. Florida Forever Projects within a 15-mile Vicinity

Project Name	GIS Acres
Adams Ranch	7,141.13
Big Bend Swamp/Holopaw Ranch	52,509.98
Conlin Lake X	9,074.82
Osceola Pine Savannas	46,628.01
Ranch Reserve	36,409.91

Table 2. Conservation Lands within a 15-mile Vicinity

Federal Government	Managing Agency
Camp Lonesome Conservation Easement	USFWS
State of Florida	**Managing Agency**
Broussard Conservation Easement	DEP
Camp Lonesome Agricultural and Conservation Easement #2	FFS
Camp Lonesome Conservation Easement	DEP

Camp Lonesome Conservation Easement	FFS
Herky Huffman/Bull Creek Wildlife Management Area	FWC
Three Lakes Wildlife Management Area	FWC
Whaley Conservation Easement	DEP

Water Management District	**Managing Agency**
Escape Ranch Conservation Easement	SJRWMD
Far Reach Ranch Conservation Easement	SJRWMD
Jane Green Creek Less-than-fee Easement Additions	SJRWMD
Kaschai Conservation Easement	SJRWMD
Kempfer Property Conservation Easement	SJRWMD
Kempfer Property Flowage Easement	SJRWMD
Kissimmee Chain of Lakes	SFWMD
River Lakes Conservation Area	SJRWMD
Three Forks Conservation Area	SJRWMD
Wolf Creek Ranch Conservation Easement	SJRWMD

County/City	**Managing Agency**
Holopaw Conservation Area	Osceola County
Lake Lizzie Conservation Area	Osceola County
Lake Runnymede Conservation Area	Osceola County
Lonesome Camp Ranch Conservation Area	Osceola County
TM Ranch Mitigation Bank	Orange County

Private/Public Conservation Organization	**Managing Agency**
Lake Washington Mitigation Bank	Breedlove, Dennis, & Associates, Inc.
TM-Econ Phases 123 Mitigation Bank	Holland Properties

Acronym Key	Agency Name
DEP	Florida Department of Environmental Protection
FFS	Florida Forest Service
FWC	Florida Fish and Wildlife Conservation Commission
SFWMD	South Florida Water Management District
SJRWMD	St. Johns River Water Management District
USFWS	US Department of the Interior, Fish and Wildlife Service

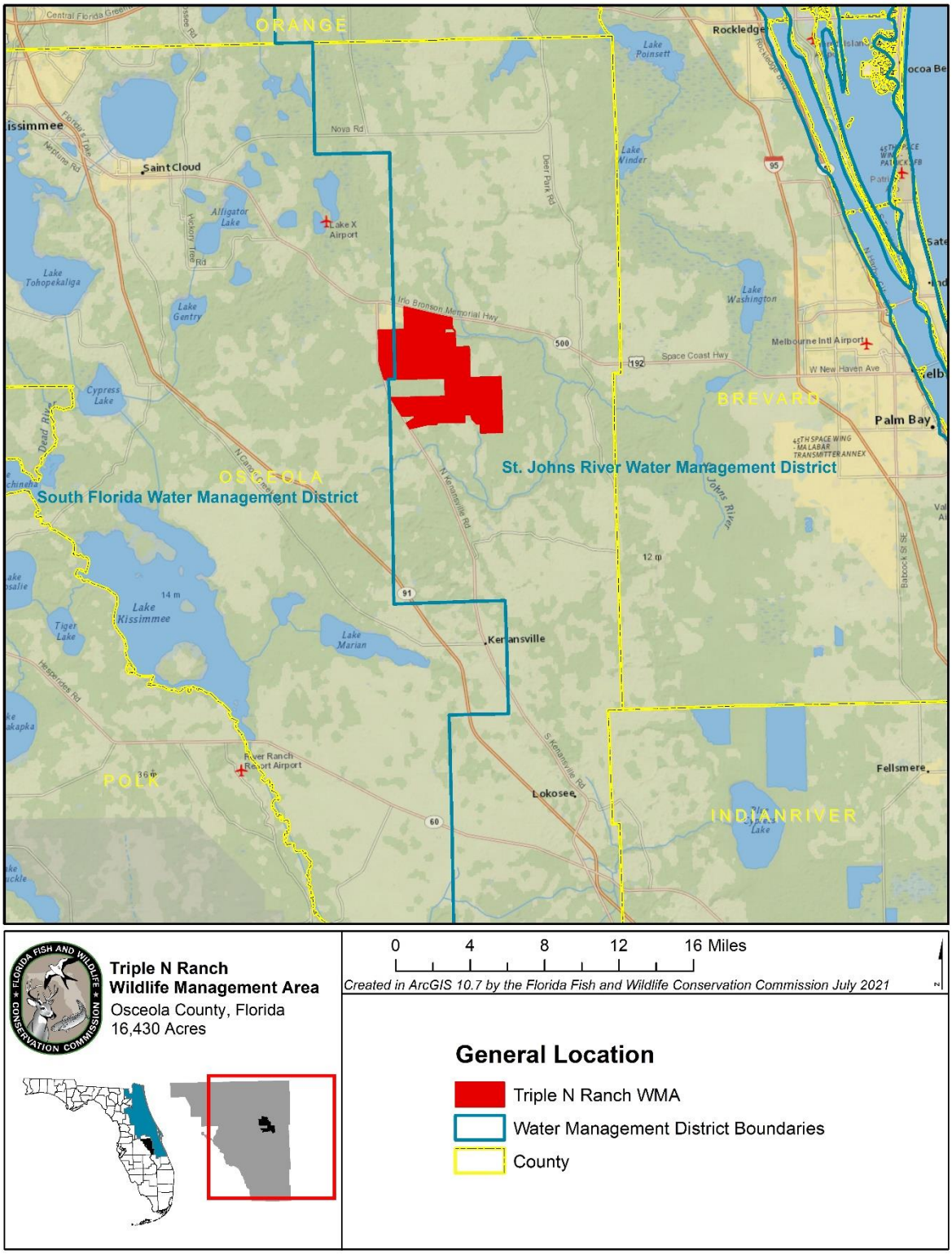


Figure 1. General Location of the TNRWMA

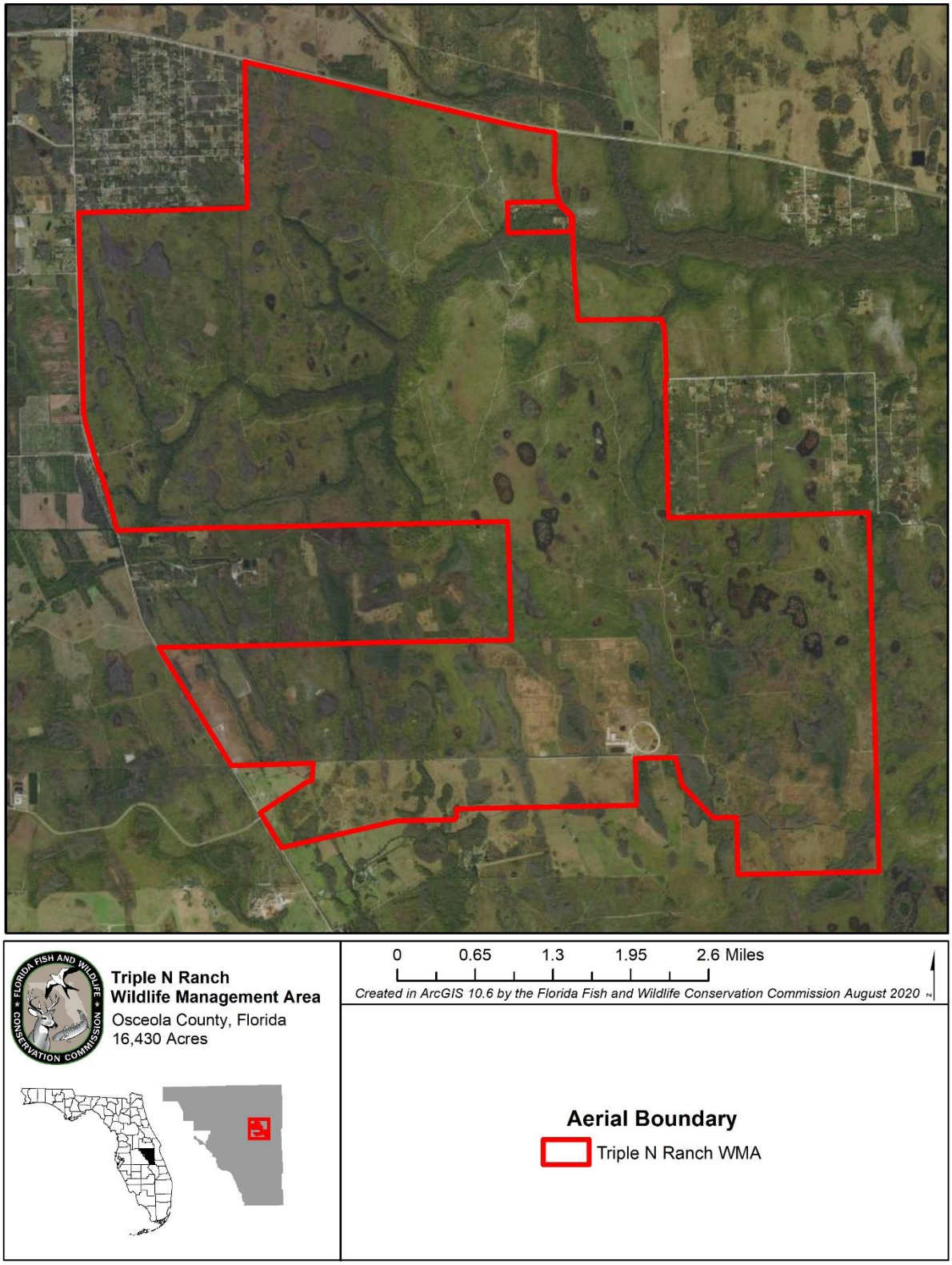


Figure 2. Aerial Imagery of the TNRWMA

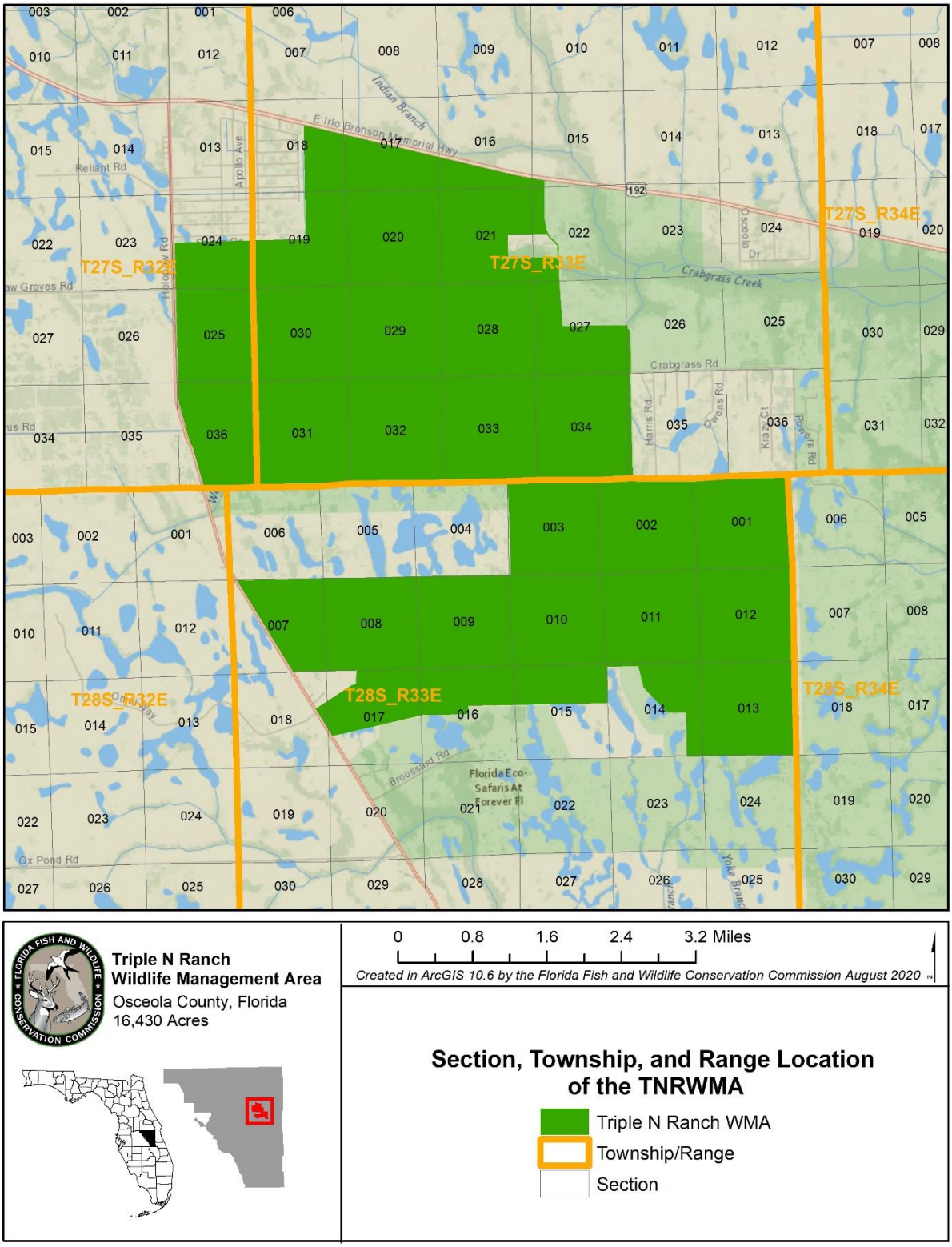
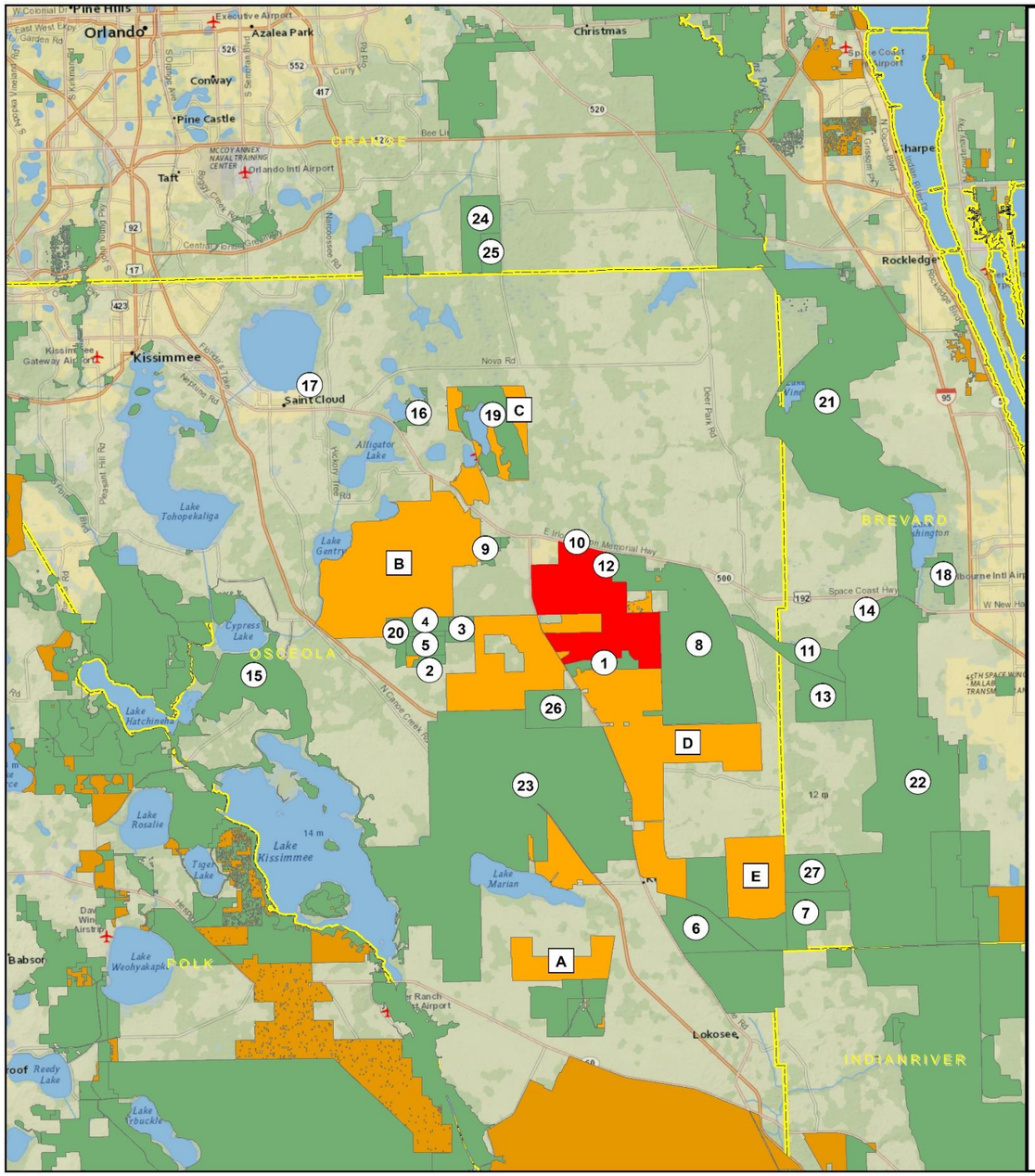


Figure 3. Section, Township, and Range of the TNRWMA



Figure 4. Title Interest on the TNRWMA



Conservation Lands within 15 miles of TNRWMA

1. Broussard Conservation Easement
2. Camp Lonesome Agricultural and Conservation Easement #2
3. Camp Lonesome Conservation Easement (FDEP)
4. Camp Lonesome Conservation Easement (RFLPP)
5. Camp Lonesome Conservation Easement (USFWS)
6. Escape Ranch Conservation Easement
7. Far Reach Ranch Conservation Easement
8. Herky Huffman/Bull Creek Wildlife Management Area
9. Holopaw Conservation Area
10. Holopaw State Forest
11. Jane Green Creek Less-than-fee Easement Additions
12. Kaschai Conservation Easement
13. Kempfer Property Conservation Easement
14. Kempfer Property Flowage Easement
15. Kissimmee Chain of Lakes
16. Lake Lizzie Conservation Area
17. Lake Runnymede Conservation Area
18. Lake Washington Mitigation Bank
19. Lake X Conservation Easements
20. Lonesome Camp Ranch Conservation Area
21. River Lakes Conservation Area
22. Three Forks Conservation Area
23. Three Lakes Wildlife Management Area
24. TM-Econ Phases 123 Mitigation Bank
25. TM Ranch Mitigation Bank
26. Whaley Conservation Easement
27. Wolf Creek Ranch Conservation Easement

Florida Forever Projects within 15 miles of TNRWMA

- A Adams Ranch Florida Forever Project
- B Big Bend Swamp/Holopaw Ranch Florida Forever Project
- C Conlin Lake X Florida Forever Project
- D Osceola Pine Savannas Florida Forever Project
- E Ranch Reserve Florida Forever Project

Triple N Ranch Management Area
Osceola County, Florida
16,430 Acres



Legend

- Triple N Ranch WMA
- Conservation Lands
- Florida Forever Projects
- County

0 5 10 20 Miles N

Created in ArcGIS 10.7 by the Florida Fish and Wildlife Conservation Commission December 2020

Figure 5. Conservation Lands and Florida Forever Project near the TNRWMA

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1.8 Adjacent Land Uses

The TNRWMA is located in central Osceola County, west of the City of Melbourne. Over the last 50 years, the economy of this area has been based primarily on tourism and to a lesser extent, citrus, and ranching. The urban areas of Kissimmee and Orlando have been growing in the southerly and easterly directions, which will likely influence future development in the area.

The 2019 U.S. Census estimates that there are 370,552 people living in Osceola County. The Department of Economic Affairs, Bureau of Economic and Business Research's (BEBR) medium-range population projection indicates that in the year 2030, there will be 510,200 people living in Osceola County. The BEBR population projections for the counties surrounding Osceola county for the year 2030 are as follows: Brevard County – 665,000; Indian River – 180,200; Okeechobee – 44,400; Orange County – 1,696,800; Polk – 817,000.

The current zoning ordinance for the TNRWMA is Agricultural Development and Conservation. According to Osceola County's Comprehensive Plan, this designation allows for one unit/five acres. Osceola County's future land use maps indicate that the TNRWMA will continue to be designated and zoned as Rural/Agriculture.

Lands immediately adjacent to the TNRWMA are classified as rural residential, agriculture, and rural development. The TNRWMA is not within an area of critical state concern or presently under study for such a designation.

1.9 Public Involvement

The FWC conducted a Management Advisory Group (MAG) meeting remotely via Microsoft Teams on September 2, 2020 to obtain input from both public and private stakeholders regarding management of the TNRWMA. Results of this meeting were used by the FWC to develop management goals and objectives and to identify opportunities and strategies for inclusion in this Management Plan. A summary of issues and opportunities raised by the MAG, as well as a listing of participants, is included as Appendix 12.4.1. Further, a public hearing, as required by Chapter 259.032(10), F.S., was held via Adobe Connect on October 15, 2020, to solicit input and comment from the general public regarding this Management Plan. The report of that hearing is also contained in Appendix 12.4.2. A management prospectus was made available 30 days prior to the public hearing. A website is also maintained for receipt of public input at https://myfwc.com/conservation/management-plans/develop-mps/. Further testimony and input are received at a public hearing held by the ARC. Input received from all public involvement efforts has been considered in the development of this Management Plan.

2 Natural and Historical Resources

2.1 Physiography

2.1.1 Climate

The climate of Central Florida is humid subtropical. Between October and May, cold fronts regularly sweep through the state which keeps conditions dry, particularly over the peninsula. In winters when an El Niño climate cycle exists, rainfall increases while temperatures are cooler statewide. Additionally, when the La Niña climate cycle occurs Central Florida can experience a variety of severe weather patterns. Beginning in the spring, towards the end of the dry season, lightning originated wildfires become more common. There is a defined rainy season from June through October, which are also the months most at risk of tropical cyclones making landfall in the region. Easterly winds off the warm waters of the Gulf Stream running through the Florida Straits keep temperatures moderate across the central peninsula year-round.



Osceola County's January temperatures range between 72˚ Fahrenheit (F) for the average high and 48˚ F for the average low. July temperatures range between 92˚ F for the average high and 72˚ F for the average low. Annually, Osceola County experiences an average of 116 days of rain, and an average total rainfall of 53 inches.[2]

2.1.2 Topography

The TNRWMA lies within the Kissimmee Prairie, a geographic region within peninsular Florida centered on the Kissimmee River, which has some of the most ecologically valuable land within Osceola County and central Florida. The dry prairie habitat type comprising the Kissimmee Prairie is home to a number of rare or endangered plants and animals.

The TNRWMA is situated within the Osceola Plain, which is the largest physiographic region in Osceola County.[2] The topographic features within the boundaries of the TNRWMA range along a relatively shallow gradient between 50 feet above mean sea level (MSL) and 82 feet above MSL.

The entire TNRWMA is above the 50-foot elevation line above (MSL). The primary hydrologic feature of the area is Crabgrass Creek which flows to the east and into Bull Creek. Water in the area then flows into Jane Green Creek and into the St. Johns River. There are numerous creeks, ponds, and other isolated depressional areas throughout the property which have been identified as being within the 100-year flood plain. The northeast corner of the TNRWMA is basically level, ranging between 51 and 55 feet MSL. The southeast corner ranges up to 65 feet, while areas north of West Branch and Crabgrass Creek rise gradually to about 78 feet near U.S. 441, and 67 feet on the north near U.S. 192. Since elevation changes are so gradual, over expansive areas, the property appears generally flat.

2.1.3 Soils

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) data were used to identify the TNRWMA soil series and soil depth to water table (Figures 6 and Figure 7). The map units described in the soil survey of the TNRWMA are distributed as shown in Figure 6. Analyses of depth to water table for map units occurring within the TNRWMA are also provided in Figure 7. The NRCS defines a soil map unit as: "a collection of soil areas or non-soil areas (miscellaneous areas) delineated in a soil survey[3]." Soil map units may contain multiple soil components, which are given names that are unique identifiers. Appendix 12.6 lists the names and official map unit descriptions of areas delineated on the detailed soil maps in a soil survey or by miscellaneous areas in the survey area as determined by the NRCS. Analysis of depth to water table for map units occurring within the TNRWMA are also provided in Appendix 12.6.

Soils found within the TNRWMA are generally associated with the area's mix of natural communities and are thus poorly to very poorly drained sandy or organic soils. Smyrna fine sand make up approximately 31% of the area, with Myakka fine sand make up about 16%, Immokalee fine sand around 15%, and Basinger fine sand 11%, along with various other less prominent sands including, Placid fine sand, Pomona find sand, Pomello fine sand, Samsula muck, and many others.

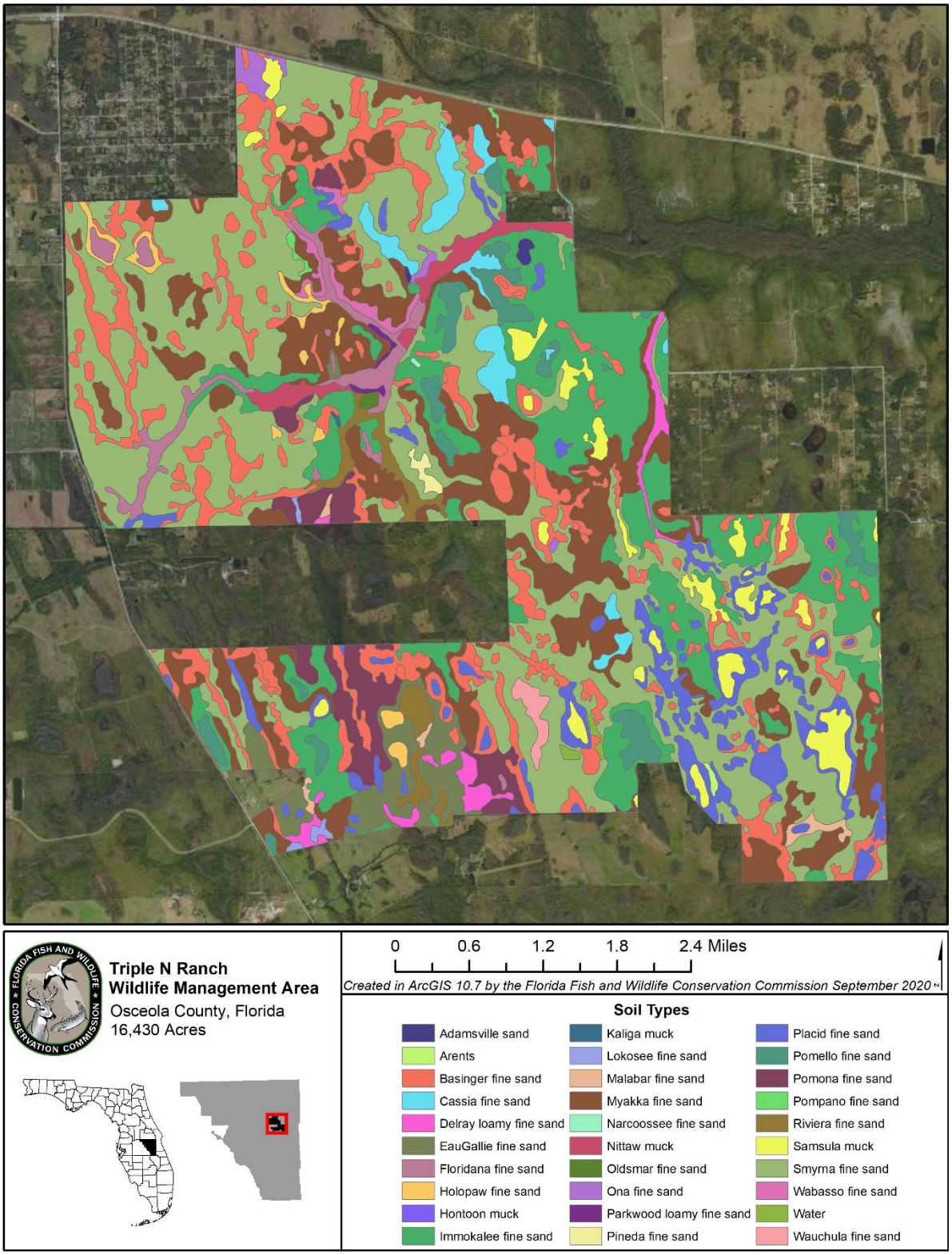


Figure 6. Soil Types found on the TNRWMA

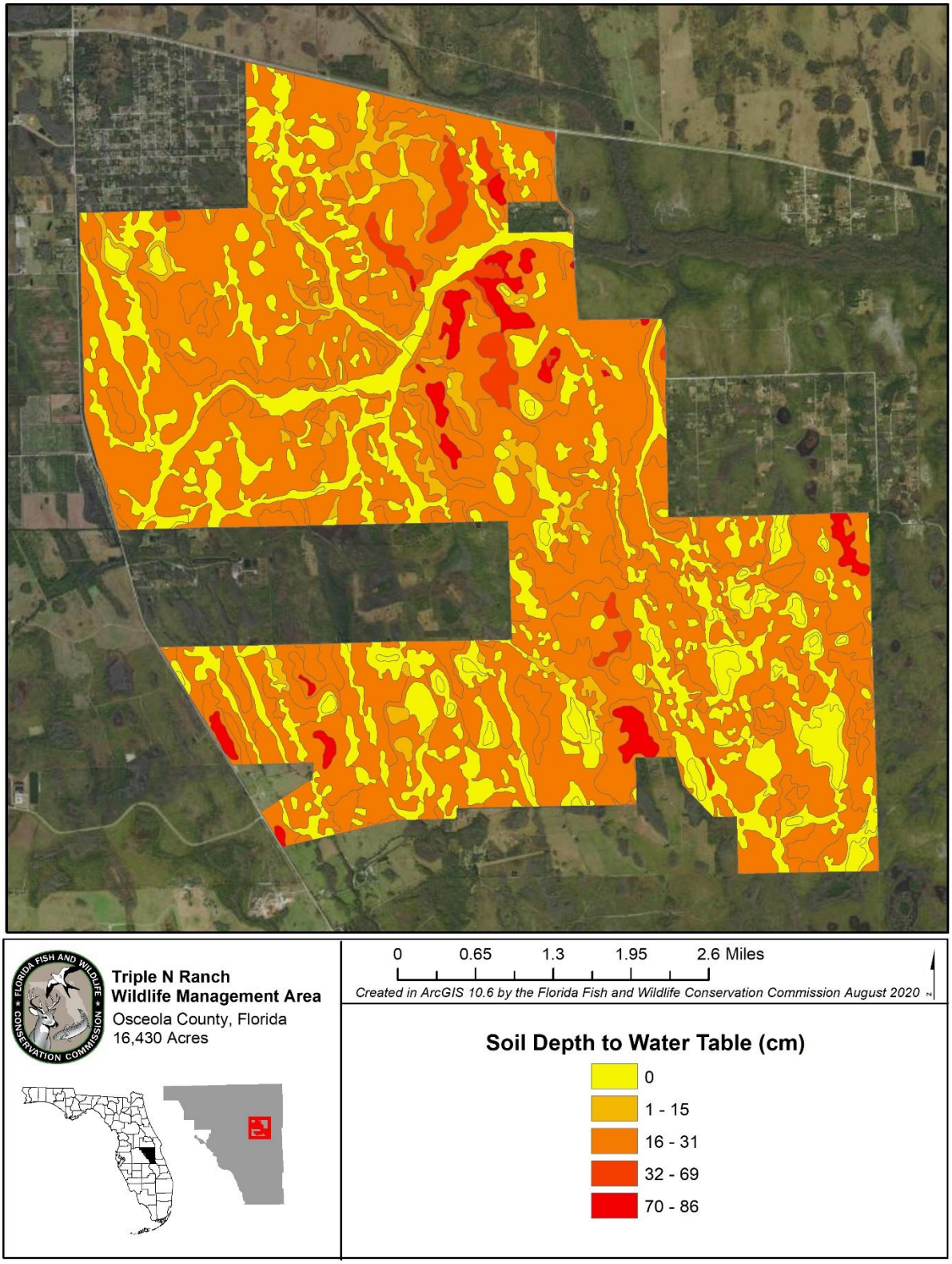


Figure 7. Soil Depth to Water Table (cm)

2.1.4 Geologic Conditions

To date, there are no known outstanding mineral interests on the lands acquired within the TNRWMA. The geology of Osceola County, as reflected on the U.S. Department of Interior, United States Geological Survey's website (http://tin.er.usgs.gov/geology/state/fips-unit.php?code=f12097), is as follows:

Shelly sediments of Plio-Pleistocene age are Tertiary-Quaternary Fossiliferous Sediments of Southern Florida. These mollusk bearing sediments of southern Florida contain some of the most abundant and diverse fossil faunas in the world. Lithologically, these sediments are complex, varying from unconsolidated, variably calcareous, and fossiliferous quartz sands to well indurated, sandy, fossiliferous limestones (both marine and freshwater). Clayey sands and sandy clays are present. These sediments form part of the surficial aquifer system and cover 4.2% of Osceola County.

Cypresshead Formation (Pliocene) is composed of siliciclastics and occurs only in the peninsula and eastern Georgia. It is at or near the surface from northern Nassau County southward to Highlands County forming the peninsular highlands. It appears that the Cypresshead Formation occurs in the subsurface southward from the outcrop region and similar sediments, the Long Key Formation, underlie the Florida Keys. The Cypresshead Formation is a shallow marine, near shore deposit equivalent to the Citronelle Formation deltaic sediments and the Miccosukee Formation prodeltaic sediments. The Cypresshead Formation consists of reddish brown to reddish orange, unconsolidated to poorly consolidated, fine to very coarse grained, clean to clayey sands. Cross bedded sands are common within the formation. Discoid quartzite pebbles and mica are often present. Clay beds are scattered and not really extensive. In general, the Cypresshead Formation in exposure occurs above 100 feet above MSL. Original fossil material is not present in the sediments although poorly preserved molds and casts of mollusks and burrow structures are occasionally present. The presence of these fossil "ghosts" and trace fossils documents marine influence on deposition of the Cypresshead sediments. The permeable sands of the Cypresshead Formation form part of the surficial aquifer system. These sediments cover 1.8% of Osceola County.

Much of Florida's surface is covered by a varying thickness of undifferentiated sediments consisting of siliciclastics, organics, and freshwater carbonates. Where these sediments exceed 20 feet (6.1 meters) thick, they were mapped as discrete units. In an effort to subdivide the undifferentiated sediments, those sediments occurring in flood plains were mapped as alluvial and flood plain deposits. Sediments showing surficial expression of beach ridges and dunes were mapped separately as were the sediments composing Trail Ridge. Terrace sands were not mapped. The subdivisions of the Undifferentiated Quaternary Sediments are not lithostratigraphic units but are utilized in order to facilitate a better understanding of the State's geology. The siliciclastics are light gray, tan, brown to black, unconsolidated to poorly consolidated, clean to clayey, silty, unfossiliferous, variably organic-bearing sands to blue green to olive green, poorly to moderately consolidated, sandy

and silty clays. Gravel is occasionally present in the panhandle. Organics occur as plant debris, roots, disseminated organic matrices, and beds of peat. Freshwater carbonates, often referred to as marls in the literature, are scattered over much of the State. These sediments are buff colored to tan, unconsolidated to poorly consolidated, fossiliferous carbonate muds. Sand, silt, and clay may be present in limited quantities. These carbonates often contain organics. The dominant fossils in the freshwater carbonates are mollusks. These sediments cover approximately 65% of Osceola County.

2.2 Vegetation

Through the services of the Florida Natural Areas Inventory (FNAI), the FWC has mapped the current natural and anthropogenic communities on the TNRWMA. The TNRWMA is composed of a mosaic of uplands and wetlands, including 25 natural and anthropogenic community types (Table 3 and Figure 8). Plant species found at the TNRWMA have been recorded (Table 4). Additionally, there are 40 exotic and invasive plant species (Table 5) and 27 rare plant species (Table 6) within the TNRWMA.

Table 3. Vegetative Communities Found at the TNRWMA

Community Type	GIS Acres	Percentage
Agriculture	440.77	2.69%
Artificial Pond	29.91	0.18%
Baygall	206.45	1.26%
Canal/Ditch	21.95	0.13%
Clearing/Regeneration	103.11	0.63%
Depression Marsh	745.87	4.55%
Developed	79.59	0.49%
Dome Swamp	2,393.66	14.59%
Dry Prairie	387.38	2.36%
Firebreak	46.19	0.28%
Hydric Hammock	696.18	4.24%
Linear Feature	6.70	0.04%
Mesic Flatwoods	7,857.21	47.89%
Mesic Hammock	44.73	0.27%
Pasture – Improved	1,083.72	6.60%
Pasture – Semi-Improved	85.19	0.52%
Restoration Mesic Flatwoods	104.23	0.64%
Restoration Scrubby Flatwoods	91.67	0.56%
Road	308.89	1.88%
Scrub	34.05	0.21%
Scrubby Flatwoods	307.28	1.87%
Spoil Area	1.89	0.01%
Wet Flatwoods	307.50	1.87%
Wet Prairie	1,018.49	6.21%
Xeric Hammock	5.06	0.03%

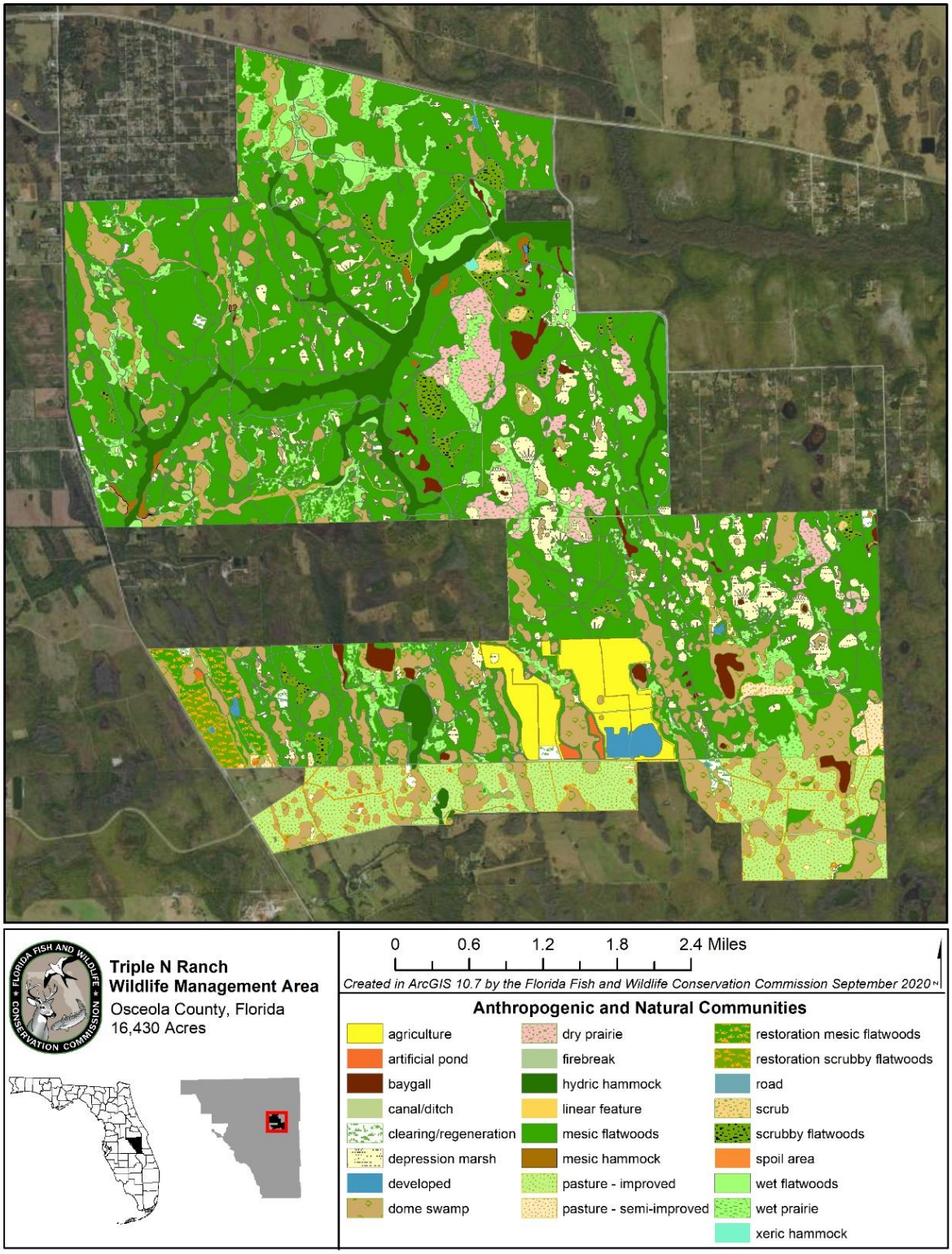


Figure 8. Anthropogenic and Natural Communities found on the TNRWMA

Table 4. Native Plant Species Known to Occur on the TNRWMA

Common Name	Scientific Name
Adam's needle	*Yucca filamentosa*
American beautyberry	*Callicarpa americana*
American bluehearts	*Buchnera americana*
American elm	*Ulmus americana*
Aster	*Symphyotrichum* sp.
Atlantic St. John's wort	*Hypericum tenuifolium*
Bald cypress	*Taxodium distichum*
Baldwin's flatsedge	*Cyperus croceus*
Baldwin's spikerush	*Eleocharis baldwinii*
Ballmoss	*Tillandsia recurvata*
Beaked panicum	*Coleataenia anceps*
Beaksedge	*Rhynchospora* sp.
Bearded skeletongrass	*Gymnopogon ambiguus*
Bedstraw St. John's wort	*Hypericum galioides*
Beggarticks	*Bidens alba*
Big carpetgrass	*Axonopus furcatus*
Bighead rush	*Juncus megacephalus*
Blackroot	*Pterocaulon pycnostachyum*
Blacksenna	*Seymeria* sp.
Bladderwort	*Utricularia* sp.
Blazing star	*Liatris* sp.
Blue crowngrass	*Paspalum caespitosum*
Blue huckleberry	*Gaylussacia frondosa*
Blue maidencane	*Amphicarpum muehlenbergianum*
Blue-eyed grass	*Sisyrinchium* sp.
Bluestem	*Andropogon* sp.
Bog white violet	*Viola lanceolata*
Bogbutton	*Lachnocaulon* sp.
Bracken fern	*Pteridium aquilinum var caudatum*
Branched hedgehyssop	*Gratiola ramosa*
Bristlegass: foxtail	*Setaria* sp.
Broadleaf cattail	*Typha latifolia*
Broomsedge bluestem	*Andropogon virginicus var. virginicus*
Bulltongue arrowhead	*Sagittaria lancifolia*
Bulrush	*Scirpus* sp.

Table 4. Native Plant Species Known to Occur on the TNRWMA

Bunched beaksedge	*Rhynchospora cephalantha*
Bushy bluestem	*Andropogon glomeratus*
Bushy bluestem	*Andropogon glomeratus var. glomeratus*
Bushy bluestem	*Andropogon glomeratus var. hirsutior*
Butterwort	*Pinguicula* sp.
Button rattlesnakemaster	*Eryngium yuccifolium*
Cabbage palm	*Sabal palmetto*
Camphorweed	*Pluchea* sp.
Canadian horseweed	*Conyza canadensis*
Candyroot	*Polygala nana*
Capillary hairsedge	*Bulbostylis ciliatifolia*
Caribbean purple everlasting	*Gamochaeta antillana*
Carolina ash	*Fraxinus caroliniana*
Carolina redroot	*Lachnanthes caroliana*
Carolina yellow-eyed grass	*Xyris caroliniana*
Carpetgrass	*Axonopus* sp.
Catbells	*Baptisia perfoliata*
Chaffhead	*Carphephorus* sp.
Chalky bluestem	*Andropogon virginicus var. glaucus*
Chapman's beaksedge	*Rhynchospora chapmanii*
Chapman's oak	*Quercus chapmanii*
Chapman's skeletongrass	*Gymnopogon chapmanianus*
Ciliate redtop panicum	*Coleataenia longifolia*
Climbing hempvine	*Mikania scandens*
Club-moss	*Lycopodiella* sp.
Clustered bushmint	*Hyptis alata*
Clustered mille graines	*Edrastima uniflora*
Clustered sedge	*Carex glaucescens*
Coastal lovegrass	*Eragrostis refracta*
Coastalplain chaffhead	*Carphephorus corymbosus*
Coastalplain hawkweed	*Hieracium megacephalon*
Coastalplain honeycomb-head	*Balduina angustifolia*
Coastalplain milkwort	*Polygala setacea*
Coastalplain palafox	*Palafoxia integrifolia*
Coastalplain St. John's wort	*Hypericum brachyphyllum*
Coastalplain staggerbush	*Lyonia fruticosa*

Table 4. Native Plant Species Known to Occur on the TNRWMA

Coastalplain willow	*Salix caroliniana*
Coastalplain yellow-eyed grass	*Xyris ambigua*
Cockspur pricklypear	*Opuntia drummondii*
Coffeeweed	*Senna obtusifolia*
Combleaf mermaidweed	*Proserpinaca pectinata*
Common blue violet	*Viola sororia*
Common buttonbush	*Cephalanthus occidentalis*
Common carpetgrass	*Axonopus fissifolius*
Common persimmon	*Diospyros virginiana*
Common ragweed	*Ambrosia artemisiifolia*
Common yellow woodsorrel	*Oxalis corniculata*
Cowbane	*Oxypolis* sp.
Crabgrass	*Digitaria* sp.
Creeping primrosewillow	*Ludwigia repens*
Croton	*Croton* sp.
Crowngrass	*Paspalum* sp.
Curtiss' nutrush	*Scleria ciliata*
Cypress witchgrass	*Dichanthelium ensifolium var. ensifolium*
Cypress witchgrass	*Dichanthelium ensifolium var. unciphyllum*
Dahoon	*Ilex cassine var. cassine*
Danglepod	*Sesbania herbacea*
Darrow's blueberry	*Vaccinium darrowii*
Dayflower	*Commelina* sp.
Deerberry	*Vaccinium stamineum*
Dixie aster	*Sericocarpus tortifolius*
Dogfennel	*Eupatorium capillifolium*
Dogtongue wild buckwheat	*Eriogonum tomentosum*
Downy milkpea	*Galactia volubilis*
Dropseed	*Sporobolus* sp.
Drumheads	*Polygala cruciata*
Dwarf huckleberry	*Gaylussacia dumosa*
Dwarf live oak	*Quercus minima*
Dwarf St. John's wort	*Hypericum mutilum*
Dwarf sundew	*Drosera brevifolia*
Earleaf greenbrier	*Smilax auriculata*
Early whitetop fleabane	*Erigeron vernus*

Table 4. Native Plant Species Known to Occur on the TNRWMA

Eastern milkpea	*Galactia regularis*
Eastern poison ivy	*Toxicodendron radicans*
Eastern silver aster	*Symphyotrichum concolor*
Elderberry	*Sambucus nigra* ssp. *canadensis*
Elephantsfoot	*Elephantopus* sp.
Elliott's bluestem	*Andropogon gyrans*
Elliott's lovegrass	*Eragrostis elliottii*
Elliott's milkpea	*Galactia elliottii*
Elliott's yellow-eyed grass	*Xyris elliottii*
Erectleaf witchgrass	*Dichanthelium erectifolium*
Eryngo	*Eryngium* sp.
Falsefennel	*Eupatorium leptophyllum*
Fascicled beaksedge	*Rhynchospora fascicularis*
Fetterbush	*Lyonia lucida*
Field paspalum	*Paspalum laeve*
Fimbry	*Fuirena pumila*
Fireweed	*Erechtites hieraciifolius*
Flatsedge	*Cyperus* sp.
Flattened pipewort	*Eriocaulon compressum*
Flax	*Linum* sp.
Fleabane	*Erigeron* sp.
Florida false sunflower	*Phoebanthus grandiflorus*
Florida hoary-pea	*Tephrosia florida*
Florida tickseed	*Coreopsis floridana*
Florida yellow flax	*Linum floridanum*
Forked bluecurls	*Trichostema dichotomum*
Forked fimbry	*Fimbristylis dichotoma*
Forked rush	*Juncus dichotomus*
Fourpetal St. John's wort	*Hypericum tetrapetalum*
Fragrant eryngo	*Eryngium aromaticum*
Fringed beaksedge	*Rhynchospora ciliaris*
Fringed yellow stargrass	*Hypoxis juncea*
Fringed yellow-eyed grass	*Xyris fimbriata*
Gallberry	*Ilex glabra*
Giant White-top	*Rhynchospora latifolia*
Glade lobelia	*Lobelia glandulosa*

Table 4. Native Plant Species Known to Occur on the TNRWMA

Golden polypody	*Phlebodium aureum*
Golden-aster	*Chrysopsis* sp.
Goldenrod	*Solidago* sp.
Gopher apple	*Geobalanus oblongifolius*
Grassleaf gayfeather	*Liatris elegantula*
Grassleaf rush	*Juncus marginatus*
Groundsel tree	*Baccharis halimifolia*
Hairawn muhly	*Muhlenbergia capillaris*
Hairsedge	*Bulbostylis* sp.
Hairy chaffhead	*Carphephorus paniculatus*
Hairy fimbry	*Fimbristylis puberula*
Hairy maiden fern	*Thelypteris hispidula var. versicolor*
Hales's pentodon	*Pentodon pentandrus*
Handsome harry	*Rhexia virginica*
Haspan flatsedge	*Cyperus haspan*
Hatpins	*Syngonanthus* sp.
Heartwing dock	*Rumex hastatulus*
Hedgehyssop	*Gratiola* sp.
Hemlock witchgrass	*Dichanthelium portoricense*
Highbush blueberry	*Vaccinium corymbosum*
Hoary-pea	*Tephrosia* sp.
Hog plum	*Ximenia americana*
Humped bladderwort	*Utricularia gibba*
Indiangrass	*Sorghastrum* sp.
Jamaica swamo sawgrass	*Cladium jamaicense*
Jester lichen, Cup lichen	*Cladonia leporina*
Jeweled blue-eyed grass	*Sisyrinchium xerophyllum*
Jointgrass	*Coelorachis* sp.
Knotroot foxtail	*Setaria parviflora*
Largeflower rosegentian	*Sabatia grandiflora*
Lattice jointgrass	*Coelorachis tessellata*
Laurel greenbrier	*Smilax laurifolia*
Le conte's flatsedge	*Cyperus lecontei*
Leaf-flower	*Phyllanthus* sp.
Lemon bacopa	*Bacopa caroliniana*
Lesser florida spurge	*Euphorbia polyphylla*

Table 4. Native Plant Species Known to Occur on the TNRWMA

Licania	*Licania* sp.
Licoriceweed	*Scoparia dulcis*
Limestone yellow-eyed grass	*Xyris calcicola*
Little bluestem	*Schizachyrium scoparium*
Little bluestem	*Schizachyrium* sp.
Live oak	*Quercus virginiana*
Lobelia	*Lobelia* sp.
Loblolly bay	*Gordonia lasianthus*
Longleaf pine	*Pinus palustris*
Longleaf threeawn	*Aristida palustris*
Long's sedge	*Carex longii*
Lopsided Indiangrass	*Sorghastrum secundum*
Lovegrass	*Eragrostis* sp.
Low pinebarren milkwort	*Polygala ramosa*
Maid marian	*Rhexia nashii*
Maleberry	*Lyonia ligustrina var. foliosiflora*
Manyflower marshpennywort	*Hydrocotyle umbellata*
Manyspike flatssedge	*Cyperus polystachyos*
Marsh seedbox	*Ludwigia palustris*
Meadowbeauty	*Rhexia* sp.
Mexican primrosewillow	*Ludwigia octovalvis*
Milkpea	*Galactia* sp.
Milkweed	*Asclepias* sp.
Milkwort	*Polygala* sp.
Mille graines	*Oldenlandia* sp.
Mohr's thoroughwort	*Eupatorium mohrii*
Mountain panic	*Panicum hemitomon*
Muscadine	*Vitis rotundifolia*
Myrtle oak	*Quercus myrtifolia*
Myrtleleaf St. John's wort	*Hypericum myrtifolium*
Narrowfruit horned beaksedge	*Rhynchospora inundata*
Narrowleaf blue-eyed grass	*Sisyrinchium angustifolium*
Narrowleaf silkgrass	*Pityopsis graminifolia*
Narrowleaf sunflower	*Helianthus angustifolius*
Needleleaf witchgrass	*Dichanthelium aciculare*
Needlepod rush	*Juncus scirpoides*

Table 4. Native Plant Species Known to Occur on the TNRWMA

Netted nutrush	*Scleria reticularis*
Netted pawpaw	*Asimina reticulata*
Nightshade	*Solanum* sp.
Nutrush	*Scleria* sp.
Nuttall's meadowbeauty	*Rhexia nuttallii*
Oak	*Quercus* sp.
Oblongleaf twinflower	*Dyschoriste oblongifolia*
October flower	*Polygonum polygamum*
Orange milkwort	*Polygala lutea*
Pale meadowbeauty	*Rhexia mariana*
Panic grass	*Panicum* sp.
Partridge pea	*Chamaecrista fasciculata*
Path rush	*Juncus tenuis*
Peelbark St. John's wort	*Hypericum fasciculatum*
Pickerelweed	*Pontederia cordata*
Piedmont marshelder	*Iva microcephala*
Piedmont pinweed	*Lechea torreyi*
Pinebarren aster	*Oclemena reticulata*
Pinebarren beaksedge	*Rhynchospora intermedia*
Pinebarren flatsedge	*Cyperus ovatus*
Pinebarren frostweed	*Crocanthemum corymbosum*
Pinebarren goldenrod	*Solidago fistulosa*
Pineland chaffhead	*Carphephorus carnosus*
Pineland daisy	*Chaptalia tomentosa*
Pineland rayless goldenrod	*Bigelowia nudata* ssp. *nudata*
Pineland scalypink	*Stipulicida setacea*
Pinewoods fingergrass	*Eustachys petraea*
Pineywoods dropseed	*Sporobolus junceus*
Pink sundew	*Drosera capillaris*
Pinweed	*Lechea* sp.
Pipewort	*Eriocaulon* sp.
Plumed beaksedge	*Rhynchospora plumosa*
Pond cypress	*Taxodium ascendens*
Poor joe	*Diodia teres*
Poorland flatsedge	*Cyperus compressus*
Prairie clover	*Dalea* sp.

Table 4. Native Plant Species Known to Occur on the TNRWMA

Prairie iris	*Iris hexagona*
Pricklypear	*Opuntia austrina*
Primrosewillow	*Ludwigia* sp.
Purple bluestem	*Andropogon glomeratus var. glaucopsis*
Purple lovegrass	*Eragrostis spectabilis*
Purple thistle	*Cirsium horridulum*
Purpletop tridens	*Tridens flavus*
Queen-devil	*Hieracium gronovii*
Queen's delight	*Stillingia sylvatica*
Rabbitbells	*Crotalaria rotundifolia*
Red bay	*Persea borbonia*
Red maple	*Acer rubrum*
Red mulberry	*Morus rubra*
Reindeer lichen	*Cladina subtenuis*
Rice button aster	*Symphyotrichum dumosum*
Rosegentian	*Sabatia* sp.
Rose-rush	*Lygodesmia aphylla*
Rosy camphorweed	*Pluchea baccharis*
Rough boneset	*Eupatorium pilosum*
Rough hedgehyssop	*Sophronanthe hispida*
Roughhair witchgrass	*Dichanthelium strigosum var. strigosum*
Roundleaf bluet	*Houstonia procumbens*
Roundleaf thoroughwort	*Eupatorium rotundifolium*
Roundpod St. John's wort	*Hypericum cistifolium*
Runner oak	*Quercus pumila*
Rush	*Juncus* sp.
Rustweed	*Polypremum procumbens*
Rusty staggerbush	*Lyonia ferruginea*
Saltmarsh umbrellasedge	*Fuirena breviseta*
Sand blackberry	*Rubus cuneifolius*
Sand cordgrass	*Spartina bakeri*
Sand holly	*Ilex ambigua*
Sand live oak	*Quercus geminata*
Sand spike-moss	*Selaginella arenicola*
Sandyfield beaksedge	*Rhynchospora megalocarpa*
Sarsaparilla vine	*Smilax pumila*

Table 4. Native Plant Species Known to Occur on the TNRWMA

Savannah yellow-eyed grass	*Xyris flabelliformis*
Saw greenbrier	*Smilax bona-nox*
Saw palmetto	*Serenoa repens*
Sawtooth blackberry	*Rubus pensilvanicus*
Scaleleaf aster	*Symphyotrichum adnatum*
Screwstem	*Bartonia* sp.
Scrub wild olive	*Cartrema floridanum*
Scrubland golden-aster	*Chrysopsis subulata*
Seaside primrosewillow	*Ludwigia maritima*
Sedge	*Carex* sp.
Sensitive brier	*Mimosa quadrivalvis*
Sensitive pea	*Chamaecrista nictitans*
Sensitive plant	*Mimosa* sp.
Shaggy hedgehyssop	*Sophronanthe pilosa*
Shiny blueberry	*Vaccinium myrsinites*
Shiny woodoats	*Chasmanthium nitidum*
Shortbeak beaksedge	*Rhynchospora nitens*
Shortleaf gayfeather	*Liatris tenuifolia*
Shortleaf rosegentian	*Sabatia brevifolia*
Shortleaf skeletongrass	*Gymnopogon brevifolius*
Shortleaf yellow-eyed grass	*Xyris brevifolia*
Shortspike bluestem	*Andropogon brachystachyus*
Shyleaf	*Aeschynomene americana*
Silverling	*Baccharis glomeruliflora*
Skullcap	*Scutellaria* sp.
Skyblue lupine	*Lupinus diffusus*
Slash pine	*Pinus elliottii*
Slender crabgrass	*Digitaria filiformis var. filiformis*
Slender fimbry	*Fimbristylis autumnalis*
Slender flattop goldenrod	*Euthamia caroliniana*
Slender gayfeather	*Liatris gracilis*
Small butterwort	*Pinguicula pumila*
Smallfruit beggarticks	*Bidens mitis*
Smallhead beaksedge	*Rhynchospora microcephala*
Smallhead doll's daisy	*Boltonia diffusa*
Small's bogbutton	*Lachnocaulon minus*

Table 4. Native Plant Species Known to Occur on the TNRWMA

Snowberry, Waxberry, Ghostberry	*Symphoricarpos* sp.
Soft rush	*Juncus effusus s*sp. *solutus*
Sour paspalum	*Paspalum conjugatum*
Southern cattail	*Typha domingensis*
Southern crabgrass	*Digitaria ciliaris*
Southern dewberry	*Rubus trivialis*
Southern needleleaf	*Tillandsia setacea*
Southern umbrellasedge	*Fuirena scirpoidea*
Spadeleaf	*Centella asiatica*
Spanish moss	*Tillandsia usneoides*
Sparkleberry	*Vaccinium arboreum*
Spiderwort	*Tradescantia* sp.
Spikerush	*Eleocharis* sp.
Splitbeard bluestem	*Andropogon ternarius*
Sprawling hoary-pea	*Tephrosia hispidula*
Spurge	*Euphorbia* sp.
Spurred butterfly pea	*Centrosema virginianum*
St. andrew's cross	*Hypericum hypericoides*
St. John's wort	*Hypericum* sp.
St. Peter's wort	*Hypericum crux-andreae*
Staggerbush	*Lyonia mariana*
Stalked adderstongue	*Ophioglossum petiolatum*
Starrush white-top	*Rhynchospora colorata*
Stiff sunflower	*Helianthus radula*
Sugarcane plumegrass	*Saccharum giganteum*
Summer farewell	*Dalea pinnata var. pinnata*
Swamp bay	*Persea palustris*
Swamp laurel oak	*Quercus laurifolia*
Swamp smartweed	*Persicaria hydropiperoides*
Swamp tupelo	*Nyssa sylvatica var. biflora*
Swampforest beaksedge	*Rhynchospora decurrens*
Sweet goldenrod	*Solidago odora*
Sweetbay	*Magnolia virginiana*
Sweetgum	*Liquidambar styraciflua*
Tailed bracken	*Pteridium aquilinum var. pseudocaudatum*
Tall elephantsfoot	*Elephantopus elatus*

Table 4. Native Plant Species Known to Occur on the TNRWMA

Tall pinebarren milkwort	*Polygala cymosa*
Tarflower	*Bejaria racemosa*
Tenangle pipewort	*Eriocaulon decangulare*
Thin paspalum	*Paspalum setaceum*
Thoroughwort	*Eupatorium* sp.
Thymeleaf pinweed	*Lechea minor*
Tickseed	*Coreopsis* sp.
Toothache grass	*Ctenium aromaticum*
Toothed midsorus fern	*Telmatoblechnum serrulatum*
Toothleaf	*Stillingia aquatica*
Tracy's beaksedge	*Rhynchospora tracyi*
Tread-softly	*Cnidoscolus stimulosus*
Tropical flatsedge	*Cyperus surinamensis*
Turkey tangle fogfruit	*Phyla nodiflora*
Turkey oak	*Quercus laevis*
Umbrellasedge	*Fuirena* sp.
Vanillaleaf	*Carphephorus odoratissimus*
Velvet witchgrass	*Dichanthelium scoparium*
Vente conmigo	*Croton glandulosus*
Vente conmigo	*Croton glandulosus var. septentrionalis*
Violet	*Viola* sp.
Virginia buttonweed	*Diodia virginiana*
Virginia chain fern	*Woodwardia virginica*
Virginia marsh St. John's wort	*Hypericum virginicum*
Virginia thistle	*Cirsium virginianum*
Viviparous spikerush	*Eleocharis vivipara*
Ware's hairsedge	*Bulbostylis warei*
Warty panicgrass	*Kellochloa verrucosa*
Water cowbane	*Tiedemannia filiformis*
Water hickory	*Carya aquatica*
Water sundew	*Drosera intermedia*
Waterhorehound	*Lycopus rubellus*
Watermeal	*Wolffia* sp.
Wax myrtle	*Morella cerifera*
Waxweed	*Cuphea* sp.
Whip nutrush	*Scleria triglomerata*

Table 4. Native Plant Species Known to Occur on the TNRWMA

White thoroughwort	*Eupatorium album*
White waterlily	*Nymphaea odorata*
Whitehead bogbutton	*Lachnocaulon anceps*
Whitemouth dayflower	*Commelina erecta*
Whitetassels	*Dalea carnea var. carnea*
Whorled marshpennywort	*Hydrocotyle verticillata*
Wild coffee	*Psychotria nervosa*
Wild olive	*Cartrema americanum*
Wild pennyroyal	*Piloblephis rigida*
Winged sumac	*Rhus copallinum*
Wiregrass	*Aristida stricta*
Witchgrass	*Dichanthelium* sp.
Woolly Huckleberry	*Gaylussacia mosieri*
Yankeeweed	*Eupatorium compositifolium*
Yellow hatpins	*Syngonanthus flavidulus*
Yellow jessamine	*Gelsemium sempervirens*
Yellow milkwort	*Polygala rugelii*
Yellow pondlily	*Nuphar advena*
Yellow stargrass	*Hypoxis* sp.
Yellow-eyed grass	*Xyris* sp.
Zigzag bladderwort	*Utricularia subulata*

Table 5. Exotic and Invasive Plant Species Observed at the TNRWMA

Common Name	Scientific Name	FLEPPC Category
Bahiagrass	*Paspalum notatum*	
Balsam pear, balsam apple	*Momordica charantia*	II
Bermudagrass	*Cynodon dactylon*	
Brazilian pepper	*Schinus terebinthifolius*	I
Caesar's weed	*Urena lobata*	I
Castor bean	*Ricinus communis*	II
Chamber bitter	*Phyllanthus urinaria*	
Chinese tallow, Popcorn tree	*Triadica sebifera*	I
Cogongrass	*Imperata cylindrica*	I
Colombian waxweed	*Cuphea carthagenensis*	
Durban crowfootgrass	*Dactyloctenium aegyptium*	II

Table 5. Exotic and Invasive Plant Species Observed at the TNRWMA

Flattop mille graines	*Oldenlandia corymbosa*	
Guava	*Psidium guajava*	I
Hairy indigo	*Indigofera hirsuta*	
Indian cupscale	*Sacciolepis indica*	
Lantana, shrub verbena	*Lantana strigocamara*	I
Malaysian false pimpernel	*Torenia crustacea*	
Mexican tea	*Dysphania ambrosioides*	
Mimosa	*Albizia julibrissin*	I
Nakedstem dewflower	*Murdannia nudiflora*	
Natal grass	*Melinis repens*	I
Old world climbing fern	*Lygodium microphyllum*	I
Paraguayan purslane	*Portulaca amilis*	
Peruvian primrosewillow	*Ludwigia peruviana*	I
Plantain signalgrass	*Urochloa plantaginea*	
Septicweed	*Senna occidentalis*	
Shortleaf spikesedge	*Cyperus brevifolius*	
Shrubby false buttonweed	*Spermacoce verticillata*	II
Smutgrass	*Sporobolus indicus*	
Thalia lovegrass	*Eragrostis atrovirens*	
Threeflower tick-trefoil	*Desmodium triflorum*	
Torpedograss	*Panicum repens*	I
Tropical mexican clover	*Richardia brasiliensis*	
Tropical signalgrass	*Urochloa distachya*	
Tropical soda apple	*Solanum viarum*	I
Vaseygrass	*Paspalum urvillei*	
Water hyacinth	*Eichhornia crassipes*	I
Water spangles	*Salvinia minima*	I
Watersprite	*Ceratopteris thalictroides*	
Wild bushbean, phasey bean	*Macroptilium lathyroides*	II

2.2.1 FNAI Natural Community Descriptions

Baygall (206.45 acres)

Baygall is composed of forested wetlands dominated by bay trees. At the TNRWMA the canopy consists of loblolly bay, sweetbay, or a mixture of both. Slash pine and pond cypress may also be present in the canopy. The subcanopy consists of loblolly bay and sweetbay, plus swamp bay. Shrubs are primarily wax myrtle and shiny lyonia; swamp fern and

sphagnum moss dominate the ground layer. Pockets of baygall are often found in the center of cypress swamps - possibly colonizing the area following harvest of the larger cypress. Baygalls can withstand a moderate fire frequency since the bay trees re-sprout following fire; however, the bays can be killed during a drought, if fire burns into the peat layer, killing their roots.

Depression marsh (745.87 acres)
Depression marsh is composed of herbaceous wetlands with concentric zones of vegetation found in circular depressions in a mesic flatwoods matrix. At the TNRWMA depression marshes are often surround dome swamps, which occur in the deepest portion of the depressions. The outer (driest) zone of depression marshes is usually composed of grasses and sedges, with an inner zone of shrubby St. John's wort and, in some cases, a deeper zone of maidencane or pickerelweed. In some marshes, dense patches of sawgrass occupy the deeper zones. The outer zones of depression marshes are sparsely vegetated and subject to alternating inundation and desiccation.

Dome swamp (2,393.66 acres)
Dome swamp is comprised of forested wetlands of deciduous trees, often found in depressions within a flatwoods matrix. Trees in the center are taller than those on the edges, giving the stand a dome-shaped profile. At the TNRWMA the open canopy is formed by pond cypress; the subcanopy is usually sparse, consisting of evergreen hardwoods such as dahoon holly and sweetbay. The shrub layer may be sparse or very dense and is usually dominated by shiny lyonia and wax myrtle. Occasionally it may consist of a dense stand of swamp bay. Swamp fern is often abundant in the herbaceous layer. Mature pond cypress may support large numbers of bromeliads of many different species. Pond cypress is resistant to fire and the shrubs can re-sprout. Bromeliads are killed by fire and must re-colonize from seed. Large cypress supporting many species of bromeliads are found in the larger dome swamps that fires burn through only very infrequently, whereas smaller, more frequently burned swamps have a simpler species composition, sometimes consisting only of young cypress with few epiphytes and little or no understory.

Dry prairie (387.38 acres)
Dry prairie consists of upland areas of dwarf shrubs and grasses with few or no pines and many of the same species in the shrub and herbaceous layers as are found in mesic flatwoods. At the TNRWMA wiregrass and low shrubs, primarily saw palmetto and dwarf live oak, form most of the cover, with taller shrubs being infrequent to absent, and the saw palmettos, often stunted. Longleaf pines are few to absent in this community. Dry prairies tend to occur on slightly higher land in the divides between tributaries to Crabgrass Creek or between large dome swamps or depression marshes. Frequent fires may prevent the establishment of longleaf pines in this community. At one site in this community and another in mesic flatwoods, dwarf live oak appeared to be replacing wiregrass in the ground

layer, reaching over 50% cover. This may be a result of long-term winter burning, combined with grazing pressure, since winter burns, in contrast to spring and summer burns, do not stimulate wiregrass to flower and set seed to the extent that spring and early summer burns do.

Hydric hammock (696.18 acres)

Hydric hammock is composed of forested wetlands with a canopy of hardwoods, usually including laurel oak and cabbage palm, often occurring along edges of floodplains or swamps. At the TNRWMA this community is well developed, consisting of a tall forest of mature trees occurring along Crabgrass Creek and its tributaries. The diverse, closed canopy consists of five equally abundant tree species, including diamond-leaf oak, red maple, sweetbay magnolia, American elm, and sweetgum, with bald cypress and swamp black gum along the creek banks and in wetter depressions. Water hickory is found in the forests along the main creek channel but is infrequent or absent along the smaller tributaries. Cabbage palm is common in the subcanopy and in the tall shrub layer. Wax myrtle is also frequent in the tall shrub layer, which is usually sparse. The short shrub layer is also sparse and consists primarily of blue palmetto. Two tropical species, twinberry and wild coffee, are found at a few sites in the tall and short shrub layers, respectively. The herbaceous layer is usually sparse, with occasional dense patches of ferns or beakrush. Epiphytes are abundant, including bromeliads, ferns, and an orchid. Plume polypody, a rare epiphytic fern growing on live oaks, was found at two sites in the hydric hammock community. Mesic hammock or mesic flatwoods, both of which frequently have an understory of dense saw palmettos, form the ecotone between hydric hammock and the open flatwoods matrix. Fire appears to be very infrequent in the hydric hammock community. At one site where fire reached the interior of this community, it was drastically altered; the canopy was very open with standing dead trees present, the subcanopy consisted solely of scorched cabbage palms without any epiphytes, and only sawgrass occupied the herbaceous layer.

Mesic flatwoods (7,857.21 acres)

Mesic flatwoods is comprised of upland forest with an open pine canopy and understory composed of varying mixtures of shrubs and grasses. At the TNRWMA, this matrix community has an open, savannah-like aspect, formed by a mixture of wiregrass and low shrubs in the understory, with a canopy of widely scattered longleaf pines. In slight depressions, wiregrass may be supplanted by beakrush and other species of three-awn grasses. Many flowering herbs contribute to the diversity of this community. A variant of this community with a denser pine canopy, a dense shrub understory, and little or no wiregrass cover, occurred along the edges of Crabgrass Creek and its tributaries and around the edges of some dome swamps. Such sites may naturally result from more moist conditions and less frequent fires in the shelter of the creeks, favoring shrub growth over grasses.

Mesic hammock (44.73 acres)
Mesic hammock consists of upland forest of evergreen broadleaved trees dominated by live oak in the canopy and cabbage palm in the subcanopy. At the TNRWMA, this community is uncommon, found in higher areas within, or on the border of, hydric hammocks. It may have a dense shrub layer of saw palmetto or have a sparse shrub and herbaceous layer. The dense shady canopy and dry ground make it a favorite spot for human and cattle to take shelter from the sun and this disturbance may account for the open understory at many sites.

Restoration Mesic Flatwoods (104.23 acres)
Restoration mesic flatwoods is an area in which natural mesic flatwoods communities are being restored. Formerly an altered landcover type, staff is performing active restoration to return the community to its historic state. Examples of restoration activities include pine thinning, longleaf pine planting, groundcover restoration, hydrological restoration, and removal of exotic and invasive plant species and other undesirable vegetation. In historically pyrogenic natural communities, restoration activities are accompanied by the application of prescribed fire. Currently, on the TNRWMA ground cover restoration is occurring on three plots of mesic flatwoods.

Restoration Scrubby Flatwoods (91.67 acres)
Restoration scrubby flatwoods is an area in which natural scrubby flatwoods communities are being restored. Formerly an altered landcover type, staff is performing active restoration to return the community to its historic state. Examples of restoration activities include pine thinning, longleaf pine planting, groundcover restoration, hydrological restoration, and removal of exotic and invasive plant species and other undesirable vegetation. In historically pyrogenic natural communities, restoration activities are accompanied by the application of prescribed fire. Currently, on the TNRWMA ground cover restoration is occurring on two plots of scrubby flatwoods.

Scrub (34.05 acres)
Scrub is typified by upland shrub or forest community on dry sands dominated by scrub oaks and other shrubs, with or without a pine canopy. At the TNRWMA this community consists of scrub oaks, i.e., myrtle oak, sand live oak, and Chapman's oak, which dominate the tall and short shrub layers, and a canopy of widely scattered longleaf pines. Other shrubs also found in flatwoods may be present to a lesser extent. Wiregrass and other herbaceous species are sparse or absent. Patches of bare white sand between the shrubs give this community a characteristic signature on aerial photographs. It occupies higher knolls surrounded by mesic flatwoods. Most of the scrub sites on the TNRWMA were long unburned and support 10 – 15 ft. tall oaks.

Scrubby flatwoods (307.50 acres)
Scrubby flatwoods is composed of upland community similar to flatwoods in structure and species composition, with scattered clumps of scrub oaks in the tall and short shrub layers. It often occurs in the ecotone between flatwoods and scrub communities. At the TNRWMA, clumps of scrub oaks in this community are very widely scattered in a matrix of mesic flatwoods vegetation, consisting of saw palmetto, wiregrass, and dwarf live oak. At some sites the clumps of scrub oaks were up to 15 feet tall. The intervening flatwoods vegetation has more sandy openings between the plants than normal mesic flatwoods, allowing the community signature to be discerned on aerials. Some of the scrub oaks appear to be hybrids between Chapman's oak and sand live oak; they resemble the latter in having hairy leaf undersides and the former in having flat (vs. inrolled) leaves, without impressed veins on their upper surfaces. Like scrub, this community also occurs on slightly raised areas within the mesic flatwoods matrix. Repeated winter burns may have produced the unusual structure of tall, very widely spaced clumps of scrub oaks at the TNRWMA, by differentially killing smaller oak clones, without affecting larger clones.

Wet flatwoods (307.50 acres)
Wet flatwoods is comprised of wetland forest with pine canopy and shrubby and/or herbaceous understory. At the TNRWMA, this community consists of a moderately dense canopy of slash pine with a subcanopy of cabbage palm and sparse herbaceous layer of sawgrass and beakrush. It occurs in shallow drainageways connecting stands of hydric hammock along tributaries of Crabgrass Creek and has water flowing through it after heavy rains. The pine and cabbage palms are resistant to fire and sawgrass is able to resprout. This community may replace hydric hammock in areas where the drainageway of the tributaries is narrow and fires that start in the surrounding dry prairie or mesic flatwoods burn through the narrow wetland more frequently.

Wet prairie (1,018.49 acres)
Wet prairie is a wetland herbaceous community characterized by wiregrass and/or wiry beakrushes. At the TNRWMA, this community is characterized by wiregrass with an absence of pines and shrubs except for scattered plants of wax myrtle or St. John's wort. Also present are species of beakrush, some of which are also found in depression marshes and some found mainly in wet prairies alone. This community often borders the upper edges of depression marshes and may occupy large areas as the matrix community in which depression marshes and dome swamps are embedded. Wiregrass requires fire to reproduce and many of the herbs growing with it either require fire to flower or have their flowering enhanced by fire. In the absence of fire, wet prairies are invaded by wax myrtle or St. John's wort.

Xeric hammock (5.06 acres)

Xeric hammock is an upland forest with a canopy of scrub oaks reaching stature of short trees. At the TNRWMA, this community is at one site in an ecotone between hydric hammock along Crabgrass Creek and a scrub community on a higher knoll. The short canopy was dominated by sand live oak with an understory of saw palmetto. Herbaceous species are sparse. Xeric hammock usually develops where scrub is protected from fire, in this case by Crabgrass Creek.

Altered Community Descriptions

The TNRWMA also has 11 altered communities that are listed and described by FNAI as follows.

Agriculture (440.77 acres)

Row crops, citrus groves, and sod fields that are generally being maintained to grow products for human or domesticated animal use.

Artificial pond (29.91 acres)

Artificial ponds include any anthropogenic lacustrine area, such as water retention ponds, cattle ponds, etc.

Canal/ditch (21.95 acres)

Canals and ditches refer to any artificial/anthropogenic drainage way.

Clearing/regeneration (103.11 acres)

Wildlife food plots, recent or historic clearings that have significantly altered the groundcover and/or overstory of the original natural community (old homesites, etc.) comprise the clearing/regeneration areas within the TNRWMA.

Developed (79.59 acres)

Altered communities designated as developed can include check stations, ORV use areas, parking lots, buildings, maintained lawns (as part of recreational, business, or residential areas), botanical or ornamental gardens, campgrounds, recreational, industrial, and residential areas.

Firebreak (46.19 acres)

Physical space or barrier to help control prescribed fire.

Linear Feature (6.70 acres)

Areas that contain electric, gas, telephone lines, or right-of-ways.

Pasture – improved (1,083.72 acres)
Improved pasture areas are dominated by planted non-native or domesticated native forage species and have evidence of current or recent pasture activity and/or cultural treatments including mowing, grazing, burning, and fertilizing. Improved pastures have been cleared of their native vegetation. Most improved pastures in the TNRWMA were planted with bahiagrass and bermudagrass. Weedy native species are often common in improved pastures in Florida and include dogfennel, many species of flatsedge, carpetgrasses, crabgrasses, and rustweed among many others.

Pasture – semi-improved (85.19 acres)
Semi-improved pasture areas are dominated by a mix of planted non-native or domesticated native forage species and native groundcover due to an incomplete conversion to pasture, not regeneration. Semi-improved pastures have been cleared of a significant percentage of their native vegetation and planted in non-native or domesticated native forage species, but still retain scattered patches of native vegetation with natural species composition and structure (most often small areas of mesic flatwoods) among the pastured areas. The planted areas are usually dominated by bahiagrass and can resemble improved pastures. Seeding of bahiagrass can also occur within areas of native groundcover. This category should apply regardless of recent pasture maintenance.

Road (308.89 acres)
Capped or uncapped roads on the TNRWMA.

Spoil area (1.89 acres)
Area where dredge or spoil material is deposited and may be re-colonized by plants.

2.2.2 Imperiled Plants

For the purposes of this Management Plan, the term "imperiled species" as it relates to plants refers to plant species that the Department of Agriculture and Consumer Service (DACS) or the United State Fish and Wildlife Service (USFWS) designated as endangered or threatened. This designation is commonly known as "listed species", and all names and status determinations were derived from Florida's Regulated Plant Index Rule (5B-40.0055 FAC) that is maintained by the DACS.

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

Table 6. Imperiled Plant Species Observed at the TNRWMA

Common Name	Scientific Name	Status
Blue-flowered butterwort	*Pinguicula caerulea*	FT
Butterfly orchid	*Encyclia tampensis*	CE
Catesby lily	*Lilium catesbaei*	ST
Celestial lily	*Nemastylis floridana*	SE
Cinnamon fern	*Osmunda cinnamomea*	CE
Common wild-pine	*Tillandsia fasciculata*	FE
Florida spiny-pod	*Matelea floridana*	FE
Giant orchid	*Pteroglossaspis ecristata*	ST
Giant wild-pine	*Tillandsia utriculata*	FE
Hooded pitcher-plant	*Sarracenia minor*	ST
Inflated and reflexed wildpine	*Tillandsia balbisiana*	FT
Leafless beaked ladies-tresses	*Sacoila lanceolate var. lanceolate*	ST
Leafless beaked orchid	*Stenorrhynchos lanceolatus*	FT
Long-lip ladies' tresses	*Spiranthes longilabris*	ST
Lupine	*Lupinus westianus var aridorum*	ST
Many-flowered grass-pink	*Calopogon multiflorus*	ST
Non-crested eulophia	*Eulophia ecristata*	ST
Pine-woods bluestem	*Andropogon arctatus*	ST
Plume polypody	*Pecluma plumula*	SE
Rose pogonia	*Pogonia ophioglossoides*	ST
Royal fern	*Osmunda regalis*	CE
Scrub bluestem	*Schizachyrium niveum*	SE
Simpson's stopper	*Myrcianthes fragrans*	ST
Snowy orchid	*Platanthera nivea*	FT
Swamp plume polypody	*Pecluma ptilodon*	SE
White squirrel-banana	*Asimina pulchellus*	FE, SE
Yellow-flowered butterwort	*Pinguicula lutea*	ST

Abbreviation	Status
CE	Commercially Exploited
FE	Federal Endangered
FT	Federal Threatened
SE	State Endangered
ST	State Threatened

FNAI conducted a listed plant survey in 2019/2020 fiscal year on the TNRWMA and identified 14 imperiled plant species, of which 4 are state endangered, 10 are state threatened, and 3 are commercially exploited (Table 6). FWC staff have also collected opportunistic wildlife data which includes 13 imperiled plant species, of which 1 is State endangered, 2 are State threated, and 8 are federally endangered or threatened (Table 6). The protections afforded plants that occur on conservations lands, in conjunction with management actions that include exotic plant removal and prescribed fire, will continue to maintain and enhance habitat for these and other rare plants. As such, these species should persist under planned management on the TNRWMA.



In addition to the imperiled plants, three plants State listed as commercially exploited, are known to occur on the TNRWMA (Table 6). The FWC will continue to monitor the known occurrences of these species and report any illegal collection to the appropriate authorities.

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

Blue-Flowered Butterwort (*Pinguicula caerulea*) and Yellow-Flowered Butterwort (*P. lutea*) - These Butterworts prefer open moist to wet sandy-peaty soils of pine flatwoods, wet prairies, and seepage bogs, and may occupy moist to wet ditches and roadsides. However, yellow-flowered butterwort frequently occupies somewhat drier habitats than other *Pinguicula* species. These species need a fire regime that includes frequent (2-3 years) growing season fires that reduce the encroachment of woody species, and creates open areas allowing sunlight to reach the ground. Soil and hydrologic disturbances negatively affect these species; therefore, maintain and restore the natural hydrology where practicable, and avoid using heavy machinery in wetlands with known occurrences of this species. Flowering, which occurs primarily from February to April, is the best time for conducting surveys or verifying species identity.

Butterfly Orchid (*Encyclia tampensis*) - Butterfly orchid is epiphytic on many different trees, and prefers moist to wet areas in depression marshes, glades marshes, rockland hammocks, sloughs, strand swamps, tidal swamps, and wet flatwoods. It may occur in dome swamps, floodplain swamps, hydric hammocks, and mesic hammocks. This species does not require fire, but staff should allow fire to naturally enter and extinguish within its habitats when feasible. Illegal collecting negatively affects this species; therefore, protect known occurrences and make sure not to negatively influence areas with known occurrences. While plants are identifiable all year by their well-developed pseudobulbs, surveys for flowers can occur during peak flowering, which occurs May to September, and surveys for fruits can occur throughout the year.

Catesby Lily (*Lilium catesbaei*) - Catesby lily, also known as pine lily, prefers open areas in wet pine flatwoods and wet prairies, especially in pitcher plant bogs with sphagnum. Unlike most lily species, pine lilies require warm, moist, acidic soil, and will grow in saturated soil conditions. This species requires a fire regime that includes frequent (2-3 year) fire to maintain and promote the open grassy habitats that it favors, with most fire occurring during the growing season. This species thrives with disturbance from fire demonstrating a more vigorous flowering. Soil and hydrologic disturbances negatively affect this species; therefore, limit the impact of disruptive activities, and maintain and restore the natural hydrology where practicable. Flowering, which occurs from August to November, is the best time for conducting surveys or verifying species identity.

Celestial Lily (*Nemastylis floridana*) - Celestial lily prefers low open sunny areas in mesic flatwoods, wet flatwoods, and wet prairies. This species also occurs in hydric hammocks, and along the edges of basin marshes and dome swamps. Celestial lily needs a fire regime that includes frequent (2-3 years) growing season fires that reduce the encroachment of woody species. This species blooms in large numbers in the season following a fire. Fire suppression and hydrologic disturbances negatively affect this species; therefore, avoid constructing fire breaks in ecotones, maintain and restore the natural hydrology, and apply natural community specific fire regimes. Flowering, which occurs from August to October, is the best times for conducting surveys or verifying species identity and due to flowers opening in late afternoon, surveys should occur between 4:30-6:00 pm.

Cinnamon Fern (*Osmunda cinnamomea*) and Royal Fern (*O. regalis*) - These ferns occur in many natural communities in Florida, both wet and dry. While these species grow in many communities that the FWC typically does not actively managed, if conducting management activities near known occurrences, make efforts to protect known occurrences from chemical and mechanical treatments. These species do not require fire. However, some of the natural communities in which these species occur are fire adapted, and these ferns resprout after fire. Illegal collecting and hydrological disturbances negatively affect these species; therefore, protect areas with known occurrences, and staff should maintain and restore the

natural hydrology where practicable. As fronds are present year-round, these species can be identified throughout the year.

Florida Spiny Pod (*Matelea floridana*) - Florida spiny pod prefers to grow and flower in moist well-drained soils, sunny or semi-shaded areas in mesic hammocks, upland mixed woodlands, and upland pine communities. However, Florida spiny pod is also able to grow and flower in full shade. This species requires a fire regime that includes frequent (1-3 year) fire to maintain and promote the open grassy habitats that it favors, with most fire occurring during the growing season. Since *Matelea* species are difficult to distinguish without flowers or fruits, flowering or fruiting is the best time for conducting surveys or verifying species identity. Florida spiny pod flowers from May to July, and fruiting occurs from August to October. Staff may be able to distinguish this species from other *Matelea* species by its black, cup-shaped, appendaged corona and maroon petals, and its lance shaped fruits that are covered in fleshy spines. Altered fire regimes, fire suppression, and hydrologic disturbances negatively affect this species; therefore, avoid constructing fire breaks in ecotones, restore ecotones by removing existing roads and fire breaks, and maintain and restore the natural hydrology.

Hooded Pitcherplant (*Sarracenia minor*) - Hooded pitcherplant prefers sunny to lightly shaded, moist to wet, sandy, acid soil in basin swamps, depression marshes, dome swamps, dry prairies, mesic flatwoods, wet flatwoods, wet prairies, shrub bogs, seepage slopes, and edges of seepage streams. This species may occur on boggy roadsides and ditches. Hooded pitcherplants have the widest ecological range compared to other *Sarracenia* species, and grows on both wet and dry sites, and is more shade tolerant than most species of the genus. This species needs a fire regime that includes frequent (2-3 years) growing season fires that reduce the encroachment of woody species. Fire usually top-kills pitcherplants, but they survive by resprouting from rhizomes. Pitchers are identifiable all year, and surveys for flowers can occur from late March to mid-May. Soil and hydrologic disturbances negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable.

Inflated and Reflexed Wild-pine (*Tillandsia balbisiana*), Common Wild-pine (*T. fasciculata*), and Giant Wild-pine (*T. utriculata*) - Airplants occur in many natural communities in Florida, both wet and dry. Most airplants are primarily epiphytes (plants that grow harmlessly upon another plant and derive its moisture and nutrients from the air, rain, and sometimes from debris accumulating around it) that grow on stumps, tree trunks, and branches. However, large individuals may fall to the ground and successfully continue to live. While many airplants grow in communities that the FWC typically does not actively manage, if conducting management activities near known occurrences, make efforts to protect the plant and host plant from fire, chemicals, and mechanical treatments. When an individual plant occurs in a fire-maintained habitat, prior to conducting a prescribed fire, to the extent practicable, staff will take appropriate actions to protect

known occurrences. Airplants are experiencing massive population losses due to the Mexican bromeliad weevil (*Metamasius callizona*), an exotic pest, making the protection and management of these plants from other threats all the more critical. Flowering, which occurs throughout the year (majority of flowering occurs from early spring to early fall), is the best time for conducting surveys or verifying species identity.

Leafless Beaked Orchid (*Stenorrhynchos lanceolatus*) - Leafless beaked orchid prefers dry to wet areas with full sunlight to partial shade in basin swamps, dome swamps, floodplain swamps, hydric hammocks, mesic flatwoods, mesic hammocks, sandhills, wet flatwoods, wet prairies, and strand swamps. This species may occur along dry to wet roadsides and ditches. The specific fire requirements are unknown for this species. However, since this species occurs in mesic flatwoods, sandhill, and wet prairies, a fire regime that includes frequent (2-3 year) growing season fires that reduce the encroachment of woody species will be beneficial for this species when they occur in these natural communities. Fire suppression and hydrologic disturbances negatively affect this species; therefore, avoid constructing fire breaks in ecotones, maintain and restore the natural hydrology, and apply natural community specific fire regimes. Flowering, which occurs from late March to July, is the best time for conducting surveys or verifying species identity.

Long-Lip Ladies' Tresses (*Spiranthes longilabris*) - Long-lip ladies' tresses prefer open areas in depression marshes, dome swamps, hydric hammocks, marl prairies, mesic flatwoods, sloughs, slough marshes, wet flatwoods, and wet prairies. This species may occur along dry to moist roadsides and ditches. The specific fire requirements are unknown for this species. However, since this species occurs in fire-maintained communities, a fire regime that includes frequent growing season fires that reduce the encroachment of woody species, and fires allowed to naturally enter and extinguish in wetlands and ecotones will be beneficial for this species. Hydrological disturbances and illegal collecting negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable and protect known occurrences. Flowering, which occurs from late October to December, is the best time for conducting surveys or verifying species identity. However, if staff plan on making opportunistic observations for this species, they may need to react when they notice blooming, since this species has a short blooming period (10-40 days).

Many-Flowered Grasspink (*Calopogon multiflorus*) - Many-flowered grasspink prefers well-drained soils in open, dry to moist pine flatwoods and prairies. This species needs prescribed fire every 2-3 years during the growing season for it to survive, and it thrives with disturbance from fire demonstrating a more vigorous flowering after fire. Soil and hydrologic disturbance negatively affect this species; therefore, avoid roller-chopping in areas of known occurrences. Flowering, which occurs primarily 3-5 weeks post-fire (often in April/May) but may occur from early March to July depending on fire management regime, is the best time for conducting surveys or verifying species identity.

Non-Crested Eulophia (*Eulophia ecristata*) - Non-crested eulophia prefers open areas, with at least filtered sunlight and no dense shrub competition in mesic flatwoods, pine rocklands, sandhills, scrub, scrubby flatwoods, and wet flatwoods. While this species may persist for long periods in xeric habitats without fire, occasional fire is needed to reduce competition and shading by shrubs. However, non-crested eulophia is dependent on frequent fire in moist habitats that experience rapid shrub growth, and prescribed fire should occur with a frequency that will create or maintain open areas, limit the shrub layer, and encourage diverse herbaceous cover. Excessive site preparation and illegal collecting negatively affect this species; therefore, protect areas with known occurrences. Flowering, which occurs from July to September, or fruiting, which occurs from September to November, is the best time for conducting surveys or verifying species identity.

Pine-Woods Bluestem (*Andropogon arctatus*) - Pine-woods bluestem prefers mesic to wet flatwoods, wet prairies, and seepage bogs with open, wiregrass dominated areas with widely spaced pines. This species needs a fire regime that includes frequent (2-3 year) growing season fires that reduce the encroachment of woody species, and creates open areas allowing sunlight to reach the ground. Pine-woods bluestem also requires fire for flower production, and it will produce flowers for up to 1-2 years after a fire. However, without fire this species will remain in a vegetative state. Soil and hydrologic disturbance negatively affect this species; therefore, maintain and restore the natural hydrology, and limit the use of heavy machinery in this species' habitats. Flowering, which occurs primarily from September to November, is the best time for conducting surveys or verifying species identity, and since the best flowering is after a fire, conduct surveys within a year of fire.

Plume Polypody (*Polypodium plumula*) and Swamp Plume Polypody (*P. ptilodon*) - Plume polypody is usually an epiphytic fern growing on tree branches, usually live oaks, in bottomland forests, floodplain swamps, hydric hammocks, mesic hammocks, and sinkholes. While swamp plume polypody is usually a terrestrial fern growing primarily around tree bases in basin swamps, hydric hammocks, rockland hammocks, and strand swamps. However, both species may occasionally grow on tree stumps and rocks within their preferred habitats. These species are sensitive to fire, and some of their preferred habitats occasionally burn during periods of drought. Hydrological disturbances negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable. Surveys or species identification may occur throughout the year for these species.

Rose Pogonia (*Pogonia ophioglossoides*) - Rose pogonia prefers sunny openings in meadows and prairies, wet woods, wet pine flatwoods, pine savannas, seepage slopes, sphagnum bogs, and cypress swamps with acidic soils. This species may occur along sandy stream banks, and along wet roadside ditches. This species needs a fire regime that includes frequent (2-3 years) growing season fires that reduce the encroachment of woody species,

and creates open areas allowing sunlight to reach the ground. Soil and hydrologic disturbances negatively affect this species; therefore, maintain and restore the natural hydrology, and avoid using heavy machinery in wetlands. Flowering, which occurs primarily from March to May, is the best time for conducting surveys or verifying species identity.

Scrub Bluestem (*Schizachyrium niveum*) – Scrub bluestem prefers open dry sandy areas in sandhill, sand pine (*Pinus clausa*) scrub, rosemary (*Ceratiola ericoides*) scrub, and oak scrub communities. While fire has been shown to kill individuals of this species, it recolonizes recently burned areas from nearby seed sources. Scrub bluestem needs fire in its preferred habitats to reduce the encroachment of woody species and create open sandy patches where sunlight reaches the ground. Altered fire regimes and fire suppression negatively affect this species, therefore, prescribed fire intervals should vary by season, frequency, and fire intensity to ensure species diversity, and scrub management programs should strive to mimic natural processes that create openings this species prefers. Flowering and fruiting, which occurs primarily from September to November, is the best time for conducting surveys or verifying species identity.

Simpson's Stopper (*Myrcianthes fragrans*) - Simpson's stopper prefers hydric hammocks (including the variant coastal hydric hammock), mesic hammocks, prairie hammocks, and rockland hammocks. This species occasionally occurs in dome swamps, floodplain swamps, and wet flatwoods. This species is not a fire-adapted species. While fires may reach the edge of hammocks, saturated soils and humid conditions within the hammocks typically limit the extent of a burn. However, periodic burns in adjoining communities can reduce woody encroachment and lessen the likelihood of fires spreading into hammocks. Soil and hydrologic disturbance negatively affect this species; therefore, maintain and restore the natural hydrology where practicable, and avoid using heavy machinery in wetlands with known occurrences of these species. Flowering, which occurs throughout the year with the heaviest blooming occurring from February to June, is the best time for conducting surveys or verifying species identity.

Snowy Orchid (*Platanthera nivea*) - Snowy orchid prefers full or partial sun and moist to wet acidic soils in dry prairies, dome swamps, hydric hammocks, mesic flatwoods, mesic hammocks, strand swamps, wet flatwoods, and wet prairies. It also occurs in cypress swamps and wet roadside ditches. The specific fire requirements are unknown for this species. However, since it prefers full or partial sun, a fire regime in flatwoods and prairies that includes frequent (2-3 year) growing season fires that reduce the encroachment of woody species will be beneficial for this species. Soil and hydrologic disturbance negatively affect this species; therefore, maintain and restore the natural hydrology where practicable, and avoid using heavy machinery in wetlands with known occurrences of these species. Flowering, which occurs primarily from May to September (usually peaking during June), is the best time for conducting surveys or verifying species identity. Because flowering in

this species is highly erratic from year to year, populations may be persisting even if not seen.

White Squirrel-Banana (*Deeringothamnus pulchellus*) - White squirrel-banana prefers open areas in longleaf pine and slash pine flatwoods and dry prairies with wiregrasses, saw palmetto, and dwarf live oak in the understory. This species may occur along road edges. This species requires fire for its survival, and flowers more vigorously after a fire or similar disturbance. Prescribed fire should occur with a frequency (1-3 year) that will create or maintain an open shrub layer. White squirrel-banana responds positively to fire by resprouting from its roots when fire top-kills its stems. Fire suppression and hydrologic disturbances negatively affect this species; therefore, avoid constructing fire breaks in ecotones, maintain and restore the natural hydrology, and apply natural community specific fire regimes. Flowering, which occurs from March to April, is the best times for conducting surveys or verifying species identity.

2.2.3 Forest Resources

Approximately 7,857 acres of the TNRWMA are comprised of mesic flatwoods and represent the natural community with the most potential for forest resource (timber) production. At the TNRWMA the mesic flatwoods natural community typically contains a sparse canopy of slash pine or longleaf pine. These pine canopies are often very sparse when adjacent to scrubby flatwoods, scrub, and prairie communities, and more dense when grading down slope towards hammock communities.

However, where natural regeneration is lacking, artificial reforestation may be implemented. On suitable sites, the FWC will continue to plant appropriate pine species in areas of former citrus groves, pastures of the former Equitable, Yates, and Vanosdol tracts, and in groundcover restoration areas. Forested wetlands are managed for stands with old growth characteristics. Snags will be protected to benefit cavity-nesting species.

A Timber Assessment of the forest resources of the TNRWMA was conducted by the FFS in 2012. The management of forest resources will be considered in the context of the Timber Assessment and the overall land management goals and activities. Also, the FWC will continue to consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate.

2.3 Fish and Wildlife Resources

In association with the varied assemblage of natural communities described above, a rich diversity of wildlife species is found on the TNRWMA. The FWC maintains an inventory of wildlife that occurs on the TNRWMA. These species include mammals (Table 7), birds (Table 8), reptiles and amphibians (Table 9), fish (Table 10), invertebrates (Table 11) and exotic and invasive species (Table 12). These inventories are continuously updated by the FWC staff.

Table 7. Mammal Species Observed at the TNRWMA

Common Name	Scientific Name
American mink	*Neovison vison*
Bobcat	*Lynx rufus*
Cotton mouse	*Peromyscus gossypinus*
Coyote	*Canis latrans*
Eastern cottontail rabbit	*Sylvilagus floridanus*
Eastern gray squirrel	*Sciurus carolinensis*
Eastern harvest mouse	*Reithrodontomys humulis*
Eastern spotted skunk	*Spilogale putorius*
Gray squirrel	*Sciurus carolinensis*
Hispid cotton rat	*Sigmodon hispidus*
Least shrew	*Cryptotis parva*
Nine-Banded Armadillo	*Dasypus novemcinctus*
Raccoon	*Procyon lotor*
River otter	*Lontra canadensis*
Southern fox squirrel	*Sciurus niger niger*
Striped skunk	*Mephitis mephitis*
Virginia opossum	*Didelphis virginiana*
White-tailed deer	*Odocoileus virginianus*

Table 8. Bird Species Observed at the TNRWMA

Common Name	Scientific Name
American crow	*Corvus brachyrhynchos*
American goldfinch	*Spinus tristis*
American kestrel	*Falco sparverius*
American redstart	*Setophaga ruticilla*
American robin	*Turdus migratorius*
American woodcock	*Scolopax minor*
Anhinga	*Anhinga anhinga*
Bachman's sparrow	*Peucaea aestivalis*
Barred owl	*Strix varia*
Belted kingfisher	*Megaceryle alcyon*
Black vulture	*Coragyps atratus*
Black-crowned night-heron	*Nycticorax nycticorax*
Blue grosbeak	*Passerina caerulea*

Blue jay	*Cyanocitta cristata*
Blue-gray gnatcatcher	*Polioptila caerulea*
Brown-headed nuthatch	*Sitta pusilla*
Carolina wren	*Thryothorus ludovicianus*
Chuck-will's-widow	*Antrostomus carolinensis*
Common grackle	*Quiscalus quiscula*
Common ground-dove	*Columbina passerina*
Common yellowthroat	*Geothlypis trichas*
Double-crested cormorant	*Phalacrocorax auritus*
Downy woodpecker	*Picoides pubescens*
Eastern bluebird	*Sialia sialis*
Eastern kingbird	*Tyrannus tyrannus*
Eastern meadowlark	*Sturnella magna*
Eastern phoebe	*Sayornis phoebe*
Eastern screech owl	*Megascops asio*
Eastern towhee	*Pipilo erythrophthalmus*
Eastern whip-poor-will	*Antrostomus vociferus*
Eastern wood peewee	*Contopus virens*
Fish crow	*Corvus ossifragus*
Florida sandhill crane	*Grus canadensis pratensis*
Gray catbird	*Dumetella carolinensis*
Great blue heron	*Ardea herodias*
Great crested flycatcher	*Myiarchus crinitus*
Great egret	*Ardea alba*
Great horned owl	*Bubo virginianus*
Green heron	*Butorides virescens*
House wren	*Troglodytes aedon*
Killdeer	*Charadrius vociferus*
Limpkin	*Aramus guarauna*
Loggerhead shrike	*Lanius ludovicianus*
Mourning dove	*Zenaida macroura*
Northern bobwhite	*Colinus virginianus*
Northern cardinal	*Cardinalis cardinalis*
Northern flicker	*Colaptes auratus*
Northern harrier	*Circus cyaneus*
Northern mockingbird	*Mimus polyglottos*
Northern waterthrush	*Parkesia noveboracensis*
Osceola wild turkey	*Meleagris gallopavo osceola*

Palm warbler	*Setophaga palmarum*
Pileated woodpecker	*Hylatomus pileatus*
Pine warbler	*Setophaga pinus*
Red-bellied woodpecker	*Melanerpes carolinus*
Red-eyed vireo	*Vireo olivaceus*
Red-cockaded woodpecker	*Picoides boealis*
Red-headed woodpecker	*Melanerpes erythrocephalus*
Red-shouldered hawk	*Buteo lineatus*
Red-tailed hawk	*Buteo jamaicensis*
Red-winged blackbird	*Agelaius phoeniceus*
Ruby-crowned kinglet	*Regulus calendula*
Sandhill crane	*Grus canadensis*
Sedge wren	*Cistothorus stellaris*
Snowy egret	*Egretta thula*
Southern bald eagle	*Haliaeetus leucocephalus*
Swallow-tailed kite	*Elanoides forficatus*
Swamp sparrow	*Melospiza georgiana*
Tree swallow	*Tachycineta bicolor*
Tufted titmouse	*Baeolophus bicolor*
Turkey vulture	*Cathartes aura*
White ibis	*Eudocimus albus*
White-eyed vireo	*Vireo griseus*
Wilson's snipe	*Gallinago delicata*
Wood duck	*Aix sponsa*
Wood stork	*Mycteria americana*
Yellow-bellied sapsucker	*Sphyrapicus varius*
Yellow-crowned night-heron	*Nyctanassa violacea*
Yellow-rumped warbler	*Setophaga coronata*
Yellow-throated warbler	*Setophaga dominica*

Table 9. Reptile and Amphibian Species Observed at the TNRWMA

Common Name	**Scientific Name**
American alligator	*Alligator mississippiensis*
Barking treefrog	*Hyla gratiosa*
Black swampsnake	*Liodytes pygaea*
Chicken turtle	*Deirochelys reticularia*

Table 9. Reptile and Amphibian Species Observed at the TNRWMA

Coachwhip	*Coluber flagellum*
Common gartersnake	*Thamnophis sirtalis*
Eastern box turtle	*Terrapene carolina*
Eastern coral snake	*Micrurus fulvius*
Eastern diamondback rattlesnake	*Crotalus adamanteus*
Eastern glass lizard	*Ophisaurus ventralis*
Eastern mud snake	*Farancia abacura*
Eastern narrowmouth toad	*Gastrophryne carolinensis*
Eastern ratsnake	*Pantherophis alleghaniensis*
Eastern ribbon snake	*Thamnophis sauritus*
Eastern racer	*Coluber constrictor*
Eastern slender glass lizard	*Ophisaurus attenuatus*
Florida box turtle	*Terrapene bauri*
Florida mud turtle	*Kinosternon steindachneri*
Florida softshell turtle	*Apalone ferox*
Gopher frog	*Lithobates capito*
Gopher tortoise	*Gopherus polyphemus*
Green anole	*Anolis carolinensis*
Green treefrog	*Hyla cinerea*
Island glass lizard	*Ophisaurus compressus*
Little brown skink	*Scincella lateralis*
Little grass frog	*Pseudacris ocularis*
Mole skink	*Plestiodon egregius*
Oak toad	*Anaxyrus quercicus*
Peninsula Cooter	*Pseudemys peninsularis*
Pig frog	*Lithobates grylio*
Pine woods treefrog	*Hyla femoralis*
Pygmy rattlesnake	*Sistrurus miliarius*
Eastern corn snake	*Pantherophis guttatus*
Ring-necked snake	*Diadophis punctatus*
Rough greensnake	*Opheodrys aestivus*
Scarletsnake	*Cemophora coccinea*
Six-lined racerunner	*Aspidoscelis sexlineata*
Southeastern five-lined skink	*Plestiodon inexpectatus*
Southern chorus frog	*Pseudacris nigrita*
Southern cricket frog	*Acris gryllus*

Table 9. Reptile and Amphibian Species Observed at the TNRWMA

Southern leopard frog	*Lithobates sphenocephalus*
Southern toad	*Anaxyrus terrestris*
Southern watersnake	*Nerodia fasciata*
Squirrel treefrog	*Hyla squirella*
Striped crayfish snake	*Lindytes alleni*
Striped mud turtle	*Kinosternon baurii*
Striped newt	*Notophthalmus perstriatus*
Two-toed amphiuma	*Amphiuma means*
Water moccasin	*Agkistrodon conanti*

Table 10. Fish Species Observed at the TNRWMA

Common Name	**Scientific Name**
Bowfin	*Amia calva*
Brown bullhead	*Ameiurus nebulosus*
Dollar sunfish	*Lepomis marginatus*
Everglades pygmy sunfish	*Elassoma evergladei*
Florida gar	*Lepisosteus platyrhincus*
Golden topminnow	*Fundulus chrysotus*
Largemouth bass	*Micropterus salmoides*
Mosquitofish	*Gambusia affinis*
Spotted sunfish	*Lepomis punctatus*
Warmouth	*Lepomis gulosus*

Table 11. Invertebrate Species Observed at the TNRWMA

Common Name	**Scientific Name**
Arogos skipper	*Atrytone arogos*
Barred yellow	*Eurema daira*
Berry's skipper	*Euphyes berryi*
Black swallowtail	*Papilio polyxenes*
Carolina satyr	*Hermeuptychia sosybius*
Ceraunus blue	*Hemiargus ceraunus*
Common buckeye	*Junonia coenia*
Common wood-nymph	*Cercyonis pegala*

Table 11. Invertebrate Species Observed at the TNRWMA

Confused cloudywing	*Thorybes confusis*
Delaware skipper	*Anatrytone logan*
Dotted skipper	*Hesperia attalus*
Eastern tiger swallowtail	*Papilio glaucus*
Eufala skipper	*Lerodea eufala*
Fiery skipper	*Hylephila phyleus*
Flat-backed millipede	*Dicellarius okefenokensis*
Four-spotted mantidfly	*Dicromantispa interrupta*
Georgia satyr	*Neonympha areolata*
Giant swallowtail	*Papilio cresphontes*
Gray hairstreak	*Strymon melinus*
Green stinkbug	*Chinavia pensylvanica*
Gulf fritillary	*Agraulis vanillae*
Horace's duskywing	*Erynnis horatius*
Io moth	*Automeris io*
Imperial moth	*Eacles imperialis*
Jaggged ambush bug	*Phymata americana*
Large ichneumon	*Enicospilus purgatus*
Larger Florida mantis	*Stagmomantis floridensis*
Little metalmark	*Calephelis virginiensis*
Little yellow	*Eurema lisa*
Long-jointed beetle	*Statira basalis*
Mischievous bird grasshopper	*Schistocerca damnifica*
Neotropical rice bug	*Stenocoris tipuloides*
Northern cloudywing	*Thorybes pylades*
Northern walkingstick	*Diapheromera femorata*
Orb Weaver	*Acanthepeira venusta*
Palamedes swallowtail	*Papilio palamedes*
Pearl crescent	*Phyciodes tharos*
Phaon crescent	*Phyciodes phaon*
Pleasing fungus beetle	*Megalodacne heros*
Queen	*Danaus gilippus*
Rainbow scarab beetle	*Phanaeus vindex*
Red-banded hairstreak	*Calycopis cecrops*
Red-headed pine sawfly	*Neodiprion lecontei*
Red-shouldered stinkbug	*Thyanta custator*

Table 11. Invertebrate Species Observed at the TNRWMA

Regal jumping spider	*Phidippus regius*
Sculptured pine borer	*Chalcophora virginiensis*
Sleepy orange	*Eurema nicippe*
Slender-bodied walkingstick	*Manomera tenuescens*
Southern broken-dash	*Wallengrenia otho*
Southern skipperling	*Copaeodes minimus*
Spicebush swallowtail	*Papilio troilus*
Swarthy skipper	*Nastra lherminier*
Tawny-edged skipper	*Polites themistocles*
Twin-spot skipper	*Oligoria maculata*
Whirlabout	*Polites vibex*
White peacock	*Anartia jatrophae*
Zarucco duskywing	*Erynnis zarucco*
Zebra swallowtail	*Eurytides marcellus*

Table 12. Exotic and Invasive Wildlife Species Observed at the TNRWMA

Common Name	**Scientific Name**
African jewelfish	*Hemichromis letourneuxi*
Black rat	*Rattus rattus*
Cuban tree frog	*Osteopilus septentrionalis*
Eurasian collared dove	*Streptopelia decaocto*
House finch	*Carpodacus mexicanus*
Greenhouse frog	*Eleutherodactylus planirostris*
Indo-Pacific gecko	*Hemidactylus garnotii*
Tropical house gecko	*Hemidactylus mabouia*
Walking catfish	*Clarias batrachus*
Wild hog	*Sus scrofa*

2.3.1 Florida Landscape Assessment Model

The FWC has developed the Florida Landscape Assessment Model (FLAM) as a Geographic Information Systems (GIS)-based assessment tool that incorporates a wide variety of landscape and wildlife species data. The FLAM evaluates the Florida landscape based upon important natural resources and habitat needs of wildlife as a way to identify ecologically significant lands in the state, and to assess the potential impacts of management and land-use changes. The FLAM was developed to provide technical assistance to various local, regional, state, and federal agencies, and entities interested in wildlife needs and conservation in order to: (1) determine ways to avoid or minimize project impacts by evaluating alternative placements, alignments, and transportation corridors during early planning stages, (2) assess direct, secondary, and cumulative impacts to habitat and wildlife resources, and (3) identify appropriate parcels for public land acquisition for wetland and upland habitat mitigation purposes. The FLAM ranks habitat from a 0-10; a rank of 10 being of greatest value. The FLAM (2020) indicates that the TNRWMA has a very high mean wildlife value of 9.4 (Figure 9).



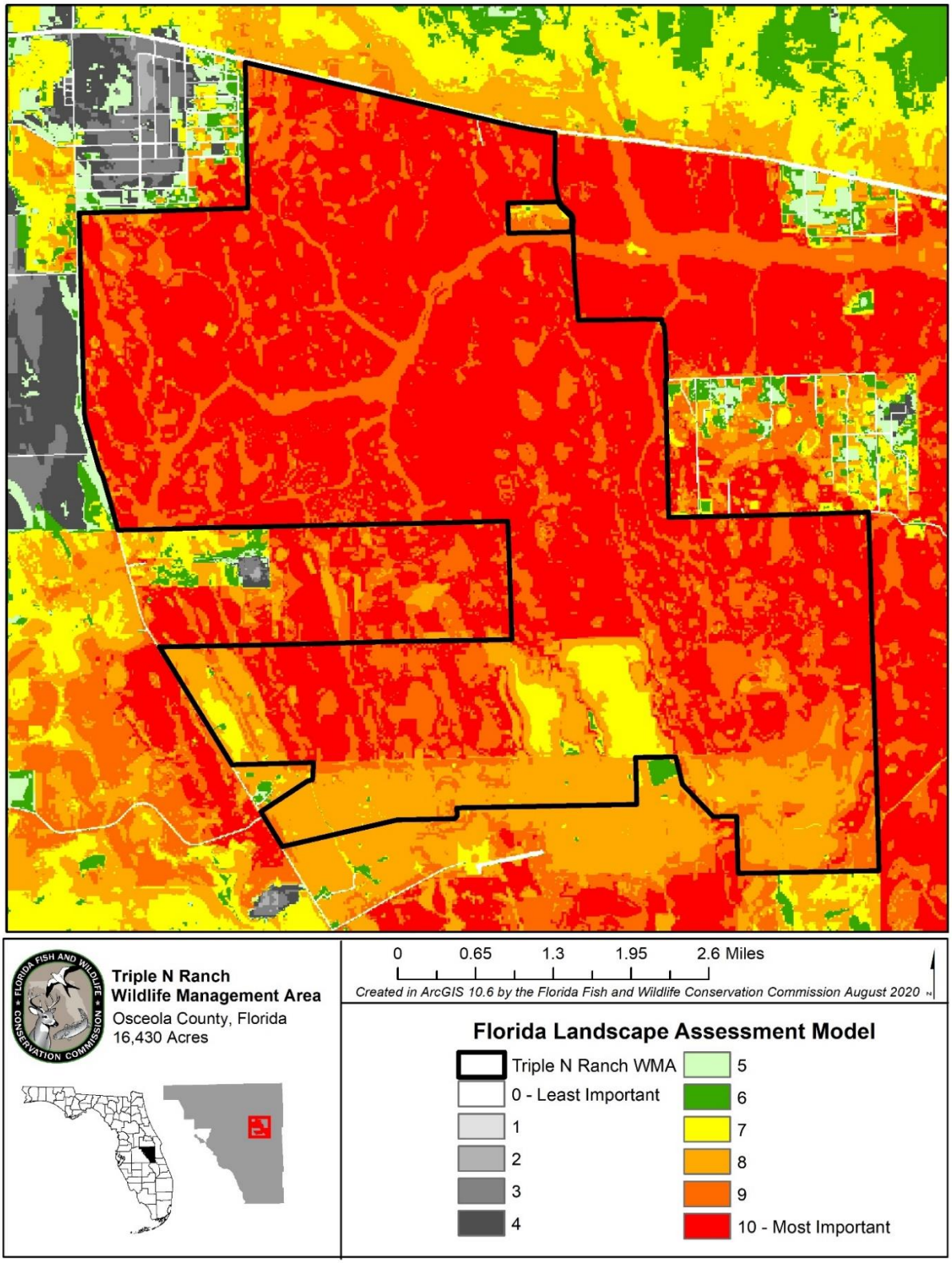


Figure 9. Florida Landscape Assessment Model of the TNRWMA

2.3.2 Imperiled Fish and Wildlife

For the purposes of this Management Plan, the term "imperiled species" refers to plant and animal species that are designated as endangered, threatened, or a species of special concern by the FWC, or that are designated as Endangered or Threatened by the U.S. Fish and Wildlife Service. This designation is also commonly known as "listed species."
At its November, 2016, Commission meeting, the FWC approved Florida's Imperiled Species Management Plan (http://myfwc.com/wildlifehabitats/imperiled/plan/), which included changes to the listing status for many wildlife species. Most recent rule changes (68A-27.003 and 68A-27.005 FAC) came into effect in February 2021. All federally listed species that occur in Florida are included in Florida's Endangered and Threatened Species list (https://myfwc.com/media/25798/endangered-and-threatened-species-report-fy-2019-20.pdf) as federally-designated Endangered or federally-designated Threatened. Species that are not federally listed, but which have been identified by the FWC as being at some level of risk of extinction, are listed as state-designated Threatened. Additionally, the FWC continues to maintain a separate Species of Special Concern category. This category was reviewed as part of Florida's Imperiled Species Management Plan, with the majority of the species previously contained within the category either being removed from Florida's Endangered and Threatened Species list due to conservation success, or had their status changed to state-designated Threatened.

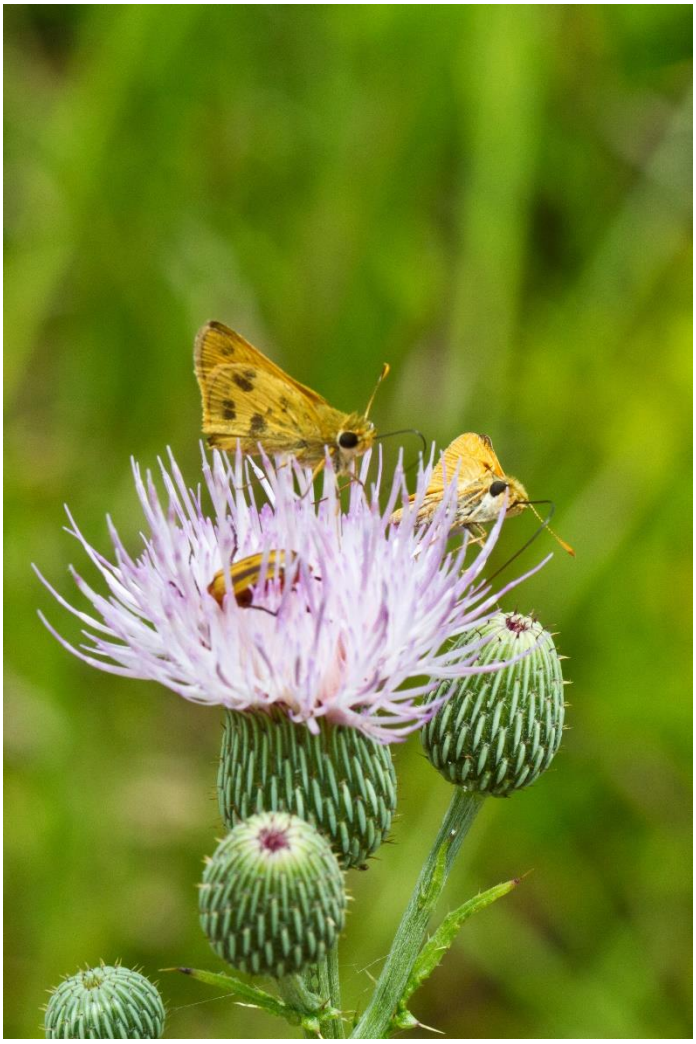
Table 13. Imperiled Wildlife Species occurring on the TNRWMA

Common Name	Scientific Name	Status
American alligator	*Alligator mississippiensis*	FT (S/A)
Ceraunus blue butterfly	*Hemiargus ceraunus*	FT (S/A)
Crested caracara	*Caracara cheriway*	FT
Eastern indigo snake	*Drymarchon couperi*	FT
Florida sandhill crane	*Grus canadensis pratensis*	ST
Gopher tortoise	*Gopherus polyphemus*	ST
Little blue heron	*Egretta caerulea*	ST
Red-cockaded woodpecker	*Picoides boealis*	FE
Roseate spoonbill	*Platalea ajaja*	ST
Wood stork	*Mycteria americana*	FT

Abbreviation	Status
FE	Federal Endangered
FT	Federal Threatened
FT (S/A)	Federally Threatened due to similarity of appearance
ST	State Threatened

2.3.3 FNAI Element Occurrences

A diversity of wildlife species is found on the TNRWMA. The FNAI element occurrence records include 48 occurrences of rare and imperiled species in the vicinity of the TNRWMA. As defined by the 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. The 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. Known locations of FNAI element occurrences from the most recent GIS databases are displayed in Figure 10. Appendix 12.8 contains a letter from the FNAI authorizing the FWC to utilize their database for the purposes of displaying known plant and animal resources.



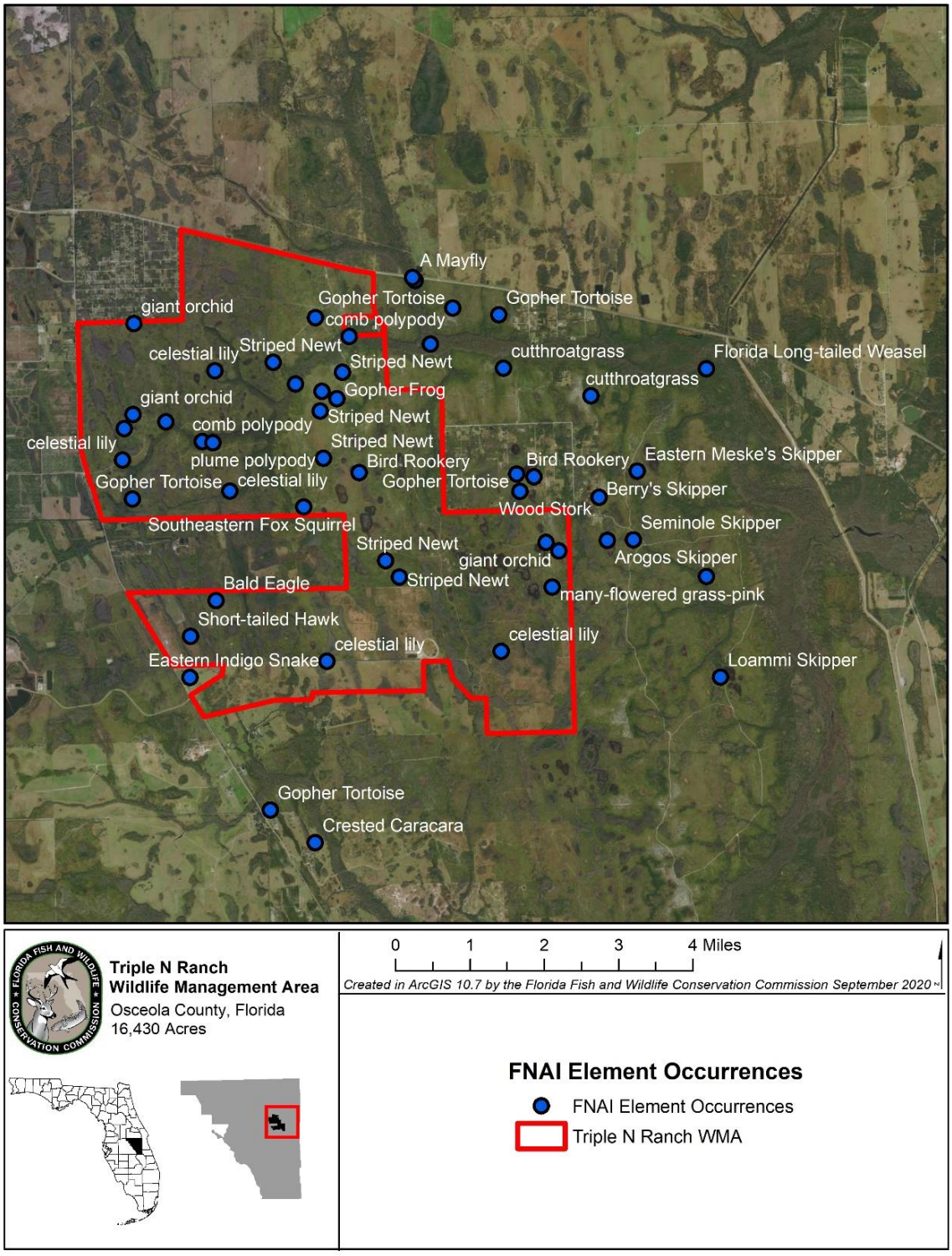


Figure 10. FNAI Element Occurrences found on or near the TNRWMA

2.4 Native Landscapes

Some of the native landscapes found on TNRWMA include mesic flatwoods, dome swamp, wet prairie, depression marsh, hydric hammock, dry prairie, wet flatwoods, scrubby flatwoods, baygall, mesic hammock, scrub, and xeric hammock and are fully described in the vegetation section 2.2.

2.5 Water Resources

All surface waters of the State are classified by the DEP according to designated uses as described in Chapter 62-302.44 FAC. The surface waters of the TNRWMA are designated as Class III, and classified for fish consumption and recreation, as well as, propagation and maintenance of a healthy, well-balanced population of fish and wildlife. Additionally, it is the policy of the DEP to afford the highest protection to Outstanding Florida Waters (OFW) and Outstanding National Resource Waters (Chapter 62-302.700 FAC).

Crabgrass Creek is the dominant water feature of the management area. Crabgrass Creek is located in the north-central portion of the area and flows from the west to the east. Most of the TNRWMA is drained through Crabgrass Creek and its secondary streams and sloughs. The southern part of the area is drained by Bull Creek, which flows from the south to the north and is joined by Crabgrass Creek. Water control structures S-161 and S-161A are located downstream of the confluence of Bull and Crabgrass creeks. These structures are located within Levee 73. This confluence marks the formation of Jane Green Creek, which flows easterly to the St. Johns River (Figure 11).

Small water bodies are located throughout the TNRWMA, however, no portions of the TNRWMA are designated as OFW.

Two watersheds are present throughout Osceola County. The watersheds are the Upper St. Johns and the Kissimmee watersheds. The Upper St. Johns watershed, USGS Cataloging Unit HUC8 03080101, covers the entire Subject Property.

In Osceola County, the non-artesian aquifer is composed mainly of sand and shells with varying amounts of clay. This aquifer provides only limited quantities of water. Wells developed in this aquifer are used mainly to water lawns and livestock and for limited domestic supplies. There are two types of artesian aquifers located in Osceola County: secondary artesian aquifers and the Floridan Aquifer. Secondary artesian aquifers are found in the undifferentiated sediments and more extensively in the Hawthorn Group. Generally, secondary artesian aquifers yield less water than the Floridan Aquifer but yield more water than the non-artesian aquifers. In Osceola County, secondary artesian aquifers provide water that is less mineralized than that of the Floridan Aquifer but provide water that is more mineralized than that of the non-artesian aquifers. In Osceola County, the Floridan Aquifer includes the Lake City Limestone, the Avon Park Limestone, the Ocala Group, and parts of the Hawthorn Group. The aquifer consists of alternating layers of

limestone and dolomite or dolomite limestone. The major part of the ground water recharge in Osceola County comes from annual rainfall. However, some water enters the Floridan Aquifer by underground flow from outside the region. The Floridan Aquifer does produce more potable water than the non-artesian and the secondary artesian aquifers. Most of the domestic and commercial supplies in the county are drawn from the Floridan Aquifer (Scott, 1978).

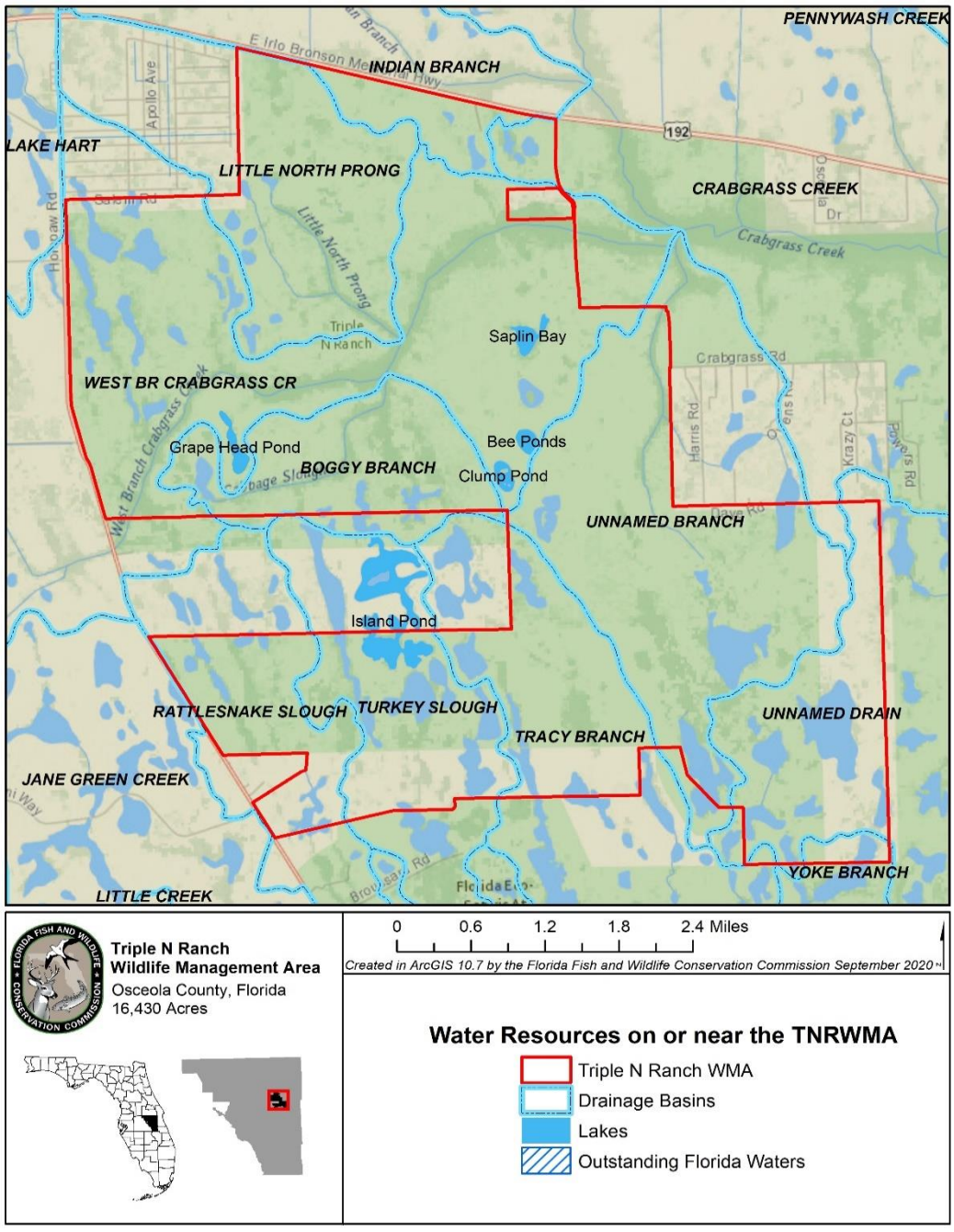


Figure 11. Water Resources on or near the TNRWMA

2.6 Beaches and Dunes

There are no beaches or dunes within the TNRWMA.

2.7 Mineral Resources

There are no known mineral resources within the TNRWMA.

2.8 Historical Resources

The Department of State, Division of Historical Resources (DHR) provides recent data on occurrences of Florida's cultural resources to the FWC. Examination by GIS indicates that an early American (19th to early 20th century) logging road/railroad grade crossing has been identified on the southern portion of the TNRWMA. This site may be eligible for listing on the National Register of Historic Places. There is also artifact scatter that identifies the site of the Holopaw Schoolhouse, which brings the total of identified sites on the TNRWMA to two historical resources.

2.9 Scenic Resources

The TNRWMA is an excellent example of native range and pine-palmetto flatwoods scattered with wet and dry prairie, cypress domes, oak hammocks, and oak scrub. Scenic Crabgrass Creek, a tributary of the St. Johns River, snakes across the area. A network of well-maintained and marked roads provides ample opportunities for hiking, wildlife viewing, biking, and horseback riding to view these resources. Complete descriptions of the natural communities found on the TNRWMA are fully described in section 2.2.

3 Uses of the Property

3.1 Previous Use and Development

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

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

Historical development associated with the early settlement of the TNRWMA is similar to other early settlements in east-central Florida. Exploitation of timber resources and agricultural development were the main factors that opened the area to settlers. One of the original settlers, George W. Hopkins, purchased approximately 104,000 acres in 1902. The adjacent HHBCWMA represents a portion of the Hopkins' original tract. Construction of the Union Cypress Railroad began in 1902 and was followed by the development of a timber company of the same name. Completion of Flagler's east coast railroad to Melbourne provided the means to move timber to northern markets. Timber harvesting operations in the Bull Creek and Jane Green Swamp, east of the TNRWMA, began in 1912 and was concluded by 1928. The TNRWMA was part of the last large open range cattle ranching in the United States, which persisted until 1949 when the Florida Legislature passed the Fence Law requiring all cattle to be fenced. The Seminoles first herded cattle here at the beginning of the 19th century. American colonists replaced them after the Second Seminole War (1842) when the surviving Indians sought refuge in the Everglades and Big Cypress. In the later part of the 19th century, it was not unusual for these early cowmen to see wolves and hear panthers as they moved their herds across the range from Kissimmee to Tampa. At the beginning of the 20th century, south of Orlando was the only place east of the Mississippi River where the population density was less than two persons per square mile.

The prairie was home to the Florida cow, a small, bony, long-horned descendant of Spanish cattle able to survive heat, drought, insects, and poor forage, and the rugged, independent semi-nomadic Florida cow hunter who rounded up and herded cattle with the help of well-trained dogs. Each year from February to the end of March, cattlemen burned the prairie to kill back pine saplings, oak, and palmetto and to encourage the growth of grass. Early in the 20th century, lumbering and naval stores industries followed the railroad south. At first, large stands of pine were turpentined, then the larger saw timber was cut, and finally the pulpwood was removed.

Throughout the TNRWMA are hammocks where homesteads once stood. Prior to State acquisition, the property was used as a cattle ranch, citrus groves, and as a hunting preserve for the owner's family and friends.

3.2 Current Use of the Property

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

archeological and historical resources monitoring and protection; and research related activities.

Current and anticipated resource uses of the property are diverse. Hunting continues to be a popular recreational activity on the TNRWMA. The shooting range also continues to be a widely used facility on the TNRWMA. The area also offers excellent opportunities for bird watching. The diversity of vegetation not only harbors a variety of bird species but also provides good opportunities for mammalian wildlife viewing. Other uses include hiking, photography, biking, sightseeing, and horseback riding.

Due to the proximity of population centers in Osceola County, public use can be expected to increase as public awareness of opportunities increases. Annual use of the TNRWMA is estimated to be 365 user-days for all activities combined. The FWC administers hunts in the fall and spring for various game species including small game, deer, turkey, and feral hogs, which account for a little more than half of the user-days.

3.2.1 Visitation and Economic Benefits

Visitation and public use of the area for fish and wildlife based public outdoor recreational opportunities is the primary source of economic benefits from the TNRWMA and contribute to the overall economy for this region of Florida. In Fiscal Year 2019-2020, an estimated 29,650 people visited the TNRWMA. Primarily, as a result of this visitation and use of the area, the FWC economic analysis estimates indicate that the TNRWMA generated an estimated annual economic impact of $5,793,313 for the State and the Northeast Florida region. This estimated annual economic impact has aided in the support or creation of an estimated 59 jobs.

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

3.3 Single- or Multiple-use Management

The TNRWMA will be managed under the multiple-use concept as a Wildlife Management Area. The TNRWMA will provide fish and wildlife resource based public outdoor recreation and educational opportunities, while protecting the natural and historical resources found on the area. Any natural and historical resources of the TNRWMA will be managed under the guidance of the ARC, the Conceptual State Lands Management Plan, and as outlined in the original purposes for acquisition.

3.3.1 Analysis of Multiple-use Potential

The following actions or activities have been considered under the multiple-use concept as possible uses to be allowed on the TNRWMA. 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 12.9). 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 the TNRWMA are made in accordance with the requirements of Section 253.034(10) F.S., 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, ARC, the SJRWMD, and the Board of Trustees prior to any incompatible use or linear facility being authorized on the TNRWMA.

3.3.3 Assessment of Impact of Planned Uses of the Property

To communicate the FWC's planned uses and activities, specific management intentions, long- and short-term goals and with associated objectives, identified challenges, and solution strategies have been developed for the TNRWMA (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 the FWC is the lead manager, the FWC evaluates and identifies recommended areas for a potential surplus designation by the DSL, ARC, and the Board of Trustees. This evaluation consists of GIS modeling and analysis, aerial photography interpretation, analysis of fish and wildlife resources, a review of resource and operational management needs, and a review of public access and recreational use of the area. Also, the FWC considers recommendations for surplus lands as they relate to Florida's "No Net Loss of Hunting Lands" legislation (Ch. 379.3001 F.S.), as well as surplus restrictions for lands acquired through the Federal Aid in Wildlife Restoration Act (Pittman-Robertson) or through other federal grant programs.

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

4 Accomplished Objectives from the TNRWMA Management Plan 2012 – 2022

This section is dedicated to reporting the extent to which the Objectives described in the TNRWMA Management Plan 2012 – 2022 were successfully completed. Accomplishments for the TNRWMA during the previous planning timeframe are further discussed in more comprehensive detail throughout **Section 5 Management Activities and Intent** of this Management Plan. Additionally, goals and objective for the 2021 – 2031 planning period are outlined in **Section 6 Resource Management Goals and Objectives –** 2021 – 2031**.**

The following resource management goals and objectives from the 2012 – 2022 TNRWMA Management Plan describe the planned activities for the TNRWMA during the 2012 – 2022 planning period. The degree to which the FWC was able to accomplish the planned activities during this period is reflected as **Percent Accomplished** for each associated Objective.

Goals and Objectives	Percent Accomplished
Habitat Restoration and Improvement **Goal 1: Maintain, improve, or restore imperiled species populations and habitats.**	
Short-Term (August 2012 - August 2014)	
Objective 1: Continue to prescribe burn 6,000 acres of fire-adapted natural communities per year. *Comment: FWC staff continue to maintain habitats within their target fire return interval.*	100%
Objective 2: Maintain 13,170 acres (100%) of fire-adapted natural communities within a 2 – 4 year target fire return interval. *Comment: FWC staff continue to meet and exceed target fire return intervals for fire-adapted communities.*	100%
Objective 3: Implement the prescribed burn plan. *Comment: FWC staff utilize the TNRWMA burn plan to maintain all fire adapted natural communities.*	100%
Objective 4: Continue Objective Based Vegetation Management. *Comment: OBVM continue to be implemented on the TNRWMA in order to achieve OBVM established desired future conditions.*	100%

Objective 5: Conduct habitat/natural community improvement (roller chopping) in mesic flatwoods on 100 acres per year. *Comment: FWC staff continue to improve mesic flatwoods habitat on the TNRWMA.*	100%
Objective 6: To maintain vegetation at a low fuel load density, continue the existing ten-year cattle grazing lease. *Comment: Low intensity cattle grazing continue to be used as a vegetative management tool within the existing cattle lease area.*	100%
Long-Term (August 2012 - August 2022)	
Objective 7: Continue to prescribe burn 6,000 acres of fire-adapted natural communities per year. *Comment: FWC staff conducts prescribed burning on an average of 5,437 acres per year.*	90%
Objective 8: Continue to maintain 13,170 acres (100%) of fire-adapted natural communities within a 2-4 target fire return interval. *Comment: FWC staff continue to conduct prescribed burning on all fire-adapted natural communities.*	100%
Objective 9: Continue to conduct OBVM. *Comment: OBVM continue to be implemented on the TNRWMA in order to achieve OBVM established desired future conditions.*	100%
Objective 10: Continue groundcover restoration on 80 acres of former citrus grove in the south-western portion of the TNRWMA, along US 441. *Comment: FWC staff continue to perform groundcover restoration on the former citrus grove in the south-western portion of the TNRWMA.*	100%
Objective 11: Begin groundcover restoration on an additional 40 acres of former citrus grove in the south-western portion of the TNRWMA, along US 441. *Comment: During this planning period the FWC begun groundcover restoration efforts on the former citrus grove.*	100%
Objective 12: Continue to initiate groundcover restoration on an average of 40 acres per year. *Comment: Upon further evaluation by FWC staff, the FWC determined 40 acres a year of groundcover restoration was not attainable. However, the FWC continue to perform groundcover restoration on areas within the TNRWMA as feasible and appropriate.*	50%

Objective 13: Continue habitat/natural community improvement (roller chopping) in mesic flatwoods on 100 acres per year. *Comment: Habitat/natural community improvements by FWC staff continue on mesic flatwoods habitat.*	100%
Objective 14: Upon completion of groundcover restoration on 40 acres per year of former citrus grove, restore overstory, including planting of appropriate pine species. *Comment: FWC staff continue to work towards groundcover restoration on former citrus grove on the TNRWMA. To date, staff have started planting pines on 136 acres.*	50%
Objective 15: To maintain vegetation at a low fuel load density, continue the existing ten-year cattle grazing lease through 2018. *Comment: Low intensity cattle grazing continue to be used as a vegetative management tool within the existing cattle lease area. In 2018, the FWC renewed the cattle grazing lease for an additional five years.*	100%
Objective 16: Evaluate the effectiveness and efficacy of cattle grazing as a vegetation management tool. *Comment: FWC staff continue to analyze the value cattle grazing and other vegetation management tools on the TNRWMA.*	100%
Imperiled Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration **Goal 2: Maintain, improve, or restore imperiled species populations and habitats.**	
Short Term (August 2012 - August 2014)	
Objective 1: Develop and implement a WCPR strategy for select imperiled and focal wildlife species. *Comment: WCPR strategy was developed and implemented in September 2012 and revised in 2015.*	100%
Objective 2: Contingent on the results of the WCPR strategy, continue to monitor four imperiled and focal wildlife species: red-cockaded woodpecker (RCW), gopher tortoise, Southern bald eagle, and Northern bobwhite. *Comment: FWC staff continue to utilize the WCPR strategy for imperiled and locally important species.*	100%
Objective 3: In cooperation with the management of HHBCWMA, continue to annually monitor RCW clusters. *Comment: In cooperation with the HHBCWMA, FWC staff continue to regularly monitor RCW clusters.*	100%

Objective 4: Continue to supplement the RCW population through nest box inserts and translocation. *Comment: FWC staff continue to implement management techniques such as nest box inserts and translocation to augment the RCW population.*	100%
Objective 5: Continue to collect opportunistic wildlife species occurrence data. *Comment: FWC staff continue to collect opportunistic wildlife species occurrence data.*	100%
Long Term (August 2012 – August 2022)	
Objective 6: Continue to implement WCPR strategy by managing identified habitats and monitoring identified species. *Comment: FWC staff continue to implement the WCPR strategy.*	100%
Objective 7: Contingent on the results of the WCPR strategy, continue to monitor four imperiled and focal wildlife species: RCW, gopher tortoise, Southern bald eagle, and Northern bobwhite. *Comment: FWC staff continue to utilize the WCPR strategy for imperiled and locally important species.*	100%
Objective 8: In cooperation with the management of HHBCWMA, continue to annually monitor RCW clusters. *Comment: In cooperation with the HHBCWMA, FWC staff continue to regularly monitor RCW clusters.*	100%
Objective 9: Continue to supplement the RCW population through nest box inserts and translocation as feasible and appropriate. *Comment: FWC staff continue to implement management techniques such as nest box inserts and translocation to augment the RCW population.*	100%
Objective 10: Continue to collect opportunistic wildlife species occurrence data. *Comment: FWC staff continue to collect wildlife species occurrence data.*	100%
Other Game and Non-game Wildlife Habitat Maintenance, Enhancement, Restoration, or Population Restoration. **Goal 3: Maintain, improve, or restore game and non-game species populations and habitats.**	
Short Term (August 2012 – August 2014)	

Objective 1: Continue to conduct annual spotlight monitoring surveys for white-tailed deer. *Comment: FWC staff continue to conduct annual surveys for white-tailed deer.*	100%
Objective 2: Continue to collect biological data at check stations. *Comment: FWC staff continue to collect biological data.*	100%
Objective 3: Continue to collect opportunistic wildlife occurrence data. *Comment: FWC continue to collect opportunistic wildlife occurrence data.*	100%
Objective 4: Continue to maintain ~40 acres of wildlife food plots. *Comment: FWC staff continue to maintain ~40 acres of food plots for wildlife.*	100%
Objective 5: Primarily through mowing, continue to maintain ~55 acres of existing wildlife openings. *Comment: FWC staff continue to utilize mowing as needed and appropriate to maintain wildlife openings.*	100%
Objective 6: Continue to maintain and monitor 11 wood duck boxes. *Comment: FWC staff continue to monitor all wood duck boxes on the TNRWMA. From 2012-2014, FWC staff installed an additional five wood duck boxes on the area.*	100%
Objective 7: Construct and install up to 12 additional wood duck boxes if needed. *Comment: From 2012-2014, FWC staff installed an additional 18 wood duck boxes on the area.*	100%
Long Term (August 2012 – August 2022)	
Objective 8: Continue to conduct annual spotlight monitoring surveys for white-tailed deer. *Comment: FWC staff continue to monitor for white-tailed deer.*	100%
Objective 9: Continue to collect biological game species harvest data at check stations. *Comment: FWC staff continue to collect biological game species harvest data.*	100%
Objective 10: Continue to collect opportunistic wildlife occurrence data. *Comment: FWC staff continue to collect opportunistic wildlife occurrence data.*	100%

Objective 11: Continue to maintain ~40 acres of wildlife food plots. *Comment: FWC staff continue to maintain ~40 acres of food plots for wildlife.*	100%
Objective 12: Primarily through mowing, continue to maintain ~55 acres of existing wildlife openings. *Comment: FWC staff continue to maintain wildlife openings through mowing as needed and appropriate.*	100%
Objective 13: Continue to maintain and monitor up to 23 wood duck boxes. *Comment: FWC staff has added 18 wood duck boxes on the TNRWMA, however 7 boxes have been removed due to external factors, bringing the total to 11 nest boxes. The FWC will continue to maintain all 11 wood duck boxes on the area.*	100%
Public Access and Recreational Opportunities **Goal 4: Provide public access and recreational opportunities.**	
Short-term (August 2012 - August 2014)	
Objective 1: Continue to maintain public access and recreational opportunities to allow for a recreational carrying capacity of 350 visitors per day. *Comment: FWC staff continue to maintain access and recreational opportunities to allow for the area's carrying capacity.*	100%
Objective 2: Continue to maintain 7.96 miles of trails. *Comment: FWC staff continue to maintain trails for public access.*	100%
Objective 3: Continue to provide the bird list, website, and entrance kiosk for interpretation and educational information. *Comment: FWC staff continue to provide interpretation and educational information for the TNRWMA.*	100%
Objective 4: Implement recommendations of the Recreation Master Plan for TNRWMA. *Comment: FWC staff follows the recommendations outlined in the Recreation Master Plan.*	100%
Objective 5: Contingent on the recommendations and implementation of the Recreation Master Plan, and if determined to be feasible and appropriate, develop additional public access and recreational opportunities which include additional trails and structures to allow for a carrying capacity of 504 visitors per day outside of the shooting sports complex.	100%

Comment: FWC staff has developed additional public access and recreational opportunities which has increased the carrying capacity to 504 visitors per day, including developing additional trails on the area.	
Objective 6: In cooperation with identified partners, initiate Phase I development of the public shooting sports complex to allow for a carrying capacity of 316 visitors per day at the complex. *Comment: The shooting sports complex on the TNRWMA was completed in 2018 and is open to the public for use.*	100%
Objective 7: Coordinate with the U.S. Forest Service and Florida Trail Association to make regional connections to the Florida National Scenic Trail through TNRWMA and/or HHBCWMA to Tosohatchee WMA and TLWMA. *Comment: FWC staff has coordinated with partners to make regional connections the Florida National Scenic Trail.*	100%
Objective 8: Continue to provide hunting opportunities including special opportunity deer season, small game season, wild hog still season, special opportunity spring turkey season, and migratory bird seasons. *Comment: FWC staff continue to provide various hunting opportunities on the TNRWMA.*	100%
Objective 9: Investigate the feasibility of establishing special opportunity archery and special opportunity muzzleloading hunts. *Comment: FWC staff investigated the feasibility of establishing special opportunity archery and special opportunity muzzleloading hunts. In 2018, the FWC established special opportunity muzzleloading hunts on the area, however special opportunity archery was not determined feasible at this time.*	100%
Objective 10: Continue to manage white-tailed deer using quality deer management techniques including the harvest of antlered deer having four or more points on one side. *Comment: FWC staff continue to manage the white-tailed deer population using applicable management techniques.*	100%
Long Term (August 2012 – August 2022)	
Objective 11: Upon implementation of the Recreation Master Plan, continue to maintain public access and recreational opportunities to allow for a recreational carrying capacity of up to 504 visitors per day outside of the shooting sports complex.	100%

Comment: FWC staff continue to maintain public access and recreational opportunities to allow for the area's recreational carrying capacity.	
Objective 12: Continue to provide the bird list, website, and entrance kiosk for interpretation and educational information. *Comment: FWC staff continue to provide interpretative and educational information.*	100%
Objective 13: Create a trail map/guide, recreation guide, additional interpretive signage, and evaluate the potential for Spanish language materials. *Comment: FWC staff have developed trails maps and other interpretive signage for the TNRWMA. However, it was not determined feasible at this time to develop Spanish language materials.*	100%
Objective 14: Continue to monitor trails biannually for visitor impacts. *Comment: FWC staff continue to monitor trails regularly for visitor impacts.*	100%
Objective 15: Continue to maintain 7.96 miles of trails. *Comment: FWC staff continue to maintain trails on the TNRWMA. During this planning period trails on the TNRWMA have increased to 15.37 miles.*	100%
Objective 16: Designate and mark as many as 9.9 miles of additional trails to connect TNRWMA trails with HHBCWMA. *Comment: FWC staff have designated additional trails to connect the TNRWMA with the HHBCWMA.*	100%
Objective 17: Implement recommendations of the Recreation Master Plan. *Comment: FWC staff continue to utilize the Recreation Master Plan and implement recommendations as feasible.*	100%
Objective 18: As feasible and appropriate, continue development of Phase II and III of the public shooting sports complex to allow for a carrying capacity of 640 visitors per day at the complex. *Comment: Shooting sports complex opened in 2018 and is available to the public for recreational uses.*	100%
Objective 19: Reassess recreational opportunities every three years. *Comment: FWC staff continue to reassess recreational opportunities regularly.*	100%

Objective 20: Continue to coordinate with the U.S. Forest Service and Florida Trail Association to make connections for the Florida National Scenic Trail through TNRWMA and/or HHBCWMA to Tosohatchee WMA and TLWMA. *Comment: FWC staff has coordinated with partners to make regional connections for the Florida National Scenic Trail.*	100%
Objective 21: Solicit cooperation from other agencies, counties, stakeholders, and regional landowners to investigate regional recreational opportunities, including linking hiking, and multi-use trail systems among regional public and/or private areas. *Comment: FWC staff actively work with neighboring stakeholders to maximize public access.*	100%
Objective 22: Identify and provide for emerging recreational trends (e.g., geocaching, bicycling) as appropriate**.** *Comment: FWC staff continue to explore emerging recreational trends and assesses additional recreational activities as appropriate.*	100%
Objective 23: Continue to identify partnerships that could provide for environmental educational programs and outreach**.** *Comment: FWC staff continue to work to identify partnerships for providing additional educational programs and outreach.*	100%
Objective 24: Continue to provide hunting opportunities including special opportunity deer, small game, wild hog, special opportunity spring turkey, and migratory bird hunts; if approved, continue to provide hunting opportunities for special opportunity archery and special opportunity muzzleloading**.** *Comment: FWC staff continue to provide a variety of hunting opportunities.*	100%
Objective 25: Continue to manage white-tailed deer using quality deer management techniques including the harvest of antlered deer having four or more points on one side**.** *Comment: FWC staff continue to manage white-tailed deer population using applicable management techniques.*	100%
Hydrological Preservation and Restoration **Goal 5: Protect water quality and quantity, restore hydrology to the extent feasible, and maintain the restored condition.**	
Short-term (August 2012 - August 2014)	
Objective 1: Coordinate with the SJRWMD to conduct or otherwise obtain a site-specific hydrological assessment to identify potential hydrology restoration needs, and address potential hydroperiod, water quality and quantity impacts on adjacent landowners.	0%

Comment: The FWC did not complete a site-specific hydrological assessment through the SJRWMD during the short-term planning period for the TNRWMA. However, in 2019, a site-specific hydrological assessment was completed through an independent contractor.	
Objective 2: To maintain and enhance natural hydrological functions, install and maintain low-water crossings and culverts as appropriate. *Comment: As necessary and appropriate, FWC staff has installed and maintained low-water crossings and culverts to maintain natural hydrological functions on the TNRWMA.*	100%
Long Term (August 2012 – August 2022)	
Objective 3: To enhance natural hydrological functions, continue to install and maintain low-water crossings and culverts as appropriate. *Comment: As necessary and appropriate, FWC staff has installed and maintained low-water crossings and culverts to maintain natural hydrological functions on the TNRWMA.*	100%
Objective 4: Pursuant to the recommendations of the hydrological assessment, implement a hydrological restoration plan as feasible and appropriate. *Comment: FWC staff continue to follow recommendations of the hydrological assessment as feasible and funding allows.*	100%
Objective 5: If determined to be appropriate based on the hydrological assessment, restore former citrus grove impoundments (~20 acres) to natural communities. *Comment: During the hydrological assessment for the TNRWMA, FWC staff has determined restoration of former grove impoundment not appropriate for the area.*	100%
Forest Resource Management **Goal 6: Manage timber resources to improve or restore natural communities for the benefit of wildlife.**	
Short Term (August 2012 – August 2014)	
Objective 1: Cooperate with the FFS to update the existing Timber Assessment as necessary. *Comment: In 2012, the FFS completed an update to the existing TNRWMA Timber Assessment.*	100%
Objective 2: As necessary and appropriate, consult with the FFS or a professional forestry consultant regarding forest management activities.	100%

Comment: FWC staff continue to consult with the FFS/professional forestry consultants on forest management activities.	
Objective 3: On suitable sites, continue to plant longleaf pine in areas of former citrus grove, pasture of the former Equitable, Yates, and Vanosdol tracts, and in completed groundcover restoration areas. *Comment: FWC staff continue to plant longleaf pine in restoration areas as feasible and appropriate.*	100%
Long Term (August 2012 – August 2022)	
Objective 4: As necessary and appropriate, continue to consult with the FFS or a professional forestry consultant regarding forest management activities. *Comment: FWC staff continue to consult with the FFS/professional forestry consultants on forest management activities.*	100%
Exotic and Invasive Species Maintenance and Control **Goal 7: Remove exotic and invasive plants and animals and conduct needed maintenance- control.**	
Short Term (August 2012 – August 2014)	
Objective 1: As necessary, annually treat at least 50 acres of Florida Exotic Pest Plant Council (FEPPC) Category I and Category II invasive exotic plant species including lygodium, tropical soda apple, cogon grass, and Brazilian pepper. *Comment: FWC staff continue to annually treat FEPPC Category I and II invasive and exotic plant species.*	100%
Objective 2: Through hunting, continue control measures on one exotic/nuisance animal species (feral hog). *Comment: FWC staff continue to implement control measures of wild hog.*	100%
Long Term (August 2012 – August 2022)	
Objective 3: As necessary, continue to annually treat at least 50 acres of FEPPC Category I and Category II invasive exotic plant species including lygodium, tropical soda apple, cogon grass, and Brazilian pepper. *Comment: FWC staff continue to annually treat FLEPPC Category I and II invasive and exotic plant species.*	100%
Objective 4: Through hunting, continue control measures on one exotic/nuisance animal species (feral hog). *Comment: FWC staff continue to implement control measures of wild hog.*	100%

Capital Facilities and Infrastructure Goal 8: Develop the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.	
Short Term (August 2012 – August 2014)	
Objective 1: Continue to maintain 13 facilities including staff residence, office, check station, campground, vault toilet, pole barn, and other storage structures. *Comment: FWC staff continue to maintain all facilities on the area.*	100%
Objective 2: Maintain 60.9 miles of roads. *Comment: FWC staff continue to maintain public access roads.*	100%
Objective 3: As necessary, maintain, improve, or repair 7.96 miles of existing trails. *Comment: FWC staff continue to maintain all trails on the area.*	100%
Objective 4: Improve or repair three facilities including the staff residence, staff office and the primary entrance sign. *Comment: FWC staff made improvements and repairs to facilities.*	100%
Objective 5: Improve two miles of roads with a capping material of shell or limestone. *Comment: FWC staff made improvements and repairs to one mile of roads.*	50%
Long Term (August 2012 – August 2022)	
Objective 6: Monitor trails and infrastructure biannually for visitor impacts. *Comment: FWC staff continue to monitor trails and infrastructure for visitor impacts.*	100%
Objective 7: Continue to maintain 13 facilities. *Comment: FWC staff continue to maintain facilities.*	100%
Objective 8: Continue to maintain 60.9 miles of roads. *Comment: FWC staff continue to maintain public access roads.*	100%
Objective 9: Designate and mark as many as 5.5 miles of new trails to connect TNRWMA trails with HHBCWMA. *Comment: FWC staff developed designated trails to connect TNRWMA to HHBCWMA.*	100%
Objective 10: Continue to maintain, improve, or repair up to 13.4 miles of existing trails.	100%

Comment: FWC staff continue to maintain trails within the TNRWMA. During this planning period the trails on the TNRWMA increase to 15.37 miles.	
Objective 11: Construct up to ten new facilities including a public shooting sports complex, up to seven covered picnic tables, a kiosk, and a picnic shelter/pavilion. *Comment: FWC staff constructed a shooting sports complex, however picnic shelter, picnic tables and kiosk were not accomplished during this planning period.*	10%
Objective 12: Improve six additional miles of roads with a capping material of shell or limestone. *Comment: FWC staff continue to improve or repair roads as appropriate.*	100%
Objective 13: Cooperate with DHR or trained FWC staff in determining appropriate locations and designing site plans for development of facilities and infrastructure. *Comment: FWC staff continue to cooperate with the DHR in design plans for infrastructure.*	100%
Cultural and Historical Resources **Goal 9: Protect, preserve, and maintain the cultural resources of the TNRWMA.**	
Short Term (August 2012 – August 2014)	
Objective 1: Ensure all known sites are recorded in the Florida Department of State's DHR Master Site file. *Comment: FWC staff ensured all known sites are recorded in the Master Site File.*	100%
Objective 2: Continue to monitor, protect, and preserve the three identified cultural sites in accordance with DHR. *Comment: FWC staff has protected two identified cultural sites on the TNRWMA, and the third site is now located on HH/BCWMA.*	100%
Objective 3: Coordinate with DHR to assess the need for conducting a cultural resource survey. *Comment: FWC staff contacted the DHR in 2019 to examine the need for conducting a cultural resource survey.*	100%
Long Term (August 2012 – August 2022)	
Objective 4: As determined appropriate and necessary by DHR, continue to monitor, protect, and preserve the three identified cultural sites. *Comment: FWC staff has protected two identified cultural sites on the TNRWMA, and the third site is now located on HH/BCWMA.*	100%

Objective 5: As feasible and appropriate, continue to coordinate with DHR to provide for cultural resource management training for FWC staff. *Comment: FWC staff continue to coordinate with the DHR.*	100%
Research Opportunities **Goal 10: Explore and pursue cooperative research opportunities.**	
Short-term (August 2012 - August 2014)	
Objective 1: Continue to cooperate with researchers and universities as appropriate. *Comment: FWC staff continue to cooperate with researchers and universities.*	100%
Objective 2: Continue to assess the need for and pursue research and environmental education partnership opportunities as appropriate. *Comment: FWC staff continue to assess the need for research and education partnerships.*	100%
Long Term (August 2012 – August 2022)	
Objective 3: Continue to cooperate with researchers and universities as appropriate. *Comment: FWC staff continue to cooperate with researchers and universities.*	100%
Objective 4: Continue to assess the need for and pursue research and environmental education partnership opportunities as appropriate. *Comment: FWC staff continue to assess the need for research and education partnerships.*	100%
Conservation Acquisition and Stewardship Partnerships **Goal 11: Enhance wildlife conservation, resource and operational management through development of an Optimal Boundary.**	
Short Term (August 2012 – August 2014)	
Objective 1: Identify potential important wildlife habitat, landscape-scale linkages, wildlife corridors, operational/resource management. *Comment: During the development of the TNRWMA Management Plan, the FWC developed an OCPB (Optimal Conservation Planning Boundary) for the area to determine potential habitat and resource needs to further enhance the area.*	100%
Objective 2: Continue to identify and pursue acquisition needs and conservation stewardship partnerships. *Comment: FWC staff continue to work to identify and pursue any potential conservation acquisition needs and regularly interact with*	100%

adjoining landowners and other agencies and assess potential conservation stewardship partnerships.	
Objective 3: Develop and maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC optimal boundary for FWC's Landowner Assistance and Land Acquisition Programs. *Comment: The FWC continue to maintain a GIS shapefile and geodatabase to further assist acquisition program needs and potential partnership programs.*	100%
Objective 4: Develop a CAS. *Comment: The FWC has developed a Conservation Action Strategy (CAS) for the TNRWMA and is found in Appendix 12.12.*	100%
Objective 5: Contact and inform adjoining landowners about the FWC LAP to pursue non-acquisition conservation stewardship partnerships. *Comment: FWC staff regularly discusses the voluntary Landowner's Assistance Program with multiple adjoining landowners.*	100%
Objective 6: Determine which parcels should be nominated for addition to the FWC acquisition list. *Comment: FWC staff developed an OCPB for the TNRWMA, and the FWC has identified nominations to the FWC Additions and Inholdings list.*	100%
Objective 7: Identify potential non-governmental organization partnerships and grant program opportunities. *Comment: The FWC continue to work towards identifying partnerships and grant opportunities as needed and appropriate.*	100%
Objective 8: Determine efficacy of conducting an adjacent landowner's assistance/conservation stewardship partnership workshop. *Comment: The FWC assessed the need and feasibility of a landowner's assistance/conservation stewardship partnership workshop and determined it unnecessary at this time.*	100%
Long Term (August 2012 – August 2022)	
Objective 9: To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed optimal boundary for WMA as deemed necessary. *Comment: During the development of the TNRWMA Management Plan, the FWC developed an OCPB for the area to determine potential habitat and resource needs to further enhance the area, and the FWC continue to maintain and revise this boundary as necessary.*	100%

Objective 10: Continue to maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC optimal boundary for the FWC Landowner Assistance Program and for the Land Acquisition Program. *Comment: The FWC continue to maintain a GIS shapefile and geodatabase to further assist acquisition program needs and potential partnership programs.*	100%
Objective 11: Continue to determine which nominated parcels should be added to the FWC acquisition list. *Comment: FWC staff developed an OCPB for the TNRWMA, and the FWC has identified nominations to the FWC Additions and Inholdings list.*	100%
Objective 12: Propose nominations of selected properties as additions to the FWC acquisition list. Pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow. *Comment: FWC staff developed an OCPB for the TNRWMA, and the FWC has identified nominations to the FWC Additions and Inholdings list.*	100%
Objective 13: Pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow. *Comment: FWC staff continue to work to identify and pursue any potential conservation acquisition needs.*	100%
Objective 14: Periodically (at least every three to five years) continue to contact and meet with adjacent landowners for willingness to participate in the CAS. *Comment: FWC staff regularly interacts with multiple adjoining landowners and talk with them about the voluntary Landowners Assistance Program and Conservation Action Strategy.*	100%
Objective 15: Coordinate landowner assistance/ conservation stewardship partnership workshop as deemed appropriate. *Comment: The FWC assessed the need and feasibility of a landowner's assistance/conservation stewardship partnership workshop and determine it unnecessary at this time.*	100%

5 Management Activities and Intent

The following section provides a description of agency plans to locate, identify, protect, preserve, or otherwise use fragile natural resources and nonrenewable historical resources. In general, the FWC management intent for the TNRWMA is to restore and maintain natural communities in a condition that sustains ecological processes and conserves biological diversity, especially fish and wildlife resources. In conjunction with this primary emphasis, it is FWC's intent to provide quality fish and wildlife resource based public outdoor recreational opportunities on the TNRWMA. The FWC will utilize the best available data, guidelines, natural resource management practices, and recreational management practices to achieve these outcomes in accordance with the original purposes for acquisition. Furthermore, as noted earlier, the management activities described in this section are in compliance with those of the Conceptual State Lands Management Plan.

5.1 Land Management Review

The 2019 Land Management Review (LMR) of the TNRWMA (Appendix 12.5) found that the FWC was managing the area in accordance with the purpose of acquisition. The recommendations from the LMR were considered and addressed in the development of this Management Plan, including development of management intent language, goals and objectives, and identification of management challenges and development of solution strategies (Sections 5 - 7).

5.2 Adaptive Management

Adaptive management is "learning by doing";[4] 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.[4, 5] 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.[4, 5] 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.[4, 5]

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 the TNRWMA.

5.2.1 Monitoring

A well-developed monitoring protocol is also one of the principle, required criteria for the management of the TNRWMA. 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 5.3.1) program, which monitors how specific vegetative attributes are responding to FWC management. For imperiled and locally important fish and wildlife species, monitoring protocols are established through the FWC's Wildlife Conservation Prioritization and Recovery (WCPR, Section 5.4.2) program. FWC staff may monitor additional fish and wildlife species when deemed appropriate. Exotic and invasive plant and animal species (Section 5.5) are also monitored as needed and appropriate. Recreational uses are monitored through the FWC's Public Access Services Office (PASO) and work in conjunction with the establishment and adjustment of public access carrying capacities (Section 5.6.3). Historical resources (Section 5.9) are monitored with guidance from the DHR.

5.2.2 Performance Measures

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

5.2.3 Implementation

The TNRWMA Management Plan serves as the guiding framework to implement this adaptive management process. It serves as the underpinning for the integration of management programs (OBVM, WCPR, PASO, Recreation Master Plans, etc.) underway to accomplish needed conservation actions that are planned to manage the natural resources

of the TNRWMA and resolve conservation threats to fish and wildlife and the habitats they occupy. Based on evaluations of project results, the conservation actions are revised as necessary, and the adaptive management process is repeated.

5.3 Habitat Restoration and Improvement

On the TNRWMA, the FWC will focus on managing for native habitat diversity, emphasizing maintenance of high-quality natural communities, and restoration of disturbed areas. Restoration may be achieved on disturbed areas by the re-introduction of fire, restoring historic hydrological conditions, and/or the use of mechanical or chemical forest management techniques as appropriate. Retention of the native old growth component of forests, while also providing for natural regeneration, remains an important consideration. The TNRWMA has high-quality native communities including mesic flatwoods and dome swamp that the FWC will continue to manage and protect. On disturbed upland sites, the FWC intends to continue natural community restoration.



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

5.3.1 Objective-Based Vegetation Management

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

The first step in implementing OBVM is to map the current, and in most cases the historic natural communities, on the managed area using the FNAI 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, the FWC collects data on a number of specific vegetation attributes that provide insight about the condition of the natural community. Because the 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 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.

5.3.2 Prescribed Fire and Fire Management

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

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

Mechanical control of brush on upland sites by roller chopping, logging, shredding, or incidentally by equipment during commercial thinning operations, can reduce shading and encourage the grasses and forbs that are necessary to sustain prescribed fire. Roller chopping can be a valuable management tool, enabling the use of prescribed fires in areas heavily invaded by dense woody vegetation. However, roller chopping may damage the herbaceous ground cover, especially wiregrass. Therefore, its application should be limited to situations where burning can only be accomplished by first reducing woody vegetation by mechanical means.

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

The transitional areas between two adjacent but different vegetative cover types, such as forests and wetlands, are known as ecotones. With the possible exception of wildfire suppression, mechanical soil disturbance in ecotones will be avoided in order to protect habitats for important rare species that often occur between flatwoods and riparian drainages. Silvicultural site preparation and creation of firebreaks are avoided when possible in these zones. Additionally, fires are allowed to burn into the edges of marshes, swamps, and other wetlands in order to maintain these habitats. Once fuel loads have been reduced and a more open appearance has returned, vegetative management objectives will likely dictate a fire return interval. Most communities on the TNRWMA average a 2-3 year fire return interval, with some communities on a 4-7 year return interval,

In addition to the general prescribed fire management guidelines described above, an area-specific Prescribed Fire Plan has been developed and implemented for the TNRWMA in 2012. This plan will include, but not be limited to, delineation of burn management units, detailed descriptions of prescribed fire methodology, safety, and smoke management guidelines.

During the previous planning period, 100% of the area's fire adapted communities have been treated with prescribed fire. Approximately 100% of the fire-adapted communities are maintained within the recommended fire return intervals. As detailed in the goals and objectives in Section 6 below, the FWC plans to conduct prescribed burning on 100% of the area's fire adapted communities resulting in 100% of the area being maintained within the recommended fire return intervals during this planning period. The continuing benefits of prescribed fire on the area's wildlife habitats along with other ongoing habitat restoration activities that are being implemented on the TNRWMA are discussed in more detail below. Potential projected challenges with continuing to successfully implement prescribed fire on the area are described further in Section 7.

5.3.3 Habitat Restoration

Significant habitat management activities have taken place within many of the natural communities of TNRWMA over the course of the previous management period. Since 2011 all of the management units with fire-adapted natural communities have been treated with prescribed fires on a repeated basis as established within the management plan. This has aided in the restoration of native ground cover and improved wildlife habitat throughout the TNRWMA. In addition to conducting prescribed burning, roller chopping has been conducted on over 3,000 acres to treat fuels prior to burning. Ground cover restoration areas have been initiated on approximately 200 acres of prior pasture and citrus groves with active plantings, exotic plant treatment, and burning. A hydrological assessment has also been completed for the area and will help determine feasibility of further restoration efforts on the TNRWMA.

In addition to prescribed burning activities, and OBVM, natural communities on the TNRWMA that may undergo some level of habitat enhancement include mesic flatwoods and scrubby flatwoods. Continuing habitat management activities on the TNRWMA will focus on enhancing natural communities, maintaining recommended fire return intervals for fire adapted communities, treating and removing exotic plant species, and controlling vegetation through mowing and roller chopping as needed. Chemical and mechanical treatments may also be implemented in some select hardwood habitats in the mesic flatwoods and scrubby flatwoods in order to restore these areas to an earlier successional condition. Exotic species control is more extensively discussed in Section 5.5, below. Further specific habitat management and improvement objectives planned for the TNRWMA are described in Section 6 below.

5.4 Fish and Wildlife Management, Imperiled and Locally Important Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration

5.4.1 Fish and Wildlife

Due to the variety of natural communities, a diversity of associated wildlife, including rare, imperiled, common game, and non-game species, can be found on the TNRWMA. 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 that are dominant on the TNRWMA include mesic flatwoods and dome swamp. Natural communities that are less represented on the TNRWMA include depression marsh and wet prairie.

The size and natural community diversity of the TNRWMA creates a habitat mosaic for a wide variety of wildlife species. Resident wildlife will be managed for optimum richness, diversity, and abundance. In addition to resident wildlife, the TNRWMA provides resources critical to many migratory birds including waterfowl, passerines, raptors, and others. Habitats important to migratory species will be protected, maintained, or enhanced.



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

Wildlife monitoring 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 including prescribed burning and timber stand improvements will address rare and imperiled species requirements and habitat needs. Section 5.4.2 below provides further information on FWC's comprehensive species management strategy for rare and imperiled wildlife and their respective habitats.

5.4.2 Imperiled and Locally Important Species: Wildlife Conservation Prioritization and Recovery

The FWC has identified the need to: 1) demonstrate optimal wildlife habitat conservation on FWC-managed lands; 2) develop science-based performance measures to evaluate management; 3) recover imperiled species; and 4) prevent future imperilment of declining wildlife species. To help meet these needs, the FWC uses a comprehensive resource management approach to 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 the FWC management and uses the WCPR program to ensure management is having the desired effect on wildlife (Appendix 12.12).

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

The WCPR program helps the FWC take a proactive, science-based approach to species management on the FWC-managed lands, 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 locally-important species which are the focus of the WCPR program. Staff combines these assessments with area-specific management considerations to develop a Species Management Strategy for the area. Each Strategy contains management actions to achieve these objectives and identifies monitoring protocols to verify progress towards meeting the objectives. By providing the FWC managers with information on actions they should undertake, the FWC intends for the Strategy to assure the presence and persistence of Florida's endangered and threatened fish and wildlife species (see https://myfwc.com/media/25798/endangered-and-threatened-

species-report-fy-2019-20.pdf), as well as select WCPR locally important species found on the area.

In summary, for the FWC-managed areas, the WCPR program helps assess imperiled and other locally-important wildlife species needs and opportunities, prioritize what the FWC does for imperiled and locally-important species, prescribe management actions to aid in species recovery, prescribe monitoring protocols to allow evaluation of the species' response to management, and ensure the information is shared with others. Through the actions of this program, the FWC will facilitate fulfilling the needs of locally important and imperiled wildlife species on the TNRWMA. In the long-term, by implementing these strategies on FWC-managed lands and continuing to assess wildlife species' needs, the FWC will continue to play an integral role in aiding the recovery of imperiled species and preventing the future imperilment of declining wildlife species.

During the previous planning period, monitoring was conducted for the following imperiled and locally important species: gopher frog, striped newt, gopher tortoise, Bachman's sparrow, brown-headed nuthatch, northern bobwhite, and red-cockaded woodpecker. Staff monitored and maintained 11 wood duck boxes and 2 bat houses. Staff maintained a sufficient number of suitable RCW cavities for the population by installing artificial cavity inserts and replacing damaged artificial cavity inserts as needed. Staff also established recruitment clusters and translocated RCWs from donor populations to grow the HHBCWMA and TNRWMA population.

The WCPR Strategy for the TNRWMA (Appendix 12.11) includes surveying for many species, including Bachman's sparrow, brown-headed nuthatch, gopher frog, gopher tortoise, Northern bobwhite, and red-cockaded woodpecker. FWC staff also collect opportunistic species data and work to improve habitat for various species outlined below in the WCPR Strategy.

In addition to implementing the Strategy during the next planning period, inventory-style monitoring of terrestrial taxa groups will be implemented over a 10-year period in an effort to develop a comprehensive species list for the area.

5.5 Exotic and Invasive Species Maintenance and Control

The FWC will continue efforts to control the establishment and spread of Florida Exotic Pest Plant Council (FLEPPC) Category I and II plants on the TNRWMA. 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 TNRWMA and treated annually by

the FWC include bahiagrass, balsam apple, Bermudagrass, Brazilian pepper, Caesar's weed, castor bean, chamber bitter, popcorn tree, cogongrass, Colombian waxweed, Durban crowfootgrass, flattop mille grains, guava, hairy indigo, Indian cupscale, lantana, shrub verbena, Malaysian false pimpernel, Mexican tea, mimosa, nakedstem dewflower, natal grass, old world climbing fern, Paraguayan purslane, Peruvian primrosewillow, plantain signalgrass, septicweed, shortleaf spikesedge, shrubby false buttonweed, smutgrass, Thalia lovegrass, threeflower tick-trefoil, torpedo grass, tropical Mexican clover, tropical signalgrass, tropical soda apple, vaseygrass, water hyacinth, water spangles, watersprite, wild bushbean, and phasey bean (Table 5). Exotic and invasive plant species have been identified as occurring at varying densities throughout the TNRWMA. However, the FWC's methodology for determining the number of acres "infested" with invasive and exotic plants only represents a cumulative acreage and does not reflect the degree of the invasive and exotic occurrence. The degree of infestation among areas identified with invasive and 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 and 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 TNRWMA 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, the 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 TNRWMA is the wild hog. These animals have high reproductive rates, and when populations reach high densities, wild hogs can significantly degrade natural communities through foraging activity (rooting). The FWC will consult with other regional natural resource managing agencies and private landowners to coordinate wild hog control measures as necessary. Wild hog populations are controlled by hunts during the wild hog, general gun, and muzzle-loading gun seasons. Wild hog populations may also be controlled by trapping, as necessary, to aid in minimizing the negative impacts caused by wild hog populations on the area.

Currently, maintenance and control of invasive and exotic plant species (Table 5) continues to be a significant management challenge at the TNRWMA. During the previous 10-year planning period, the FWC continued to implement extensive exotic and invasive species

control and maintenance activities throughout the TNRWMA. These included exotic and invasive plant species treatments on a total of 5,750 acres, resulting in an overall 30% of TNRWMA currently being in a maintenance condition. The FWC will continue to focus control and maintenance activities on areas identified as having invasive and exotic plant occurrences, as well as treating any new occurrences as they are identified through continued monitoring activities. Ongoing exotic plant species objectives and challenges for the TNRWMA are further detailed in Sections 6 – 7 below.

5.6 Public Access and Recreational Opportunities

To facilitate wildlife viewing recreational opportunities on the area, the FWC has continued to establish and maintain trails, an entrance kiosk, and a shooting sports complex. During the previous 10-year planning period, the FWC completed several public access, recreational, and facility improvements on the TNRWMA, including expanding trails and connecting trails to the FNST, expanding hunting opportunities to include special opportunity muzzleloading hunts, and opening a shooting sports complex on the area in 2018. Further planned public access facility improvements are detailed in Section 6 below. Ongoing public access and recreational opportunity management challenges are addressed in Section 7 below. In addition, the FWC will continue to implement public access, recreational, and educational opportunities on the area in accordance with the TNRWMA Recreation Master Plan.

5.6.1 Americans with Disabilities Act

When public facilities are developed on areas managed by the FWC, every effort is made to comply with the Americans with Disabilities Act (ADA) (Public Law 101-336). As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions. Recreation facilities in semi-primitive or primitive zones will be planned to be universally accessible to the degree possible except as allowed by the ADA[7] 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.

5.6.2 Recreation Master Plan

The FWC has adopted a comprehensive approach to the planning and administration of fish and wildlife resource based public outdoor recreational opportunities for the TNRWMA. To accomplish this, the FWC worked with recreational stakeholders and the general public to develop a Recreation Master Plan for the TNRWMA that will be used to further design and develop appropriate infrastructure that will support the recreational use of the area by the general public. This Recreation Master Plan was completed in April 2012 and includes planning for parking, trail design, and area resource interpretation. The Recreation Master Plan will continue to be updated as needed and appropriate.

5.6.3 Public Access Carrying Capacity

Baseline carrying capacities for users on the FWC-managed lands are established by conducting a site-specific sensitivity analysis using available data for the site. The intent of the carrying capacity analysis is to minimize wildlife and habitat disturbance and provide the experience of being "immersed in nature" that visitors to the FWC-managed areas desire. Carrying capacities are just a first step; management of recreational use requires a means of monitoring visitor impacts. Responding to these impacts may require adjusting the carrying capacities as necessary. The carrying capacities generated through this process are used as a tool to help plan and develop public access, wildlife viewing, and fish and wildlife resource based public outdoor recreation opportunities. Based on an analysis of the overall approved uses and supported public access user opportunities, and the anticipated proportional visitation levels of the various user groups, the FWC has determined that the TNRWMA can currently support 504 visitors per day. It is important to note that public access carrying capacities are not developed to serve as a goal for expanding the public use of a particular area to match the established carrying capacity. Rather, they are developed to establish maximum thresholds for public use of the respective area in order to protect the natural and historical resources on the TNRWMA and to ensure that visitors will have a high-quality visitor experience. The public access carrying capacity will be periodically reevaluated, and additional capacity may be contemplated as needed and appropriate.

5.6.4 Wildlife Viewing

The TNRWMA is home to a variety of resident wildlife found within its mesic flatwoods and other natural communities. The TNRWMA's size and variety of habitat types create outstanding wildlife viewing opportunities.

5.6.5 Hunting

Currently, the TNRWMA offers several hunting opportunities, including special opportunity deer and turkey hunts, wild hog quota hunts, and a small game season.

5.6.6 Fishing

Fishing is authorized year-round at the TNRWMA.

5.6.7 Trails

Currently, there are 15.37 miles of multi-use trails on the TNRWMA which connects to the Florida National Scenic Trail. The FWC determines the feasibility of adding additional trails when developing Recreation Master Plans. The FWC will continue to periodically reevaluate the potential for trail connectivity to other conservation areas and will monitor trails for user impacts to natural communities.

5.6.8 Bicycling

Bicycling is permitted year-round on the TNRWMA.

5.6.9 Equestrian

Currently, the TNRWMA offers marked, multi-use trails that are available for equestrian users except during hunting season. The main entrance of TNRWMA contains a parking area suitable for trailers.

5.6.10 Camping

During hunting season, camping is authorized in designated areas on the TNRWMA.

5.6.11 Shooting Range Facilities

It is the mission of the FWC Hunter Safety and Public Shooting Range Section, to continue the heritage of hunting by developing safe, responsible, and knowledgeable hunters. Hunter education is essential to the success of many of the FWC's responsibilities. Education of the hunting community about the proper use of firearms, protection afforded endangered species, and the importance of protection of wildlife habitat are all significant aspects of the FWC's duties.

There was a series of site analyses of prospective lands within the vicinity to determine potential areas where a shooting sports complex might be most appropriate. It was determined that the TNRWMA had a high level of feasibility due to its isolated location, facility requirements, and low impact on the TNRWMA natural communities.



Elements of the current shooting range facilities located on the TNRWMA include the following:

- 20-position 200-yard rifle range
- 28-position 50/100-yard rifle range

- 34-position 15/25-yard handgun range
- Automated 19-station sporting clays course
- Automated 5-stand sporting clays course
- 10-station 3D archery course
- 5 field archery targets
- Classroom-Training Room
- Pro-Shop

To facilitate recreational opportunities on the area, the FWC has continued to establish and maintain the shooting range facilities. Further planned public access facility improvements are detailed in Section 6 below. Ongoing public access and recreational opportunity management challenges are addressed in Section 7 below.

5.6.12 Geocaching

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

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

5.7 Hydrological Preservation and Restoration

5.7.1 Hydrological Assessment

A hydrological assessment for the TNRWMA was completed in 2019. The FWC will coordinate with the SJRWMD to implement the recommendations and will continue to evaluate the status of the natural communities on the TNRWMA.

5.8 Forest Resource Management

A Timber Assessment of the timber resources on the TNRWMA was conducted by the Florida Forest Service in 2012. The management of timber resources will be considered in the context of the Timber Assessment and the overall land management goals and activities.

Timber resources include some areas in need of thinning for habitat improvement. Thinning of the forest over-story, hydrological restoration, and prescribed burning are the

most important factors in re-establishment of natural communities and the enhancement of wildlife habitats in these areas. Upland pine forest planted with off-site pines will be reforested with longleaf pine or other on-site species as appropriate. Degraded or disturbed bottomland hardwood sites will be encouraged to reforest naturally with native wetland oaks, hardwoods, and other appropriate native plant species.

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

5.9 Historical Resources

Procedures outlined by the DHR will be followed to preserve the historical sites of the TNRWMA. The FWC will consult with the DHR in an attempt to locate any additional historical features on the area. In addition, the FWC will ensure management staff has the DHR Archaeological Resources Monitoring training. The FWC will refer to and follow the 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, the FWC will contact professionals from the DHR for assistance prior to any ground-disturbing activity on the TNRWMA.

To date, the DHR Master Site File indicates two known historic sites on the TNRWMA. The FWC will submit subsequently located historic sites on the TNRWMA to the DHR for inclusion in their Master Site File. In cooperation with the DHR, none of the overall known historic sites on the TNRWMA have been identified as meeting the DHR's special criteria for annual monitoring and reporting. However, the FWC will continue to monitor the two sites that are located on the area on an annual basis.

5.10 Capital Facilities and Infrastructure

The FWC's land management philosophy is designed to conserve the maximum amount of wildlife habitat while providing the minimal number of capital facilities and infrastructure necessary to effectively conduct operational and resource management activities and provide ample opportunities for fish and wildlife resource based public outdoor recreation. For these reasons, planned capital facilities and infrastructure will focus on improving access, recreational potential, hydrology, or other resource and operational management objectives. Planning capital facility and infrastructure improvements on the area are further outlined in Section 6 and Figure 12 below.

Current capital facilities and infrastructure on the TNRWMA include:

- 31 miles of primary roads
- 94 miles of firebreaks and access roads
- 15.73 miles of trails
- Check station
- Walk-in entrance
- Four picnic areas
- Two residence areas
- Office Complex
- Entrance Area
- Three pump stations
- Shooting Range
- Shooting Range Shop Area

As described in Section 5.6.1 of this Management Plan, for any public facilities that are developed on areas managed by the FWC, every effort is made to comply with the Americans with Disabilities Act (Public Law 101-336).

5.11 Land Conservation and Stewardship Partnerships

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

5.11.1 Optimal Resource Boundary

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

5.11.2 Optimal Conservation Planning Boundary

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

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

5.11.3 Conservation Action Strategy

The CAS (Appendix 12.13) 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/ .

5.11.4 FWC Florida Forever Additions and Inholdings Acquisition List

The FWC Additions and Inholdings Acquisition list identifies lands within or adjacent to FWC-managed areas that are important for the conservation of fish and wildlife, serve as a link or corridor to other publicly owned property, enhance the protection or management of the property, would create a more manageable boundary configuration, have a high resource value that would otherwise be unprotected, or that could be acquired at substantially less than fair market value. Parcels on the list have been ranked high, medium, or low priority based on a score generated by a GIS-based resource evaluation model, along with technical input from FWC staff.

The order of acquisition priority may be changed as necessary based on factors including available funding necessary to complete a particular acquisition project, changing development pressures, landowner willingness, funding partnerships, unique acquisition opportunities like bargain sales (less than 80% of appraised value), and donations.

The FWC Additions and Inholdings list is updated through time, thus staying up-to-date for land ownerships, County parcel records, land conservation opportunities, and evolving management challenges. The FWC continually analyzes, evaluates, and prioritizes its recommended conservation actions in a systematic, comprehensive, and consistent manner over time. Participation in any of these FWC acquisition efforts is entirely voluntary and at the sole choice of willing landowners.

Currently, FWC has identified 10,159 acres of potential additions or privately held inholdings for the TNRWMA. In addition, 41,872 acres of the Big Bend Swamp/Holopaw Ranch Florida Forever project remain to be acquired; 27,500 acres remain in the Osceola Pine Savannas Ranch Florida Forever Project; and 12,516 acres remain in the Ranch Reserve Florida Forever Project. Additions to the FWC Florida Forever Additions and Inholdings acquisition list may be recommended. Further information can be found in Appendix 12.13.

5.12 Research Opportunities

The FWC intends to cooperate with researchers, universities, and others as feasible and appropriate. For the TNRWMA, the FWC will continue to assess and identify research and

environmental education partnership opportunities, as appropriate. Research proposals involving the use of the area are evaluated on an individual basis. All research activities on the TNRWMA must have prior approval by the FWC.

5.13 Cooperative Management and Special Uses

5.13.1 Cooperative Management

The FWC is responsible for the overall management and operation of the TNRWMA as set forth in the lease agreements with the Board of Trustees and the SJRWMD. In keeping with the lease agreements, and in order to conduct its management operations in the most effective and efficient manner, the FWC cooperates with other agencies to achieve management goals and objectives described in this management plan. These include cooperating with the DHR to ensure the requirements of the Management Procedures Guidelines - Management of Archaeological and Historical Resources document (Appendix 12.16) are followed with regard to any ground-disturbing activities. In addition, the FFS assists the FWC by providing technical assistance on forest resource management. Also, the FWC cooperates and consults with the SJRWMD and DEP for the monitoring and management of both ground and surface water resources and the overall management of the TNRWMA.

5.13.2 First Responder and Military Training

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

5.13.3 Cattle Grazing

As previously discussed, cattle grazing occurred on the TNRWMA for a long time prior to state acquisition of the property. Presently, cattle grazing is utilized as a management tool on a portion of the TNRWMA through a cattle-grazing lease. Approximately 902 acres of the TNRWMA are under a cattle-grazing agreement with lessee 4-L Land and Cattle LLC.

The cattle grazing agreement is subject to Prescribed Grazing Plans which ensure that cattle grazing is used as a tool to assist in the management of wildlife habitat and allows for grazing to be adjusted in order to address management and resource concerns. These Prescribed Grazing Plans set forth cattle stocking rates and grazing systems in order to

manage wildlife habitat and maintain stable and desired plant communities.

The current cattle grazing agreement is set to be renewed in 2023. Pending the possible renewal of the agreement in 2023, in 2028 the contract will be rebid, at which time the FWC will review the acreage being grazed and will solicit competitive bids for any proposed future grazing of those areas of the TNRWMA.

5.13.4 Apiaries

Currently, there is no apiary contract operating on the TNRWMA. Use of apiaries is conditionally approved for the TNRWMA, is deemed to be consistent with purposes for acquisition, is in compliance with the Conceptual State Lands Management Plan, and is consistent with the FWC agency mission, goals, and objectives as expressed in the agency Strategic Plan and priorities document (Appendix 12.9). Location, management, and administration of apiaries on the TNRWMA will be guided by the FWC Apiary Policy (Appendix 12.10).

The FWC Apiary Policy (Appendix 12.10) will be followed with regards to site location, management, and administration of apiaries.

5.14 Climate Change

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

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

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; [10, 11, 12] more frequent invasions and outbreaks of exotic and invasive species;[13] and loss of habitat in coastal areas due to sea level rise.[14] Some species are projected to adjust to these conditions through ecological or evolutionary adaptation, whereas others are projected to exhibit range shifts as their distributions track changing climatic conditions. Those species that are unable to respond to changing climatic conditions are projected to go extinct. Some estimates suggest that as many as 20% - 30% of the species currently assessed by the IPCC are at risk of extinction within this century if global mean temperatures exceed increases of 2.7 – 4.5° F.[15] A number of ecosystems are projected to be affected at temperature increases well below these levels.

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

For these reasons, there is a continuing need for increased information and research to enable adaptive management to cope with potential long-term climate change impacts. The most immediate actions that the FWC can take are to work with partners to gather the best scientific data possible for understanding natural processes in their current state, model possible impacts and subsequent changes from climate change, develop adaptive management strategies to enhance the resiliency of natural communities to adapt to climate change, and formulate criteria and monitoring for potential impacts when direct intervention may be necessary to protect a species. To this end, when appropriate, the FWC will participate in organizations such as the Peninsular Florida Land Conservation Cooperative or similar organizations so that the FWC continues to gain understanding and share knowledge of key issues related to potential climate change. In addition, the FWC will consider the need for conducting vulnerability assessments to model the potential effects of climate change, especially sea level rise and storm events, on imperiled species and their habitats on FWC managed land.

To address the potential impacts of climate change on the TNRWMA, Goals and Objectives have been developed as a component of this Management Plan (Section 6.11). Depending on the recommendations of the adaptive management strategies described above, additional specific goals and objectives to mitigate potential climate change impacts may be developed for the TNRWMA Management Plan in the future.

5.15 Soil and Water Conservation

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

6 Resource Management Goals and Objectives

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

6.1 Habitat Restoration and Improvement

Goal: Improve extant habitat and restore disturbed areas.

Long-term (UP TO 10 YEARS)

6.1.1 Utilize OBVM monitoring to evaluate actively managed natural communities and adjust management efforts to meet desired future conditions.

6.1.2 Continue to implement prescribed burn plan (Appendix 12.11).

6.1.3 Continue to conduct habitat/natural community improvements as necessary.

6.1.4 Continue to conduct habitat/natural community restoration activities as necessary.

6.1.5 Contract recertification of current natural community mapping.

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

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

Long-term

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

6.2.2 Continue to collect and record opportunistic wildlife species occurrence data.

6.2.3 Update WCPR Strategy.

6.3 Other Wildlife (Game and Nongame) Habitat Maintenance, Enhancement, Restoration, and Population Restoration.

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

Long-term

6.3.1 Continue to monitor locally important wildlife species, as identified in the WCPR strategy.

6.3.2 Continue to collect biological harvest data at check station.

6.3.3 Continue to collect opportunistic wildlife occurrence data.

6.3.4 Continue to maintain food plots.

6.3.5 Continue to monitor nest boxes.

6.3.6 Continue to conduct annual spotlight surveys for white-tailed deer.

6.3.7 Implement inventory-style monitoring to develop a comprehensive species list for the area.

6.4 Exotic and Invasive Species Maintenance and Control

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

Long-term

6.4.1 Monitor the TNRWMA for the level of infestation of FLEPPC Category I and Category II invasive and exotic plant species and treat as needed and appropriate (Table 5).

6.4.2 Stay current on best management practices and methodologies per invasive plant species. Apply proper treatment intervals to ensure control is achieved. Contact the Invasive Plant Management section for assistance and contracting needs.

6.4.3 Contract to implement and explore additional control measures on exotic and nuisance animal species.

6.5 Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities.

Short-term

6.5.1 Establish a primitive campsite along the FNST.

6.5.2 Establish a designated walk-in entrance from Holopaw Community Park.

Long-term

6.5.1 Continue to implement Recreation Master Plan and update if warranted by new acquisitions or other changes.

6.5.2 Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 504 visitors per day.

6.5.3 Continue to provide interpretative signs, website, kiosks, and a trail map for interpretation and education.

6.5.4 Assess the need for and feasibility of enhancing equestrian access and amenities.

6.5.5 Construct improved equestrian facilities if deemed necessary and feasible.

6.5.6 Explore opportunities to further promote recreational activities on the area.

6.5.7 Continue to maintain 15.73 miles of designated trails.

6.5.8 Monitor trails annually for visitor impacts.

6.5.9 Continue to provide hunting opportunities for deer, turkey, small game, and feral hogs.

6.5.10 Continue to provide camping opportunities on the area.

6.5.11 Continue to provide fishing opportunities on appropriate water bodies.

6.5.12 Cooperate as needed 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.

6.5.13 Cross-promote the TNRWMA with the HHBCWMA and the TLWMA. Explore the three WMAs from a regional perspective and an individual perspective.

6.5.14 Explore the feasibility of expanding fishing opportunities on retention pond near the shooting range facilities, including a fishing pier and associated ADA accessibility.

6.6 Hydrological Preservation and Restoration

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

Long-term

6.6.1 To enhance natural hydrological functions, continue to install and maintain low-water crossings and culverts as appropriate.

6.6.2 Continue to implement hydrological restoration plan as feasible and appropriate.

6.6.3 Continue to cooperate with the SJRWMD for the monitoring of surface and ground water quality and quantity.

6.7 Forest Resource Management

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

Long-term

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

6.7.2 Cooperate with FFS to assess the need for an updated timber assessment.

6.8 Historical Resources

Goal: Protect, preserve, and maintain the historical resources on the TNRWMA.

Long-term

6.8.1 Ensure all known sites are recorded in the DHR Master Site file.

6.8.2 Cooperate with the DHR in designing site plans for development of infrastructure.

6.8.3 Cooperate with the DHR to manage and maintain known existing historical resources.

6.8.4 Continue to monitor, protect, and preserve as necessary two identified sites.

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

6.8.6 Continue to follow DHR's Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties for the management of cultural and historic resources.

6.9 Capital Facilities and Infrastructure

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

Long-term

6.9.1 Monitor trails and infrastructure annually for visitor impacts.

6.9.2 Continue to maintain and improve 17 facilities.

6.9.3 Continue to maintain and improve 125.34 miles of roads.

6.9.4 Continue to maintain 15.73 miles of trails existing on site.

6.9.5 Assess public access structures and plan for repair or renovations as needed.

6.9.6 Continue to maintain using best management practices Rifle/pistol range, sporting clay range, pro shop, classroom, and access roads in association with the shooting range facilities.

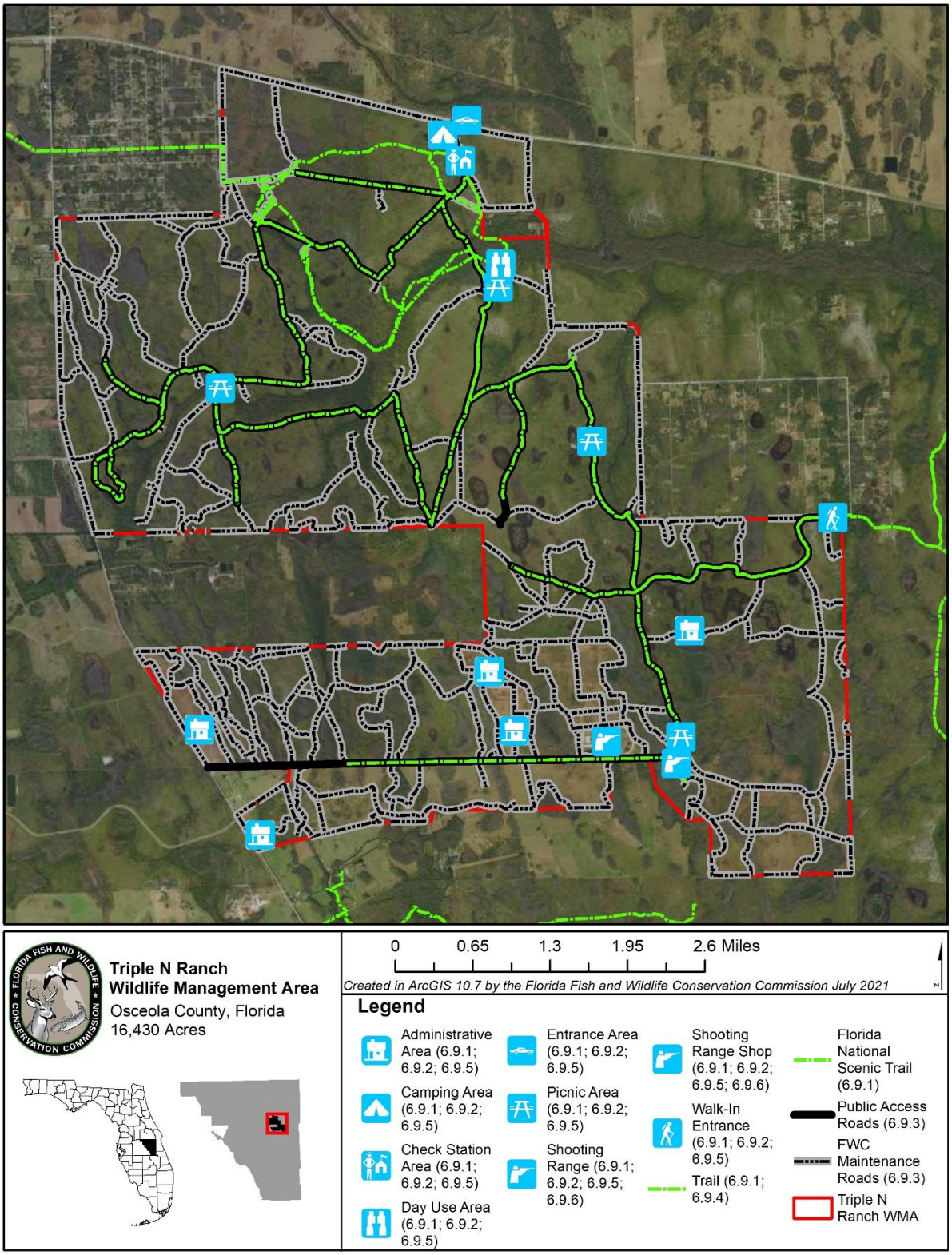


Figure 12. Facilities on the TNRWMA

6.10 Land Conservation and Stewardship Partnerships

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

Long-term

6.10.1 Continue to identify and evaluate potential important wildlife habitat, landscape-scale linkages, wildlife corridors, and operational management needs, and update the OCPB for TNRWMA as appropriate and necessary.

6.10.2 Continue to contact and inform adjoining private landowners about the FWC Landowners Assistance Program, and coordinate with public entities to pursue conservation stewardship partnerships.

6.10.3 Continue to evaluate and identify FWC inholdings and additions priority parcels for potential conservation acquisition and pursue acquisitions as funding allows.

6.10.4 Continue to maintain a GIS shapefile and other necessary data to facilitate nominations within the FWC OCPB for the FWC landowner assistance and conservation acquisition programs.

6.10.5 Continue to update the FWC CAS for the TNRWMA as necessary.

6.10.6 Continue to identify potential non-governmental land stewardship organization partnerships and grant program opportunities.

6.10.7 Determine the efficacy of conducting a landowner assistance/conservation stewardship partnership workshop(s) and pursue as necessary and appropriate.

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

6.11 Climate Change

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

Long-term

6.11.1 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 TNRWMA.

6.11.2 As appropriate, update the TNRWMA Prescribed Fire Plan, WCPR Strategy, and Recreation Master Plan to incorporate new scientific information regarding projected climate change.

6.11.3 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.

6.12 Cooperative Management, Special Uses, and Research Opportunities

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

Long Term

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

6.12.2 Continue to collaborate with Central Florida Expressway Authority and other partners on roadway projects adjacent to the TNRWMA or projects that may affect the TNRWMA.

6.12.3 Coordinate and cooperate with Department of Defense military branches to allow for training opportunities for military personnel and other initiatives as appropriate and compatible with the conservation of TNRWMA.

7 Resource Management Challenges and Strategies

The following section identifies and describes further management needs and challenges associated with the TNRWMA 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.

7.1 Challenge 1: Currently, the FWC aims to meet FWC law enforcement and management staff standards and needs.

7.1.1 Strategy: Agency staff levels will continue to be evaluated to determine if increased staffing or other alternatives can improve management needs.

7.1.2 Strategy: Pursue funding for increased law enforcement, management staffing, and additional private sector contract services as appropriate.

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

7.2 Challenge 2: While currently at minimal levels, unauthorized access, illegal dumping, vandalism, poaching, and unauthorized off-road vehicle (ORV) use may pose an increased threat in the future.

7.2.1 Strategy: Continue to provide area-wide security through FWC law enforcement patrols.

7.3 Challenge 3: Potential future development on adjacent lands can result in incompatible land uses increasing management challenges for the area.

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

7.4 Challenge 4: The TNRWMA's proximity to major roadways and residential areas presents significant smoke management challenges during prescribed burning.

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

7.5 Challenge 5: Exotic and invasive plant infestations continue to be an ongoing challenge on the area.

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

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

7.6 Challenge 6: The TNRWMA is not a widely known recreational destination.

7.6.1 Strategy: Continue to foster, coordinate, and communicate with existing and future partnerships.

7.6.2 Strategy: Cross promote the TNRWMA with other regional conservation lands.

8 Cost Estimates and Funding Sources

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

The cost estimate below, although exceeding what the FWC typically receives through the appropriations process, is estimated to be what is necessary for optimal management and is consistent with the current and planned resource management and operation of the TNRWMA. Cost estimate categories are those currently recognized by the FWC and the Land Management Uniform Accounting Council. More information on these categories, as well as the Fiscal Year 2020-2021 operational plan showing detailed cost estimates by activity and categories of expenditures, may be found in Appendix 12.18.

Triple N Ranch WMA Management Plan Cost Estimate	*Maximum expected one-year expenditure*
Resource Management	Expenditure
Exotic Species Control	$210,491
Prescribed Burning	$41,984
Cultural Resource Management	$296
Timber Management	$591
Hydrological Management	$201,626
Vegetation Management/Monitoring	$46,992
Wildlife Management/Monitoring	$52,545
Subtotal	**$554,526**
Administration	
General administration	**$23,468**
Support	
Land Management Planning	$20,167
Management Reviews	$0
Training/Staff Development	$27,823
Vehicle Purchase	$452,132
Vehicle Operation and Maintenance	$63,397
Other (Technical Reports, Data Management, etc.)	$87,001
Internal Program Review	$6,171
Technology and Data Management	$30,689
Subtotal	**$2,089,226**
Capital Improvements	
New Facility Construction	$0
Facility Maintenance	$265,016
Subtotal	**$265,016**
Visitor Services/Recreation	
Info/Education/Operations	**$9,932**
Law Enforcement	
Resource protection	**$296**
Total	**$2,942,463**

*Based on the characteristics and requirements of this area, 10 FTE positions would be optimal to fully manage this area. All land management funding is dependent upon annual legislative appropriations.

Triple N Ranch WMA Management Plan Cost Estimate	***Ten-year projection***		
Resource Management	Expenditure	Priority	Priority schedule:
Exotic Species Control	$1,849,399	(1)	(1) Immediate (annual)
Prescribed Burning	$368,880	(1)	*(2) Intermediate (3-4 years)*
Cultural Resource Management	$2,596	(1)	**(3) Other (5+ years)**
Timber Management	$5,193	(1)	
Hydrological Management	$1,771,509	(1)	
Vegetation Management/Monitoring	$412,878	(1)	
Wildlife Management/Monitoring	$461,670	(1)	
Subtotal	**$4,872,125**		
Administration			
General administration	**$206,189**	(1)	
Support			
Land Management Planning	$177,190	(1)	
Management Reviews	$5,749	(3)	
Training/Staff Development	$244,456	(1)	
Vehicle Purchase	$4,933,151	(2)	
Vehicle Operation and Maintenance	$557,016	(1)	
Other (Technical Reports, Data Management, etc.)	$764,402	(1)	
Internal Program Review	$54,220	(1)	
Technology and Data Management	$269,641	(1)	
Subtotal	**$7,005,830**		
Capital Improvements			
New Facility Construction	$469,554	(2)	
Facility Maintenance	$2,328,460	(1)	
Subtotal	**$2,798,014**		
Visitor Services/Recreation			
Info/Education/Operations	**$87,263**	(1)	
Law Enforcement			
Resource protection	**$2,596**	(1)	
Total	**$14,972,017***	*	

*Based on the characteristics and requirements of this area, 10 FTE positions would be optimal to fully manage this area. All land management funding is dependent upon annual legislative appropriations.

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

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

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

10 Compliance with Federal, State, and Local Governmental Requirements

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

When public facilities are developed on areas managed by the FWC, every effort is made to comply with Public Law 101 - 336, the Americans with Disabilities Act. As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions (e.g., where handicap access is structurally

impractical or where providing such access would change the fundamental character of the facility being provided).

Uses planned for the TNRWMA are in compliance with the Conceptual State Lands Management Plan and its requirement for "balanced public utilization," and are in compliance with the mission of the FWC as described in its Agency Strategic Plan (Appendix 12.9). Such uses also comply with the authorities of the FWC as derived from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters, 253, 259, 327, 370, 373, 375, 378, 379, 403, 487, 597, and 870 F.S..

The FWC has developed and utilizes an Arthropod Control Plan for the Osceola in compliance with Chapter 388.4111 F.S. (Appendix 12.19). This plan was developed in cooperation with the local Osceola County arthropod control agency. This plan is also in conformance with the Local Government Comprehensive Plan as approved and adopted for Osceola County, Florida, (Appendix 12.20).

11 Endnotes

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12 Appendices

12.1 Lease Agreements

12.1.1 Lease Agreement No. 4226

SAL3

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT
TRUST FUND OF THE STATE OF FLORIDA
3,280.5 Acres

LEASE AGREEMENT
TRIPLE N RANCH II
Lease Number 4226

This lease is made and entered into this 3rd day of May, 2000, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR", and the STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as "LESSEE".

WITNESSETH:

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

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

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

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

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

3. TERM: The term of this lease shall be for a period of fifty years, commencing on May 3, 2000, and ending on May 2, 2050, unless sooner terminated pursuant to the provisions of this lease.

4. PURPOSE: LESSEE shall manage the leased premises only for the conservation and protection of natural and historical resources and resource based public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 259.032(11), Florida Statutes, along with other related uses necessary for the accomplishment of this purpose as designated in the Management Plan required by paragraph 7 of this lease.

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

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

7. MANAGEMENT PLAN: LESSEE shall prepare and submit a Management Plan for the leased premises, in accordance with Section 253.034, Florida Statutes, and subsection 18-2.021(4), Florida Administrative Code, within twelve months of the effective date of this lease. The Management Plan shall be submitted to LESSOR for approval through the Division of State Lands. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written

approval of LESSOR until the Management Plan is approved. The Management Plan shall emphasize the original management concept as approved by LESSOR at the time of acquisition which established the primary public purpose for which the leased premises were acquired. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by LESSEE and LESSOR at least every five years. LESSEE shall not use or alter the leased premises except as provided for in the approved Management Plan without the prior written approval of LESSOR. The Management Plan prepared under this lease shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management Plan.

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

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

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

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

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

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

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

a. After consultation with the LESSEE, LESSOR agrees to provide the LESSEE with the title, survey and

environmental products procured by the LESSOR, prior to closing.

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

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

d. With regard to all title defects, survey matters, or environmental contamination associated with the leased premises which were not known or could not have been reasonably known by LESSOR at the time LESSOR acquired the leased premises, LESSOR and LESSEE agree to cooperate in developing an appropriate strategy for jointly resolving these matters. LESSOR acknowledges and understands that LESSEE is unable to commit any substantial amount of its routine operating funds for

the resolution of any title defect, survey matter, or environmental contamination associated with the lease premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE'S attorney's fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.

15. SURRENDER OF PREMISES: Upon termination or expiration of this lease, LESSEE shall surrender the leased premises to LESSOR. In the event no further use of the leased premises or any part thereof is needed, written notification shall be made to the Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this lease number and an explanation of the release. The release shall only be valid if approved by LESSOR through execution of a release of lease instrument with the same formality as this lease. Upon release of all or any part of the leased premises or upon expiration or termination of this lease, all permanent improvements, including both physical structures, and modifications to the leased premises, shall become the property of LESSOR, unless LESSOR gives written notice to LESSEE to remove any or all such improvements at the expense of LESSEE. The decision to retain any improvements upon termination of this lease shall be at LESSOR'S sole discretion. Prior to surrender of all or any part of the leased premises, a representative of the Division of State Lands shall perform an on-site inspection and the keys to any buildings on the leased premises shall be turned over to the Division. If the leased premises and improvements located thereon do not meet all conditions set

forth in paragraphs 18 and 21 herein, LESSEE shall pay all costs necessary to meet the prescribed conditions.

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

17. PUBLIC LANDS ARTHROPOD CONTROL PLAN: LESSEE shall identify and subsequently designate to the respective arthropod control district or districts within one year of the effective date of this lease all of the environmentally sensitive and biologically highly productive lands contained within the leased premises, in accordance with Section 388.4111, Florida Statutes and Chapter 5E-13, Florida Administrative Code, for the purpose of obtaining a public lands arthropod control plan for such lands.

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

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

20. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of LESSEE in accordance with plans prepared by professional designers and shall require the prior written approval of LESSOR as to purpose location, and design. Further, no trees, other than non-native species, shall be removed or major land alterations done without the prior written approval of LESSOR. Removable equipment placed on the leased premises by

LESSEE which do not become a permanent part of the leased premises will remain the property of LESSEE and may be removed by LESSEE upon termination of this lease.

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

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

23. BREACH OF COVENANTS, TERMS, OR CONDITIONS: Should LESSEE breach any of the covenants, terms, or conditions of this lease, LESSOR shall give written notice to LESSEE to remedy such breach within sixty days of such notice. In the event LESSEE fails to remedy the breach to the satisfaction of LESSOR within sixty days of receipt of written notice, LESSOR may either terminate this lease and recover from LESSEE all damages LESSOR may incur by reason of the breach including, but not limited to, the cost of recovering the leased premises or maintain this lease in full force and effect and exercise all rights and remedies herein conferred upon LESSOR.

24. NO WAIVER OF BREACH: The failure of LESSOR to insist in any one or more instances upon strict performance of any one or more

of the covenants, terms and conditions of this lease shall not be construed as a waiver of such covenants, terms and conditions, but the same shall continue in full force and effect, and no waiver of LESSOR of any one of the provisions hereof shall in any event be deemed to have been made unless the waiver is set forth in writing, signed by LESSOR.

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

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

27. DAMAGE TO THE PREMISES: (a) LESSEE shall not do, or suffer to be done, in, on or upon the leased premises or as affecting said leased premises or adjacent properties, any act which may result in damage or depreciation of value to the leased premises or adjacent properties, or any part thereof. (b) LESSEE shall not generate, store, produce, place, treat, release or discharge any contaminants, pollutants or pollution, including, but not limited to, hazardous or toxic substances, chemicals or other agents on, into, or from the leased premises or any adjacent lands or waters in any manner not permitted by law. For the purposes of this lease, "hazardous substances" shall mean and include those elements or compounds defined in 42 USC Section 9601 or which are contained in the list of hazardous substances adopted by the United States Environmental Protection Agency (EPA) and the list of toxic pollutants designated by the United

States Congress or the EPA or defined by any other federal, state or local statute, law, ordinance, code, rule, regulation, order or decree regulating, relating to, or imposing liability or standards of conduct concerning any hazardous, toxic or dangerous waste, substance, material, pollutant or contaminant. "Pollutants" and "pollution" shall mean those products or substances defined in Chapters 376 and 403, Florida Statutes, and the rules promulgated thereunder, all as amended or updated from time to time. In the event of LESSEE'S failure to comply with this paragraph, LESSEE shall, at its sole cost and expense, promptly commence and diligently pursue any legally required closure, investigation, assessment, cleanup, decontamination, remediation, restoration and monitoring of (1) the leased premises, and (2) all off-site ground and surface waters and lands affected by LESSEE'S such failure to comply, as may be necessary to bring the leased premises and affected off-site waters and lands into full compliance with all applicable federal, state or local statutes, laws, ordinances, codes, rules, regulations, orders and decrees, and to restore the damaged property to the condition existing immediately prior to the occurrence which caused the damage. LESSEE'S obligations set forth in this paragraph shall survive the termination or expiration of this lease. Nothing herein shall relieve LESSEE of any responsibility or liability prescribed by law for fines, penalties and damages levied by governmental agencies, and the cost of cleaning up any contamination caused directly or indirectly by LESSEE'S activities or facilities. Upon discovery of a release of a hazardous substance or pollutant, or any other violation of local, state or federal law, ordinance, code, rule, regulation, order or decree relating to the generation, storage, production, placement, treatment, release or discharge of any contaminant, LESSEE shall report such violation to all applicable governmental agencies having jurisdiction, and to

LESSOR, all within the reporting periods of the applicable governmental agencies.

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

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

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

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

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

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

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

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

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

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

Judy Woodard
Witness

Judy Woodard
Print/Type Witness Name

Florence Davis
Witness

Florence Davis
Print/Type Witness Name

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

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 3rd day of May 2000, by Gloria C. Nelson, as Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Florida Department of Environmental Protection, acting as agent on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.

Sylvia D. Roberts
Notary Public, State of Florida

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

Print\Type Notary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality

By: _____
DEP Attorney

STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Brenda Collins
Witness
Brenda Collins
Print/Type Witness Name

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

Title: Assistant Executive Director

Cynthia Ward
Witness
Cynthia Ward
Print/Type Witness Name

"LESSEE"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 12th day of April, 2000, by Victor J. Heller as Assistant Executive Director, Florida ~~Department of~~ Fish and Wildlife Conservation Commission. He/~~she~~ is personally known to me or produced _____ as identification.

Jimmie C. Bevis
Notary Public, State of Florida
JIMMIE C. BEVIS
Print/Type Notary Name

Commission Number
Commission Expires

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

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
Commission Attorney

EXHIBIT "A"
LEGAL DESCRIPTION OF LEASED PREMISES FOR BOOK 1396 PAGE 597
95 63336

Prepared by and Return to:
T. Michael Woods, Attorney
333 North Orange Avenue, Suite 208
Orlando, Florida 32801
Tax Assessment I.D. #20-19-29-0003 0000 00301

REC 13.00 RECEIVED FOR
TF 2.00 EXCISE TAXES
MORT. DOC
DEED DOC .70
INT
JAMES C. WATKINS, CLERK LAKE CO. FL
IND 4.00
BY D.C.

THIS DEED GIVEN WITHOUT CONSIDERATION TO CLEAR TITLE

QUIT CLAIM DEED

(Wherever used herein the terms "first party" and "second party" shall include singular and plural, heirs, legal representatives, and assigns of individuals, and the successors and assigns of corporations, wherever the context so admits or requires.)

THIS INDENTURE, made this 16th day of October, A.D. 1995,

BETWEEN, MAURY L. CARTER AND PAMELA LEE WRAY, AS TRUSTEES OF AN UNDIVIDED 41.07% INTEREST; DARYL M. CARTER AND PAMELA LEE WRAY AS TRUSTEES OF AN UNDIVIDED 41.07% INTEREST, and MARY M. GREENDALE, PATRICIA T. POITRAS AND EDWARD W. POITRAS, AS TRUSTEES OF THE HILLTOP TRUST under agreement dated December 18, 1969, parties of the first part,

and **The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida,** party of the second part, of 3900 Commonwealth Blvd., #438, Tallahassee, Florida 32399

WITNESSETH, that the said party of the first part, for and in consideration of the sum of ten dollars to them in hand paid by the said parties of the second part, the receipt whereof is hereby acknowledged, has granted, bargained, and sold, and by these presents does hereby remise, release and quit-claim unto to the said parties of the second part, their heirs and assigns forever, all the right, title, interest, claim and demand which the said first party has in and to the following described property:

that part of the southwest quarter of the southeast quarter of Section 20, Township 19 South, Range 29 East lying south of State Road 46

said aforementioned land being situate, and in the County of Lake, State of Florida.

IN WITNESS WHEREOF, the said party of the first part has caused its appropriate officer to set his hand and affix the seal of the corporation the day and year first above written.

Signed, sealed and delivered in the presence of:

Witness:

Sign: Joan M Fisher
Print name: Joan M. Fisher
Sign: x R. Matthew Mayberry
Print name: R. Matthew Mayberry

Maury L. Carter, Trustee
P. O. Box 568821
Orlando, Florida 32856-8821

Sign: Joan M Fisher
Print name: Joan M. Fisher
Sign: x R. Matthew Mayberry
Print name: R. Matthew Mayberry

Daryl M Carter, Trustee
P. O. Box 568821
Orlando, Florida 32856-8821

Sign: Joan M Fisher
Print name: Joan M. Fisher
Sign: R. Matthew Mayberry
Print name: R. Matthew Mayberry

Pamela Lee Wray
Pamela Lee Wray, Trustee
P. O. Box 568821
Orlando, Florida 32856-8821

NO. 4226
EXHIBIT A
PAGE 15 OF 29

ADF-77000691

Sign: Melanie Morgan
Print name: Melanie Morgan
Sign:
Print name:

The Hilltop Trust u/a dtd. 12/18/69
by: Mary M. Greendale
Mary M. Greendale, as Trustee
P. O. Box 568821
Orlando, Florida

Sign: Melanie Morgan
Print name: Melanie Morgan
Sign:
Print name:

The Hilltop Trust u/a dtd. 12/18/69
by:
Patricia T. Poitras, as Trustee
P. O. Box 568821
Orlando, Florida

Sign: Ruth Morley
Print name: Ruth Morley
Sign: Joan M Fisher
Print name: Joan M Fisher

The Hilltop Trust u/a dtd. 12/18/69
by: Edward W Poitras
Edward W Poitras, as Trustee
P. O. Box 568821
Orlando, Florida

STATE OF FLORIDA
COUNTY OF ORANGE

The foregoing instrument was acknowledged before me this 19th day of Sept. 1995, by Maury L. Carter, Jr. who is personally known to me, ☐ produced a driver's license (issued by a state of the United States within the last five (5) years) as identification, or ☐ produced other identification, to wit:_____, and who ☐ did ☐ did not take an oath.

Joan M Fisher

Print name:
Notary Public, State of
My commission expires:
Commission no.:

JOAN M. FISHER
MY COMMISSION # CC 290374
EXPIRES: June 22, 1997
Bonded Thru Notary Public Underwriters

STATE OF FLORIDA
COUNTY OF ORANGE

The foregoing instrument was acknowledged before me this 19th day of Sept. 1995, by Daryl M. Carter, Jr. who is personally known to me, ☐ produced a driver's license (issued by a state of the United States within the last five (5) years) as identification, or ☐ produced other identification, to wit:_____, and who ☐ did ☐ did not take an oath.

Joan M Fisher

Print name:
Notary Public, State of
My commission expires:
Commission no.:

JOAN M. FISHER
MY COMMISSION # CC 290374
EXPIRES: June 22, 1997
Bonded Thru Notary Public Underwriters

STATE OF FLORIDA
COUNTY OF ORANGE

The foregoing instrument was acknowledged before me this 20th day of Sept. 1995, by Pamela Lee Wray who is personally known to me, ☐ produced a driver's license (issued by a state of the United States within the last five (5) years) as identification, or ☐ produced other identification, to wit:_____, and who ☐ did ☐ did not take an oath.

Joan M Fisher

Print name:
Notary Public, State of
My commission expires:
Commission no.:

JOAN M. FISHER
MY COMMISSION # CC 290374
EXPIRES: June 22, 1997
Bonded Thru Notary Public Underwriters

NO. 4226
EXHIBIT A
PAGE 16 OF 29

STATE OF MASSACHUSETTS
COUNTY OF MIDDLESEX

MELANIE MORGON, Notary Public
My Commission Expires Jan. 4, 2002

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this 26 day of Sept, 1995, by Mary M. Greendale, ☒ who is personally known to me, ☐ produced a driver's license (issued by a state of the United States within the last five (5) years) as identification, or ☐ produced other identification, to wit: _____, and who ☐ did ☒ did not take an oath.

_____

Print name: _____
Notary Public, State of _____
My commission expires: _____
Commission no.: _____

STATE OF MASSACHUSETTS
COUNTY OF MIDDLESEX

MELANIE MORGON, Notary Public
My Commission Expires Jan. 4, 2002

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this 26 day of Sept, 1995, by Patricia T. Poitras, ☒ who is personally known to me, ☐ produced a driver's license (issued by a state of the United States within the last five (5) years) as identification, or ☐ produced other identification, to wit: _____, and who ☐ did ☒ did not take an oath.

_____

Print name: _____
Notary Public, State of _____
My commission expires: _____
Commission no.: _____

STATE OF MASSACHUSETTS
COUNTY OF MIDDLESEX

MELANIE MORGON, Notary Public
My Commission Expires Jan. 4, 2002

STATE OF FLORIDA
COUNTY OF ORANGE

The foregoing instrument was acknowledged before me this 16th day of October 1995, by Edward W. Poitras, ☒ who is personally known to me, ☐ produced a driver's license (issued by a state of the United States within the last five (5) years) as identification, or ☐ produced other identification, to wit: _____, and who ☐ did ☐ did not take an oath.

_____

Print name: _____
Notary Public, State of _____
My commission expires: _____
Commission no.: _____

JOAN M. FISHER
MY COMMISSION # CC 295374
EXPIRES: June 22, 1997
Bonded Thru Notary Public Underwriters

NO. 4226
EXHIBIT A
PAGE 17 OF 29

(BOOK 1340 PAGE 0092)

STATE OF FLORIDA
COUNTY OF ORANGE

The foregoing instrument was acknowledged before me this 12th day of August, 1996, by **PAMELA LEE WRAY**, as Trustee of the **METROWEST CHARITABLE REMAINDER TRUST** under Agreement dated 2/14/96. Such person did ~~not~~ take an oath and: *(notary must check applicable box)*

☒ is/~~are~~ personally known to me.

☐ produced a current Florida driver's license as identification.

☐ produced _____ as identification.

{Notary Seal must be affixed}

Signature of Notary Joan M Fisher

JOAN M. FISHER
MY COMMISSION # CC 290374
EXPIRES: June 22, 1997
Bonded Thru Notary Public Underwriters

Name of Notary (Typed, Printed or Stamped)

Commission Number (if not legible on seal): _____

My Commission Expires (if not legible on seal): _____

NO. _____
EXHIBIT _____
PAGE ____ OF ____

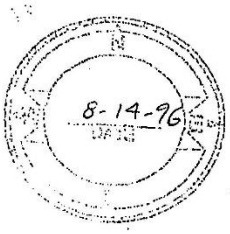
NO. 4226
EXHIBIT A
PAGE 19 OF 28

Exhibit "A"

Legal Description of the Property

A STRIP OF LAND LYING SOUTH OF AND CONTIGUOUS TO THE SOUTH LINE OF SECTION 36, TOWNSHIP 27 SOUTH, RANGE 32 EAST, OSCEOLA COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHEAST CORNER OF SAID SECTION 36 FOR THE POINT OF BEGINNING, SAID POINT BEING A REBAR AND CAP STAMPED "LB 4741", ON THE 4TH STANDARD PARALLEL AS RESTORED IN 1985 BY THE FLORIDA DEPARTMENT OF NATURAL RESOURCES; THENCE RUN SOUTH 00°03'05" EAST ALONG THE SOUTHERLY PROJECTION OF THE EAST LINE OF SAID SECTION 36, A DISTANCE OF 3.35 FEET; THENCE RUN NORTH 89°51' 58" WEST, A DISTANCE OF 2,022.75 FEET TO A 5" X 5" CONCRETE MONUMENT WITH A BRASS DISK STAMPED "OSCEOLA COUNTY"; THENCE RUN NORTH 89°50'59" WEST, A DISTANCE OF 1,097.89 FEET TO THE EASTERLY MAINTAINED RIGHT-OF-WAY OF U.S. HIGHWAY 441; THENCE RUN NORTH 14°26'52" WEST ALONG SAID MAINTAINED RIGHT-OF-WAY A DISTANCE OF 1.92 FEET TO A REBAR AND CAP STAMPED "LB 4741" ON THE AFORESAID 4TH STANDARD PARALLEL, BEING THE SOUTH LINE OF SAID SECTION 36; THENCE RUN SOUTH 89°49'34" EAST, ALONG SAID 4TH STANDARD PARALLEL, A DISTANCE OF 1,361.56 FEET TO A CONCRETE MONUMENT WITH A BRASS DISK STAMPED "RLS 1819-1585 JONES, WOODS & GENTRY", SAID POINT BEING THE 6TH MILE POST ON SAID PARALLEL; THENCE RUN SOUTH 89°56'08" EAST ALONG SAID PARALLEL, A DISTANCE OF 1,759.56 FEET TO THE POINT OF BEGINNING.



NO. 4226
EXHIBIT A
PAGE 19 OF 29

Prepared By and
Please Return To: Paul E. Blade
Blade & Blade, P.A.
515 S. Federal Highway
Deerfield Beach, Florida 33441

SPACE BELOW FOR RECORDER'S USE
LARRY WHALEY,
CLERK OF THE CIRCUIT COURT
OSCEOLA COUNTY, FLORIDA

BOOK 1386 PAGE 1623
INSTRUMENT # 97-023429
DATE 03/11/97 TIME 10:37
VERIFIED BY KEM

DOC STAMP $11,317.60

R= 6060006

WARRANTY DEED
(STATUTORY FORM - SECTION 689.02, F.S.)

THIS INDENTURE, made this 28 day of JANUARY, A.D. 1997, between MCNAMARA ENTERPRISES, a Florida General Partnership, of the County of Martin in the State of Florida, grantor, and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, grantee,

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

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

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

Property Appraiser's Parcel Identification Number: 01-28-33-0000-0010-0000
02-28-33-0000-0010-0000
03-28-33-0000-0010-0000

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

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

IN WITNESS WHEREOF the grantor has hereunto set grantor's hand and seal, the day and year first above written.

Signed, sealed and delivered in the presence of:

Paul E Blade
(SIGNATURE OF FIRST WITNESS)
PAUL E. BLADE
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)
Joanne M. Opfer
(SIGNATURE OF SECOND WITNESS)
JOANNE M. OPFER
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)
Paul E Blade
(SIGNATURE OF FIRST WITNESS)
PAUL E. BLADE
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)
Joanne M. Opfer
(SIGNATURE OF SECOND WITNESS)
JOANNE M. OPFER
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

NO. 4226
EXHIBIT A
PAGE 20 OF 29

MCNAMARA ENTERPRISES, a Florida General Partnership

By: James R McNamara
James R. McNamara, General Partner
1556 S.W. Bridgeview Terrace
Palm City, Florida 34990

And By: Lawrence W McNamara Jr
Lawrence W. McNamara, Jr., General Partner
7009 Peninsula Court
Lake Worth, Florida 34778

APPROVED AS TO FORM AND LEGALITY
By: William C. Robinson
DEP Attorney
Date: 4-17-97

Paul E Blade
(SIGNATURE OF FIRST WITNESS)

PAUL E. BLADE
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

Joanne M. Offer
(SIGNATURE OF SECOND WITNESS)

JOANNE M. OFFER
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

And By: [signature]
Lawrence W. McNamara, III, General Partner
10325 Trailwood Circle
Jupiter, Florida 33478

BOOK 1386 PAGE 1624

STATE OF Florida)
COUNTY OF Palm Beach)

The foregoing instrument was acknowledged before me this 28 day of JANUARY, 1997, by James R. McNamara, a general partner of McNamara Enterprises, a Florida General Partnership, on behalf of the partnership. Such person (Notary Public must check applicable box):

[X] is personally known to me.
[ ] produced a current driver license.
[ ] produced _____ as identification.

(NOTARY PUBLIC SEAL)

PAUL E. BLADE
MY COMMISSION # CC 523700
EXPIRES: May 23, 2000
Bonded Thru Notary Public Underwriters

Paul E Blade
Notary Public

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

STATE OF Florida)
COUNTY OF Palm Beach)

The foregoing instrument was acknowledged before me this 28 day of JANUARY, 1997, by Lawrence W. McNamara, Jr., a general partner of McNamara Enterprises, a Florida General Partnership, on behalf of the partnership. Such person (Notary Public must check applicable box):

[X] is personally known to me.
[ ] produced a current driver license.
[ ] produced _____ as identification.

(NOTARY PUBLIC SEAL)

PAUL E. BLADE
MY COMMISSION # CC 523700
EXPIRES: May 23, 2000
Bonded Thru Notary Public Underwriters

Paul E Blade
Notary Public

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

STATE OF Florida)
COUNTY OF Palm Beach)

The foregoing instrument was acknowledged before me this 28 day of JANUARY, 1997, by Lawrence W. McNamara, III, a general partner of McNamara Enterprises, a Florida General Partnership, on behalf of the partnership. Such person (Notary Public must check applicable box):

[X] is personally known to me.
[ ] produced a current driver license.
[ ] produced _____ as identification.

(NOTARY PUBLIC SEAL)

PAUL E. BLADE
MY COMMISSION # CC 523700
EXPIRES: May 23, 2000
Bonded Thru Notary Public Underwriters

Paul E Blade
Notary Public

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

WARRANTY DEED
REVISED 8/6/94
NO. 4226
EXHIBIT A

Exhibit "A"

Legal Description of the Property

ALL OF SECTIONS 1, 2 AND 3 IN TOWNSHIP 28 SOUTH, RANGE 33 EAST, OSCEOLA COUNTY, FLORIDA. LESS THE FOLLOWING DESCRIBED LANDS:

A STRIP OF LAND BEING A PORTION OF SECTIONS 1 AND 2, TOWNSHIP 28 SOUTH, RANGE 33 EAST, LYING SOUTH OF AND CONTIGUOUS TO THE NORTH LINES OF SAID SECTIONS 1 AND 2, DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHEAST CORNER OF SAID SECTION 1 FOR THE POINT OF BEGINNING, SAID POINT BEING A REBAR AND CAP STAMPED "LB 4741" WHICH BEARS SOUTH 89°49'50" WEST, 59.78 FEET FROM A CONCRETE MONUMENT WITH A BRASS DISC STAMPED "RLS 1819-1585 JONES, WOODS & GENTRY", SAID CONCRETE MONUMENT BEING THE 6TH MILE POST OF THE 4TH STANDARD PARALLEL AS RESTORED IN 1985 BY THE FLORIDA DEPARTMENT OF NATURAL RESOURCES; THENCE RUN SOUTH 00°26'05" EAST, ALONG THE EAST LINE OF SAID SECTION 1, A DISTANCE OF 22.54 FEET TO A POINT WHICH BEARS SOUTH 89°28'05" WEST, 19.56 FEET FROM A 5" X 5" CONCRETE MONUMENT WITH A BRASS DISC STAMPED "OSCEOLA COUNTY"; THENCE RUN SOUTH 89°28'05" WEST, 2637.81 FEET TO A 5" X 5" CONCRETE MONUMENT WITH A BRASS DISC STAMPED "OSCEOLA COUNTY"; THENCE RUN SOUTH 89°52'11" WEST, 2654.56 FEET TO A 5" X 5" CONCRETE MONUMENT HAVING A BROKEN TOP; THENCE RUN NORTH 89°56'08", WEST, 2655.91 FEET TO A 5" X 5" CONCRETE MONUMENT WITH A BRASS DISC STAMPED "OSCEOLA COUNTY"; THENCE RUN NORTH 89°55'36"'WEST, 897.66 FEET TO A 5" X 5" CONCRETE MONUMENT WITH A BRASS DISC STAMPED "OSCEOLA COUNTY"; THENCE RUN NORTH 00°02'14" EAST, 25.66 FEET TO A REBAR AND CAP STAMPED " LB 4741" BEING THE SOUTHEAST CORNER OF SECTION 34, TOWNSHIP 27 SOUTH, RANGE 33 EAST AND LYING ON THE AFORESAID 4TH STANDARD PARALLEL; THENCE, ALONG SAID 4TH STANDARD PARALLEL AND ALONG THE NORTH LINE OF SECTIONS 1 AND 2, RUN THE FOLLOWING COURSES; SOUTH 89°59'46' EAST, 860.66 FEET TO A REBAR AND CAP STAMPED "LB 4741" BEING THE NORTH QUARTER CORNER OF SAID SECTION 2; CONTINUE SOUTH 89°59'46" EAST, 62.90 FEET TO A 2" IRON PIPE WITH A BRASS DISC STAMPED "RLS 1819-1585 JONES, WOOD & GENTRY" BEING THE 5TH ONE HALF MILE POST OF SAID 4TH STANDARD PARALLEL; NORTH 89°47'02" EAST, 2599.42 FEET TO A REBAR AND CAP STAMPED "LB 4741" BEING THE NORTHWEST CORNER OF SAID SECTION 1; CONTINUE NORTH 89°47'02" EAST, 58.47 FEET TO A CONCRETE MONUMENT WITH A BRASS DISC STAMPED "RLS 1819-1585 JONES, WOOD & GENTRY" BEING THE 5TH MILE POST OF SAID 4TH STANDARD PARALLEL; NORTH 89°52'45" EAST, 2602.86 FEET TO A REBAR AND CAP STAMPED "LB 4741" BEING THE NORTH QUARTER CORNER OF SAID SECTION 1; CONTINUE NORTH 89°52'45" EAST, 63.92 FEET TO A CONCRETE MONUMENT STAMPED "RLS 1819-1585 JONES, WOOD & GENTRY" BEING THE 6TH ONE HALF-MILE POST OF SAID 4TH STANDARD PARALLEL; NORTH 89°49'50" EAST, 2597.42 FEET TO THE POINT OF BEGINNING.

8-6-96

NO. 4226

This Instrument Prepared By
and Please Return To:
Foley & Lardner
111 N. Orange Ave., Suite 1800
P. O. Box 2193
Orlando, Florida 32802-2193

SPACE BELOW FOR RECORDER'S USE

R=606005

WARRANTY DEED
(STATUTORY FORM - SECTION 689.02, F.S.)

THIS INDENTURE, made this 22nd day of August, A.D. 1996, between Daryl M. Carter and Pamela Lee Wray, as Trustees of the M. L. Carter Realty Trust II Under Agreement dated October 27, 1987, as to an undivided 34.9589% interest; Maury L. Carter and Pamela Lee Wray, as Trustees of the M. L. Carter Realty Trust Agreement III Under Agreement dated October 27, 1987, as to an undivided 20.535% interest; Mary M. Greendale, Patricia T. Poitras and Edward W. Poitras, as Trustees of The Hilltop Trust Under Agreement dated December 18, 1969, as to an undivided 21.0061% interest; Daryl M. Carter and Pamela Lee Wray, as Trustees of the Metrowest Charitable Remainder Trust, as to an undivided 23.5% interest, of the County of Osceola in the State of Florida, grantor, and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, grantee,

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

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

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

Property Appraiser's Parcel Identification Number: 25-27-32-0000-0010-0000
24-27-32-0000-0010-0000
36-27-32-0000-0010-0000

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

This property is not the homestead property of the grantor, nor contiguous to homestead property, as such homestead is defined under Florida law.

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

IN WITNESS WHEREOF the grantor has hereunto set grantor's hand and seal, the day and year first above written.

Signed, sealed and delivered in the presence of:

(SIGNATURE OF FIRST WITNESS)

Douglas S Doudney
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

(SIGNATURE OF SECOND WITNESS)

Joan M Fisher
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

(SIGNATURE OF FIRST WITNESS)

Douglas S Doudney
(PRINTED, TYPED OR STAMPED NAME

Daryl M. Carter, Trustee of the M. L. Carter Realty Trust II

Pamela Lee Wray, Trustee of the M. L. Carter Realty Trust II

BK 1346 PG 0679
OSCEOLA CTY - CLERK OF THE CIRCUIT COURT
INSTR # 96-069548
VERIFIED: MCK
STMP

NO. 4286
EXHIBIT A
PAGE 23 OF 29

(SIGNATURE OF FIRST WITNESS)

Douglas S Doudney
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

(SIGNATURE OF SECOND WITNESS)

Joan M Fisher
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

(SIGNATURE OF FIRST WITNESS)

Douglas S Doudney
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

(SIGNATURE OF SECOND WITNESS)

Joan M Fisher
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

(SIGNATURE OF FIRST WITNESS)

Alexander J. Stevens
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

(SIGNATURE OF SECOND WITNESS)

MELANIE MORGON
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

(SIGNATURE OF FIRST WITNESS)

Alexander J. Stevens
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

(SIGNATURE OF SECOND WITNESS)

MELANIE MORGON
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

(SIGNATURE OF FIRST WITNESS)

Ruth A. Morley
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

(SIGNATURE OF SECOND WITNESS)

Maury L. Carter, Trustee of the M. L. Carter Realty Trust Agreement III

Pamela Lee Wray, Trustee of the M. L. Carter Realty Trust Agreement III

Mary M. Greendale, Trustee of the Hilltop Trust

Patricia T. Poitras, Trustee of the Hilltop Trust

Edward W. Poitras, Trustee of the Hilltop Trust

NO. 4226
EXHIBIT A
PAGE 24

(SIGNATURE OF FIRST WITNESS)

Douglas S Doudney
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

(SIGNATURE OF SECOND WITNESS)

Joan M Fisher
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

Daryl M. Carter, Trustee of the Metrowest Charitable Remainder Trust

(SIGNATURE OF FIRST WITNESS)

Douglas S Doudney
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

(SIGNATURE OF SECOND WITNESS)

Joan M Fisher
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

Pamela Lee Wray, Trustee of the Metrowest Charitable Remainder Trust

STATE OF FLORIDA)
)
COUNTY OF ORANGE)

The foregoing instrument was acknowledged before me this 12th day of August, 1996, by Daryl M. Carter, as Trustee of the M. L. Carter Realty Trust II Under Agreement dated October 27, 1987. Such person (Notary Public must check applicable box):

[X] is personally known to me.
[ ] produced their current driver licenses.
[ ] produced _____ as identification.

(NOTARY PUBLIC SEAL)

JOAN M. FISHER
MY COMMISSION # CC 296374
EXPIRES: June 22, 1997
Bonded Thru Notary Public Underwriters

Notary Public

(Printed, Typed or Stamped Name of Notary Public)

Commission No.: _____

My Commission Expires: _____

STATE OF FLORIDA)
)
COUNTY OF ORANGE)

The foregoing instrument was acknowledged before me this 12th day of August, 1996, by Pamela Lee Wray, as Trustee of the M. L. Carter Realty Trust II Under Agreement dated October 27, 1987. Such person (Notary Public must check applicable box):

[X] is personally known to me.
[ ] produced their current driver licenses.
[ ] produced _____ as identification.

(NOTARY PUBLIC SEAL)

Notary Public

(Printed, Typed or Stamped Name of Notary Public)

INO. 42216
EXHIBIT A
PAGE 25

\ BOOK 1546 PAGE 0682 \

STATE OF FLORIDA)
COUNTY OF ORANGE)

The foregoing instrument was acknowledged before me this 12th day of August, 1996, by Maury L. Carter, as Trustee of the M. L. Carter Realty Trust III Under Agreement dated October 27, 1987. Such person (Notary Public must check applicable box):

[✓] is personally known to me.
[ ] produced their current driver licenses.
[ ] produced _____ as identification.

(NOTARY PUBLIC SEAL)

JOAN M. FISHER
MY COMMISSION # CC 296374
EXPIRES: June 22, 1997
Bonded Thru Notary Public Underwriters

Notary Public Joan M Fisher

(Printed, Typed or Stamped Name of Notary Public)

Commission No.: _____

My Commission Expires: _____

STATE OF FLORIDA)
COUNTY OF ORANGE)

The foregoing instrument was acknowledged before me this 12th day of August, 1996, by Pamela Lee Wray, as Trustee of the M. L. Carter Realty Trust III Under Agreement dated October 27, 1987. Such person (Notary Public must check applicable box):

[✓] is personally known to me.
[ ] produced their current driver licenses.
[ ] produced _____ as identification.

(NOTARY PUBLIC SEAL)

JOAN M. FISHER
MY COMMISSION # CC 296374
EXPIRES: June 22, 1997
Bonded Thru Notary Public Underwriters

Notary Public Joan M Fisher

(Printed, Typed or Stamped Name of Notary Public)

Commission No.: _____

My Commission Expires: _____

STATE OF Massachusetts)
COUNTY OF Middlesex)

The foregoing instrument was acknowledged before me this 13th day of August, 1996, by Mary M. Greendale, as Trustee of the Hilltop Trust Under Agreement dated December 18, 1969. Such person (Notary Public must check applicable box):

[✓] is personally known to me.
[ ] produced their current driver licenses.
[ ] produced _____ as identification.

(NOTARY PUBLIC SEAL)

Melanie Morgan
Notary Public

(Printed, Typed or Stamped Name of Notary Public)

Commission No.: _____

My Commission Expires: _____

STATE OF MASSACHUSETTS
COUNTY OF MIDDLESEX

NO. 4226
EXHIBIT A

STATE OF Massachusetts)
)
COUNTY OF Middlesex)

The foregoing instrument was acknowledged before me this 13th day of August, 1996, by Patricia T. Poitras, as Trustee of the Hilltop Trust Under Agreement dated December 18, 1969. Such person (Notary Public must check applicable box):

[X] is personally known to me.
[ ] produced their current driver licenses.
[ ] produced _____ as identification.

(NOTARY PUBLIC SEAL)

Melanie Morgan
Notary Public

(Printed, Typed or Stamped Name of Notary Public)

Commission No.: _____

My Commission Expires: _____

STATE OF MASSACHUSETTS
COUNTY OF MIDDLESEX
MELANIE MORGAN, Notary Public
My Commission Expires Jan. 4, 2002

STATE OF FLORIDA)
)
COUNTY OF ORANGE)

The foregoing instrument was acknowledged before me this 19th day of August, 1996, by Edward W. Poitras, as Trustee of the Hilltop Trust Under Agreement dated December 18, 1969. Such person (Notary Public must check applicable box):

[X] is personally known to me.
[ ] produced their current driver licenses.
[ ] produced _____ as identification.

(NOTARY PUBLIC SEAL)

JOAN M. FISHER
MY COMMISSION # CC 206374
EXPIRES: June 22, 1997
Bonded Thru Notary Public Underwriters

Joan M Fisher
Notary Public

(Printed, Typed or Stamped Name of Notary Public)

Commission No.: _____

My Commission Expires: _____

STATE OF FLORIDA)
)
COUNTY OF ORANGE)

The foregoing instrument was acknowledged before me this 12th day of August, 1996, by Daryl M. Carter, as Trustee of the Metrowest Charitable Remainder Trust. Such person (Notary Public must check applicable box):

[X] is personally known to me.
[ ] produced their current driver licenses.
[ ] produced _____ as identification.

(NOTARY PUBLIC SEAL)

JOAN M. FISHER
MY COMMISSION # CC 206374
EXPIRES: June 22, 1997
Bonded Thru Notary Public Underwriters

Joan M Fisher
Notary Public

(Printed, Typed or Stamped Name of Notary Public)

Commission No.: _____

My Commission Expires: _____

NO. 4226
EXHIBIT A
PAGE 27 OF 29

STATE OF FLORIDA)
COUNTY OF ORANGE)

The foregoing instrument was acknowledged before me this 12th day of August, 1996, by Pamela Lee Wray, as Trustee of the Metrowest Charitable Remainder Trust. Such person (Notary Public must check applicable box):

[X] is personally known to me.
[ ] produced their current driver licenses.
[ ] produced _____ as identification.

(NOTARY PUBLIC SEAL)

Notary Public Joan M Fisher

(Printed, Typed or Stamped Name of Notary Public)

Commission No.: _____

My Commission Expires: _____

JOAN M. FISHER
MY COMMISSION # CC 296374
EXPIRES: June 22, 1997
Bonded Thru Notary Public Underwriters

WARRANTY DEED
REVISED 07/18/94

NO. 4226
EXHIBIT A

Exhibit "A"

Legal Description of the Property

The following lands in Township 27 South, Range 32 East, Osceola County, Florida, to-wit:

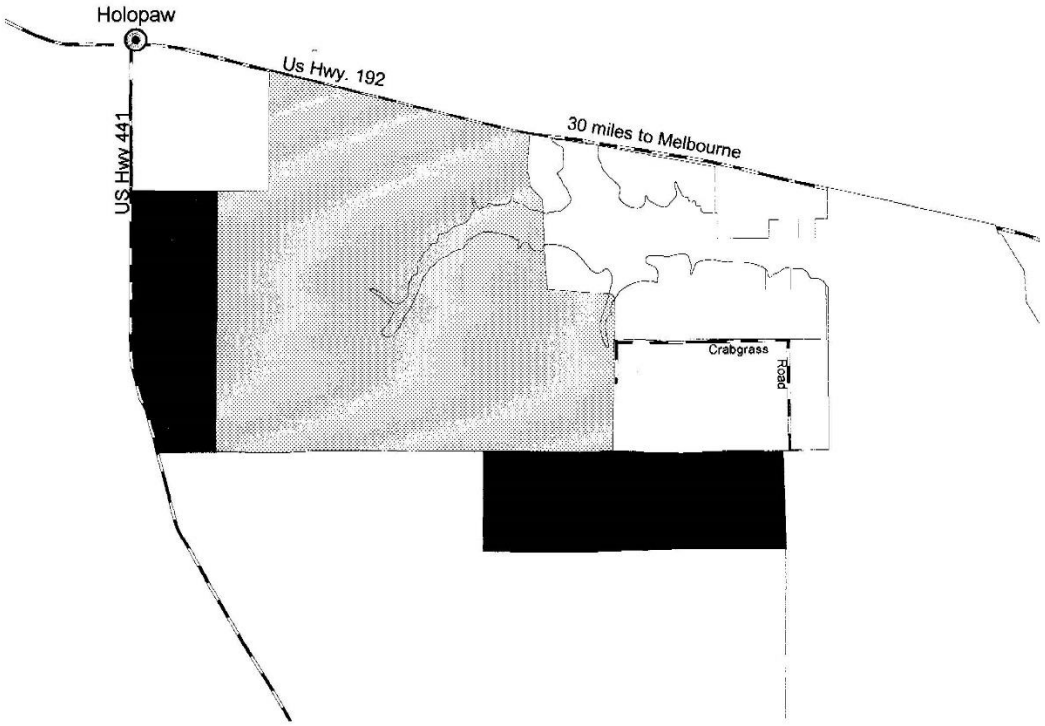
The South 1/2 of Section 24, lying East of U.S. Highway 441, lying South of Canaveral Acres #4.

All of Sections 25 and 36, lying East of State Road 29 (Highway 441).



NO. 4226
EXHIBIT A
PAGE 29 OF 29

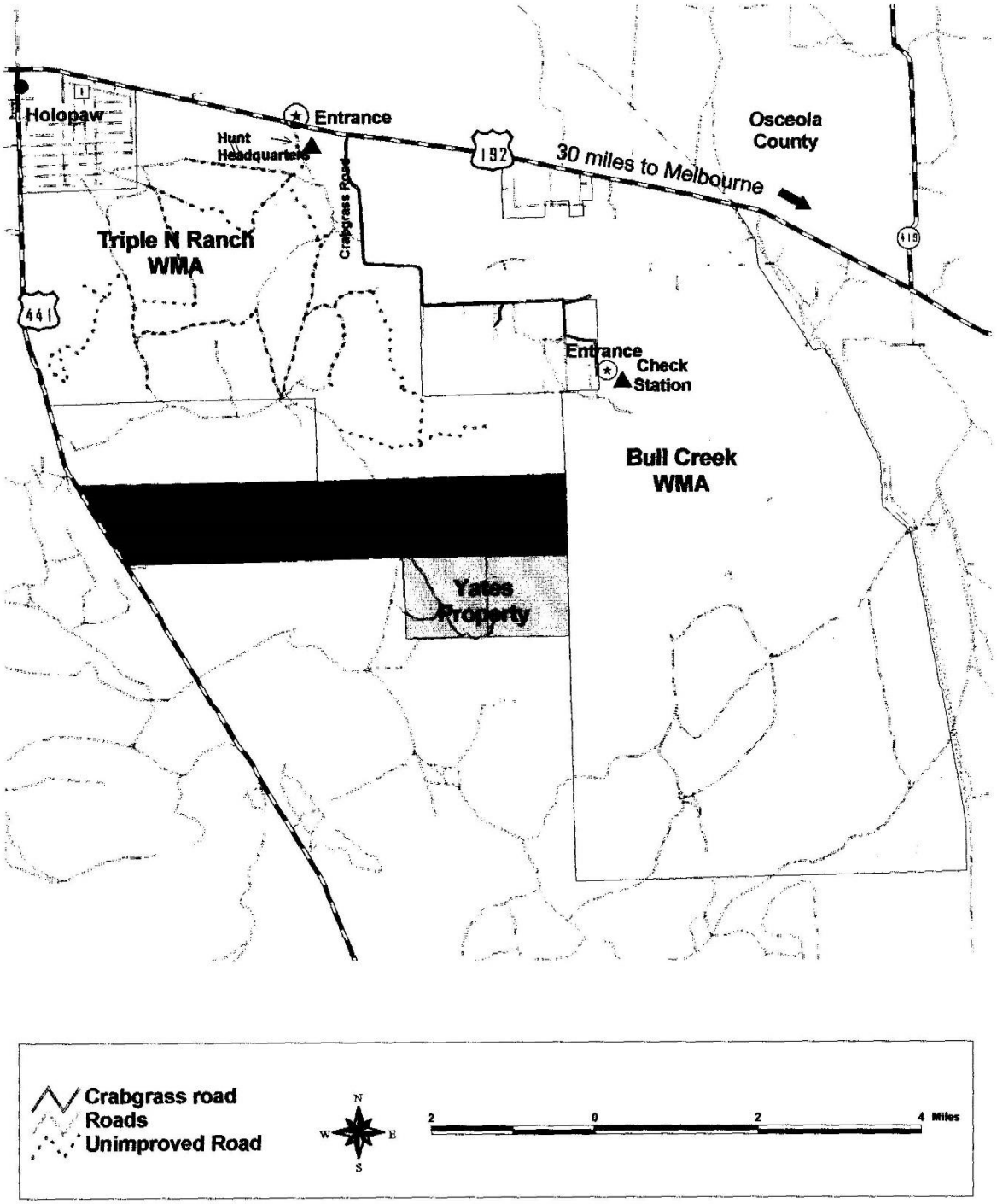
Triple N Ranch II



2 0 2 4 Miles

N
W E
S

Triple N Ranch Additions (Lease # 4226)
Triple N Ranch (Lease # 4116)
Bull Creek WMA
Major roads


Holopaw
Entrance
Hunt Headquarters
Crabgrass Road
192
30 miles to Melbourne
Osceola County
Triple N Ranch WMA
441
Entrance
Check Station
Bull Creek WMA
Yates Property
Crabgrass road
Roads
Unimproved Road
N
W
E
S
2
0
2
4 Miles

ATL1

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT
TRUST FUND OF THE STATE OF FLORIDA
3,593.54 Acres

AMENDMENT NUMBER 1 TO LEASE NUMBER 4226

THIS LEASE AMENDMENT is entered into this 23rd day of October, 2000, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR" and the STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as "LESSEE";

W I T N E S S E T H

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

WHEREAS, on May 3, 2000, LESSOR and LESSEE entered into Lease Number 4226; and

WHEREAS, LESSOR and LESSEE desire to amend the lease to add land to the leased property.

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

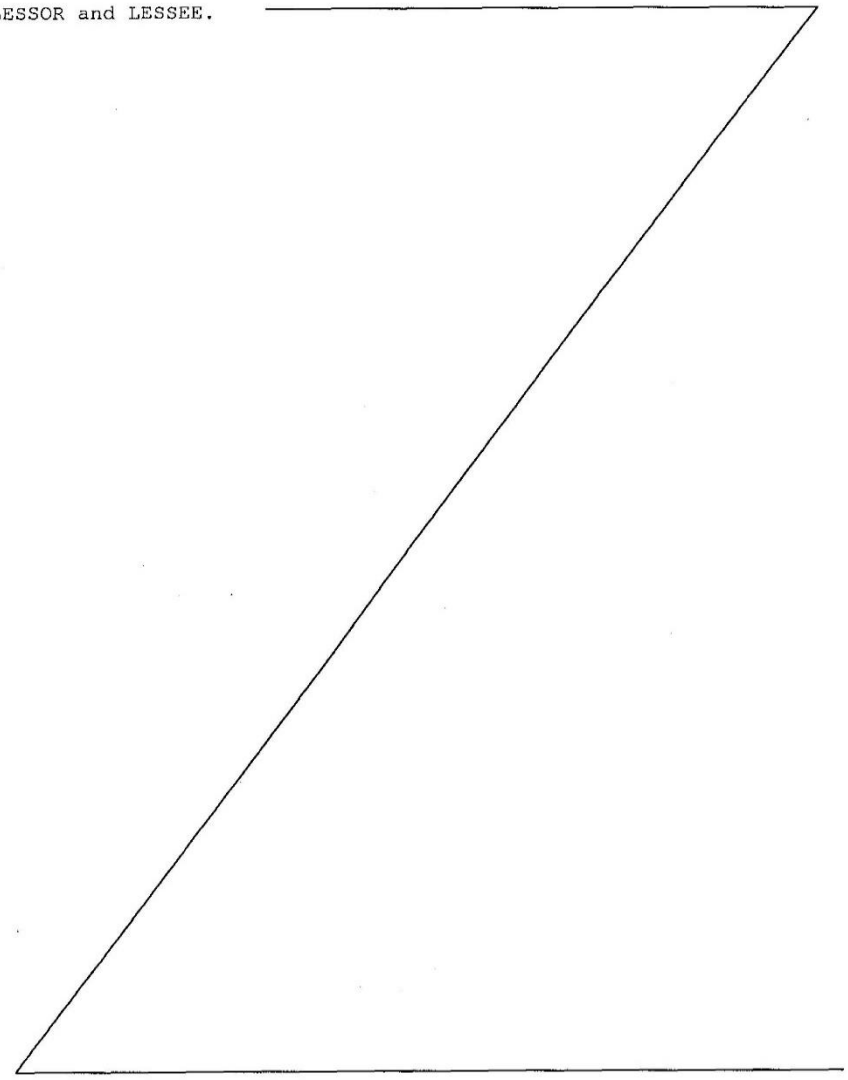
1. The legal description of the leased premises set forth in Exhibit "A" of Lease Number 4226 is hereby amended to include the real property described in Exhibit "A," attached hereto, and by reference made a part hereof.

2. Lease 4226 is hereby amended to include the following paragraph:

36. SPECIAL CONDITION: LESSEE is authorized, without need for approval by the Acquisition and Restoration Council (ARC), to manage the orange groves located on the real property described in Exhibit "A" until such time as the management plan for the

parcel can be approved by ARC, or July 5, 2001, whichever occurs sooner.

3. It is understood and agreed by LESSOR and LESSEE that in each and every respect the terms of the Lease Number 4226 except as amended shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by LESSOR and LESSEE.



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

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

Judy Woodard
Witness

Judy Woodard
Print/Type Witness Name

Melissa Vickers
Witness

Melissa Vickers
Print/Type Witness Name

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

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 23rd day of October, 2000, by Gloria C. Nelson, Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. She is personally known to me.

Cheryl J. King
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

CHERYL J. KING
MY COMMISSION # CC 852921
EXPIRES: November 7, 2003
Bonded Thru Notary Public Underwriters

Approved as to Form and Legality

By: Sally Hart
DEP Attorney

STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Brenda Collins
Witness

By: Victor J Heller (SEAL)

BRENDA COLLINS
Print/Type Witness Name

Victor J. Heller
Print/Type Name

Rosemary Mara
Witness

Title: Assistant Executive Director

Rosemary Mara
Print/Type Witness Name

"LESSEE"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 6th day of October, 2000, by Victor J. Heller as Assistant Executive Director, State of Florida Fish and Wildlife Conservation Commission. He/~~she~~ is personally known to me.

Jimmie C. Bevis
Notary Public, State of Florida

JIMMIE C. BEVIS
Print/Type Notary Name

Commission Number

Commission Expires

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

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
Commission Attorney

EXHIBIT "A"
LEGAL DESCRIPTION OF LEASED PREMISES

SPECIAL WARRANTY DEED (DEP Attorney)

THIS INDENTURE made this 13th day of June, 2000, between THE EQUITABLE LIFE ASSURANCE SOCIETY OF THE UNITED STATES, a New York corporation, successor by merger to Equitable Variable Life Insurance Company, a New York corporation, whose post office address is 1290 Avenue of the Americas, New York, New York 10104, Grantor, and BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Blvd., M. S. 115, Tallahassee, Florida 32399-3000, Grantee,

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

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

SEE EXHIBIT "A" ATTACHED HERETO AND BY REFERENCE MADE A PART HEREOF.

Property Appraiser's Parcel I. D. Nos.: 07-28-33-0000-0010-0000, 08-28-33-0000-0010-0000, 09-28-33-0000-0010-0000, 10-28-33-0000-0010-0000, 11-28-33-0000-0010-0000, 12-28-33-0000-0010-0000

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

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

AND the said Grantor does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons claiming by, through or under the said Grantor, but against none other.

IN WITNESS WHEREOF the Grantor has hereunto set Grantor's hand and seal the day and year first above written.

Signed, sealed and delivered in the presence of:

J PAGE THE EQUITABLE LIFE ASSURANCE SOCIETY OF THE UNITED STATES, a New York corporation

(Signature of First Witness)

BY: Richard E. Henderson Jr.
RICHARD E. HENDERSON, JR.
Its Vice-President

Eric R. Linge
Printed Name of First Witness

Rebecca S. Baughn
(Signature of Second Witness)

REBECCA S. BAUGHN
Printed Name of Second Witness

(CORPORATE SEAL)

STATE OF Missouri

COUNTY OF St. Louis

The foregoing instrument was acknowledged before me this 13th day of June, 2000, by Richard E. Henderson, Jr., as Vice-President of The Equitable Life Assurance Society of the United States, a New York corporation, on behalf of said corporation. Such person (Notary Public must check applicable box):

(X) is personally known to me
( ) produced a current driver's license
( ) produced _____ as identification

(NOTARY PUBLIC SEAL)

ANGELA D. CURRY
St. Charles County
My Commission Expires
September 12, 2003

Angela D. Curry
Notary Public
My Commission Expires:
September 12, 2003

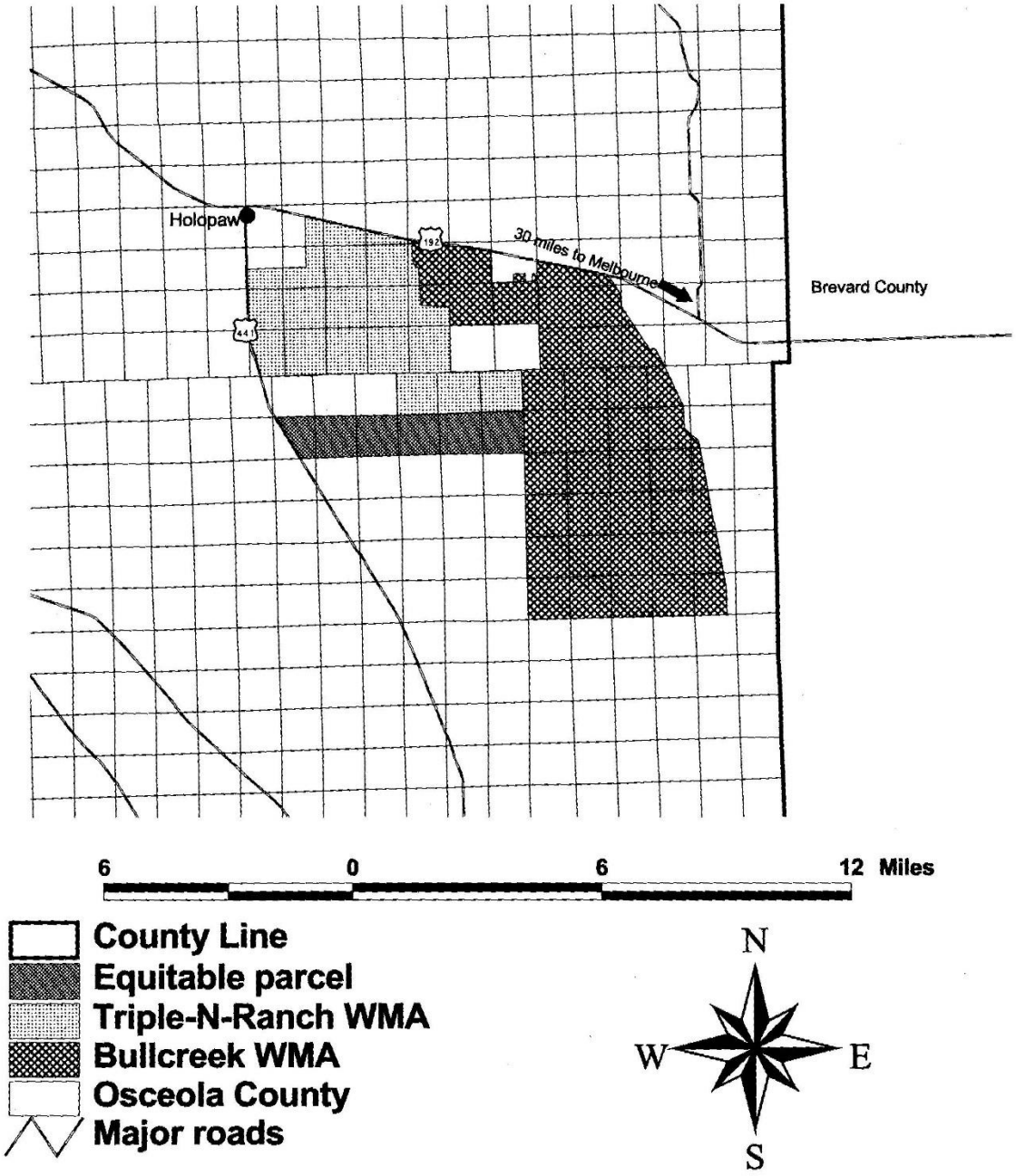
That part of Section 7 lying East of U.S. Highway 441 (State Road 15) and all of Sections 8, 9, 10, 11, and 12, all in Township 28 South, Range 33 East, Osceola County, Florida; together with a perpetual non-exclusive easement for ingress and egress over and across the South 25 feet of the portion of Section 6 lying Easterly of said U.S. Highway 441, and the South 25 feet of Sections 1, 2, 3, 4, and 5, all in Township 28 South, Range 33 East, Osceola County, Florida; and also together with a private, perpetual, non-exclusive easement for ingress and egress over and across the real property described as follows:

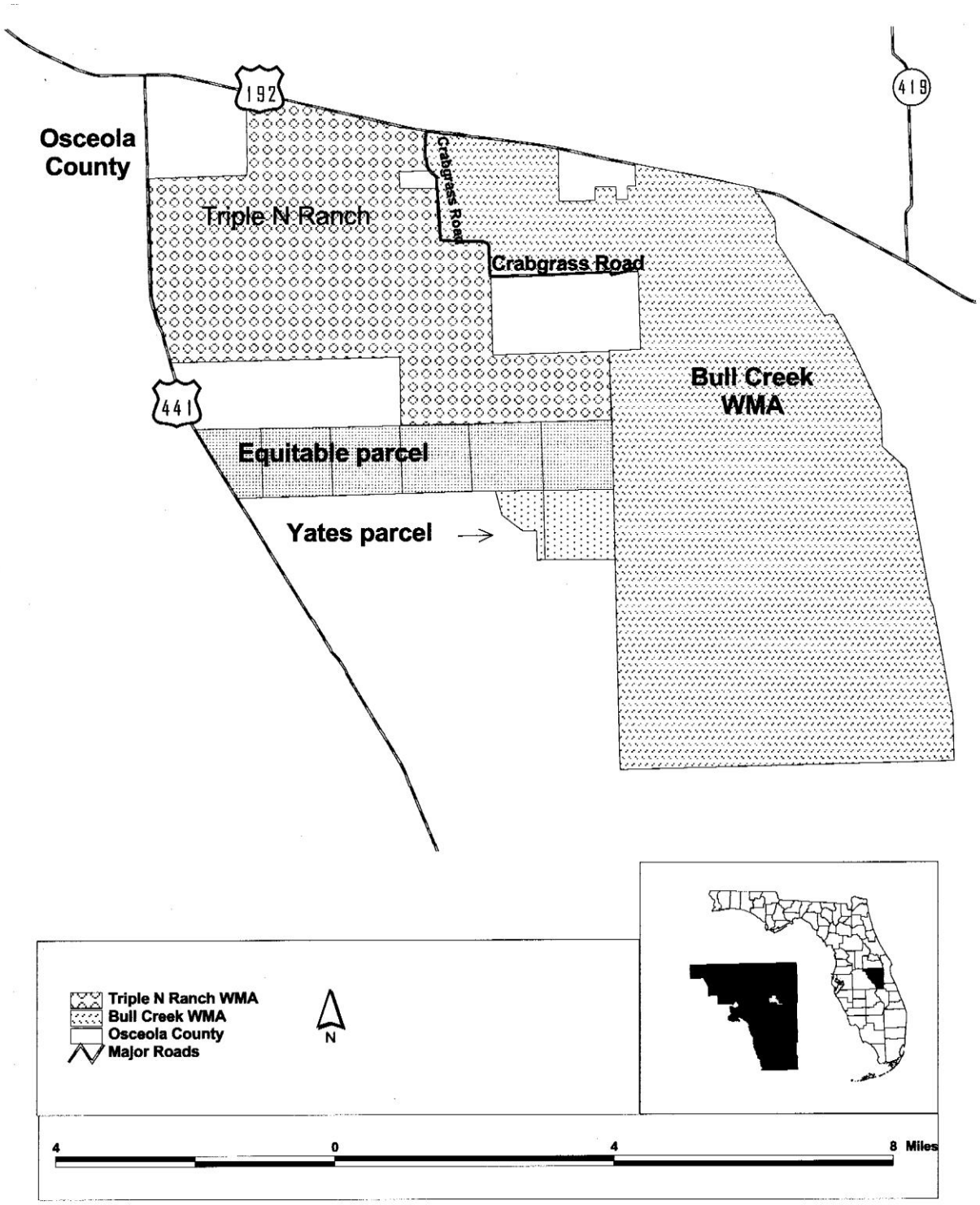
The North 30 feet of Sections 14, 15, 16, 17, and that part of 18 lying East of U.S. Highway 441, all in Township 28 South, Range 33 East, Osceola County, Florida.

Triple "N" Ranch, Equitable Properties, Osceola County

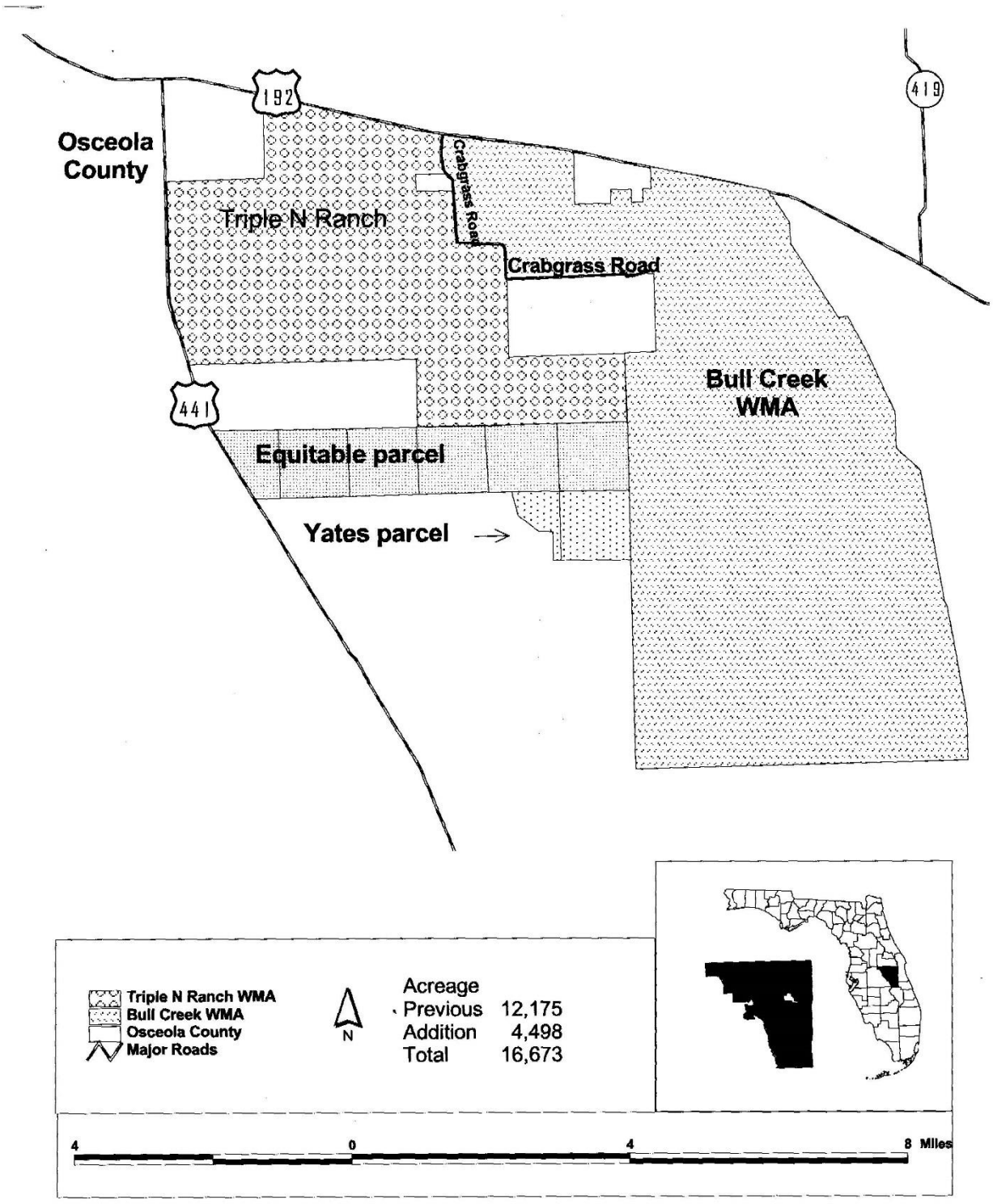
DSM
By DB Date 7.29.99

Triple-N-Ranch WMA
Equitable Addition





Triple N Ranch, Osceola County. Boundaries are approximate.



Triple N Ranch, Osceola County. Boundaries are approximate.

ATL1

903.61 Acres

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT

TRUST FUND OF THE STATE OF FLORIDA

AMENDMENT NUMBER 2 TO LEASE NUMBER 4226

TRIPLE N RANCH II

THIS LEASE AMENDMENT is entered into this 6th day of April, 2001, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR" and the STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as "LESSEE";

W I T N E S S E T H

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

WHEREAS, on May 3, 2000, LESSOR and LESSEE entered into Lease Number 4226; and

WHEREAS, LESSOR and LESSEE desire to amend the lease to add land to the leased property.

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

1. The legal description of the leased premises set forth in Exhibit "A" of Lease Number 4226 is hereby amended to include the real property described in Exhibit "A," attached hereto, and by reference made a part hereof.

2. It is understood and agreed by LESSOR and LESSEE that in each and every respect the terms of the Lease Number 4226 except as amended shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by LESSOR and LESSEE.

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

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

Witness

Print/Type Witness Name

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

"LESSOR"

Witness

Print/Type Witness Name

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 6th day of April, 2001, by Gloria C. Nelson, Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. She is personally known to me.

Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

CHERYL J. KING
MY COMMISSION # CC 852921
EXPIRES: November 7, 2003
Bonded Thru Notary Public Underwriters

Approved as to Form and Legality

By: _____
DEP Attorney

STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Brenda Collins
Witness

By: Victor J Heller (SEAL)

Brenda Collins
Print/Type Witness Name

Victor J. Heller
Print/Type Name

Cynthia Ward
Witness

Title: Assistant Executive Director

Cynthia Ward
Print/Type Witness Name

"LESSEE"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 19th day of March, 2001, by Victor J. Heller as Asst. Executive Director of State of Florida Fish and Wildlife Conservation Commission. He/~~she~~ is personally known to me.

Jimmie C. Bevis
Notary Public, State of Florida

JIMMIE C. BEVIS
Print/Type Notary Name

Commission Number:

MY COMMISSION # CC703182 EXPIRES December 28, 2001
BONDED THRU TROY FAIN INSURANCE, INC

Commission Expires:

Revised 03/10/2000

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
Commission Attorney

EXHIBIT "A"
LEGAL DESCRIPTION

WARRANTY DEED
(STATUTORY FORM - SECTION 689.02, F.S.)

THIS INDENTURE, made this 4th day of December, A.D. 2000, between Henry C. Yates, whose address is 3825 Canoe Creek Road, St. Cloud, FL 34772, grantor, and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, grantee,

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

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

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

Property Appraiser's Parcel Identification Number: 13-28-33-0000-0010-0000, 14-28-33-0000-0010-0000, 15-28-33-0000-0030-0000

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

This property is not, nor ever has been, the homestead property of the grantor, nor contiguous to homestead property, as such homestead is defined under Florida law.

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

IN WITNESS WHEREOF the grantor has hereunto set grantor's hand and seal, the day and year first above written.

Signed, sealed and delivered in the presence of:

Debra A. Davis
(Signature of first Witness)

Debra A. Davis
(Printed, typed or stamped name of first Witness)

Diana M. Wallis
(Signature of second Witness)

Diana M. Wallis
(Printed, typed or stamped name of second Witness)

Henry C. Yates
Henry C. Yates

APPROVED
FOR CLOSING
DEC 7 2000
By: William C. Robinson, Jr.
(DEP Attorney)

STATE OF FLORIDA

COUNTY OF OSCEOLA

The foregoing instrument was acknowledged before me this 4th day of December, 2000, by Henry C. Yates. Such person(s) (Notary Public must check applicable box):

[X] is personally known to me.
[ ] produced a current driver license.
[ ] produced _____ as identification.

DEBRA A. DAVIS
MY COMMISSION # CC 778225
EXPIRES: SEP 9, 2002
Bonded Thru Notary Public Underwriters

Debra A. Davis
Notary Public

Debra A. Davis
Typed or Stamped Name of Notary Public

Exhibit "A"

All of Section Thirteen (13); and
All, less the West three-quarters (W-3/4) of the Southwest Quarter (SW-1/4) of Section Fourteen (14), being in Township 28 South, Range 33 East; said lands situate, lying and being in Osceola County, Florida.

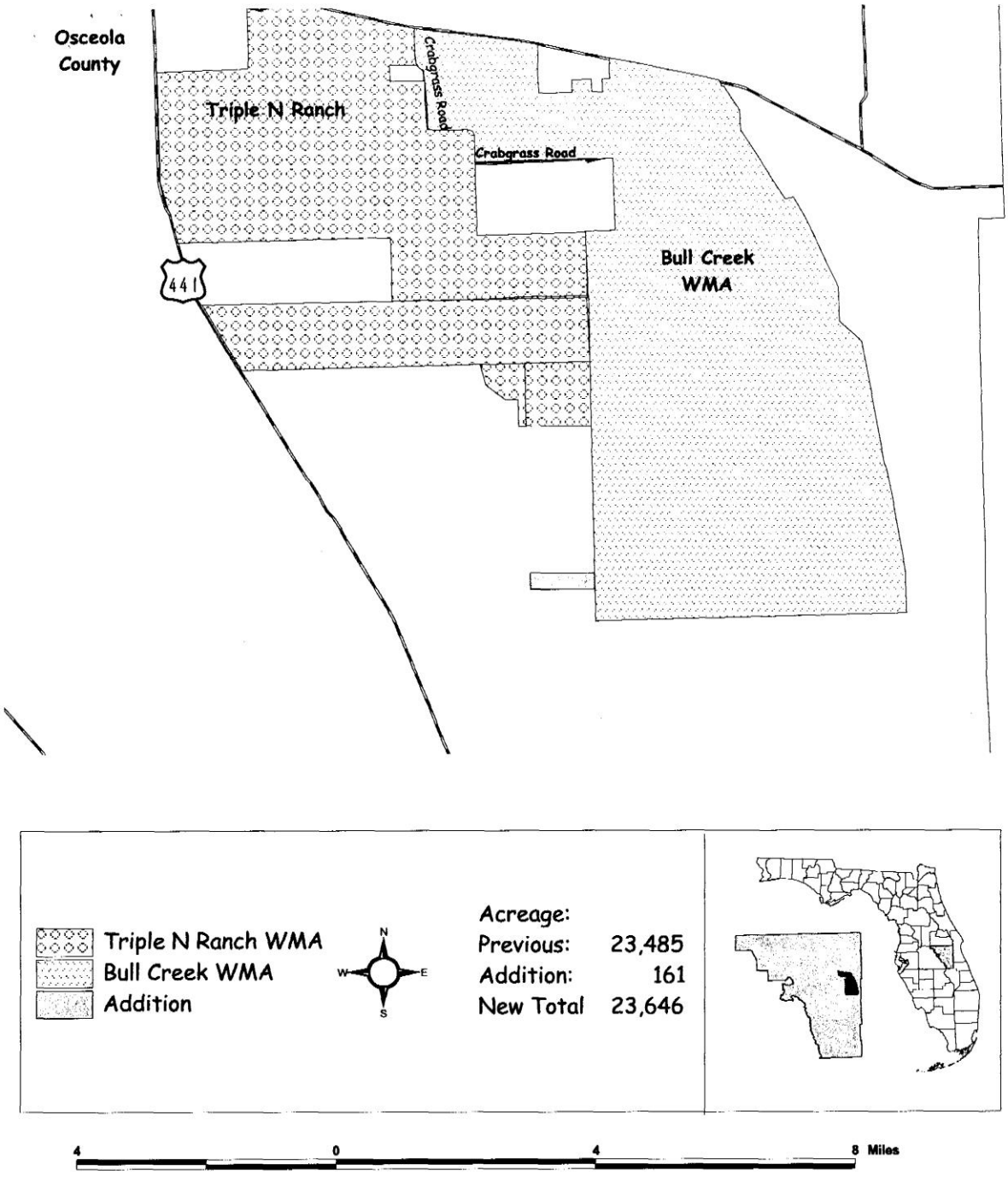
AND

The North thirty (30) feet of the following described real property: Sections Fifteen (15), Sixteen (16) and Seventeen (17), and that part of Section Eighteen (18) lying East of U. S. Highway 441; all being in Township 28 South, Range 33 East.

LESS and except the following described property: A parcel of land lying in Section Fourteen (14), Township 28 South, Range 33 East, Osceola County, Florida, described as follows: From the NW corner of Section 14, Township 28 South, Range 33 East, run South 2°36'21" East along the West line of said Section 14, Township 28 South, Range 33 East, a distance of 100 feet to point of being of said parcel; thence continue South 2°36'21" East along said West line 2,541.653 feet to SW corner of the NW-1/4, Section 14, Township 28 South, Range 33 East; thence North 87°54'13" East 1,990.567 feet to a point, thence South 2°36'18" East 2,637.63 feet to a point on South line of Section 14, Township 28 South, Range 33 East; thence North 87°52'31" East along said South line 664.103 feet to the SE corner of the SW-1/4, Section 14, Township 28 South, Range 33 East; thence North 87°55'15" East along South line of said Section 1,747.800 feet to a point; thence North 2°36'18" West 2,502.60 feet; thence South 87°55'15" West 1,052.12 feet; thence North 44°27'07" West a distance of 1,966.78 feet; thence North 14°38'51" West 1,250.102 feet to a point 100 feet South of the North line of said Section 14, Township 28 South, Range 33 East; thence South 87°59'42" West, parallel with the North line of said Section 14, 1,777.408 feet to point of beginning.

Also less and except the following described property: Any of the above described lands lying Southerly and Westerly of the following described line: Commence at the Northwest corner of said Section 14; thence run South 00° 06' 13" East, along the West line of the Northwest ¼ of said Section 14, a distance of 100.00 feet to the point of beginning; Thence run South 89° 40' 01" East, 1,777.64 feet to a 4" X 4" concrete monument (no identification); thence run South 12° 16' 33" East, 1250.16 feet to a 4" X 4" concrete monument (no identification); thence run South 42° 22' 58" East, 1,967.26 feet to a 4" X 4" concrete monument (no identification); thence run South 88° 54' 20" East, 1,044.77 feet to a 4" X 4" concrete monument (no identification); thence run South 00° 03' 23" West, 2,500.84 feet to a rebar and cap (LB 4741) lying on the South line of said Section 14, said point lying South 89° 38' 01" East, 1,747.80 feet East of the Southeast corner of the Southwest ¼ of said Section 14.

Triple "N" Ranch, Yates, Osceola County
Revised: 10.24.00



Bull Creek WMA, Osceola County. Boundaries are approximate.

ATL1

161.19 Acres

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT

TRUST FUND OF THE STATE OF FLORIDA

AMENDMENT 3 TO LEASE NUMBER 4226

TRIPLE N RANCH II

THIS LEASE AMENDMENT is entered into this 2ND day of October, 2001, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR" and STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as "LESSEE";

W I T N E S S E T H

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

WHEREAS, on May 3, 2000, LESSOR and LESSEE entered into Lease Number 4226; and

WHEREAS, LESSOR and LESSEE desire to amend the lease to add land to the leased property.

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

1. The legal description of the leased premises set forth in Exhibit "A" of Lease Number 4226 is hereby amended to include the real property described in Exhibit "A," attached hereto, and by reference made a part hereof.

2. It is understood and agreed by LESSOR and LESSEE that in each and every respect the terms of the Lease Number 4226 except as amended shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by LESSOR and LESSEE.

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

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

Judy Woodard
Witness

Judy Woodard
Print/Type Witness Name

Fredrica W. Jones
Witness

Fredrica W. Jones
Print/Type Witness Name

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

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 2nd day of October, 2001, by Gloria C. Nelson, Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. She is personally known to me.

Sylvia S. Roberts
MY COMMISSION # DD035841 EXPIRES
July 25, 2005
BONDED THRU TROY FAIN INSURANCE, INC.

Sylvia D. Roberts
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality

By: Sandra L. Helsin
DEP Attorney

STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

P A Doerr
Witness

By: T A Breault (SEAL)

PA DOERR
Print/Type Witness Name

Timothy A. Breault
Print/Type Name

Florida Parrish
Witness

Title: Assistant Division Director

Florida Parrish
Print/Type Witness Name

"LESSEE"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 14th day of September, 2001, by Timothy A Breault as Asst Division Director, on behalf of State of Florida Fish and Wildlife Conservation Commission. He/she is personally known to me.

Florida Parrish
Notary Public, State of Florida

Florida Parrish
Print/Type Notary Name

Commission Number:

Florida Parrish
MY COMMISSION # DD041441 EXPIRES
July 11, 2005
BONDED THRU TROY FAIN INSURANCE, INC.

Commission Expires:

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
Commission Attorney

EXHIBIT "A"
LEGAL DESCRIPTION

Rec'd 5/3/01

This Instrument Prepared By and
Please Return To:
Joseph R. Boyd, Esquire
BOYD, LINDSEY, BRANCH & SLIGER, P.A.
1407 Piedmont Drive East
Tallahassee, Florida 32312

WARRANTY DEED
(STATUTORY FORM - SECTION 689.02, F.S.)

THIS INDENTURE, made this 24th day of April, A.D. 2001, between **CARLOS V. CAMPOS AND CAROLISA HAVILAND**, whose post office address is set forth below, grantor, and the **BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA**, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, grantee,

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

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

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

Property Appraiser's Parcel Identification Number: 36-28-33-0000-0020-0000

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

This property is not the homestead property of the grantor, nor contiguous to homestead property, as such homestead is defined under Florida law.

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

IN WITNESS WHEREOF the grantor has hereunto set grantor's hand and seal, the day and year first above written.

Signed, sealed and delivered in
the presence of:

Rellis N Campos
(Signature of first Witness)
Rellis N CAMPOS
(Printed, typed or stamped name of first Witness)
(Signature of second Witness)
Osvaldo Pérez
(Printed, typed or stamped name of second witness)

CARLOS V. CAMPOS
1711 N. E. 142nd St.
Miami, FL 33181

Rellis N Campos
(Signature of first Witness)
Rellis N. Campos
(Printed, typed or stamped name of first witness)
(Signature of second Witness)
Osvaldo Pérez
(Printed, typed or stamped name of second witness)

CAROLISA HAVILAND
3285 9th Ave.
Vero Beach, FL 32966

STATE OF FLORIDA
COUNTY OF Dade

The foregoing instrument was acknowledged before me this 6th day of April, 2001, by CARLOS V. CAMPOS AND CAROLISA HAVILAND. Such person(s) (Notary Public must check applicable box):

[✓] is personally known to me.
[ ] produced a current driver license.
[ ] produced _____ as identification.

Alyssa Lawson
Notary Public

Alyssa Lawson
(Printed, Typed or Stamped Name of Notary Public
Commission No.: CC892248
My Commission Expires: 12/07/03

ALYSSA LAWSON
Notary Public - State of Florida
My Commission Expires Dec 07, 2003
Commission # CC892248

APPROVED AS TO FORM AND LEGALITY
By: _____
DEP ATTORNEY
DATE: _____

EXHIBIT "A"

The South ½ of the North ½ of Section 36, Township 28 South, Range 33 East, Osceola County, Florida. Together with an easement for ingress and egress over the South ½ of said Section 36. Together, with a non-exclusive 50 foot easement for ingress, egress and utility purposes over the South 50 feet of Sections 33, 34 and 35, Township 28 South, Range 33 East. Said easement beginning at Highway 441 and continuing East to the Southwest corner of said Section 36.

Osceola Pine Savannas/ Campos
Osceola County

Page 1 of 1

REVISED
BSM APPROVED
By _____ Date 11/2/00

EXHIBIT "A"

58°19'07" WEST, A DISTANCE OF 2453.32 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF U.S. HIGHWAY 441 (STATE ROAD NO. 15); THENCE NORTH 30°18'24" WEST, ALONG SAID EAST RIGHT-OF-WAY LINE, A DISTANCE OF 2436 87 FEET TO A POINT ON A LINE 30 00 FEET SOUTH OF, AND PARALLEL WITH THE NORTH LINE OF SAID SECTION 18, THENCE NORTH 89°55'48" EAST, DEPARTING SAID EAST RIGHT-OF-WAY LINE, AND ALONG SAID PARALLEL LINE, A DISTANCE OF 1923 08 FEET TO THE POINT OF BEGINNING

AND

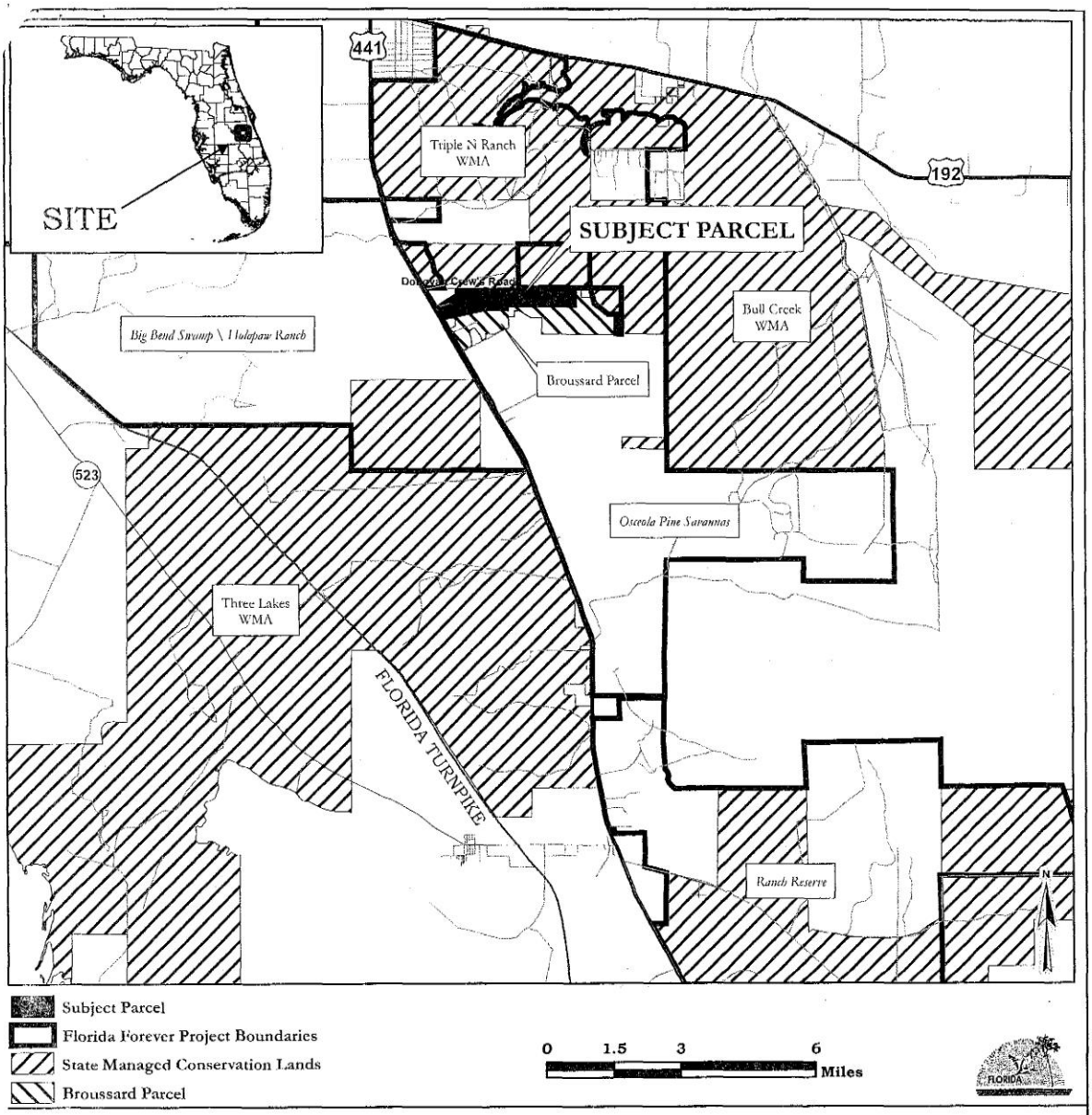
THOSE PARTS OF SECTIONS 17 AND 18, TOWNSHIP 28 SOUTH RANGE 33 EAST, DESCRIBED AS FOLLOWS·

BEGINNING AT A POINT ON THE EAST RIGHT OF WAY LINE OF U. S HIGHWAY 441 (FORMERLY STATE ROAD #29) WHICH IS 1,869.62 FEET NORTH OF THE SOUTH LINE OF SAID SECTION 17 AS MEASURED ALONG THE EAST LINE OF SAID U S HIGHWAY 441; THENCE RUN NORTHEASTERLY A DISTANCE OF 5,219.1 FEET TO THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER (SE ¼) OF SAID SECTION 17, THENCE RUN WESTERLY ALONG THE NORTH LINE OF THE SOUTH HALF (S ½) OF SAID SECTION 17 AND THE NORTH LINE OF THE SOUTHEAST QUARTER (SE ¼) OF SECTION 18, A DISTANCE OF 5,716 7 FEET MORE OR LESS TO THE EAST RIGHT OF WAY LINE OF SAID U.S. HIGHWAY 441, THENCE RUN SOUTHEASTERLY ALONG SAID EAST RIGHT OF WAY LINE OF U S. HIGHWAY 441 A DISTANCE OF 1,206 2 FEET, MORE OR LESS, TO THE POINT OF BEGINNING

Triple N Ranch Wildlife Management Area
FFWCC Addition and Inholding
Donald Vanosdol and Monette Vanosdol

Page 2 of 2

Exhibit "A"
Page 7 of 7 Pages
Amendment Number *4* to Lease No. *4226*



FLORIDA FISH & WILDLIFE ADDITION AND INHOLDING

TRIPLE N RANCH

VANOSDOL

SECTIONS 15-18, TOWNSHIP 28 SOUTH, RANGE 33 EAST

OSCEOLA COUNTY, FLORIDA

ATL1

904.14 Acres

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

AMENDMENT NUMBER *FOUR* TO LEASE NUMBER *4226*
TRIPLE N RANCH WMA

THIS LEASE AMENDMENT is entered into this 9th day of August, 2007, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR" and the FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, referred to as "LESSEE";

W I T N E S S E T H

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

WHEREAS, on May 3, 2000, LESSOR and LESSEE entered into Lease Number *4226*; and

WHEREAS, LESSOR and LESSEE desire to amend the lease to add land to the leased premises.

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

1. The legal description of the leased premises set forth in Exhibit "A" of Lease Number *4226* is hereby amended to include the real property described in Exhibit "A," attached hereto, and by reference made a part hereof.

2. It is understood and agreed by LESSOR and LESSEE that in each and every respect the terms of the Lease Number *4226*, except as amended, shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by LESSOR and LESSEE.

3. It is understood and agreed by LESSOR and LESSEE that this Amendment Number *FOUR* to Lease Number *4226* is hereby binding upon the parties hereto and their successors and assigns.

Rev.3/07

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

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

Witness

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

DAVE FEWELL
Print/Type Witness Name

"LESSOR"

Witness

Print/Type Witness Name

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 9th day of August, 2007, by Gloria C. Barber, Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. She is personally known to me.

Notary Public, State of Florida
Alexandra Alexandre
Print/Type Notary Name

Commission Number:

Commission Expires:

ALEXANDRA ALEXANDRE
Commission DD 637056
Expires February 6, 2011
Bonded Thru Troy Fain Insurance 800-385-7019

Approved as to Form and Legality
By:
DEP Attorney

FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

Witness

By: (SEAL)

Print/Type Witness Name

Print/Type Name

Witness

Title:

Print/Type Witness Name

"LESSEE"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 8th day of August, 2007, by Edwin J. Moyer as HSC Deputy Director, on behalf of the FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION. He/she is personally known to me.

Notary Public, State of Florida

Print/Type Notary Name

SUSAN WILKES
Commission DD 687088
Expires June 19, 2011
Bonded Thru Troy Fain Insurance 800-385-7019

Commission Number:

Commission Expires:

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

Commission Attorney

This Instrument Prepared By and
Please Return To:
Emily Parry
American Government Services Corporation
3812 W. Linebaugh Avenue
Tampa, Florida 33618
AGS # 19516

LARRY WHALEY 4P
OSCEOLA COUNTY, FLORIDA
CLERK OF CIRCUIT COURT

CL 2006302313 OR 3369/564
JDS Date 12/28/2006 Time 15:44:06

DOC STAMPS: 56,970.90

WARRANTY DEED
(STATUTORY FORM - SECTION 689.02, F.S.)

THIS INDENTURE, made this 14th day of December, A.D. 2006, between **Donald Vanosdol and Monette Vanosdol, husband and wife** whose address is **102 Saw Mill Rd., St. Cloud, FL 34773**, respectively, grantor, and the **BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA**, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, grantee,

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

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

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

Property Appraiser's Parcel Identification Number: 152833-000000100000, 162833-000000100000, 172833-000000100000, 172833-000000500000 And 182833-000000100000

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

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

IN WITNESS WHEREOF the grantor has hereunto set grantor's hand and seal, the day and year first above written

Signed, sealed and delivered in
the presence of:

(Signature of First Witness)

(Printed, Typed or Stamped Name of First Witness)

(Signature of Second Witness)

MARILYN L. ABEL
(Printed, Typed or Stamped Name of Second Witness)

Donald Vanosdol

Exhibit "A"
Page 4 of 7 Pages
Amendment Number *4* to Lease No. *4226*

(Signature of First Witness)

Monette Vanosdel

(Printed, Typed or Stamped Name of First Witness)

Marilyn L. Abel
(Signature of Second Witness)

MARILYN L. ABEL
(Printed, Typed or Stamped Name of Second Witness)

STATE OF FLORIDA
COUNTY OF OSCEOLA

The foregoing instrument was acknowledged before me this 14th day of December, 2006, by **Donald Vanosdel and Monette Vanosdel**. Such person (Notary Public must check applicable box):

( ) is personally known to me.
(X) produced a driver license.
( ) produced _____ as identification.

(NOTARY PUBLIC SEAL)

MARILYN L. ABEL
MY COMMISSION # DD 378431
EXPIRES: December 14, 2008
Bonded Thru Notary Public Underwriters

Marilyn L. Abel
Notary Public

MARILYN L. ABEL
(Printed, Typed or Stamped Name of Notary Public)

Commission No.: DD 378431

My Commission Expires: December 14, 2008

Exhibit "A"
Page 5 of 7 Pages
Amendment Number *4* to Lease No. *4226*

CL 2006302313 OR 3369/566

EXHIBIT "A"

THE NORTH ½ OF SECTION 15, TOWNSHIP 28 SOUTH, RANGE 33 EAST, LESS AND EXCEPT THE NORTH 30.0 FEET AND THE SOUTH 470 0 FEET THEREOF, OSCEOLA COUNTY, FLORIDA

AND

THE NORTH ½ OF SECTION 16, TOWNSHIP 28 SOUTH, RANGE 33 EAST, LESS AND EXCEPT THE NORTH 30.0 FEET THEREOF, AND LESS THE SOUTH 470.0 FEET OF THE EAST ½ OF THE NORTH ½ OF SECTION 16, TOWNSHIP 28 SOUTH, RANGE 33 EAST, OSCEOLA COUNTY, FLORIDA, AND LESS AND EXCEPT THE FOLLOWING DESCRIBED PARCEL

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SAID SECTION 17, PROCEED SOUTH 89°47'41" EAST, ALONG THE SOUTH LINE OF THE NORTH ONE-HALF OF SAID SECTION 16, A DISTANCE OF 2537.92 FEET TO THE POINT OF BEGINNING; THENCE NORTH 46°02'17" EAST, DEPARTING SAID SOUTH LINE, A DISTANCE OF 151 86 FEET TO A POINT ON THE WEST LINE OF THE EAST HALF OF SAID SECTION 16; THENCE SOUTH 00°01'31" EAST, ALONG SAID WEST LINE, A DISTANCE OF 105 81 FEET TO THE NORTHEAST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION 16, THENCE NORTH 89°47'41" WEST, DEPARTING SAID WEST LINE, AND ALONG THE SOUTH LINE OF THE NORTH HALF OF SAID SECTION 16, A DISTANCE OF 109.36 FEET TO THE POINT OF BEGINNING.

AND

THE NORTH ½ OF SECTIONS 17 AND 18, TOWNSHIP 28 SOUTH, RANGE 33 EAST, OSCEOLA COUNTY, FLORIDA

LESS AND EXCEPT THE NORTH 30 0 FEET THEREOF

AND ALSO LESS AND EXCEPT THAT PORTION LYING WEST OF THE EAST RIGHT OF WAY LINE OF HIGHWAY 441;

AND ALSO LESS AND EXCEPT COMMENCING AT THE NORTHWEST CORNER OF SAID SECTION 17; PROCEED SOUTH 00°01'51" WEST, ALONG THE WEST LINE OF SAID SECTION 17, A DISTANCE OF 30 00 FEET TO THE POINT OF BEGINNING AND A POINT ON A LINE 30.00 FEET SOUTH OF, AND PARALLEL WITH THE NORTH LINE OF SAID SECTION 17, SAID POINT LYING 5,289.75 FEET NORTH OF THE SOUTHWEST CORNER OF SAID SECTION 17, AS MEASURED ALONG SAID WEST LINE, THENCE NORTH 89°55'32" EAST, DEPARTING SAID WEST LINE, AND ALONG SAID PARALLEL LINE, A DISTANCE OF 1697 20 FEET, THENCE SOUTH 05°53'15" WEST, DEPARTING SAID PARALLEL LINE, A DISTANCE OF 753 98 FEET; THENCE SOUTH 72°46'24" WEST, A DISTANCE OF 236 09 FEET, THENCE SOUTH

Triple N Ranch Wildlife Management Area
FFWCC Addition and Inholding
Donald Vanosdol and Monette Vanosdol

EGM Pg 28 Date 11.19.06

EXHIBIT "A"

58°19'07" WEST, A DISTANCE OF 2453.32 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF U.S. HIGHWAY 441 (STATE ROAD NO. 15); THENCE NORTH 30°18'24" WEST, ALONG SAID EAST RIGHT-OF-WAY LINE, A DISTANCE OF 2436 87 FEET TO A POINT ON A LINE 30 00 FEET SOUTH OF, AND PARALLEL WITH THE NORTH LINE OF SAID SECTION 18, THENCE NORTH 89°55'48" EAST, DEPARTING SAID EAST RIGHT-OF-WAY LINE, AND ALONG SAID PARALLEL LINE, A DISTANCE OF 1923 08 FEET TO THE POINT OF BEGINNING

AND

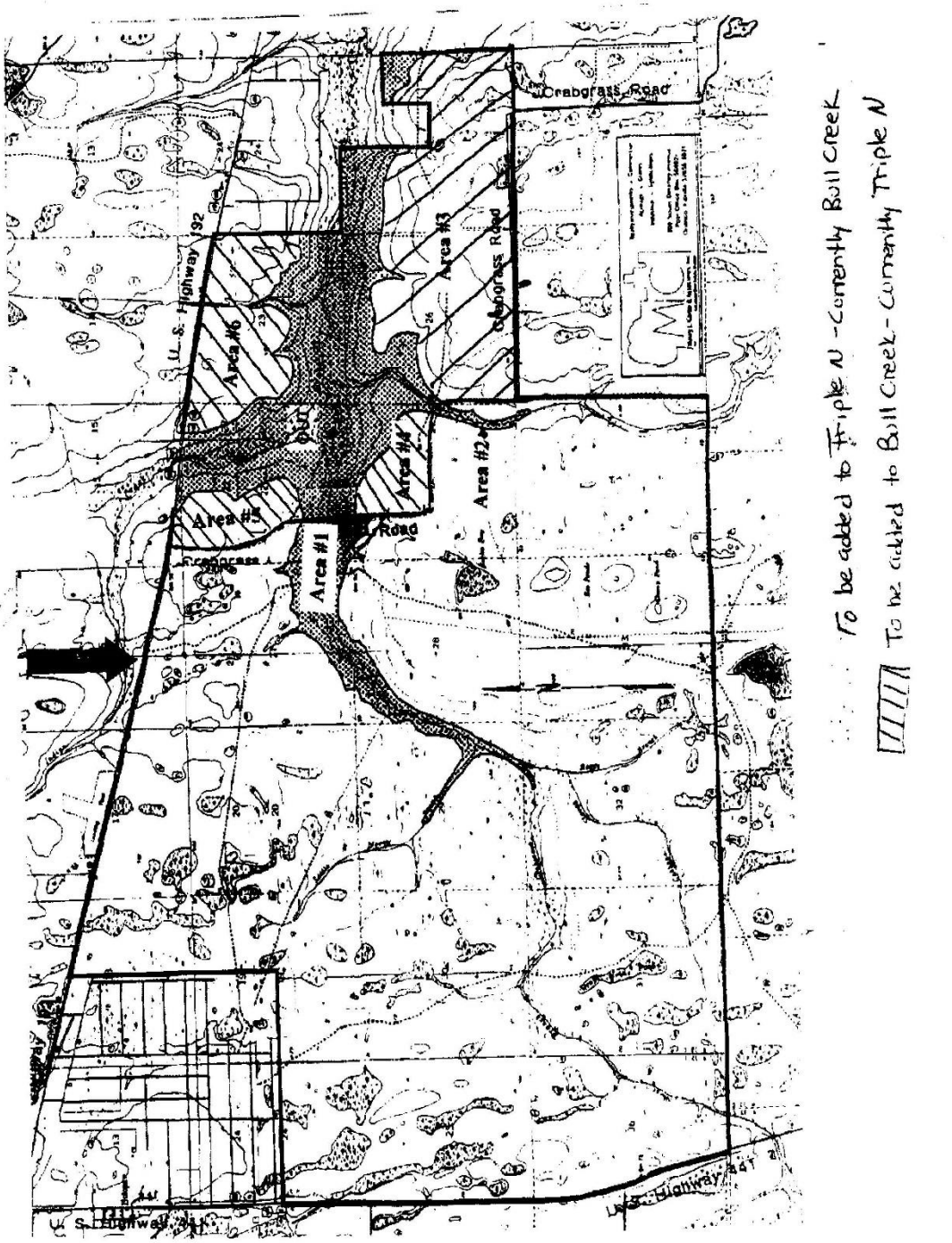
THOSE PARTS OF SECTIONS 17 AND 18, TOWNSHIP 28 SOUTH RANGE 33 EAST, DESCRIBED AS FOLLOWS·

BEGINNING AT A POINT ON THE EAST RIGHT OF WAY LINE OF U. S HIGHWAY 441 (FORMERLY STATE ROAD #29) WHICH IS 1,869.62 FEET NORTH OF THE SOUTH LINE OF SAID SECTION 17 AS MEASURED ALONG THE EAST LINE OF SAID U S HIGHWAY 441; THENCE RUN NORTHEASTERLY A DISTANCE OF 5,219.1 FEET TO THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER (SE ¼) OF SAID SECTION 17, THENCE RUN WESTERLY ALONG THE NORTH LINE OF THE SOUTH HALF (S ½) OF SAID SECTION 17 AND THE NORTH LINE OF THE SOUTHEAST QUARTER (SE ¼) OF SECTION 18, A DISTANCE OF 5,716 7 FEET MORE OR LESS TO THE EAST RIGHT OF WAY LINE OF SAID U.S. HIGHWAY 441, THENCE RUN SOUTHEASTERLY ALONG SAID EAST RIGHT OF WAY LINE OF U S. HIGHWAY 441 A DISTANCE OF 1,206 2 FEET, MORE OR LESS, TO THE POINT OF BEGINNING

Triple N Ranch Wildlife Management Area
FFWCC Addition and Inholding
Donald Vanosdol and Monette Vanosdol

Exhibit "A"
Page 7 of 7 Pages
Amendment Number *4* to Lease No. *4226*

12.1.2 Lease Agreement No. 4116



May-27-97 12:00P FLORIDA GAME & FISH COMM 352-732-1391 P.10

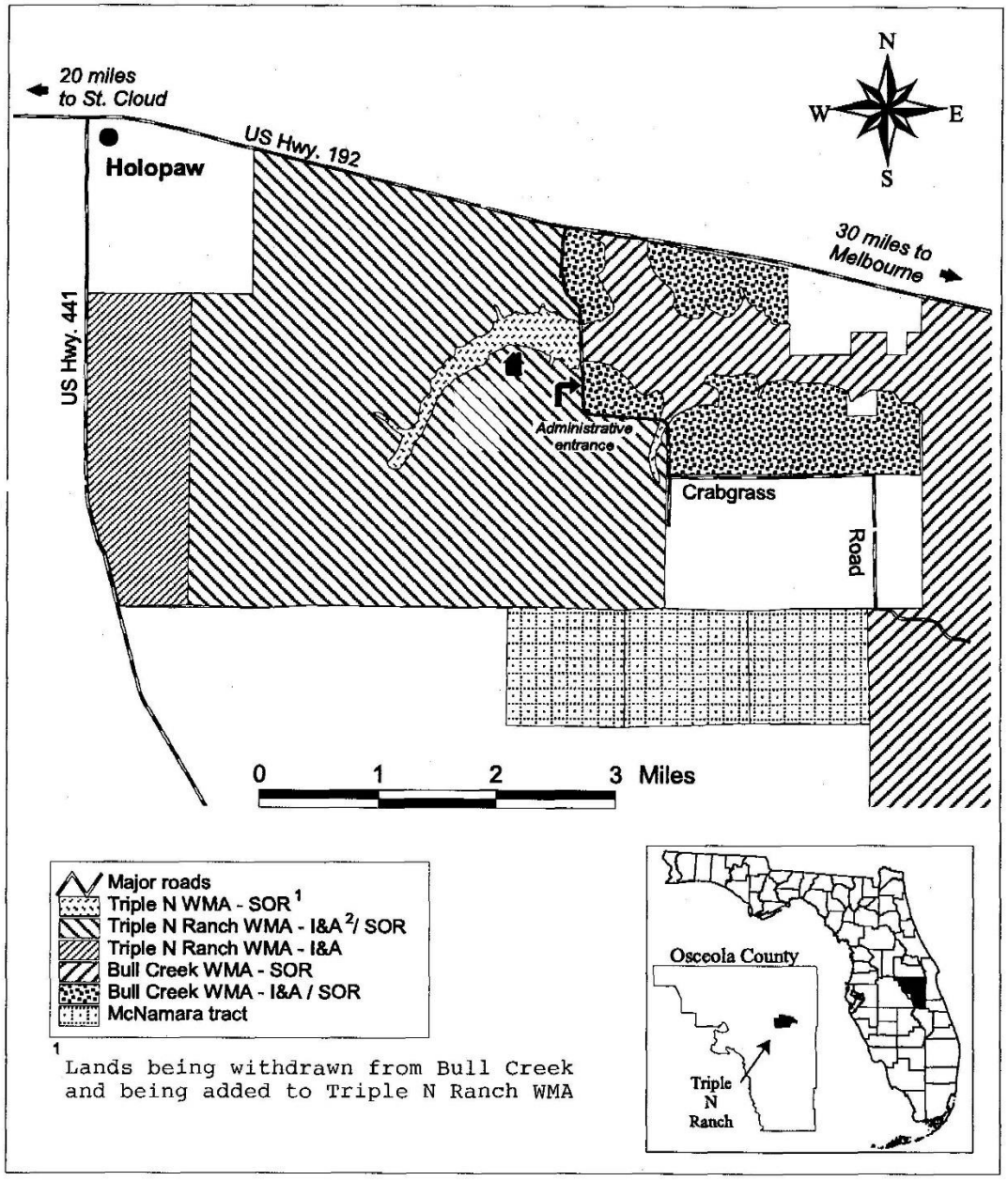
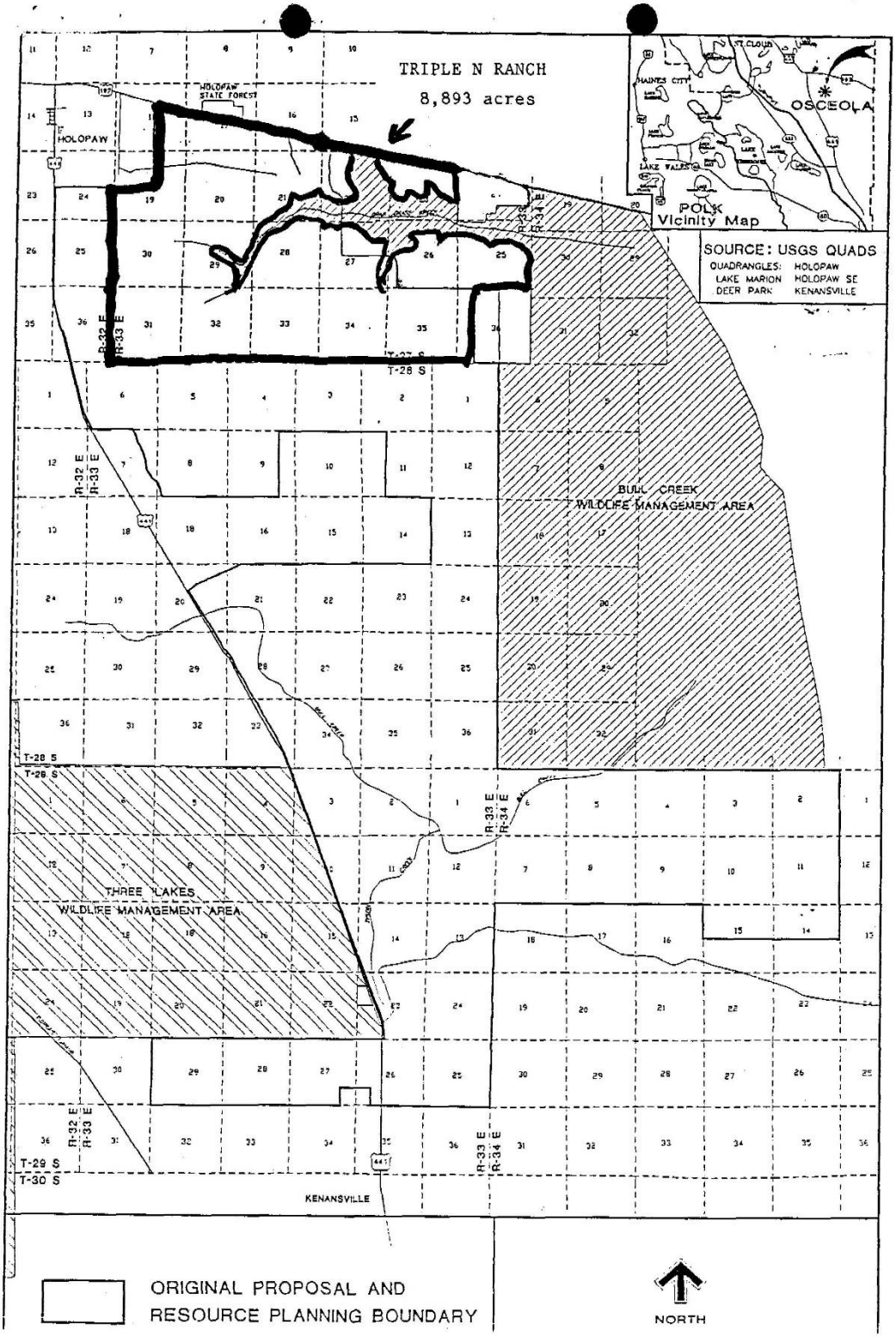
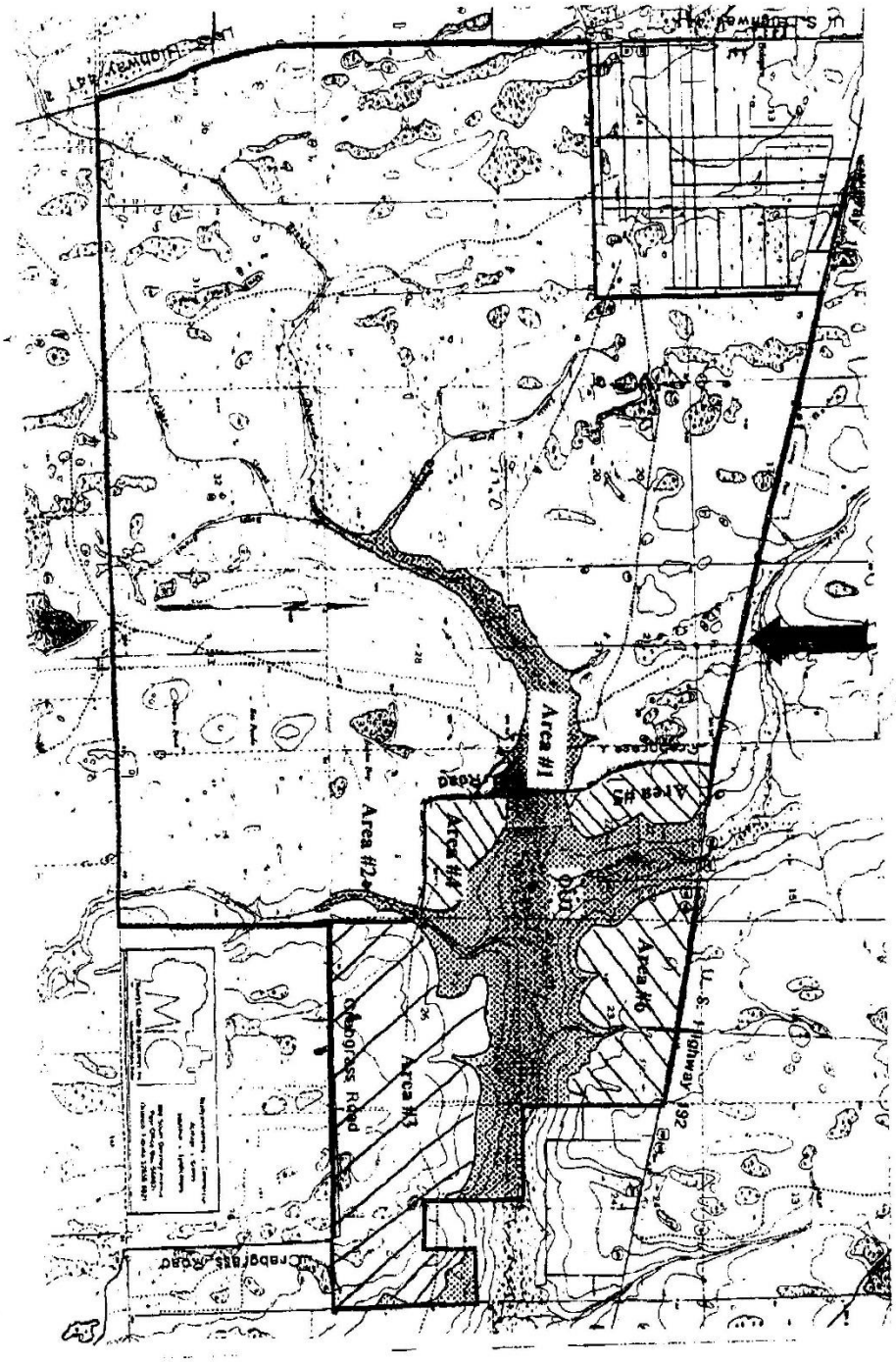


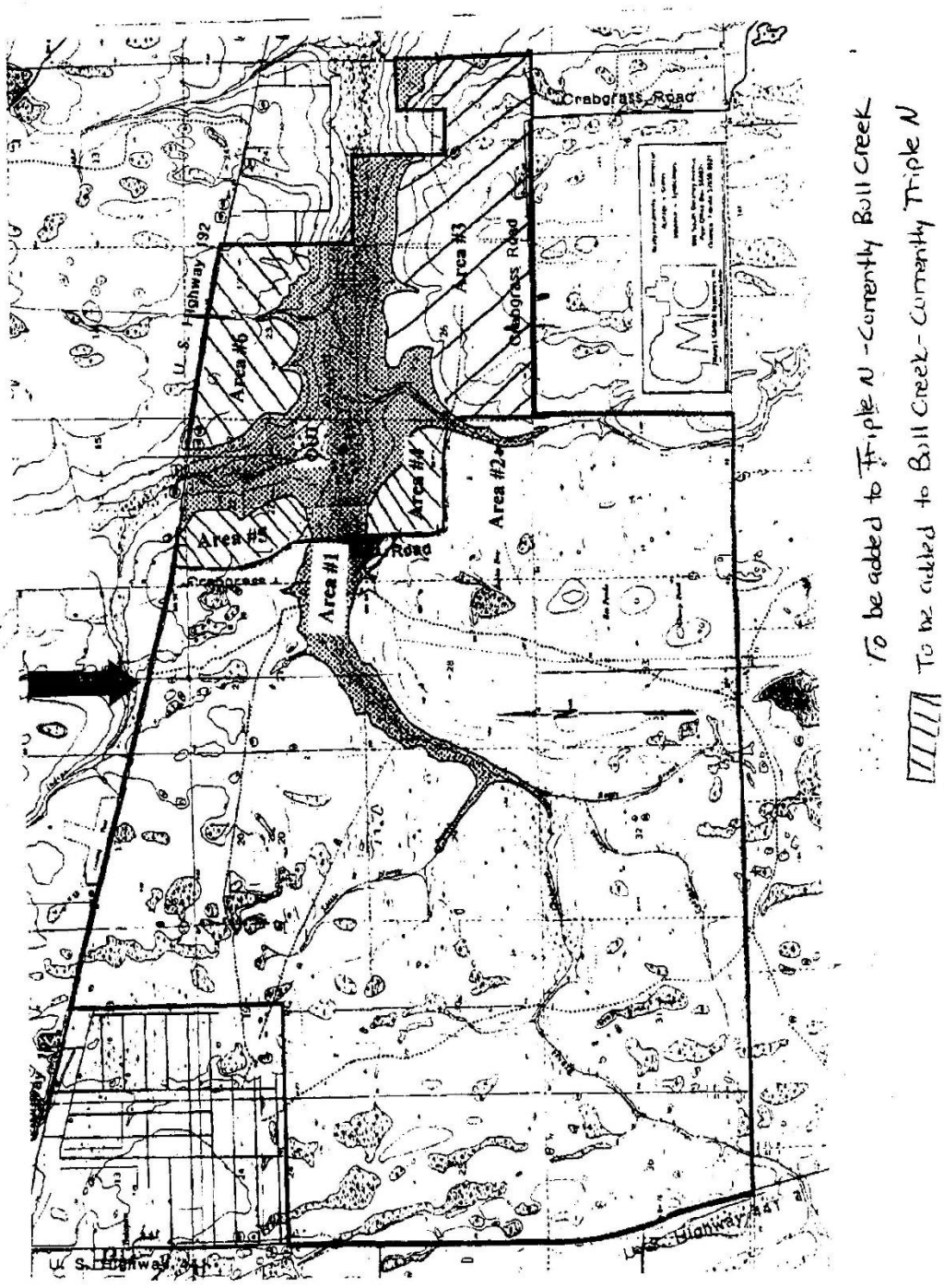
Figure 1. Location of the Triple N Ranch WMA, Osceola County.


TRIPLE N RANCH
8,893 acres
HOLOPAW STATE FOREST
HOLOPAW
OSCEOLA
POLK
Vicinity Map
SOURCE: USGS QUADS
QUADRANGLES: HOLOPAW
LAKE MARION HOLOPAW SE
DEER PARK KENANSVILLE
R-32 E
R-33 E
R-34 E
T-28 S
T-29 S
T-30 S
BULL CREEK
WILDLIFE MANAGEMENT AREA
THREE LAKES
WILDLIFE MANAGEMENT AREA
KENANSVILLE
ORIGINAL PROPOSAL AND
RESOURCE PLANNING BOUNDARY
NORTH



To be added to Triple N - Currently Bull Creek

To be added to Bull Creek - Currently Triple N



May-27-97 12:00P FLORIDA GAME & FISH COMM 352-732-1391 P.10

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

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

and

FLORIDA GAME AND FRESH WATER FISH COMMISSION

TRIPLE N RANCH

INTERGOVERNMENTAL LEASE AGREEMENT

Agreement No. 4116

This Agreement is made and entered into this 9th day of July, 1997, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA (as to its undivided 50% interest) and the Governing Board of the ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (as to its undivided 50% interest), hereinafter collectively referred to as "LESSORS," and the FLORIDA GAME AND FRESH WATER FISH COMMISSION, hereinafter referred to as "LESSEE".

W I T N E S S E T H :

For and in consideration of the mutual covenants and Agreements hereinafter contained, LESSORS grant management authority for the below described premises to LESSEE subject to the following terms and conditions:

1. DESCRIPTION OF MANAGEMENT LANDS: The management lands subject to this Agreement, said lands within the Osceola Pine Savannahs CARL Project, is situated in the County of Osceola, State of Florida, and known as Triple N Ranch, being more particularly described in Exhibit "A" attached hereto and by reference made a part hereof, and hereinafter called the "management lands."

2. TERM: The initial term of this Agreement shall be for a period of ten (10) years commencing on July 9, 1997 and ending on July 8, 2007, unless sooner terminated pursuant to the provisions of this Agreement. This Agreement is automatically renewed for two twenty (20) year periods on each ending date unless sooner terminated as otherwise set forth herein.

3. PURPOSE: LESSEE shall manage the management lands only for the conservation and protection of natural and historical resources and resource-based public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 259.032(11), Florida Statutes and Section 373.59, Florida Statutes, as amended, along with other authorized uses necessary for the accomplishment of this purpose as designated in the Management Plan required by paragraph 7 of this Agreement.

4. QUIET ENJOYMENT AND RIGHT USE: LESSEE shall have the right of ingress and egress to, from and upon the management lands for all purposes necessary to the full quiet enjoyment by said LESSEE of the rights conveyed herein.

5. AUTHORIZED USES: Authorized uses for the purposes of this Agreement shall be defined as those management activities that the LESSEE is authorized to perform under the Agreement and the approved Management Plan. The authorized uses shall be consistent with statutory requirements that require that the management lands be managed and maintained in an environmentally acceptable manner to restore and protect its natural state and condition, including permitting of compatible recreational use. The authorized uses shall be subject to the minimum conditions and guidelines outlined below, which conditions and guidelines shall be incorporated into the Management Plan prepared according to paragraph 7 herein.

A. The management lands will be managed as a Type I Wildlife Management Area as that term is defined by the LESSEE.

B. The function and condition of the management lands with respect to water management, water supply and the conservation and protection of water resources will be enhanced or maintained in its present condition. In particular, watershed disturbances (e.g., clearcutting other than for restoration, new road construction, firebreaks, etc.) will be avoided, and adequate management of stormwater on existing roads and creek crossings will be conducted based on Best Management Practices as well as recommendations and assistance provided by the LESSORS.

C. The development of facilities within the wetlands identified on the management lands shall be restricted to trails, boardwalks, or other alterations which facilitate access for recreational and/or environmental education purposes and will be designed and built with a goal of minimizing disturbance to the natural communities.

D. The St. Johns River Water Management District may engage in construction or other activities necessary for water management purposes on the management lands provided that such construction or activities are consistent with the approved Management Plan. The St. Johns River Water Management District will provide reasonable notice to the LESSEE of any such activities prior to their commencement.

E. Interim activities that are undertaken prior to the review and approval of the Management Plan shall be evaluated in accordance with guidance provided in the "List of LMAC/Division of State Lands Approved Interim Management Activities," issued June 8, 1995, and attached hereto as Exhibit B. The St. Johns River Water Management District shall be added to the list of review agencies for matters related to bridge or culvert replacement, prescribed burning, and replacing existing water control structures or devices. The implementation of these activities requires the review and consent of the St. Johns River Water Management District; correspondence should be directed to Director, Division of Land Management, St. Johns River Water Management District, P.O. Box 1429, Palatka, FL, 32178-1429, (904) 329-4404.

6. UNAUTHORIZED USES: The LESSEE shall, through its agents and employees, prevent to the best of its ability the unauthorized use of the management lands or any use thereof not in conformance with this Agreement.

7. MANAGEMENT PLAN: LESSEE shall prepare and submit a Management Plan for the management lands, in accordance with Section 253.034, Florida Statutes, and Chapter 18-2,

Florida Administrative Code, within twelve months of the effective date of this lease. The Management Plan shall be submitted to the LESSORS for review, comment, and approval. The management lands shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the management lands without the prior written approval of the LESSORS until the Management Plan is approved. The Management Plan shall emphasize the original management concept as approved by the LESSORS at the time of acquisition which established the primary public purpose for which the management lands was acquired. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by the LESSEE and the LESSORS at least every five years. The LESSEE shall not use or alter the management lands except as provided for in the approved Management Plan without the prior written approval of the LESSORS. The Management Plan prepared under this lease agreement shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management Plan.

8. ANNUAL REPORTS: Annual reports that summarize management activities, accomplishments, and issues affecting the management lands will be submitted by the LESSEE to the LESSORS.

9. RIGHT TO INSPECT:

A. The LESSORS or their duly authorized agents and employees shall have the right at any and all times to inspect the management lands and works and operations thereon of the LESSEE in any matter pertaining to this Agreement.

B. The LESSORS or their duly authorized agents and employees shall also have the right, at any and all times, to inspect and audit the books and financial records of the LESSEE and any of its licensees as they pertain to the management or recreational use of the management lands.

10. INSURANCE REQUIREMENTS: LESSEE shall procure and maintain adequate fire and extended risk insurance coverage for any improvements or structures located on the management lands in amounts not less than the full insurable replacement value of such improvements by preparing and delivering to the Division of Risk Management, Department of Insurance, a completed Florida Fire Insurance Trust Fund Coverage Request Form immediately upon erection of any structures as allowed in paragraph 5 of this Agreement. Such policies of insurance shall name LESSORS and their duly authorized agents as co-insured. A copy of said form and immediate notification in writing of any erection or removal of structures or other improvements on the management lands and any changes affecting the value of the improvements shall be submitted to the LESSORS. LESSEE shall be financially responsible for any loss due to failure to obtain adequate insurance coverage, and LESSEE's failure to maintain such policies in the amounts set forth shall constitute a breach of this Agreement.

11. LIABILITY: The LESSEE shall bear the sole responsibility for any and all claims for personal injuries or management lands damage arising from, or incident to, the use, occupation, and possession of the management lands. The LESSEE shall maintain a program of insurance

covering its liabilities as prescribed by Section 768.28, F.S. and shall be responsible for the acts or omissions of its officers, employees, servants, and agents in the event that such acts or omissions result in injury to persons or damage the management lands. However, nothing in this Agreement is intended or is to be construed as a waiver of sovereign immunity as provided to the parties signatory hereto under Section 768.28, Florida Statutes, or as otherwise provided by law.

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

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

14. SUBLEASES: This Agreement is for the purpose specified herein and subagreements of any nature are prohibited, without the prior written approval of LESSORS. Any subagreement not approved in writing by LESSORS shall be void and without legal effect.

15. SURRENDER OF MANAGEMENT LANDS: Upon termination or expiration of this Agreement, LESSEE shall surrender the management lands to LESSORS. In the event no further use of the management lands or any part thereof is needed, written notification shall be made to the LESSORS at least one (1) year prior to the release of all or any part of the management lands. However, if such notice is given after March 1 of any calendar year, the date of termination shall be the first February 15 following the date of said notice. Notification shall include a legal description, this Agreement and parcel number, and an explanation of the release. The release shall be valid only if approved by LESSORS through execution of a release of Agreement instrument with the same formality as this Agreement. Upon release of all or any part of the management lands or upon expiration or termination of this Agreement, all improvements, including both physical structures and modifications to the management lands, shall become the management lands of the LESSORS, unless LESSORS give written notice to LESSEE to remove any or all such improvements at the expense of LESSEE. The decision to retain any improvements upon termination of this Agreement shall be at the LESSORS' discretion. Prior to surrender of all or any part of the management lands, a representative of the Division of State Lands, Department of Environmental Protection, and the St. Johns River Water Management District shall perform an on-site inspection and the keys to any buildings or gates shall be turned over to them. If the management lands and improvements located thereon do not meet all conditions set forth in paragraph 22, LESSEE shall pay all costs necessary to meet the prescribed conditions.

16. BEST MANAGEMENT PRACTICES: The LESSEE shall implement applicable Best Management Practices for all activities conducted under this Agreement in compliance with

paragraph 18-2.004 (1) (d), Florida Administrative Code, which have been selected, developed, or approved for the protection and enhancement of the management lands.

17. PUBLIC LANDS ARTHROPOD CONTROL PLAN: LESSEE shall identify and subsequently designate to the respective arthropod control district or districts within one year of the effective date of this Agreement all of the environmentally sensitive and biologically high-productive lands contained within the management lands, in accordance with Section 388.4111, Florida Statutes and Chapter 5E-13, Florida Administrative Code, for the purpose of obtaining a public lands arthropod control plan for such lands.

18. TRIPLICATE ORIGINALS: This Agreement is executed in triplicate originals, each of which shall be considered an original for all purposes.

19. UTILITY FEES: LESSEE shall be responsible for the payment of all charges incurred by the LESSEE for the furnishing of gas, electricity, water and other utilities to the management lands and for having all utilities turned off when the management lands are surrendered.

20. ASSIGNMENT: This Agreement shall not be assigned in whole or in part without the prior written approval of the LESSORS. Any assignment made either in whole or in part without the prior written consent of LESSORS shall be void and without legal effect.

21. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of the LESSEE in accordance with plans prepared by professional designers and shall require the prior written approval of the LESSORS as to purpose , location, and design. Further, no trees, other than exotic invasive species shall be removed or major land alternation done without the prior written approval of LESSORS. Removable equipment and removable improvements placed on the management lands by LESSEE which do not become a permanent part of the management lands will remain the property of the LESSEE and may be removed by the LESSEE upon termination of this Agreement.

22. OPERATION AND MAINTENANCE OF MANAGEMENT LANDS AND IMPROVEMENTS: LESSEE shall maintain the real property contained within the management lands and any improvements located thereon, in a state of good condition working order and repair including, but not limited to, keeping the management lands free of trash or litter, maintaining all planned improvements as set forth in the Management Plan, meeting all building and safety codes in the location situate, and maintaining all existing roads, fences, ditches, culverts, canals, risers and the like in as good condition as the same may be at the date of the Agreement and as required as needed to secure the management lands and provide safe public access. Notwithstanding the foregoing, any removal, closure, etc. of the above improvements shall be acceptable when the proposed activity is consistent with the goals of conservation, protection, and enhancement of the natural and historical resources within the management lands and the approved Management Plan. All costs for operation and maintenance of the management lands and improvements except those constructed or placed upon the management lands by the LESSORS shall be at the expense of the LESSEE.

23. ENTIRE UNDERSTANDING: This Agreement sets forth the entire understanding between the parties and shall only be amended with the prior written approval of LESSORS.

24. DEFAULT BY THE LESSEE AND TERMINATION BY THE LESSORS: The LESSORS may terminate this Agreement if the LESSEE proceeds in a manner that violates the terms of this Agreement. Agreement violations shall include the following:

A. LESSEE fails to submit a Management Plan in accordance with the terms of this Agreement, or

B. LESSEE fails to proceed in a manner that will implement or complete the actions, tasks, or other aspects of the Management Plant for essential site management, or

C. Construction of permanent structures or other improvements by the LESSEE not authorized by the LESSORS, either directly or indirectly through the approval of the Management Plan, or

D. LESSEE's destruction or degradation of natural systems, rare or endangered habitats that are targeted for preservation, or

E. Violation of Federal, State, or local laws, rules, regulations, or ordinances, or

F. Causing the management lands to be contaminated with hazardous wastes or other pollutants or failure to properly secure the management lands to prevent or impede illegal dumping or degradation of natural habitats, or other unauthorized uses, or

G. LESSEE's failure to comply with the other terms of this Agreement.

If the LESSORS, in their sole opinion, find that the LESSEE has committed a violation of the Agreement, the LESSORS will notify the LESSEE in writing as to the nature of the violation and shall direct the LESSEE on how the LESSEE is to proceed to remedy, resolve, or rectify the Agreement violation. The LESSEE will have sixty (60) days from the receipt of the notification in which to perform the following:

H. Proceed in a manner or provide a schedule for the prompt implementation of the LESSORS' corrective action.

I. Advise the LESSORS how the LESSEE will implement its own corrective action, including a schedule for completion, provided it will address the Agreement violation.

If the LESSEE fails to respond to the LESSORS' notification regarding an Agreement violation or fails to implement corrective action, the LESSEE will be in default of this Agreement and the LESSORS may, at their sole option, terminate this Agreement and recover from LESSEE all damages LESSORS may incur by reason of the default, including , but not limited to, the cost of recovering the management lands or maintain this Agreement in full force and effect and exercise all rights and remedies herein conferred upon LESSORS.

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

26. TERMINATION: The LESSEE or either of the LESSORS may terminate this Agreement for convenience by giving one (1) year notice in writing of its intent to do so. However, if such notice is given after March 1 of any calendar year, the date of termination shall be the first February 15 following the date of said notice.

27. PROHIBITIONS AGAINST LIENS OR OTHER ENCUMBRANCES: Fee title to the management lands is held by the LESSORS. LESSEE shall not do or permit anything which purports to create a lien or encumbrance of any nature against the management lands including, but not limited to, mortgages or construction liens against the management lands or against any interest of LESSORS therein.

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

29. DAMAGE TO THE MANAGEMENT LANDS:

A. LESSEE shall not do, or suffer to be done, in , on or upon the management lands or as affecting said management lands or adjacent properties, any act with may result in damages or depreciation of value to the management lands or adjacent properties, or any part thereof.

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

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

30. TAXES AND ASSESSMENTS: If any ad valorem taxes, intangible management lands taxes, personal management lands taxes, mechanic's or materialman's liens, or other taxes or assessments of any kind are assessed or levied lawfully on the management lands based on the LESSEE's use thereof during the term of the Agreement, the LESSEE shall pay same within Thirty (30) days after receiving written notice thereof from the LESSORS. In the event the LESSEE fails to pay all the taxes assessed or levied on the management lands within thirty (30) days after receiving written notice thereof from the LESSORS, the LESSORS may, at their sole option pay said taxes subject to immediate reimbursement thereof in full together with any interest thereon at the maximum rate allowed by law and any administrative costs thereof incurred by the LESSORS, including reasonable attorneys' fees. Failure of the LESSEE to pay said taxes shall constitute a breach of this Agreement.

31. NON-DISCRIMINATION: The LESSEE shall not discriminate against any individual because of that individual's race, color, religion, sex, national origin, age, handicap, or marital status with respect to any activity occurring or conducted on the management lands.

32. ALCOHOL: The possession, consumption, or other use of any alcoholic beverage, intoxicant and unlawful drug or substance by anyone within or on the management lands shall be specifically prohibited.

33. FIREARMS: The possession or use of any weapons or firearms on the management lands shall be prohibited with the exception of employees of the LESSEE, its agents, or officers, or uses associated with authorized hunting.

34. HUNTING: Hunting and trapping of wildlife on the management lands shall be prohibited unless it is approved in writing in connection with exotics and nuisance control or with Type I WMA activities or other activities approved in the Management Plan.

35. SIGNAGE: At all public entrances, public information signage shall be located which shall inform the public of the cooperative project between the LESSEE and the LESSORS and shall advise the public of all permitted opportunities available on the management lands and the location of said opportunities through an information map. Additionally, the LESSEE shall post appropriate signage along the fence along the management lands boundaries and the interior of the management lands to mark and designate trails, parking areas, restrooms, if any, and any prohibited activities for public safety purposes.

36. FEES AND REVENUES:

A. The LESSEE may charge an entrance or user fee to the visitors and users of the management lands after receiving prior written approval from the LESSORS. For any revenue

generating activity, the LESSEE will provide the LESSORS with such information as may be needed to ensure adherence to restrictions on the use of lands purchased with bond proceeds.

B. The LESSEE may explore revenue-producing initiatives that are compatible with the purposes for which the management lands were acquired and related statutory directive after obtaining written approval from the LESSORS. Any revenue that is generated by the LESSEE under these initiatives shall be applied to management and operation costs of the management lands.

37. ACCESS BY LESSORS: The right is reserved to the LESSORS, their officers, employees, agents and assigns to enter upon and travel through and across the management lands which are the subject of this Agreement, any time, for inspection, construction, maintenance, or for any purpose necessary or convenient in connection with water or resource management activities. The St. Johns River Water Management District shall coordinate all construction or maintenance of water management facilities within the management lands with the LESSEE and shall comment on the need for any such facilities or activities when reviewing the Management Plan required by the Agreement.

38. COMPLIANCE WITH LAWS: LESSEE agrees that this Agreement is contingent upon and subject to LESSEE obtaining all applicable permits and complying with all applicable permits, regulations, ordinances, rules, and laws of the State of Florida or the United States or of any political subdivision or agency of either.

39. TIME: Time is expressly declared to be of the essence of this Agreement.

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

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

42. BINDING EFFECT: This Agreement will be binding upon and inure to the benefit of the parties hereto, and their personal representatives, successors, and assigns.

43. AMENDMENTS: This Agreement may be amended in writing by mutual consent of the LESSORS and the LESSEE.

44. NOTICES: Any and all notices, requests or other communications hereunder shall be deemed to have been duly given if in writing and if transmitted by hand delivery with receipt therefor, or by registered mail posted prior to the expiration date for such notice, return receipt requested and first class postage prepaid as follows:

To the LESSEE: Florida Game and Fresh Water Fish Commission
620 South Meridian Street
Tallahassee, FL 32399-1600

To the LESSORS:

St. Johns River Water Management District
Division of Land Management
P.O. Box 1429
Palatka, FL 32178-1429

and

Department of Environmental Protection
Division of State Lands
Bureau of Land Management Services
3900 Commonwealth Boulevard
Mail Station 130
Tallahassee, FL 32399-3000

45. CONDITION OF MANAGEMENT LANDS: LESSORS assume no liability or obligation to LESSEE with reference to the condition of the management lands, Management authority is granted for the management lands in an "as is" condition by the LESSORS to LESSEE with LESSORS assuming no responsibility for the care, repair, maintenance or improvement of the management lands for the benefit of LESSEE.

46. NON_WAIVER OF REGULATORY AUTHORITY: Nothing contained in this Agreement shall be construed as a waiver of or contract with respect to the regulatory and permitting authority of the LESSORS as it now or hereafter exists under applicable laws, rules, and regulations.

47. ADMINISTRATIVE FEE: LESSEE shall pay the Florida Department of Environmental Protection, Division of State Lands an annual administrative fee of $300. The initial annual administrative fee shall be payable within thirty days from the date of execution of this lease agreement and shall be prorated based on the number of months or fractions thereof remaining in the fiscal year of execution. For purposes of this lease agreement, the fiscal year shall be the period extending from July 1 to June 30. Each annual payment thereafter shall be due and payable on July 1 of each subsequent year.

In witnesseth whereof, the parties have caused this Agreement to executed on the day and year first above written.

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

Witness

Print/Type Witness Name

By: _____ (SEAL)
Daniel T. Crabb, Chief
Bureau of Land Management Services
Division of State Lands
Florida Department of Environmental Protection

"LESSOR"

Witness

Print/Type Witness Name

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 2nd day of June, 1997, by Daniel T. Crabb, as Chief, Bureau of Land Management Services, Division of State Lands, Florida Department of Environmental Protection, acting as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. He is personally know to me.

(SEAL)

OFFICIAL NOTARY SEAL
PATRICIA TOLODAY
COMMISSION NUMBER
CC546565
MY COMMISSION EXPIRES
APR. 18,2000

Notary Public, State of Florida

Print/Type Notary Name

Commission Number

Commission Expires:

Approved as to Form and Legality

By: _____
DEP Attorney

GOVERNING BOARD OF THE ST. JOHNS
RIVER WATER MANAGEMENT DISTRICT

William E. Segal, Chairman

(SEAL)

ATTEST:

By: _____
Otis A. Mason, Secretary

STATE OF FLORIDA
COUNTY OF PUTNAM

BEFORE ME, an officer duly authorized to take acknowledgments in the State and County aforesaid, personally appeared William M. Segal and Otis A. Mason, to me personally known and known to me to be the Chairman and Secretary, respectively, of ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, a public body existing under Chapter 373, Florida Statutes, who being duly authorized, executed the foregoing document, and they acknowledged before me that they executed the same on behalf of ST. JOHNS RIVER WATER MANAGEMENT DISTRICT.

WITNESS my hand and official seal this 9th day of July, 1997.

(SEAL)

PATRICIA C. SCHULTZ
MY COMMISSION EXPIRES
FEBRUARY 6, 1998
#CC 342545
Bonded thru
TROY FAIN-INSURANCE
NOTARY PUBLIC, STATE OF FLORIDA

Notary Public, State of Florida

Patricia C. Schultz
Print/Type Notary Name

Commission Number CC 342545

Commission Expires: 2/6/98

Approved:

John W. Williams
St. Johns River Water Management District
Senior Assistant General Counsel
Office of General Counsel

FLORIDA GAME AND FRESH WATER FISH COMMISSION

Witness
Km Wright
Print/Type Witness Name

By: _____ (SEAL)
Allan Egbert
Print/Type Name

Its: Executive Director

Witness
ANDRENA Knicely
Print/Type Witness Name

"LESSEE"

APPROVED AS TO FORM AND LEGAL SUFFICIENCY
Commission Attorney

STATE OF FLORIDA
COUNTY OF Leon

The foregoing instrument was acknowledged before me this 14th day of May, 1997, by Allan Egbert, as Executive Director, Florida Game and Fresh Water Fish Commission, who is personally know to me ~~or produced~~ _____ as identification.

(SEAL)

JIMMIE C. BEVIS MY COMMISSION EXPIRES DECEMBER 28, 1997 #CC 338592 NOTARY PUBLIC, STATE OF FLORIDA

Jimmie C. Bevis
Notary Public, State of Florida

JIMMIE C. BEVIS
Print/Type Notary Name

Commission Number

Commission Expires:

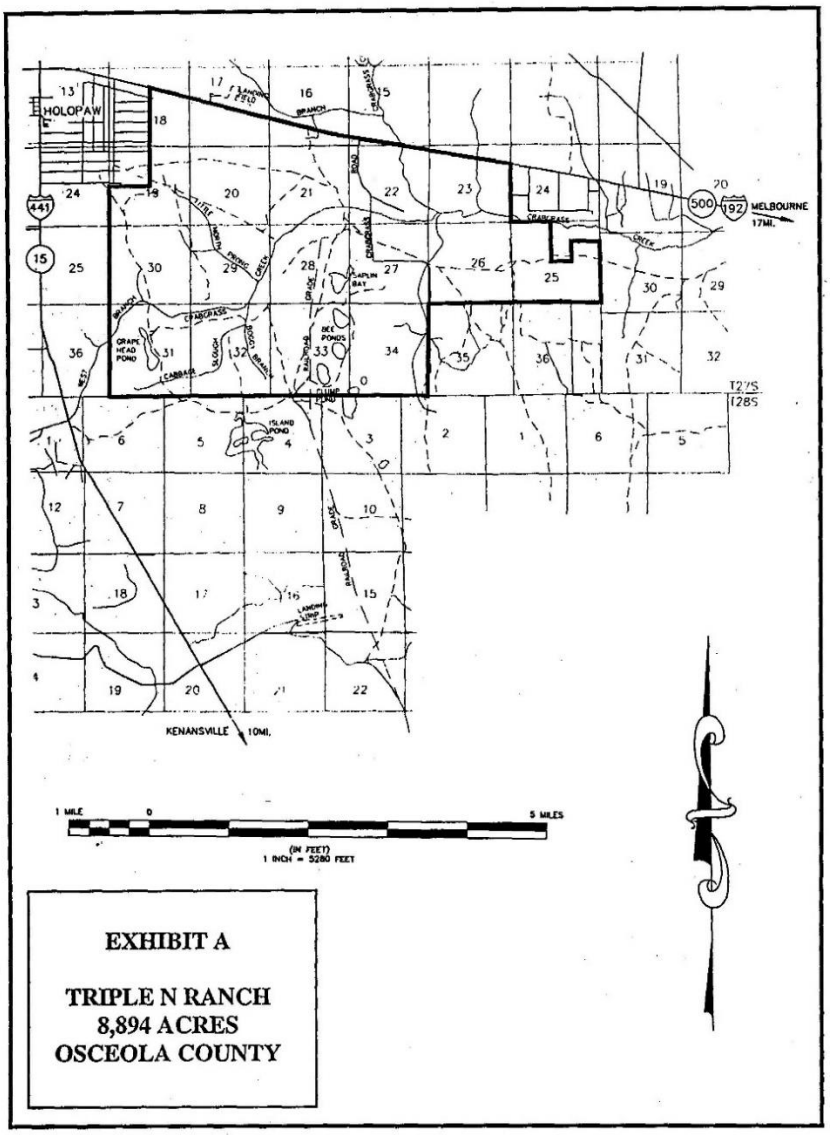

HOLOPAW
MELBOURNE
17MI.
KENANSVILLE
10MI.
T27S
R28S
1 MILE
0
5 MILES
(IN FEET)
1 INCH = 5280 FEET
EXHIBIT A
TRIPLE N RANCH
8,894 ACRES
OSCEOLA COUNTY

EXHIBIT "A"

LEGAL DESCRIPTION

The NE 1/4 of Section 19, Township 27 South, Range 33 East, except that West 335 feet thereof, Osceola County, Florida.

The South 66 feet of Section 25, Township 27 South, Range 33 East, Osceola County, Florida.

- A N D -

The following lands in Township 27 South, Range 33 East, Osceola County, Florida, to-wit:

The South 1/2 of Section 19 and all of Sections 20 and 26 to 34, inclusive.

Those portions of Sections 15, 16, 17 and 23, lying South of State Road #500, now U. S. Highway #192.

The East 1/2, less the West 335 feet thereof, of Section 18, lying South of State Road #500, now U. S. Highway #192.

Section 21, less the NE 1/4 of the SE 1/4, and less the West 210 feet of the East 420 feet of the SE 1/4 (known as "School lot").

Section 22, lying South of State Road #500, now known as U. S. Highway #192, less the South 1/2 of the NW 1/4 of the Southwest one-quarter and less the South 1/2 of the Southeast one-quarter . The West 1/2, the Southeast 1/4 and the Southeast 1/4 of the Northeast 1/4 of Section 25.

All of the foregoing, less that portion thereof, acquired by CENTRAL AND SOUTHERN FLORIDA FLOOD CONTROL DISTRICT, a Public Corporation, in Eminent Domain Proceedings, Civil Action No. 891-69, filed in the Circuit Court of the Ninth Judicial Circuit of Florida, in and for Osceola County, wherein CENTRAL AND SOUTHERN FLORIDA FLOOD CONTROL DISTRICT, a Public Corporation is Petitioner and CENTRAL BANK AND TRUST COMPANY,a Florida corporation, as Trustee, et al, are Defendants, wherein an Order of Taking was entered with respect to the property being excepted herein, which Order of Taking is recorded in Circuit Court Minute Book W, Page 542, of the Public Records of Osceola County, Florida, the legal description of the excepted portion being more specifically set forth in an original 14-page description (Exhibit "A" pages 2 through 16 in this excepted portion) attached hereto and made a part hereof.

EXHIBIT "A"

PARCEL 439 CENTRAL BANK AND TRUST COMPANY, A FLORIDA CORPORATION

LANDS IN TOWNSHIP 27 SOUTH, RANGE 33 EAST

That part of Section 15 lying below the 50 foot contour line and Southerly of the South right of way line of State Road No. 500 (also known as U. S. 192) being more particularly described as follows:

From a 5" x 5" concrete monument marking the Southwest (SW) corner of said Section bear South 89 degrees 50'49" East, along the South line of said Section, a distance of 1796.15 feet to the intersection thereof with the said 50 foot contour line and the POINT OF BEGINNING;

Thence, continue along the South line of said Section on a bearing of South 89 degrees 50'49" East, a distance of 1311.05 feet to the intersection thereof with the South right of way line of said State Road No. 500;

Thence, North 81 degrees 19' 57" West, along said right of way line, a distance of 1571.25 feet to the intersection thereof with the said 50 foot contour line;

Thence, South 46 degrees 04'51" East, along said contour line, a distance of 336.32 feet to the POINT OF BEGINNING.

PARCEL 444

That part of Section 21 lying below the 50 foot contour line and being more particularly described as follows:

Begin at a 5" x 5" Osceola County monument marking the Southeast (SE) corner of said Section; said point also being on the said 50 foot contour line; bear North 0 degrees 04' 29" West, along the East line of said Section, a distance of 1332.67 feet to a 4" x 4" concrete monument marking the Southeast (SE) corner of the Northeast one-quarter of the Southeast one-quarter (NE 1/4 of SE 1/4) of said Section;

Thence, North 89 degrees 37' 12" West, along the South line of said Northeast one-quarter of the Southeast one-quarter (NE 1/4 of SE 1/4) a distance of 1333.01 feet to the SouthWest (SW) corner of the said Northeast one-quarter of the Southeast one-quarter (NE 1/4 of SE 1/4);

Thence, North 0 degrees 03' 35" East, along the West line of the said Northeast one-quarter of the Southeast one-quarter (NE 1/4 of SE 1/4) a distance of 461.36 feet to the intersection thereof with the said 50 foot contour line;

Thence, South 85 degrees 51' 55" West, along said contour line, a distance of 226.64 feet;

Thence, North 85 degrees 14' 11" West, a distance of 481.66 feet;

Thence, South 70 degrees 20' 46" West, a distance of 222.99 feet;

Thence, South 9 degrees 57' 50" West, a distance of 375.67 feet;

Thence, South 50 degrees 47' 34" West, a distance of 490.41 feet;

Thence, South 67 degrees 37' 12" West, a distance of 551.54 feet;

Thence, South 76 degrees 11' 06" West, a distance of 314.09 feet;

Thence, South 41 degrees 59' 14" West, a distance of 134.54 feet;

Thence, South 17 degrees 21' 14" West, a distance of 251.45 feet;

Thence, South 31 degrees 54' 29" West, a distance of 312.17 feet;

Thence, South 81 degrees 34' 23" West, a distance of 136.47 feet;

Thence, North 50 degrees 11' 40" West, a distance of 234.31 feet;

Thence, continue along said contour line on a bearing of South 13 degrees 46' 42" East, a distance of 289.03 feet to the intersection thereof with the South line of said Section;

Thence, South 89 degrees 34' 00" East, along said South line, a distance of 1420.58 feet to a 5" x 5" concrete monument marking the South one-quarter (S 1/4) corner of said Section;

Thence, continue along the South line of said Section on a bearing of South 89 degrees 34' 06" East, a distance of 31.04 feet to the intersection thereof with the said 50 foot contour line;

Thence, North 51 degrees 40' 48" East, a distance of 655.88 feet;

Thence, North 65 degrees 19' 23" East, a distance of 203.59 feet;

Thence, East, a distance of 180.00 feet;

Thence, South 67 degrees 33' 26" East, a distance of 248.85 feet;

Thence, North 88 degrees 34' 04" East, a distance of 400.12 feet;

Thence, North 75 degrees 33' 21" East, a distance of 340.77 feet;

Thence, North 51 degrees 50' 34" East, a distance of 267.07 feet;

Thence, continue along said contour line on a bearing of South 40 degrees 51' 50" East, a distance of 894.56 feet to the POINT OF BEGINNING.

PARCEL 449

That part of Section 22 lying Southerly of State Road No. 500 (also known as U.S. 92) below the 50 foot contour line and being more particularly described as follows:

Begin at a 5" x 5" Osceola County monument marking the Southeast (SE) corner of said Section bear North 0 degrees 06' 10" East, along the East line of said Section, a distance of 1329.64 feet to a 4" x 4" concrete monument marking the Northeast (NE) corner of the

Southeast one-quarter of the Southeast one-quarter (SE 1/4 of SE 1/4) of said Section;

Thence, continue along the East line of said Section on a bearing of North 0 degrees 07' 00" East, a distance of 1330.61 feet to 5" x 5" Osceola County monument marking the East one-quarter (E 1/4) corner of said Section;

Thence, continue along the East line of said Section on a bearing of North 0 degrees 06' 04" East, a distance of 732.07 feet to the intersection thereof with the said 50 foot contour line;

Thence, North 61 degrees 33' 25" West, along said contour line, a distance of 491.63 feet;

Thence, North 27 degrees 28' 28" West, a distance of 563.56 feet;

Thence, North 16 degrees 41' 57" West, a distance of 1038.64 feet to the intersection thereof with the Southerly right of way line of said State Road No. 500;

Thence, North 81 degrees 19' 57" West, along said right of way line a distance of 1235.93 feet to the intersection thereof with the North line of said Section;

Thence, North 89 degrees 50' 49" West, along said North line, a distance of 1311.05 feet to the intersection thereof with the said 50 foot contour line;

Thence, South 46 degrees 04' 51" East, along said contour line, a distance of 626.54 feet;

Thence, South 35 degrees 25' 01" East, a distance of 552.18 feet;

Thence, South 7 degrees 12' 51" East, a distance of 398.15 feet;

Thence, South 37 degrees 18' 14" West, a distance of 660.02 feet;

Thence, South 21 degrees 09' 06" East, a distance of 900.68 feet;

Thence, South 15 degrees 33' 16" East, a distance of 503.44 feet;

Thence, South 21 degrees 48' 05" East, a distance of 161.55 feet;

Thence, South 18 degrees 26' 06" West, a distance of 142.30 feet;

Thence, South 74 degrees 34' 40" West, a distance of 300.83 feet;

Thence, South 46 degrees 35' 28" West, a distance of 254.66 feet;

Thence, South 51 degrees 57' 11" West, a distance of 292.06 feet;

Thence, South 74 degrees 14' 56" West, a distance of 202.61 feet;

Thence, North 53 degrees 28' 16" West, a distance of 336.01 feet;

Thence, North 80 degrees 20' 25" West, a distance of 195.78 feet;

Thence, North 73 degrees 51' 23" West, a distance of 637.12 feet;

Thence, continue along said contour line on a bearing of North 66 degrees 06' 04" West, a distance of 784.28 feet to the intersection thereof with the West line of said Section;

Thence, South 0 degrees 02' 29" East, along said West line, a distance of 816.59 feet to a 4" x 4" concrete monument marking the Southwest (SW) corner of the Northwest one-quarter of the Southwest one-quarter (NW 1/4 of SW 1/4) of said Section;

Thence, continue along the West line of said section on a bearing of South 0 degrees 04' 29" East, a distance of 1332.67 feet to a 5" x 5" Osceola County monument marking the Southwest (SW) corner of said Section;

Thence, North 89 degrees 51' 00" East, along the South line of said Section, a distance of 2653.45 feet to a 5" x 5" concrete monument marking the South one-quarter (S 1/4) corner of said Section;

Thence, continue along the South line of said Section on a bearing of North 89 degrees 49' 30" East, a distance of 2657.19 feet to the POINT OF BEGINNING.

LESS, HOWEVER, the South one-half of the Southeast one-quarter (S 1/2 of SE 1/4) and that part of the South one-half of the Northwest one-quarter of the Southwest one-quarter (S 1/2 of NW 1/4 of SW 1/4) lying within the above described land.

PARCEL 443

That part of Section 23 lying below the 50 foot contour line and being more particularly described as follows:

Begin at a 5" x 5" concrete monument marking the Southeast (SE) corner of said Section, bear North 0 degrees 15' 55" East, along the East line of said Section, a distance of 1430.98 feet to the intersection thereof with the said 50 foot contour line;

Thence, North 80 degrees 40' 32" West, along said contour line a distance of 709.33 feet;

Thence, North 28 degrees 10' 43" West, a distance of 476.47 feet;

Thence, North 70 degrees 06' 53" West, a distance of 499.80 feet;

Thence, North 37 degrees 57' 15" West, a distance of 317.06 feet;

Thence, North 44 degrees 22' 13" West, a distance of 643.51 feet;

Thence, North 22 degrees 26' 34" West, a distance of 248.85 feet;

Thence, North 2 degrees 36' 09" East, a distance of 330.34 feet;

Thence, North 81 degrees 52' 12" West, a distance of 106.07 feet;

Thence, South 2 degrees 48' 56" West, a distance of 305.37 feet;

Thence, South 15 degrees 08' 28" East, a distance of 440.28 feet;

Thence, South 36 degrees 23' 04" West, a distance of 354.01 feet;

Thence, South 27 degrees 33' 10" West, a distance of 518.84 feet;

Thence, South 73 degrees 18' 03" West a distance of 261.01 feet;

Thence, North 61 degrees 08' 40" West, a distance of 279.73 feet;

Thence, South 88 degrees 24' 32" West, a distance of 720.28 feet;

Thence, South 63 degrees 41' 35" West, a distance of 496.41 feet;

Thence, North 78 degrees 25' 29" West, a distance of 423.62 feet;

Thence, continue along said contour line on a bearing of North 67 degrees 48' 16" West, a distance of 691.34 feet to the intersection thereof with the West line of said Section;

Thence, South 0 degrees 07' 00" West, along said West line, a distance of 788.00 feet to a 4" x 4" concrete monument marking the Northwest (NW) corner of the Southwest one-quarter of the Southwest one-quarter (SW 1/4 of SW 1/4);

Thence, continue along the West line of said Section on a bearing of South 0 degrees 06' 10" West, a distance of 1329.64 feet to a 5" x 5" Osceola County monument marking the Southwest (SW) corner of said Section;

Thence, North 89 degrees 56' 23" East, along the South line of said Section, a distance of 5287.43 feet to the POINT OF BEGINNING.

PARCEL 453

That part of Section 25 lying below the 50 foot contour line and being more particularly described as follows:

Begin at an Osceola County monument marking the Northeast (NE) corner of said Section, bear South 89 degrees 53' 12" West, along the North line of said Section, a distance of 3147.20 feet to a 4" x 4" concrete monument marking the North one-quarter (N 1/4) corner of said Section;

Thence, continue along said North line on a bearing of to a 5" x 5" concrete monument marking the Northwest (NW) corner of said Section;

Thence, South 0 degrees 09' 29" East, along the West line of said Section, a distance of 1162.74 feet to the intersection thereof with the said 50 foot contour line;

Thence, South 62 degrees 58' 40" East, along said contour line, a distance of 520.26 feet;

Thence, North 76 degrees 08' 20" East, a distance of 396.55 feet;

Thence, North 68 degrees 35' 13" East, a distance of 273.91 feet;

Thence, South 87 degrees 08' 15" East, a distance of 400.50 feet;

Thence, South 77 degrees 16' 32" East, a distance of 317.80 feet;

Thence, South 56 degrees 37' 20" East, a distance of 508.94 feet;

Thence, South 45 degrees 44' 39" East, a distance of 272.26 feet;

Thence, South 38 degrees 39' 35" East, a distance of 333.26 feet;

Thence, South 22 degrees 57' 30" East, a distance of 363.57 feet;

Thence, North 22 degrees 18' 22" East, a distance of 421.54 feet;

Thence, North 45 degrees 00' 00" East, a distance of 233.35 feet;

Thence, North 60 degrees 48' 09" East, a distance of 194.74 feet;

Thence, North 72 degrees 36' 24" East, a distance of 713.79 feet;

Thence, North 80 degrees 03' 03" East, a distance of 501.39 feet;

Thence, South 73 degrees 53' 55" East, a distance of 504.80 feet;

Thence, South 11 degrees 55' 46" East, a distance of 362.84 feet;

Thence, South 48 degrees 00' 46" East, a distance of 134.54 feet;

Thence, South 78 degrees 41' 24" East, a distance of 127.48 feet;

Thence, North 61 degrees 30' 16" East, a distance of 199.12 feet;

Thence, South 74 degrees 44' 42" East, a distance of 114.02 feet;

Thence, continue along said contour line on a bearing of South 34 degrees 17' 07" East, a distance of 474.39 feet to the intersection thereof with the East line of said Section;

Thence, North 0 degrees 13' 44" West, along said East line, a distance of 1588.77 feet to a 5" x 5" concrete monument marking the Northwest (NW) corner of Section 30, as shown on the plat of George W. Hopkins lands as recorded in Plat Book 1, page 123, Osceola County, Florida, public records;

Thence, continue along the East line of said Section on a bearing of North 0 degrees 03' 38" East, a distance of 767.74 feet to the POINT OF BEGINNING.

LESS, HOWEVER, the North one-half of the Northeast one-quarter (N 1/2 of NE 1/4) and that part of the Southwest one-quarter of the Northeast one-quarter (SW 1/4 of NE 1/4) lying within the above described lands.

PARCEL 460

That part of Section 26, lying below the 50 foot contour line and being more particularly described as follows:

Begin at a 5" x 5" Osceola County monument marking the Northwest (NW) corner of said section 26, bear South 0 degrees 06' 42" West, along the West line of said Section, a distance of 2657.76 feet to a 5" x 5" Osceola County monument marking the West one-quarter (W 1/4) corner of said Section;

Thence, continue along the West line of said Section, on a bearing of South 0 degrees 01' 50" West, a distance of 578.53 feet to the intersection thereof with the said 50 foot contour line;

Thence, North 38 degrees 54' 15" East, along said contour line, a distance of 254.12 feet;

Thence, North 52 degrees 21' 09" East, a distance of 1105.10 feet;

Thence, North 70 degrees 20' 46" East, a distance of 297.32 feet;

Thence, South 79 degrees 22' 49" East, a distance of 244.18 feet;

Thence, North 78 degrees 20' 59" East, a distance of 495.20 feet;

Thence, North 30 degrees 34' 45" East, a distance of 255.54 feet;

Thence, North 68 degrees 29' 55" East, a distance of 177.34 feet;

Thence, North 50 degrees 02' 33" East, a distance of 241.35 feet;

Thence, North 22 degrees 37' 12" East, a distance of 260.00 feet;

Thence, North 38 degrees 39' 35" East, a distance of 576.28 feet;

Thence, North 55 degrees 10' 32" East, a distance of 280.18 feet;

Thence, South 82 degrees 52' 30" East, a distance of 241.87 feet;

Thence, South 54 degrees 46' 57" East, a distance of 208.09 feet;

Thence, South 38 degrees 39' 35" East, a distance of 256.12 feet;

Thence, South 20 degrees 26' 58" West, a distance of 314.84 feet;

Thence, South 7 degrees 07' 30" East, a distance of 282.18 feet;

Thence, South 32 degrees 11' 45" East, a distance of 319.06 feet;

Thence, South 84 degrees 17' 22" East, a distance of 100.50 feet;
Thence, North 15 degrees 49' 57" East, a distance of 348.21 feet;
Thence, North 35 degrees 08' 03" East, a distance of 495.23 feet;
Thence, North 49 degrees 30' 50" East, a distance of 269.54 feet;
Thence, North 74 degrees 24' 26" East, a distance of 446.43 feet;
Thence, continue along said contour line on a bearing of South 77 degrees 22' 50" East, a distance of 314.12 feet to an intersection thereof with the East line of said Section;
Thence, North 0 degrees 09' 29" West, along said East line, a distance of 1162.74 feet to a 5" x 5" concrete monument marking the Northeast (NE) corner of said Section;
Thence, South 89 degrees 56' 23" West, along the North line of said Section, a distance of 5287.43 feet to the POINT OF BEGINNING.

PARCEL 461

That part of Section 27 lying below the 50 foot contour line and being more particularly described as follows:

Begin at a 5" x 5" Osceola County monument marking the Northeast (NE) corner of said Section, bear South 89 degrees 49' 30" West, along the North line of said Section, a distance of 2657.19 feet to a 5" x 5" concrete monument marking the North one-quarter (N 1/4) corner of said Section;
Thence, continue along the North line of said section on a bearing of South 89 degrees 51' 00" West, a distance of 2653.45 feet to a 5" x 5" Osceola County monument marking the Northwest (NW) corner of said Section;
Also being the intersection thereof with the 50 foot contour line;

Thence, South 23 degrees 22' 58" East, along said contour line, a distance of 515.83 feet;

Thence, North 84 degrees 33' 35" East, a distance of 421.90 feet;

Thence, South 50 degrees 23' 22" East, a distance of 188.22 feet;

Thence, South 62 degrees 44' 41" East, a distance of 185.61 feet;

Thence, North 26 degrees 33' 54" East, a distance of 67.08 feet;

Thence, North 24 degrees 46' 31" West, a distance of 143.18 feet;

Thence, North 7 degrees 18' 21" East, a distance of 196.60 feet;

Thence, North 76 degrees 19' 43" East, a distance of 571.18 feet;

Thence, South 87 degrees 17' 58" East, a distance of 530.59 feet;

Thence, South 81 degrees 15' 14" East, a distance of 526.12 feet;

Thence, South 66 degrees 02' 15" East, a distance of 492.44 feet;

Thence, South 48 degrees 17' 21" East, a distance of 616.20 feet;

Thence, South 41 degrees 15' 03" East, a distance of 1243.63 feet;

Thence, South 57 degrees 25' 33" East, a distance of 427.20 feet;

Thence, South 14 degrees 33' 37" East, a distance of 397.78 feet;

Thence, South 12 degrees 58' 31" West, a distance of 1113.43 feet;

Thence, South 21 degrees 22' 14" West, a distance of 493.96 feet;

Thence, South 1 degree 21' 50" West, a distance of 420.12 feet;

Thence, South 24 degrees 12' 04" East, a distance of 487.88 feet;

Thence, continue along said contour line on a bearing of south 3 degrees 55' 15" East, a distance of 510.78 feet to the intersection thereof with the South line of said Section;

Thence, North 89 degrees 58' 02" East, along said South line, a distance of 514.68 feet to the intersection thereof with the said 50 foot contour line;

Thence, North 17 degrees 12' 35" West, along said contour line, a distance of 302.85 feet;

Thence, North 37 degrees 52' 30" West, a distance of 342.05 feet;

Thence, North 9 degrees 27' 44" East, a distance of 273.72 feet;

Thence, North 30 degrees 01' 06" East, a distance of 259.86 feet;

Thence, North 17 degrees 22' 27" East, a distance of 853.96 feet;

Thence, continue along said 50 foot contour line, on a bearing of North 33 degrees 29' 10" East, a distance of 254.49 feet to the intersection thereof with the East line of said Section:

Thence, North 0 degrees 01' 50" East, along said East line, a distance of 578.53 feet to a 5" x 5" Osceola County monument marking the East one-quarter (E 1/4) corner of said Section;

Thence, continue along the East line of said Section on a bearing of North 0 degrees 06' 42" East, a distance of 2657.76 feet to the POINT OF BEGINNING.

PARCEL 462

That part of Section 28 lying below the 50 foot contour line being more particularly described as follows:

From a 5" x 5" Osceola County monument marking the Northwest (NW) corner of said Section, bear South 89 degrees 34' 00" East, along the North line of said Section, a distance of 1245.67 feet to the intersection thereof with the said 50 foot contour line and the POINT OF BEGINNING;

Thence, South 4 degrees 14' 11" West, along said contour line, a distance of 119.62 feet;

Thence, South 86 degrees 13' 18" West, a distance of 531.15 feet;

Thence, South 29 degrees 44' 42" West, a distance of 362.80 feet;

Thence, continue along said contour line on a bearing of South 49 degrees 41' 34" West, a distance of 685.49 feet to the intersection thereof with the West line of said Section;

Thence, South 0 degrees 15' 04" East, along said West line, a distance of 2367.87 feet to the intersection thereof with the said 50 foot contour line;

Thence, North 29 degrees 20' 25" East, along said contour line, a distance of 678.29 feet;

Thence, North 12 degrees 02' 44" East, a distance of 1221.90 feet;

Thence, North 30 degrees 27' 56" East, a distance of 197.23 feet;
Thence, North 50 degrees 49' 35" East, a distance of 348.28 feet;
Thence, North 59 degrees 58' 54" East, a distance of 259.86 feet;
Thence, North 84 degrees 42' 36" East, a distance of 271.15 feet;
Thence, North 64 degrees 26' 24" East, a distance of 382.43 feet;
Thence, continue along said contour line on a bearing of North 48 degrees 51' 59" East, a distance of 1175.58 feet to the intersection thereof with the North line of said Section;

Thence, North 89 degrees 34' 06" West, along said North line, a distance of 31.04 feet to a 5" x 5" concrete monument marking the North one-quarter (N 1/4) corner of said Section;

Thence, continue along said North line on a bearing of North 89 degrees 34' 00" West, a distance of 1420.58 feet to the POINT OF BEGINNING.

PARCEL 463

That part of Section 29, lying below the 50 foot contour line and being more particularly described as follows:

From a 5" x 5" Osceola County monument marking the Northeast (NE) corner of said Section, bear South 0 degrees 15' 04" East, along the East line of said Section, a distance of 922.15 feet to the intersection thereof with the said 50 foot contour line and the POINT OF BEGINNING.

Thence, South 49 degrees 41' 34" West, along said contour line, a distance of 265.22 feet;

Thence, South 11 degrees 18' 36" West, a distance of 305.94 feet;
Thence, South 29 degrees 13' 09" East, a distance of 338.01 feet;
Thence, South 18 degrees 10' 41" West, a distance of 352.60 feet;
Thence, South 44 degrees 32' 56" West, a distance of 449.03 feet;
Thence, South 6 degrees 42' 35" West, a distance of 342.34 feet;
Thence, South 20 degrees 11' 09" West, a distance of 724.50 feet;
Thence, South 11 degrees 28' 55" West, a distance of 326.53 feet;

Thence, South 25 degrees 49' 16" West, a distance of 172.19 feet;

Thence, West, a distance of 55.00 feet;

Thence, North 32 degrees 47' 58" West, a distance of 267.68 feet;

Thence, North 16 degrees 15' 37" West, a distance of 375.00 feet;

Thence, North 46 degrees 07' 24" West, a distance of 360.69 feet;

Thence, North 71 degrees 38' 28" West, a distance of 1190.60 feet;

Thence, South 50 degrees 26' 25" East, a distance of 1342.48 feet;

Thence, South 40 degrees 39' 24" East, a distance of 560.22 feet;

Thence, South 14 degrees 49' 35" West, a distance of 175.86 feet;

Thence, South 54 degrees 54' 15" West, a distance of 226.11 feet;

Thence, South 30 degrees 32' 51" West, a distance of 354.15 feet;

Thence, South 59 degrees 10' 20" West, a distance of 361.00 feet;

Thence, South 9 degrees 43' 35" West, a distance of 177.55 feet;

Thence, South 43 degrees 40' 04" East, a distance of 304.14 feet;

Thence, South 58 degrees 36' 35" East, a distance of 345.58 feet;

Thence, North 68 degrees 37' 46" East, a distance of 370.47 feet;

Thence, North 28 degrees 28' 27" East, a distance of 335.60 feet;

Thence, North 34 degrees 59' 31" East, a distance of 244.13 feet;

Thence, North 45 degrees 12' 36" East, a distance of 965.21 feet;

Thence, continue along said contour line on a bearing of North 14 degrees 22' 22" East, a distance of 695.49 feet to the intersection thereof with the East line of said Section 29;

Thence, North 0 degrees 15' 04" West, a distance of 2367.87 feet to the POINT OF BEGINNING.

PARCEL 464

That part of Section 34, lying below the 50 foot contour line and being more particularly described as follows:

From a 5" x 5" concrete monument marking the Northwest (NW) corner of said Section 34, bear North 89 degrees 58' 02" East, along the North line of said Section, a distance of 4504.80 feet to the intersection thereof with the said 50 foot contour and the POINT OF BEGINNING;

Thence, South 46 degrees 29' 07" East, along said contour line, a distance of 399.99 feet;

Thence, North 87 degrees 42' 34" East, a distance of 125.10 feet;

Thence, continue along said contour line on a bearing of North 20 degrees 12' 03" East, a distance of 288.45 feet to the intersection thereof with the North line of said Section;

Thence, South 89 degrees 58' 02" West, along said North line, a distance of 514.68 feet to the POINT OF BEGINNING.

SUBJECT to the following:

1. Hercules Powder Company, a Delaware Corporation in Sections 15, 21, 22, 23, 25, 26, 27, 28, 29 and 34.

2. Osceola County and Advance Home Building Corporation, by reason of certain easements recorded in Official Records Book 107, page 317, in Sections 15, 22, 26, 27, 28 and 29.

THE BEARINGS refer to the standard plane rectangular coordinate system for the East one of Florida.

ALSO LESS AND EXCEPT [redacted] as 1, 2, and 3 described an[redacted] wn:

PARCEL 1

CRABGRASS ROAD, BEING A PORTION OF THOSE LANDS DEDICATED TO THE PUBLIC AS EASEMENTS FOR ROAD PURPOSES IN OFFICIAL RECORDS BOOK 107, PAGE 317 AND OFFICIAL RECORDS BOOK 97, PAGE 277 OF THE PUBLIC RECORDS OF OSCEOLA COUNTY AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A STRIP OF LAND 33.0' IN WIDTH LYING EACH SIDE OF THE FOLLOWING DESCRIBED LINE:

AS A POINT OF REFERENCE, COMMENCE AT THE NORTHWEST CORNER OF SECTION 22, TOWNSHIP 27S, RANGE 33E; THENCE RUN N 00°00'09" E, A DISTANCE OF 481.07' TO A NON-TANGENT CIRCULAR CURVE CONCAVE TO THE NORTH, HAVING A RADIUS OF 22951.16', SAID CURVE BEING THE SOUTH R/W LINE OF US192, HAVING A R/W WIDTH OF 66.0' ; THENCE SE ALONG SAID R/W CURVE TO THE LEFT THRU A CENTRAL ANGLE OF 01°50'44" A DISTANCE OF 739.33' (CHORD BEARING S 80°07'13" E , CHORD LENGTH 739.30) TO THE POINT OF BEGINNING; THENCE RUN S 07°09'36" W, A DISTANCE OF 505.28' ; THENCE RUN S 0°36'09" W, A DISTANCE OF 1995.00' ; THENCE RUN S 15°11'41" E, A DISTANCE OF 548.65; THENCE RUN S 34°33'11" E, A DISTANCE OF 255.00' ; THENCE RUN S 43°51'11" E, A DISTANCE OF 620.20' TO A POINT 33.0' E AND 7.97' S OF THE NE CORNER OF THE S 1/2 OF NW 1/4 OF SW 1/4 OF SECTION 22 TOWNSHIP 27S RANGE 33E; THENCE RUN S 00°00'19" W PARALLEL WITH THE E. LINE OF THE W 1/2 OF THE SW 1/4 OF SAID SECTION 22 TOWNSHIP 27S RANGE 33E, A DISTANCE OF 1999.40' TO THE NORTH LINE OF SECTION 27 TOWNSHIP 27S RANGE 33E; THENCE CONTINUE S 0°00'19" W, A DISTANCE OF 342.20'; THENCE RUN S 03°24'58" E, A DISTANCE OF 2312.88' TO A POINT ON THE SOUTH LINE OF THE NW 1/4 OF SECTION 27 TOWNSHIP 27S RANGE 33E, SAID POINT BEING S 89°55'33" W, A DISTANCE OF 1154.75' FROM THE SE CORNER OF THE NW 1/4 OF SAID SECTION 27 TOWNSHIP 27S RANGE 33 E; THENCE RUN N 89°55'33" E, A DISTANCE OF 3809.77' TO THE E 1/4 CORNER OF SECTION 27; THENCE RUN S 00°04'53" W, A DISTANCE OF 2658.94', TO THE SE CORNER OF SAID SECTION 27 AND THE END OF SAID LINE.

TOGETHER WITH:

THE W. 66.0' OF THE SW 1/4 OF SECTION 26 TOWNSHIP 27S RANGE 33E, AND THE S. 66.0' OF SECTION 26 TOWNSHIP 27S RANGE 33E, AND THE S. 66.0' OF THE SW 1/4 OF SECTION 25 TOWNSHIP 27S RANGE 33E, THE S 66.0 FEET OF THE SW 1/4 OF the SE 1/4 OF SECTION 25, TOWNSHIP 27S RANGE 33E, AND THE W 25.0 ' OF THE S 66.0' OF THE SE 1/4 OF THE SE 1/4 OF SECTION 25, TOWNSHIP 27S RANGE 33E.

ALL OF THE FOREGOING, LESS THAT PORTION THEREOF, LYING WITHIN THE LANDS ACQUIRED BY CENTRAL AND SOUTHERN FLORIDA FLOOD CONTROL DISTRICT, A PUBLIC CORPORATION, IN EMINENT DOMAIN PROCEEDINGS, CIVIL CIRCUIT OF FLORIDA, IN AND FOR OSCEOLA COUNTY, WHEREIN CENTRAL AND SOUTHERN FLORIDA FLOOD CONTROL DISTRICT, A PUBLIC CORPORATION IS PETITIONER AND CENTRL BANK AND TRUST COMPANY, A FLORIDA CORPORATION, AS TRUSTEE, ET AL, ARE DEFENDANTS, WHERE IN AN ORDER OF TAKING WAS ENTERED WITH RESPECT TO THE PROPERTY BEING EXCEPTED HEREIN, WHICH ORDER OF TAKING IS RECORDED IN CIRCUIT COURT MINUTE BOOK W, PAGE 542, OF THE PUBLIC RECORDS OF OSCEOLA COUNTY.

END OF PARCEL 1

PARCEL 2

The N ½ of the NW¼ of the SW¼ of Section 22, Township 27 South, Range 33 East, Osceola County, Florida, lying West of the existing County roadway (Crabgrass Road), LESS that portion thereof lying below the 50.0 ft. contour line which was acquired by Central and Southern Florida Flood Control District, as filed and recorded in O.R. Book 320, Page 395 of the Public Records of Osceola County, Florida.

END OF PARCEL 2

PARCEL 3

A 6.69 acre parcel of land lying in Range 33 East, Osceola County, Florida, described as lying South of the South boundary of Township 27 South, as originally surveyed by the U.S. General Land Office in 1843 and reestablished or "restored" by the Florida Department of Natural Resources in 1985 (F.D.N.R. Contract 2907), and North of the "as occupied" boundary line as shown on a 23 page survey map by Regional Engineers, Planners & Surveyors. Inc. (drawing 94-665-1, Job no. 94-665 surveyed in October and November, 1994); the West boundary line of the parcel being the West line of Range 33 East projected South from the point of intersection of said West line with the above mentioned "restored" line; the East boundary line of the parcel being the East line of Section 34, Township 27 South, Range 33 East projected South from the point of intersection of said East line with the above mentioned "restored" line.

END OF PARCEL 3

EXHIBIT B

6/8/95

LIST OF LMAC/DIVISION OF STATE LANDS
APPROVED INTERIM MANAGEMENT ACTIVITIES

The activities listed below may be initiated by an agency on state-owned uplands currently under lease from the Board of Trustees, or upon receipt by the Division of State Lands of an executed Interim Management Letter for new acquisitions, without referral to the Land Management Advisory Council (LMAC) or further approval from the Division of State Lands. The activities are considered approved in concept by Chapter 253, F.S., and are acceptable and necessary as routine custodial care or maintenance during the period of time between acquisition and approval of a land management plan for the property. In some cases, review of the activity by the LMAC representative from the Department of State's, Division of Historical Resources (DOS), the Department of Environmental Protection and/or the Florida Natural Areas Inventory (FNAI), may be required prior to initiating the activity. The agency requiring such additional review is indicated following the activity.

The interim management activities have been designated as either (A) or (B) activities based upon the following requirements for review:

A. No review required.

B. DHR, FNAI and/or DEP review and concurrence required, as indicated.

Any activity not specifically listed below must be submitted to the Division of State Lands and LMAC for review.

1. Posting.

   A. Posting areas that are deemed by the manager to be potentially hazardous to the public, and posting those areas where public use may result in damage to state-owned lands.

2. Law enforcement and protection.

   A. Patrolling the property for improper use of state-owned lands, and providing appropriate law enforcement and resource protection.

3. Management plan development.

   A. Initiating development of a management plan for the property.

4. Bridge or culvert replacement and/or repair.

   A. Repair or replacement of any wooden trestle bridges or poured culverts, regardless of age, or any bridge built after 1945.

   B. Repair or replacement of any other bridges or culverts (DHR).

5. Road repairs.

   A. Repairing existing roadbeds, when such repairs are minor in nature and necessary to assure safe and reasonable access for the public and for agency personnel. Upgrading roads (i.e., widening, paving, etc.) is not authorized by this letter.

6. Establishing parking areas.

   A. Establishing temporary parking locations along existing accessways when a disturbed area is

available and subsurface ground disturbance will not exceed 6 inches. Such parking should represent the minimum square footage needed to provide for public access.

B. Establishing temporary parking locations along existing accessways when a disturbed area is available and subsurface ground disturbance will exceed 6 inches (DOS). Such parking should represent the minimum square footage needed to provide for public access.

7. Exotic or off-site species control.

A. Controlling invasive exotic or off-site species using methods that do not require ground disturbance, such as prescribed burning, girdling, or herbicide injection. (Note: sod removal of exotic pasture grasses represents an approved exception to the ground disturbance prohibition)

8. Prescribed burning.

A. Implementing prescribed burning using existing firelines. Improvement of existing lines is limited to reworking with a re-work harrow.

B. Implementing prescribed burning using new firelines (DOS/DEP/FNAI).

9. Fencing and gating.

A. Installing fencing and gating or removing deteriorated or unneeded fences, gates or signs.

10. Removal of structures.

B. Removal of old, deteriorated or unsafe structures (DOS).

11. Replacing existing water control structures or devices.

A. Removing or replacing existing water control structures, including culverts, wellheads, flashboard risers, etc. provided that the activity is properly permitted and clearly consistent with the project assessment or design documents prepared during the land acquisition process.

12. Wildlife habitat enhancement.

A. Enhancing wildlife habitat using methods that do not include alteration of native habitat. Such activities shall include installing nest structures or towers for raptors such as osprey or eagles. Installation of food plots is not authorized.

13. Trash.

A. Removal of trash and debris.

14. Personnel.

A. Establishing personnel on site in existing facilities.

Activities requiring review by the Department of State (DOS) should be directed to Ms. Susan Herring, Department of State, Division of Historical Resources, R. A. Gray Building, Room 423, Tallahassee, Florida 32399, (904) 487-2333.

Activities requiring review by the Florida Natural Areas Inventory (FNAI) should be directed to Mr. Bobby Hattaway, Florida Natural Areas Inventory, 1018 Thomasville Road, Suite 200-C, Tallahassee, Florida 32302, (904) 224-8207/224-0626.

Activities requiring review by the Department of Environmental Protection (DEP) should be directed to Mr. Jim Stevenson, Department of Environmental Protection, Office of Resource Management, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, (904) 488-4892 or 488-0784.

Please provide copies of all correspondence to and from FNAI, DEP, and/or the Department of State to Mr. Hank Vinson, Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 130, Tallahassee, Florida 32399-3000, (904) 488-2291.

The authority granted herein in no way waives the authority and/or jurisdiction of any governmental entity. Implementation of these upland activities may require permits and/or authorization from other federal or state agencies with jurisdiction over these particular activities. Separate approval for any activities affecting the use of state-owned submerged lands must be requested through the filing of a joint application with the Department of Environmental Protection and the United States Army Corps of Engineers. Please forward a copy of all permits for our lease file upon issuance.

12.1.3 McNamara House Easement

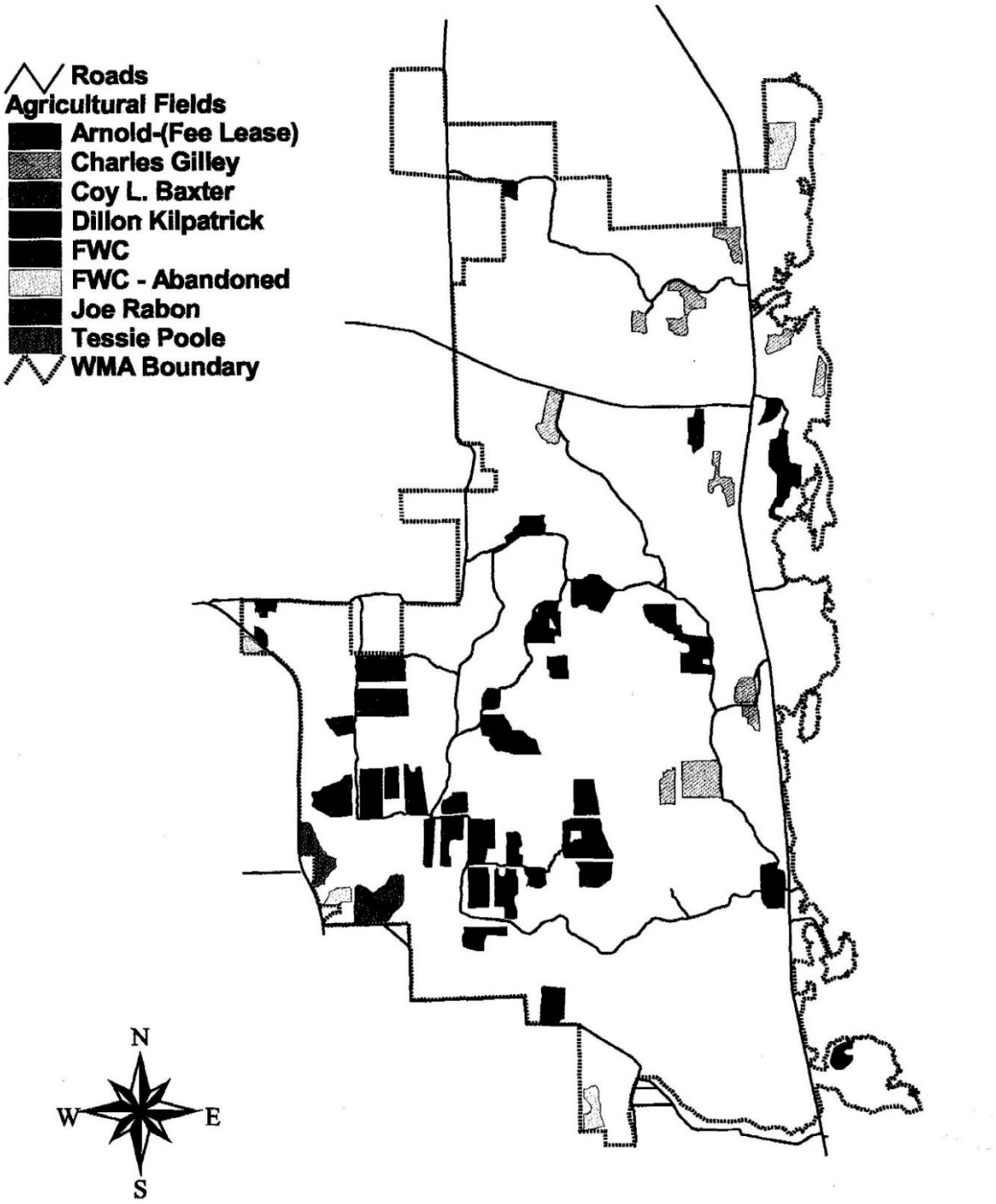


EXHIBIT A

LEGAL DESCRIPTION

BULL CREEK WMA/ McNAMARA RANCH
UTILITY LINE EASEMENT

A 10.00' WIDE STRIP OF LAND LYING IN SECTIONS 1 AND 2, TOWNSHIP 28 SOUTH, RANGE 33 EAST, OSCEOLA COUNTY, FLORIDA BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHEAST CORNER OF SAID SECTION 1; THENCE RUN S00°26'05"E, ALONG THE EAST LINE OF SAID SECTION 1, A DISTANCE OF 19.31 FEET; THENCE RUN S88°58'14"W, 372.05 FEET TO THE POINT OF BEGINNING OF SAID 10.00' WIDE STRIP OF LAND LYING 5.00' ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE; THENCE CONTINUE S88°58'14"W, 89.26 FEET TO A POINT DESIGNATED AS POINT A; THENCE RUN S34°07'42"W, 50.10 FEET TO A POINT DESIGNATED AS POINT B; THENCE RUN S02°21'36"E, 263.10 FEET TO A POINT DESIGNATED AS POINT C; THENCE RUN S40°53'18"W, 2205.59 FEET TO A POINT DESIGNATED AS POINT D; THENCE RUN S51°46'42"W, 2517.57 FEET TO A POINT DESIGNATED AS POINT E; THENCE RUN S36°50'48"W, 1539.14 FEET TO A POINT DESIGNATED AS POINT F; THENCE RUN N88°13'12"W, 1514.66 FEET; THENCE RUN S84°29'16"W, 275.05 FEET TO A POINT DESIGNATED AS POINT G; THENCE RUN S 57°05'43"W, 208.74 FEET; THENCE RUN S57°33'12"W, 13.81 FEET TO THE POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE, SAID POINT OF TERMINUS LYING N00°31'28"W, 405.45 FEET AND S89°28'32"W, 1519.78 FEET FROM THE SOUTHEAST CORNER OF SAID SECTION 2.

TOGETHER WITH:
A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT A, THENCE RUN N89°15'34"W, 23.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED LINE.

TOGETHER WITH:

A 5.00' WIDE STRIP OF LAND LYING 5.00 FEET SOUTH OF AND CONTIGUOUS WITH THE FOLLOWING DESCRIBED LINE:

RETURN TO THE POINT OF BEGINNING; THENCE RUN N89°28'05"E, ALONG THE NORTHERLY BOUNDARY LINE OF THE McNAMARA RANCH PROPERTY, 372.03 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED LINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT B; THENCE RUN N02°00'39"W, 16.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

LEGAL DESCRIPTION CONTINUED ON SHEET 2

SURVEYOR'S NOTES:

1. THIS LEGAL DESCRIPTION IS NOT VALID WITHOUT THE SIGNATURE AND THE RAISED SEAL OF THE FLORIDA LICENSED SURVEYOR AND MAPPER.
2. THIS LEGAL DESCRIPTION DOES NOT CONSTITUTE A BOUNDARY SURVEY AS SUCH.
3. BOUNDARY INFORMATION, SHOWN HEREON, WAS OBTAINED FROM THE BOUNDARY SURVEY PREPARED BY THIS FIRM, UNDER REPS JOB NUMBER 98202.
4. BEARINGS SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983/1990 ADJUSTMENT WITH THE EAST LINE OF SECTION 1, TOWNSHIP 28 SOUTH, RANGE 33 EAST AS BEING SOUTH 00°26'05" EAST.
5. THE DELINEATION OF LANDS, SHOWN HEREON, ARE PER THE CLIENTS INSTRUCTIONS.
6. THIS LEGAL DESCRIPTION IS BASED UPON THE FIELD LOCATION (3/17/01) OF THE SINGLE POLE POWER LINE AS CONSTRUCTED.
7. THIS LEGAL DESCRIPTION IS CERTIFIED TRUE AND CORRECT TO:
   a. FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
   b. FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
   c. FLORIDA POWER CORPORATION
   d. BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

THIS IS NOT A SURVEY

PREPARED FOR:
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF STATE LANDS
BUREAU OF SURVEYING AND MAPPING
AND
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
SL-784, FFWCC-1; BSM OFFICE FILE 1858.1

WILLIAM L. MILLER, JR., P.L.S.
FLORIDA REGISTRATION NO. 5010

SEE SHEET 3 OF 4 FOR SKETCH

REV	DATE	DESCRIPTION
1	04/03/01	GENERAL, PER REVIEW

HLA/REPS
HARDING LAWSON ASSOCIATES/
REGIONAL ENGINEERS, PLANNERS AND SURVEYORS, INC.
6500 ALL AMERICAN BLVD. 407/522-7570
ORLANDO, FLORIDA 32810-4334 FAX: 407/522-7576
CERTIFICATE OF AUTHORIZATION LB 4741

JOB NO.	52868
DRAWN BY:	T.E.O.
CHECKED BY:	W.L.M.
DATE:	3/06/01
SCALE:	N/A
SHEET	1 OF 4

BSM # [illegible]
BY: RB DATE 4.6.01

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EXHIBIT A

LEGAL DESCRIPTION

BULL CREEK WMA/ McNAMARA RANCH
UTILITY LINE EASEMENT

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT C; THENCE RUN N40°20'19"E, 16.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT C; THENCE RUN N65°07'25"E, 74.15 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT C; THENCE RUN S00°13'27"E, 15.50 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT D; THENCE RUN S37°43'47"E, 15.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT E; THENCE RUN N30°50'23"W, 15.50 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT F; THENCE RUN S30°46'51"E, 20.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT G; THENCE RUN N56°24'12"E, 15.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT G; THENCE RUN S85°07'07"W, 15.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

THIS IS NOT A SURVEY

PREPARED FOR:
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF STATE LANDS
BUREAU OF SURVEYING AND MAPPING
AND
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
SL-784, FFWCC-1; BSM OFFICE FILE 1858.1

SEE SHEET 3 OF 4 FOR SKETCH

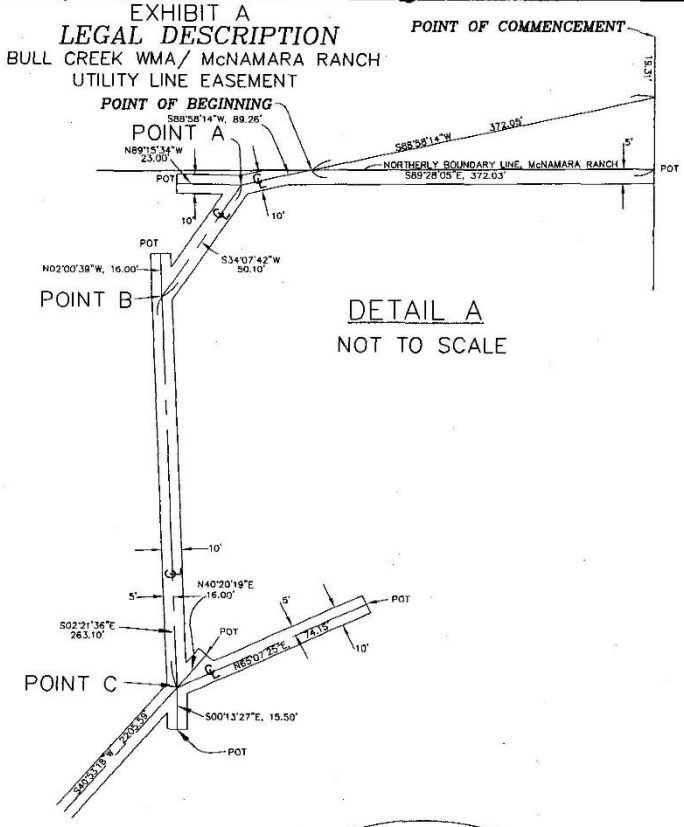
REV	DATE	DESCRIPTION
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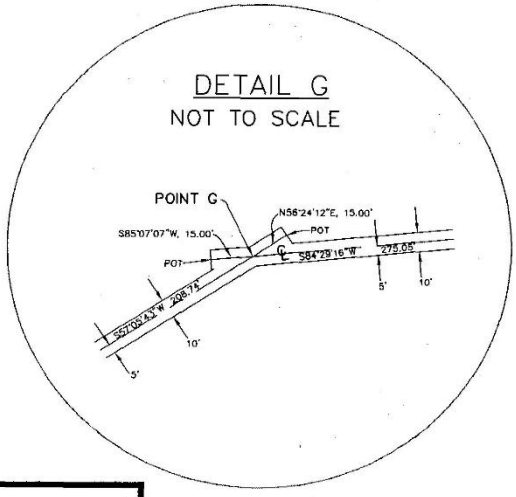
HLA/REPS
HARDING LAWSON ASSOCIATES/
REGIONAL ENGINEERS, PLANNERS AND SURVEYORS, INC.
6500 ALL AMERICAN BLVD. 407/522-7570
ORLANDO, FLORIDA 32810-4334 FAX: 407/522-7576
CERTIFICATE OF AUTHORIZATION LB 4741

JOB NO. 52868
DRAWN BY: T.C.O.
CHECKED BY: W.L.M.
DATE: 3/06/01
SCALE: N/A
SHEET 2 OF 4

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EXHIBIT A
LEGAL DESCRIPTION
BULL CREEK WMA/ McNAMARA RANCH
UTILITY LINE EASEMENT





THIS IS NOT A SURVEY

PREPARED FOR:
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF STATE LANDS
BUREAU OF SURVEYING AND MAPPING
AND
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
SL-784, FFWCC-1; BSM OFFICE FILE 1858.1

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ORLANDO, FLORIDA 32810-4334 FAX: 407/522-7576
CERTIFICATE OF AUTHORIZATION LB 4741

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DRAWN BY:	T.E.D.
CHECKED BY:	W.L.M.
DATE:	3/06/01
SCALE:	N/A
SHEET	4 OF 4

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EXHIBIT A

LEGAL DESCRIPTION

BULL CREEK WMA/ McNAMARA RANCH
UTILITY LINE EASEMENT

A 10.00' WIDE STRIP OF LAND LYING IN SECTIONS 1 AND 2, TOWNSHIP 28 SOUTH, RANGE 33 EAST, OSCEOLA COUNTY, FLORIDA BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHEAST CORNER OF SAID SECTION 1; THENCE RUN S00°26'05"E, ALONG THE EAST LINE OF SAID SECTION 1, A DISTANCE OF 19.31 FEET; THENCE RUN S88°58'14"W, 372.05 FEET TO THE POINT OF BEGINNING OF SAID 10.00' WIDE STRIP OF LAND LYING 5.00' ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE; THENCE CONTINUE S88°58'14"W, 89.26 FEET TO A POINT DESIGNATED AS POINT A; THENCE RUN S34°07'42"W, 50.10 FEET TO A POINT DESIGNATED AS POINT B; THENCE RUN S02°21'36"E, 263.10 FEET TO A POINT DESIGNATED AS POINT C; THENCE RUN S40°53'18"W, 2205.59 FEET TO A POINT DESIGNATED AS POINT D; THENCE RUN S51°46'42"W, 2517.57 FEET TO A POINT DESIGNATED AS POINT E; THENCE RUN S36°50'48"W, 1539.14 FEET TO A POINT DESIGNATED AS POINT F; THENCE RUN N88°13'12"W, 1514.66 FEET; THENCE RUN S84°29'16"W, 275.05 FEET TO A POINT DESIGNATED AS POINT G; THENCE RUN S 57°05'43"W, 208.74 FEET; THENCE RUN S57°33'12"W, 13.81 FEET TO THE POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE, SAID POINT OF TERMINUS LYING N00°31'28"W, 405.45 FEET AND S89°28'32"W, 1519.78 FEET FROM THE SOUTHEAST CORNER OF SAID SECTION 2.

TOGETHER WITH:
A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT A, THENCE RUN N89°15'34"W, 23.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED LINE.

TOGETHER WITH:

A 5.00' WIDE STRIP OF LAND LYING 5.00 FEET SOUTH OF AND CONTIGUOUS WITH THE FOLLOWING DESCRIBED LINE:

RETURN TO THE POINT OF BEGINNING; THENCE RUN N89°28'05"E, ALONG THE NORTHERLY BOUNDARY LINE OF THE McNAMARA RANCH PROPERTY, 372.03 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED LINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT B; THENCE RUN N02°00'39"W, 16.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

LEGAL DESCRIPTION CONTINUED ON SHEET 2

SURVEYOR'S NOTES:

1. THIS LEGAL DESCRIPTION IS NOT VALID WITHOUT THE SIGNATURE AND THE RAISED SEAL OF THE FLORIDA LICENSED SURVEYOR AND MAPPER.
2. THIS LEGAL DESCRIPTION DOES NOT CONSTITUTE A BOUNDARY SURVEY AS SUCH.
3. BOUNDARY INFORMATION, SHOWN HEREON, WAS OBTAINED FROM THE BOUNDARY SURVEY PREPARED BY THIS FIRM, UNDER REPS JOB NUMBER 98202.
4. BEARINGS SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983/1990 ADJUSTMENT WITH THE EAST LINE OF SECTION 1, TOWNSHIP 28 SOUTH, RANGE 33 EAST AS BEING SOUTH 00°26'05" EAST.
5. THE DELINEATION OF LANDS, SHOWN HEREON, ARE PER THE CLIENTS INSTRUCTIONS.
6. THIS LEGAL DESCRIPTION IS BASED UPON THE FIELD LOCATION (3/17/01) OF THE SINGLE POLE POWER LINE AS CONSTRUCTED.
7. THIS LEGAL DESCRIPTION IS CERTIFIED TRUE AND CORRECT TO:
   a. FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
   b. FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
   c. FLORIDA POWER CORPORATION
   d. BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

THIS IS NOT A SURVEY

PREPARED FOR:
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF STATE LANDS
BUREAU OF SURVEYING AND MAPPING
AND
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
SL-784, FFWCC-1; BSM OFFICE FILE 1858.1

WILLIAM L. MILLER, JR., P.L.S.
FLORIDA REGISTRATION NO. 5010

SEE SHEET 3 OF 4 FOR SKETCH

REV	DATE	DESCRIPTION
1	04/03/01	GENERAL, PER REVIEW

HLA/REPS
HARDING LAWSON ASSOCIATES/
REGIONAL ENGINEERS, PLANNERS AND SURVEYORS, INC.
6500 ALL AMERICAN BLVD. 407/522-7570
ORLANDO, FLORIDA 32810-4334 FAX: 407/522-7576
CERTIFICATE OF AUTHORIZATION LB 4741

JOB NO.	52868
DRAWN BY:	T.E.D.
CHECKED BY:	W.L.M.
DATE:	3/06/01
SCALE:	N/A
SHEET	1 OF 4

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BY: RB 4.6.01

EXHIBIT A

LEGAL DESCRIPTION

BULL CREEK WMA/ McNAMARA RANCH
UTILITY LINE EASEMENT

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:
RETURN TO THE AFORESAID DESIGNATED POINT C; THENCE RUN N40°20'19"E, 16.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:
A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT C; THENCE RUN N65°07'25"E, 74.15 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT C; THENCE RUN S00°13'27"E, 15.50 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT D; THENCE RUN S37°43'47"E, 15.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT E; THENCE RUN N30°50'23"W, 15.50 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT F; THENCE RUN S30°46'51"E, 20.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT G; THENCE RUN N56°24'12"E, 15.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

TOGETHER WITH:

A 10.00' WIDE STRIP OF LAND LYING 5.00 FEET ON EACH SIDE, PERPENDICULAR MEASURE, OF THE FOLLOWING DESCRIBED CENTERLINE:

RETURN TO THE AFORESAID DESIGNATED POINT G; THENCE RUN S85°07'07"W, 15.00 FEET TO POINT OF TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

THIS IS NOT A SURVEY

PREPARED FOR:
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF STATE LANDS
BUREAU OF SURVEYING AND MAPPING
AND
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
SL-784, FFWCC-1; BSM OFFICE FILE 1858.1

SEE SHEET 3 OF 4 FOR SKETCH

REV	DATE	DESCRIPTION
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HLA/REPS
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JOB NO. 52868
DRAWN BY: T.E.D.
CHECKED BY: W.L.M.
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SCALE: N/A
SHEET 2 OF 4

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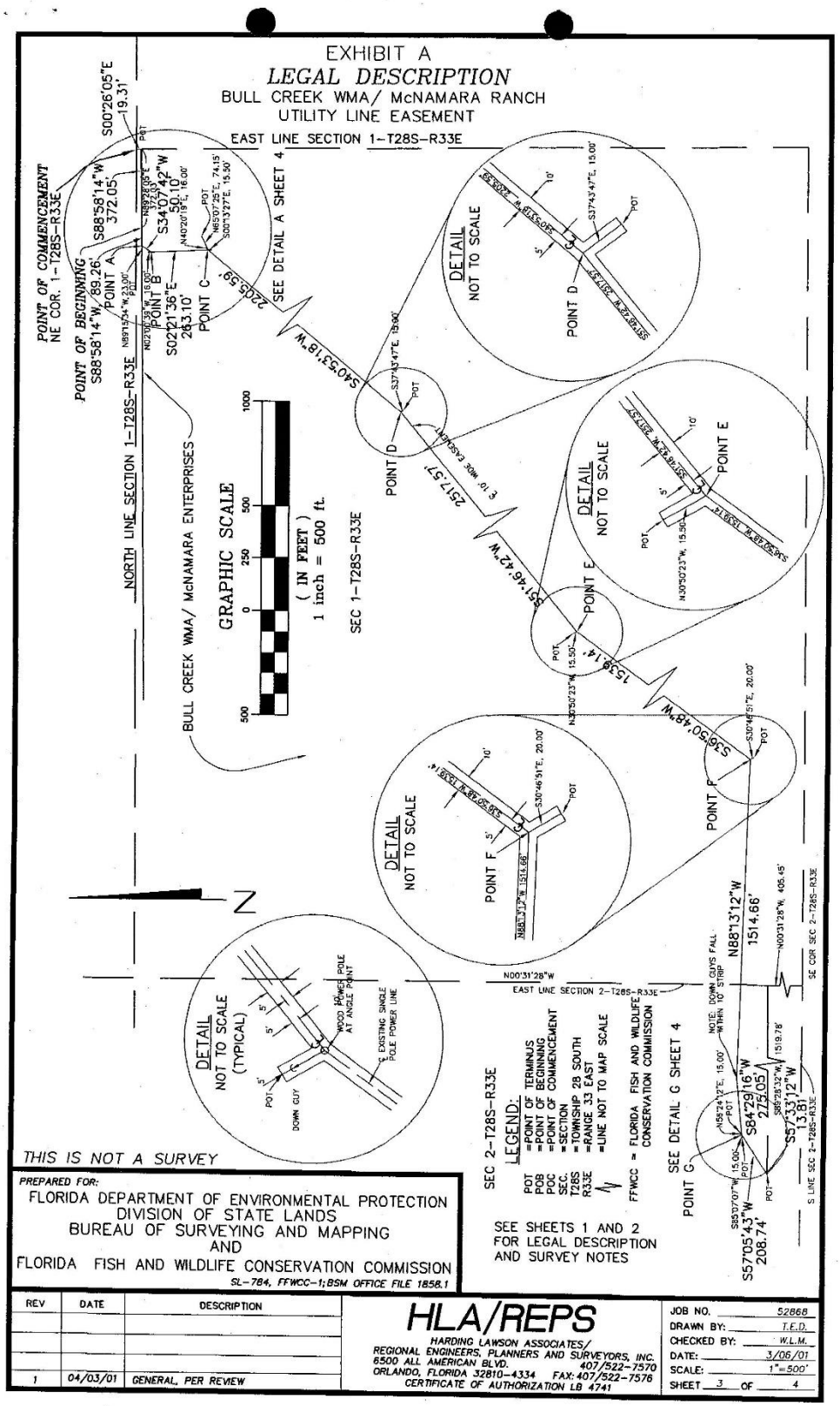
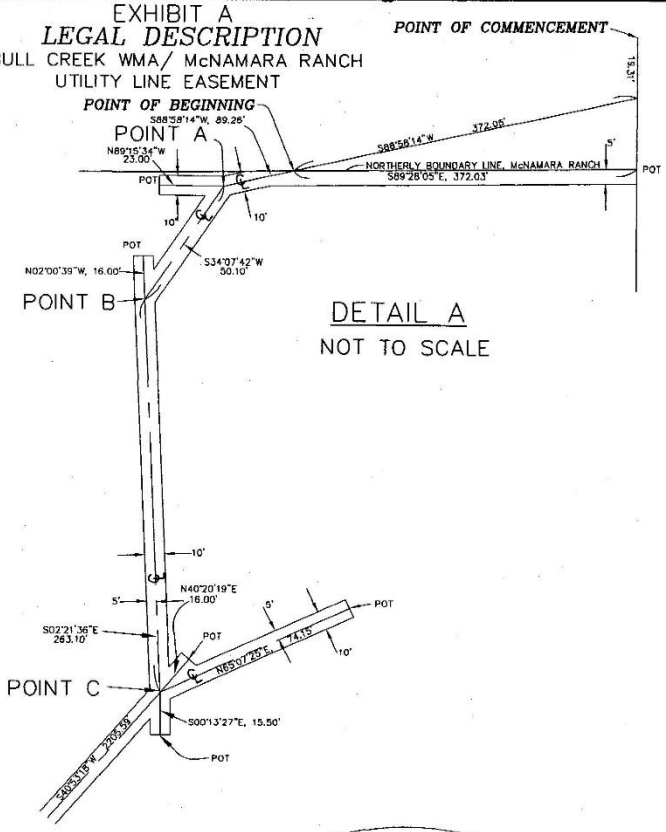
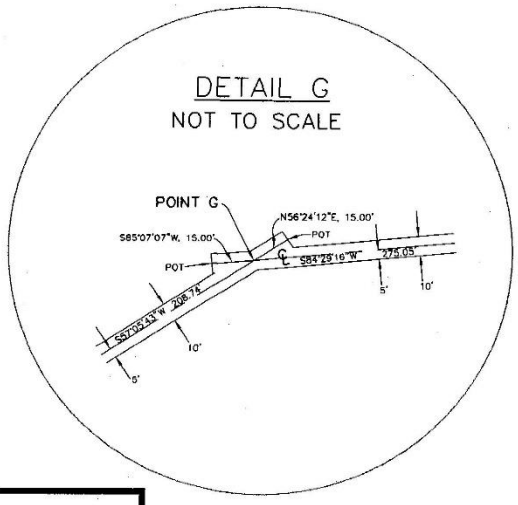

EXHIBIT A
LEGAL DESCRIPTION
BULL CREEK WMA/ McNAMARA RANCH
UTILITY LINE EASEMENT
EAST LINE SECTION 1-T28S-R33E
POINT OF COMMENCEMENT
NE COR. 1-T28S-R33E
POINT OF BEGINNING
S88°58'14"W 89.26'
NORTH LINE SECTION 1-T28S-R33E
S88°58'14"W 372.05'
S00°26'05"E 19.31'
POINT A
POINT B
POINT C
S34°17'23"W 50.42'
S02°21'36"E 263.10'
220.59'
SEE DETAIL A SHEET 4
S40°53'18"W
251.57'
S51°46'42"W
153.91'
S36°50'48"W
BULL CREEK WMA/ McNAMARA ENTERPRISES
GRAPHIC SCALE
(IN FEET)
1 inch = 500 ft.
SEC 1-T28S-R33E
DETAIL
NOT TO SCALE
POINT D
POINT E
POINT F
DETAIL
NOT TO SCALE (TYPICAL)
WOOD POWER POLE AT ANGLE POINT
EXISTING SINGLE POLE POWER LINE
DOWN GUY
N00°31'28"W
EAST LINE SECTION 2-T28S-R33E
N88°13'12"W
1514.66'
SEE DETAIL G SHEET 4
POINT G
S84°29'16"W
275.05'
S57°33'12"W
13.81'
S57°05'43"W
208.74'
SEC 2-T28S-R33E
LEGEND:
POT =POINT OF TERMINUS
POB =POINT OF BEGINNING
POC =POINT OF COMMENCEMENT
SEC. =SECTION
T28S =TOWNSHIP 28 SOUTH
R33E =RANGE 33 EAST
=LINE NOT TO MAP SCALE
FFWCC = FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
SEE SHEETS 1 AND 2 FOR LEGAL DESCRIPTION AND SURVEY NOTES
THIS IS NOT A SURVEY
PREPARED FOR:
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF STATE LANDS
BUREAU OF SURVEYING AND MAPPING
AND
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
SL-784, FFWCC-1; BSM OFFICE FILE 1858.1
REV | DATE | DESCRIPTION
1 | 04/03/01 | GENERAL, PER REVIEW
HLA/REPS
HARDING LAWSON ASSOCIATES/
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ORLANDO, FLORIDA 32810-4334 FAX: 407/522-7576
CERTIFICATE OF AUTHORIZATION LB 4741
JOB NO. 52868
DRAWN BY: T.E.D.
CHECKED BY: W.L.M.
DATE: 3/06/01
SCALE: 1"=500'
SHEET 3 OF 4
P:\Work\52868\MCNAMARA.dwg, 04/03/01 02:15:08 PM

EXHIBIT A
LEGAL DESCRIPTION
BULL CREEK WMA/ McNAMARA RANCH
UTILITY LINE EASEMENT



DETAIL A
NOT TO SCALE



DETAIL G
NOT TO SCALE

THIS IS NOT A SURVEY

PREPARED FOR:
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF STATE LANDS
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SHEET 4 OF 4

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PNE1

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

EASEMENT

Easement Number 30595

THIS INDENTURE, is made and entered into this 2ND day of August, 2000, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, acting pursuant to its authority set forth in Section 253.03, Florida Statutes, hereinafter referred to as "GRANTOR", and FLORIDA POWER CORPORATION, a Florida corporation, its successors and assigns, hereinafter referred to as "GRANTEE".

WHEREAS, GRANTOR is the owner of the hereinafter described real property which is managed by the State of Florida Fish and Wildlife Conservation Commission under Lease No. 4226; and

WHEREAS, GRANTEE desires an easement across hereinafter described real property for the construction, installation, operation and maintenance of facilities for providing electric power and service and communication services; and

WHEREAS, the managing agency has agreed to the proposed use of this land under this instrument.

NOW THEREFORE, GRANTOR, for and in consideration of mutual covenants and agreements hereinafter contained, has granted, and by these presents does grant, a non-exclusive easement unto GRANTEE over and across the following described real property in Osceola County, Florida, to wit:

(See Exhibit "A" Attached)

subject to the following terms and conditions:

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

2. TITLE DISCLAIMER: GRANTOR does not warrant or guarantee any title, right or interest in or to the property described in Exhibit "A" attached hereto.

3. TERM: The term of this easement shall be for a period of fifty

years commencing on August 2, 2000, and ending on August 1, 2050 with no option for renewal, unless sooner terminated pursuant to the provisions of this easement.

4. USE OF PROPERTY AND UNDUE WASTE: This easement shall be limited to the construction, installation, operation and maintenance of facilities for providing electric power and service and communication services upon and across the property described in Exhibit "A" during the term of this easement. This easement shall be non-exclusive. GRANTOR retains the right to engage in any activities on, over, below, or across the easement area which do not unreasonably interfere with GRANTEE'S exercise of this easement and further retains the right to grant compatible uses to third parties during the term of this easement.

GRANTEE shall dispose of, to the satisfaction of GRANTOR, all brush and refuse resulting from the clearing of the land for the uses authorized hereunder. If timber is removed in connection with clearing this easement, the net proceeds derived from the sale of such timber shall accrue to GRANTOR. GRANTEE shall take all reasonable precautions to control soil erosion and to prevent any other degradation of the real property described in Exhibit "A" during the term of this easement. GRANTEE shall not remove water from any source on this easement including, but not limited to, a watercourse, reservoir, spring, or well, without the prior written approval of GRANTOR. GRANTEE shall clear, remove, and pick up all debris including, but not limited to, containers, papers, discarded tools, and trash foreign to the work locations and dispose of the same in a satisfactory manner as to leave the work locations clean and free of any such debris. GRANTEE, its agents, successors, or assigns, shall not dispose of any contaminants including, but not limited to, hazardous or toxic substances, petroleum, fuel oil, or petroleum by-products, chemicals, or other agents produced or used in GRANTEE'S operations on this easement or on any adjacent state land or in any manner not permitted by law. GRANTEE shall be liable for all costs

associated with any cleanup of the subject property, which is a result of GRANTEE'S operations and use of the subject property.

Upon termination or expiration of this easement GRANTEE shall restore the lands over which this easement is granted to substantially the same condition it was upon the effective date of this easement. GRANTEE agrees that upon termination or expiration of this easement all authorization granted hereunder shall cease and terminate.

If the lands described in Exhibit "A" are under lease to another agency, GRANTEE shall obtain the consent of such agency prior to engaging in any use of the real property authorized herein.

5. ASSIGNMENT: This easement shall not be assigned in whole or in part without the prior written consent of GRANTOR. Any assignment made either in whole or in part without the prior written consent of GRANTOR shall be void and without legal effect.

6. RIGHT OF INSPECTION: GRANTOR or its duly authorized agents, representatives, or employees shall have the right at any and all times to inspect this easement and the works and operations of GRANTEE in any matter pertaining to this easement.

7. BINDING EFFECT AND INUREMENT: This easement shall be binding on and shall inure to the benefit of the heirs, executors, administrators, and assigns of the parties hereto, but nothing contained in this paragraph shall be construed as a consent by GRANTOR to any assignment of this easement or any interest therein by GRANTEE.

8. NON-DISCRIMINATION: GRANTEE shall not discriminate against any individual because of that individual's race, color, religion, sex, national origin, age, handicaps, or marital status with respect to any activity occurring within this easement or upon lands adjacent to and used as an adjunct of this easement.

9. INDEMNITY: GRANTEE hereby covenants and agrees to investigate claims related to this easement at its own expense, and to indemnify, protect, defend, save, and hold harmless GRANTOR and the State of Florida from any and all claims, actions, lawsuits, and demands of any kind or nature arising out of this easement.

10. COMPLIANCE WITH LAWS: GRANTEE agrees that this easement is contingent upon and subject to GRANTEE obtaining all applicable permits and complying with all applicable permits, regulations, ordinances, rules, and laws of the State of Florida or the United States or of any political subdivision or agency of either.

11. VENUE PRIVILEGES: GRANTOR and GRANTEE agree that GRANTOR has venue privilege as to any litigation arising from matters relating to this easement. Any such litigation between GRANTOR and GRANTEE shall be initiated and maintained only in Leon County, Florida.

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

13. PROHIBITIONS AGAINST LIENS OR OTHER ENCUMBRANCES: Fee title to the lands underlying this easement is held by GRANTOR. GRANTEE shall not do or permit anything to be done which purports to create a lien or encumbrance of any nature against the real property of GRANTOR including, but not limited to, mortgages or construction liens against the real property described in Exhibit "A" or against any interest of GRANTOR therein.

14. PARTIAL INVALIDITY: If any term, covenant, condition, or provision of this easement shall be ruled by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder shall remain in full force and effect and shall in no way be affected, impaired, or invalidated.

15. SOVEREIGNTY SUBMERGED LANDS: This easement does not authorize the use of any lands located waterward of the mean or ordinary high water line of any lake, river, stream, creek, bay, estuary, or other water body or the waters or the air space thereabove.

16. ENTIRE UNDERSTANDING: This easement sets forth the entire understanding between the parties and shall only be amended with the

prior written approval of GRANTOR.

17. TIME: Time is expressly declared to be of the essence of this easement.

18. CONVICTION OF FELONY: If GRANTEE or any principal thereof is convicted of a felony during the term of this easement, such conviction shall constitute, at the option of GRANTOR, grounds for termination of this easement.

19. DEFAULT AND FORFEITURE: Should GRANTEE, at any time during the term of this easement, suffer or permit to be filed against it an involuntary, or voluntary, petition in bankruptcy or institute a composition or an arrangement proceeding under Chapter X or XI of the Chandler Act or make any assignments for the benefit of its creditor; or should a receiver or trustee be appointed for GRANTEE'S property because of GRANTEE'S insolvency, and the said appointment not vacated within thirty days thereafter; or should GRANTEE'S easement interest be levied on and the lien thereof not discharged within thirty days after said levy has been made; or should GRANTEE fail promptly to make the necessary returns and reports required of it by state and federal law; or should GRANTEE fail promptly to comply with all governmental regulations, both state and federal; or should GRANTEE fail to comply with any of the terms and conditions of this easement and such failure shall in any manner jeopardize the rights of GRANTOR; then, in such event, and upon the happening of either or any of said events, GRANTOR shall have the right, at its discretion, to consider the same a default on the part of GRANTEE of the terms and provisions hereof, and, in the event of such default, GRANTOR shall have the option of either declaring this easement terminated, and the interest of GRANTEE forfeited, or maintaining this easement in full force and effect and exercising all rights and remedies herein conferred upon GRANTOR. The pendency of bankruptcy proceedings or arrangement proceedings to which GRANTEE shall be a party shall not preclude GRANTOR from exercising either option herein conferred upon GRANTOR. In the event GRANTEE, or the trustee or receiver of GRANTEE'S property, shall seek an

injunction against GRANTOR'S exercise of either option herein conferred, such action on the part of GRANTEE, his trustee or receiver, shall automatically terminate this easement as of the date of the making of such application, and in the event the Court shall enjoin GRANTOR from exercising either option herein conferred, such injunction shall automatically terminate this easement.

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

21. PAYMENT OF TAXES AND ASSESSMENTS: GRANTEE shall assume full responsibility for and shall pay all liabilities that accrue to the easement area or to the improvements thereon including any and all drainage and special assessments or taxes of every kind and all mechanic's or materialman's liens which may be hereafter lawfully assessed and levied against this easement directly as a result of GRANTEE'S use of easement area.

22. AUTOMATIC REVERSION: This easement is subject to automatic termination and reversion to GRANTOR when, in the opinion of GRANTOR, this easement is not used for the purposes outlined herein, and any costs or expenses arising out of the implementation of this clause shall be borne completely, wholly and entirely by GRANTEE.

23. RECORDING OF EASEMENT: The GRANTEE, at its own expense, shall record this fully executed easement in its entirety in the public records of the county within which the easement site is located within fourteen days after receipt, and shall provide to the GRANTOR within ten days following the recordation a copy of the recorded easement in its entirety which contains the O.R. Book and Pages at which the easement is recorded. Failure to comply with this paragraph shall

constitute grounds for immediate termination of this easement agreement at the option of the GRANTOR.

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

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

26. SPECIAL CONDITIONS: The following special conditions shall apply to this easement: NONE.

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

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

David Stevenson
Witness

By: Gloria C. Nelson
GLORIA C. NELSON, OPERATIONS AND MANAGEMENT CONSULTANT MANAGER, BUREAU OF PUBLIC LAND ADMINISTRATION, DIVISION OF STATE LANDS, DEPARTMENT OF ENVIRONMENTAL PROTECTION

David Stevenson
Print/Type Witness Name

"GRANTOR"

Witness

Tom Butler
Print/Type Witness Name

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 2nd day of August, 2000, by Gloria C. Nelson, as Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, as agent for and on behalf of the Florida Board of Trustees of the Internal Improvement Trust Fund. She is personally known to me.

Diane C. Rogowski
Notary Public, State of Florida

Print/Type Notary Name

Commission Number

Commission Expires

Diane C. Rogowski
MY COMMISSION # CC712028 EXPIRES
May 24, 2002
BONDED THRU TROY FAIN INSURANCE, INC.

Approved as to Form and Legality

By: Sandra L. Hess
DEP Attorney

LEGAL DEPARTMENT APPROVED Date 7/10/2 By

FLORIDA POWER CORPORATION,
a Florida corporation

Witness
Sonja S McCreary
Print/Type Witness Name

By: _____
P. Dagostino
Print/Type Name

Witness
Donna Darrow
Print/Type Witness Name

Title: Vice President

(CORPORATE SEAL)

"GRANTEE"

STATE OF FLORIDA
COUNTY OF ORANGE

The foregoing instrument was acknowledged before me this 27th day of July, 2000, by P. Dagostino as Vice President of Florida Power Corporation, a Florida corporation, on behalf of the corporation. He/she is personally known to me.

Notary Public, State of Florida
Sonja S. McCreary
Print/Type Notary Name

SONJA S. MCCREARY
My Comm Exp. 3/05/2001
Bonded By Service Ins
No. CC627077
[X] Personally Knows [ ] Other I.D.

Commission Number: CC627077

Commission Expires: 3-5-01

EXHIBIT "A"

LEGAL DESCRIPTION OF THE EASEMENT

A 10 foot wide Easement Area defined as lying 5 feet on each side of GRANTEE'S facilities to be installed at mutually agreeable locations over, across and through the following described property to accommodate present and future development.

LEGAL DESCRIPTION:

All of Sections 1, 2 and 3 in Township 28 South, Range 33 East, Osceola County, Florida, LESS the following described lands:

A strip of land being a portion of Sections 1 and 2, Township 28 South, Range 33 East, lying South of and contiguous to the North line of said Sections 1 and 2 described as follows:

Commence at the Northeast corner of said Section 1 for the Point of Beginning, said point being a rebar and cap stamped "LB 4741" which bears South 89 degrees 49' 50" West, 59.78 feet form a concrete monument with a brass disc stamped "RLS 1819-1585 JONES, WOODS & GENTRY", said concrete monument being the 6th mile post of the 4th standard parallel as restored in 1985 by the Florida Department of Natural Resources; thence run South 00 degrees 26' 05" East, along the East line of said Section 1, a distance of 22.54 feet to a point which bears South 89 degrees West 19.56 feet from a 5" X 5" concrete monument with a brass disc stamped "Osceola County"; thence run South 89 degrees 28' 05" West, 2637.81 feet to a 5" X 5" concrete monument with a brass disc stamped "Osceola County"; thence run South 89 degrees 52' 11" West, 2654.56 feet to a 5" X 5" concrete monumnet having a broken top; thence run North 89 degrees 56' 08" West 2655.91 feet to a 5" X 5" concrete monument with a brass disc stamped "Osceola County"; thence run North 89 degrees 55' 36" West 897.66 feet to a 5" X 5" concrete monument with a brass disc stamped "Osceola County"' thence run North 00 degrees 02' 14" East 25.66 feet to a rebar and cap stamped "LB 4741" being the Southeast corner of Section 34, Township 27 South, Range 33 East and lying on the aforesaid 4th standard parallel; thence along said 4th standard parallel and along the North line of Section 1 and 2, run the following courses; South 89 degrees 59' 46" East 860.66 feet to a rebar and cap stamped "LB 4741" being the North Quarter corner of said Section 2; continue South 89 degrees 59' 46" East 62.90 feet to a 2" iron pipe with a brass disc stamped "RLS 1891-1585 JONES, WOOD & GENTRY" being the 5th one half mile post of said 4th standard parallel; North 89 degrees 47' 02" East, 2599.42 feet to a rebar and cap stamped "LB 4741" being the Northwest corner of said Section 1; continue North 89 degrees 47' 02" East 58.47 feet to a concrete monument with a brass disc stamped "RLS.1819-1585 JONES, WOOD & GENTRY" being the 5th mile post of said 4th standard parallel; North 89 degrees 52' 45" East 2602.86 feet to a rebar and cap stamped "LB 4741" being the North Quarter corner of said Section 1; continue North 89 degrees 52' 45" East 63.92 feet to a concrete monument stamped "RLS 1819-1585 JONES, WOOD & GENTRY" being the 6th one half mile post of said 4th standard parallel; North 89 degrees 49' 50" East 2597.42 feet to the Point of Beginning.

12.2 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 no significant, 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.

12.3 Public Hearing Notice, Advertisements, and Press Release

12.3.1 Public Hearing Notice

NOTICE

The Florida Fish and Wildlife Conservation Commission (FWC)
Announces a virtual

PUBLIC HEARING

for the

Triple N Ranch
Wildlife Management Area
Management Plan

Osceola County, Florida

7:00 P.M. Thursday, October 15th, 2020

Connect to the meeting by going to
http://fwc.adobeconnect.com/triplenpublichearing/

PURPOSE: To receive public comment regarding considerations for the FWC ten-year Land Management Plan for the Triple N Ranch Wildlife Management Area (WMA). This hearing is being held EXCLUSIVELY for discussion of the DRAFT Triple N Ranch WMA Management Plan. This meeting is not being held to discuss area hunting or fishing regulations. For more information on the process for FWC rule and regulation development go online to:

http://myfwc.com/about/rules-regulations/

A Management Prospectus for the Triple N Ranch WMA is available upon request. For a copy please contact Hannah Klein by email at Hannah.Klein@MyFWC.com or by phone at (850) 487-9767. Additional information can be found by visiting our public hearing website: https://myfwc.com/conservation/management-plans/upcoming/

12.3.2 Internal FWC Press Release

For immediate release: Oct. 1, 2020
Contact: Jamie Rager, 727-262-7642; Carli Segelson, 772-215-9459

Photos available on FWC's Flickr site: Go to: *link*

Suggested Tweet: Help plan the future of Triple N Ranch WMA. [[VIEW_THIS_URL]] #Florida #WMAzing @MyFWC



Help plan the future of Triple N Ranch Wildlife Management Area

The Florida Fish and Wildlife Conservation Commission (FWC) will present a 10-year management plan for the Triple N Ranch Wildlife Management Area at a virtual public hearing on Thursday, October 15, 2020. All members of the public are invited to attend the 7 p.m. hearing via Adobe Connect. FWC staff will present the draft land management plan for the WMA and those in attendance will have the opportunity to comment and ask questions.

The meeting can be accessed via the following link: FWC.AdobeConnect.com/TripleNPublicHearing. Attendees are asked to sign in as a guest and make sure your speakers are turned on.

The Triple N Ranch WMA is located in Central Florida, approximately 26 miles west of Melbourne and 28 miles southeast of Kissimmee. It encompasses roughly 16,430 acres in Osceola County and offers many opportunities for outdoor recreation, including hunting, wildlife viewing, hiking, biking and horseback riding. The site also features a FWC-managed shooting range to safely support the needs of recreational target shooters, hunters and hunter safety students.

A mosaic of natural communities can be found on the Triple N Ranch WMA including mesic flatwoods, wet prairie and dome swamps which provide important habitat for species such as the red-cockaded woodpecker, gopher tortoise and Florida sandhill crane. The area is also important for land connectivity and protects the watershed of Bull Creek.

“The Triple N Ranch WMA was purchased to ensure the preservation of fish, wildlife, and other natural and cultural resources for future generations, and to provide fish-and wildlife-based outdoor recreation opportunities to the public,” said Hannah Klein, FWC Land Conservation Planner. “This draft plan will specify how we intend to accomplish that goal.”

To obtain a copy of the land management prospectus for the Triple N Ranch WMA, call Hannah Klein at (850) 487-9767 or email Hannah.Klein@MyFWC.com. For

more on the Triple N Ranch WMA, go to MyFWC.com/Viewing and select " "Wildlife Management Areas, then "lead areas"

For more information and background on management plans and their goals, visit MyFWC.com/Conservation and select "Terrestrial Conservation" then "Management."

Hunting and fishing regulations are not included in this plan or meeting; those are addressed through a separate public process. For more information about hunting and fishing regulations, please visit MyFWC.com/Hunting and click on "Interactive Hunting Regulations."

JCR/HSC

12.3.3 Newspaper Advertisement

FLORIDA FISH-WILDLIFE CONSERVATI
DIVISION OF HABITAT SPECIES CO
620 S. MERIDIAN ST
TALLAHASSEE, FL32

Acct#:59267
Ad#:32347
Phone#:850-487-7063
Date:09/30/2020

Salesperson: GLUGO **Classification: Legals** **Ad Size: 2.0 x 3.30**

Advertisement Information:

Description	Start	Stop	Ins.	Cost/Day	Total
News Gazette Legals	10/08/2020	10/08/2020	1	49.76	49.76
Affidavit Fee	-	-	-	-	3.00

Payment Information:

Date:	Order#	Type
09/30/2020	32347	BILLED ACCOUNT

Total Amount: 52.76

Amount Due: 52.76

Comment: Florida Fish Wildlife*10/15/20, NOTICE OF PUBLIC HEARING

Attention: Please return the top portion of this invoice with your payment including account and ad number.

Ad Copy

12.3.4 Florida Administrative Register Ad

FLORIDA DEPARTMENT OF STATE
Laurel M. Lee, Secretary of State
Administrative Code
The Gray Building - 500 S. Bronough Street, Tallahassee, Fl. 32399-0250

Billed to:
Fish and Wildlife Conservation Commission
Florida Fish & Wildlife Conservation
Commission, Habitat & Species Conservation
620 S Meridian Street
Tallahassee, FL 32399-1600
Attn: Dylan Imlah

Account: 1072 **Invoice Date: 03/09/2021** **Invoice Number: 106728**

	P.O. #	Publication in Florida Administrative Register	#units	$each	Extension
1		Vol/No: 47/38, February 25, 2021, Notice ID: 24245749	200	0.14	$28.00

Invoice # must appear on all checks and correspondence. Please pay balance due: **$28.00**
F.E.I.D. number: F 59-3466865 ***Net Due - 15 days - No Discount***

TO INSURE PROPER CREDIT, PLEASE RETURN THIS PORTION.

Department of State - Division of Administrative Services - Bureau of Planning, Budget and Financial Services - (850)245-6579
R.A. Gray Bldg - 500 S. Bronough St, 4th Fl. - Tallahassee, Fl 32399-0250

Account: 1072 **Invoice Date: 03/09/2021** **Number: 106728** **Amount Due: $28.00**

State Agencies - Journal Transfer to Account Code: 45-60-2-572001-45400100-00 BF Obj 019000 BF Cat 001903
Org Code / EO : 45400120200 7X Object:019032 Category: 001903

For Accounting Use Only: Object Code: 019032 Cat: 001903 ARGL: 16300 GL: 67100
FLAIR Account Code: 77-10-1-000083-77200100-00 Vendor FEID:

ID 24245749

Notice of Meeting/Workshop Hearing

FISH AND WILDLIFE CONSERVATION COMMISSION

Freshwater Fish and Wildlife

The Fish and Wildlife Conservation Commission announces a public meeting to which all persons are invited.

DATE AND TIME: Thursday, March 11, 2021, 7:00 p.m.

PLACE: Via Adobe Connect

GENERAL SUBJECT MATTER TO BE CONSIDERED: To receive public comment regarding considerations for FWC's ten-year Management Plan for the FWC Lead Managed Portions of Apalachicola River Wildlife and Environmental Area (WEA).

This hearing is being held EXCLUSIVELY for discussion of the DRAFT Apalachicola River WEA Management Plan. This meeting is not being held to discuss area hunting or fishing regulations. For more information on the process for FWC rule and regulation development visit www.myfwc.com/about/rules-regulations/changes/.

A copy of the agenda may be obtained by contacting: Hannah Klein at hannah.klein@myfwc.com or (850)487-9767

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 14 days before the workshop/meeting by contacting: If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

For more information, you may contact: Hannah Klein at hannah.klein@myfwc.com or (850)487-9767.

12.4 Public Input

12.4.1 Management Advisory Group Meeting Results

Triple N Ranch Wildlife Management Area (TNRWMA)

Management Advisory Group (MAG)

Consensus Meeting Results

September 2, 2020

The intent of convening a consensus meeting is to involve a diverse group of stakeholders in assisting the Florida Fish and Wildlife Conservation Commission (FWC) in development of a rational management concept for lands within the agency's managed area system. FWC does this by asking spokespersons for these stakeholders to participate in a half-day meeting to provide ideas about how FWC-managed lands should be protected and managed.

The MAG consensus meeting was held on the morning of *September 2, 2020* remotely via Microsoft Teams. The ideas found below were provided by stakeholders for consideration in the 2021 – 2031 Management Plan (MP). These ideas represent a valuable source of information to be used by biologists, planners, administrators, and others during the development of the MP. Upon approval by FWC, the Acquisition and Restoration Council (ARC), and the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), the MP will guide the activities of FWC personnel over the ten-year duration of the management plan and will help meet agency, state, and federal planning requirements.

Statements following the bold-faced ideas represent a synopsis of the clarifying discussion of ideas as transcribed and interpreted by the FWC recorder at the meeting. The ideas below are presented in the order they were received:

Idea

1. **Continued prescribed fire program on the area, including prescribed fire frequency for fire adapted communities, and burning during appropriate burning seasons.** Prescribed fire offers a variety of natural benefits to areas. FWC staff should continue to analyze frequency of prescribed burning for benefit to insects, reptiles, amphibians, and other species.

2. **Continue deer management program on the area.**

Idea

5. **Provide more information to the public regarding the management area's recreational uses.** Educating the public on the area is critical for public image and to inform user groups of available activities and trails. Making trail and recreation information more accessible to public via technology (ie. Phones) can be helpful. Work towards promoting the availability of recreation information such as trails through technology.

6. **Increase FWC staff participation in roadway projects on Triple N Ranch.** Projects are at a critical point and FWC needs to look at a cooperative process so good decisions are being made. This is includes staff getting involved and sharing information.

7. **Review and update timber assessment as needed**.

8. **Look into providing primitive camping opportunities in relation to the Florida National Scenic Trail**.

9. **Enhance and expand equestrian trails and equestrian provisions on the area, including looking at equestrian usage on new portion of Florida National Scenic Trail and expand equestrian provisions and usability near entrance**. Currently, there is limited access for equestrian uses and missing provisions for horses including water access.

10. **Encourage FWC to not cooperate with roadway alignments.** The FWC must do interagency cooperation but road alignments are not part of the primary objectives for the area and can hinder management activities such as prescribed fire.

11. **Control coyote population on area.** Many changes have occur since early 1900s in the region. Coyote population has increased and has begun going after deer populations and other small game within the area.

12. **Increase vehicle access to the interior of the area, while being sensitive to wildlife on the area.** Allowing short, controlled seasons where vehicular access is permitted to certain portions of the area so bird watchers and other groups can view the area without have to bike or walk to the area.

13. **Maintain good trail signage throughout the area.**

14. **Allow year round access to Florida National Scenic Trail and other long distance trails.**

Idea

15. **Restore and maintain natural communities as appropriate on the landscape level.** Restore areas that are in need and make sure local communities maintain their natural processes, some are restored, some are not. Allow managers to restore as considered feasible.

17. **Continue exotic species control on the area.**

18. **Enhancing equestrian trail availability and offer primitive camping along those trails.**

19. **Explore further acquisition projects and connectivity to nearby lands.**

20. **Restore/maintain natural hydrology in area.** Continue any restoration that is needed on the area.

22. **Monitor and manage for high quality native ground cover species.** High quality native ground cover species such as *Asclepias tuberosa, Asclepias feayi, Calopgon multiflorus, Calopogon tuberosus, Orthochilus ecristatus, Lilium catesbaei, Ctenium aromaticum, Sorghastrum secundum, Marshallia grandiflora, Helianthus radula, Carphephorus carnosus* should be managed especially for butterflies and other wildlife.

23. **Notice at entrance for hikers regarding dehydration and the potential to get lost.** Many hikers are getting lost and requiring assistance, make sure hikers know there is no potable water access around and to be mindful of how far they are traveling.

24. **Allow entrance to Donovan cruise road within the park during the season when the Triple N Ranch shooting range is closed.** Shooting range shuts off a large part of area. Opening the area up when the range is closed will allow better access to multiple user groups.

25. **Encourage and promote cooperation with other organizations such as Florida National Scenic Trail and others.** This includes receiving help for maintenance and public outreach for the trails and other activities.

26. **Continue to monitor for locally important and imperiled plant and wildlife species.**

Idea

27. **Have FWC staff explore opportunities to further maintain road access during high water.** Access is always an issue for vehicles without all wheel drive during wet season. Additionally look towards installation of culverts at Road 9 (East of Road 8) and on Road 3 (West of Luke road).

28. **Increase Law enforcement for policing off road vehicles and poaching.** This is becoming an issue on several nearby areas.

29. **Expand management plan discussion on resource protection.** This includes tasks such as boundary surveys.

33. **Incorporate specific language for allowable uses for Florida National Scenic Trail in new management plan.**

34. **Continue to maintain game species to provide high quality hunting opportunities.**

35. **Continue, increase, and share research on wildlife crossing opportunities.**

36. **State specific goals and objectives in management plan for natural community management**. This can help guide management activities on the area.

37. **Continue to plant, maintain, and possibly expand food plots on area.** Wide range of user groups will benefit from it

38. **Restore hydrological systems in dome swamp communities.** This was a comment brough up by the Land Management review, recommend to explore restoration options as apprioirate.

Triple N Ranch Wildlife Management Area
MAG Meeting Participants

Name	Affiliation
Active Participants	
Melanie Mancuso	FWC Area Biologist
Lt. Kenneth Trusley	FWC Law Enforcement
Amy Copeland	St. John's River Water Management District
Linda Cooper	North American Butterfly Association
Cheryl Grieb	Osceola County Commissioner - District 4
Cori Carpenter	Osceola County Planning Department
Bob Mindick	Osceola County Natural Resources Department
Michael Edwards	Florida Forest Service
Jenna Taylor	Florida Trail Association
Valerie Anderson	Florida Native Plant Society
Cash Kaschai	Adjacent Private Landowner
Cameron Gordon	Hunting Stakeholder
Larry Rosen	Kissimmee Valley Audubon Society
Shawn Thomas	U.S. Forest Service
Supportive Participants	
Matt Hortman	FWC Habitat and Species Conservation (HSC), Regional Biologist
Steve Glass	FWC HSC, District Biologist
Katherine Burke	FWC Office of Public Access Services Office (PASO)
Tom M. Matthews	FWC PASO
Jess Rodriguez	FWC Habitat and Species Conservation (HSC), Conservation Biologist
Andrea Boliek-Walker	FWC Hunting and Game Management (HGM)
Stacey Lamborn	Florida Youth Conservation Centers Network
Larame Ferry	FWC Senior Acquisition Review Agent
Invited but Unable to Attend	
Jason O'Donoughue	Division of Historical Resources
Jason DePue	Department of Environmental Protection
Chuck O'Rourke	National Resources Conservation Service (NRCS)
Dan Hipes	Florida Natural Areas Inventory
Robert Pelio	Equestrian Stakeholder
FWC Planning Personnel	
Hannah Klein	Land Conservation Planner, Facilitator
Dylan Haase	Land Conservation Planner, Facilitator
Elias Haase	Recorder

12.4.2 Public Hearing Report

PUBLIC HEARING REPORT

FOR

TRIPLE N RANCH WILDLIFE MANAGEMENT AREA MANAGEMENT PLAN

HELD BY THE

TRIPLE N RANCH WILDLIFE MANAGEMENT AREA MANAGEMENT ADVISORY GROUP

AND THE

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

OCTOBER 15, 2020 – OSCEOLA COUNTY, FLORIDA

The following report documents the public input that was received at the Triple N Ranch Wildlife Management Area (TNRWMA) Management Advisory Group's (MAG) public hearing for the update to the Management Plan for TNRWMA that was held at 7:00-9:00 PM, on October 15 remotely via Adobe Connect.

TNRWMA Management Advisory Group Introduction:
The meeting was introduced by Mr. Cameron Gordon, a TNRWMA Management Advisory Group participant, who represented the TNRWMA MAG. Mr. Gordon indicated that he was one of fourteen stakeholders that attended the Florida Fish and Wildlife Conservation Commission (FWC) facilitated TNRWMA MAG meeting held on September 2, 2020. Mr. Gordon stated that the Draft Management Plan was being presented tonight by FWC staff, and that hardcopies of the draft plan and the TNRWMA MAG meeting report were available at the front door for the public's review. Mr. Gordon thanked everyone for attending and then introduced Ms. Hannah Klein, Land Conservation Planner, FWC, to facilitate and coordinate the presentation of an overview of TNRWMA, FWC's planning process, and the draft components of the TNRWMA Draft Management Plan.

Presentation on an Overview of the TNRWMA and the FWC Planning Process:

FWC member Ms. Hannah Klein welcomed everyone and thanked the public for their attendance. Ms. Klein then went over an orientation of the material and explained that the purpose of the public hearing was to solicit public input regarding the Draft Management Plan for TNRWMA, and not hunting and fishing regulations, indicating there is a separate public input process for FWC rule and regulation development. Ms. Klein then described the materials that were available at the door for public review, including the TNRWMA Draft Management Plan and the MAG Meeting Report and Accomplishment Report. Ms. Klein then presented the agenda for the public hearing and facilitated the introduction of all FWC staff in attendance to the audience. Ms. Klein then presented an overview and orientation of TNRWMA, including a description of the natural communities, data about TNRWMA visitation, revenue and economic benefits generated for the state and region by the area, wildlife species, recreational opportunities found on the area, surrounding conservation lands, surrounding Florida Forever Program Land Acquisition Projects, acquisition history, etc. She also explained FWC's planning process for the management of the public conservation land and asked if there were any questions regarding that process.

Questions, Answers and Discussion on the TNRWMA Overview and FWC's Planning Process:

Ms. Klein facilitated an informal question and answers session where members of the public in attendance, without necessarily identifying themselves, could ask questions of the FWC staff, and discuss the answers. Ms. Klein again emphasized that the exclusive purpose for the public hearing was to collect public input regarding the Draft Management Plan for the TNRWMA, and not to discuss area hunting, fishing and use regulations since, as was noted earlier, FWC has a separate process for input on hunting and fishing regulations.

Public Question 1: An unidentified member of the audience provided the following comments and questions:

Will the powerpoint be provided for download?

FWC Response: Ms. Hannah Klein, Land Conservation Planner, responded:

Yes, we will upload the presentation for everyone.

No (further) questions or comments were received at this stage of the TNRWMA public hearing meeting.

Presentation of the TNRWMA Draft Management Plan:

At this point, Ms. Klein, began the presentation of the TNRWMA Draft Management Plan. Ms. Klein then completed and concluded the presentation of the TNRWMA Draft Management Plan.

Questions and Comments on the TNRWMA Draft Management Plan Presentation: Ms. Klein asked if there were any comments or questions from the public regarding the Draft Management Plan and encouraged everyone to fill out a speaker card for public testimony. She informed them that all comments, questions, and public testimony will be duly considered equally by FWC.

Public Question 1: An unidentified member of the audience provided the following comments and questions:

Are old homesteads considered historical?

FWC Response: Ms. Dylan Haase, Senior Conservation Planner, responded:

Yes, there is sometimes old homesteads can be considered historical, I think it depends on the homestead how old it is what kind of archaeological things are found there. That is ultimately the decision of the Division of Historical Resources so for my understanding of staff find anything that remotely can be considered historical they reach out to the HR and they ultimately make the designation. I hope that answers your question but let us know if you need further information.

Public Question 2: An unidentified member of the audience provided the following comments and questions:

So, in the advisory group meeting, and then just again to in the last slide you mentioned cooperating regarding the wildlife impact of potential toll roads or future toll roads and I'm just wondering, from the staffs' perspective or maybe another guest can help. Do we know of any immediate planned toll roads and or roadway extensions that would impact the Triple N Ranch WMA?

FWC Response: Mr. Matthew Hortman, Assistant Regional Biologist, responded:

As of right now, we do not know of any toll roads that are planned that would affect Triple N or Bull Creek.

FWC Response: Dylan Haase, Senior Conservation Planner, responded:

Before this meeting I did talk to our transportation people and there is a route of the Osceola Boulevard connector that may run north of Triple N but no part would run through Triple N. And as of right now, this is still a very remote possibility.

Public Question 3: An unidentified member of the audience provided the following comments and questions:

Can you create a map that also shows approved development that may impact the property adjacency concern?

FWC Response: Ms. Dylan Haase, Senior Conservation Planner, responded:

I just asked him if we can create a map that shows approved development that may impact the property adjacency concern. Normally in our final management plans we don't have a map per se, that shows property adjacent concerns because so many of them can be uncertain. At the time that we develop the plan, or they can also change after the plan is approved and as we've stated this plan is a 10-year plan. However, we do have a section in the final management plan that is dedicated to adjacent concerns. So, we discuss things like you know possible roadway routes that may happen to the north, or if there's possible development that may be happening on another side of the area. We do have a discussion about that. We do tend to steer towards, like I said, not creating a map, though, just because so many uncertainties, and so many changes can occur, especially during a 10-year management plan but we do have an extensive discussion.

Public Question 4: An unidentified member of the audience provided the following comments and questions:

I am thinking of existing already approved land plans such as Deseret. I also understand that there are concerns about the Lake X property, it needs additional protection to continue in conservation for the long term.

FWC Response: Ms. Dylan Haase, Senior Conservation Planner, responded:

She was talking about existing already approved land plans such as Deseret. Absolutely, that's an excellent point. That is something we can look towards during this process of developing a management plan before we finalize it, we actually coordinate with the county planning department. So, Hannah definitely can reach out to them and see if there are 100% approved plans, and we can include them in our optimal conservation planning boundary map. So that's a map available for download here, and I think, Hannah kind of discussed it a little bit earlier but just to touch on it. We have an extensive boundary that extends beyond Triple N Ranch, to show what lands we would optimally need to manage the area, and a lot of future and current land plans are in that optimal boundary, so we can definitely work with Osceola County and maybe put those earmarked lands within that map to show where

land may be expanding beyond the optimal conservation planning boundary. It's definitely something we can work with the county on.

No further questions or comments were received at this stage of the TNRWMA public hearing meeting.

Public Testimony on the TNRWMA Draft Management Plan:
Three members of the public audience submitted speaker card(s) indicating their intention to provide formal public testimony. Ms. Klein again emphasized that the public hearing was for taking input regarding the TNRWMA Draft Management Plan and called the first speaker.

Public Testimony 1: Mr. Cameron Gordon provided the following public testimony:

Thank you, you know I have been told that I never miss an opportunity to hear my own voice, so please bear with me, but I would love to give just a bit of public testimony about Triple N and especially on a positive note, I think an optimistic one. You know challenge number six, which is a really kind of promoting awareness of Triple N Ranch and promoting cross use of Triple N, sorry I have a bird in the background that squawks every time I start to talk, but you know, I'm a member, as I believe a couple of other people on here are above friends of Bull Creek, and you know there are different WMAs in the area. And, and so certainly I do my part to sing Triple N's praises. I have found that the small game season is really a very laid back, kind of low use time. And it is wide open to drive, and I have introduced a number of people to not only hunting but also really just exploring the wilderness of Osceola County. During this time, Triple N is a beautiful area that is very well maintained, the technicians and biologists do an excellent job. I would just speak a word of encouragement to the biologists, and all the technicians, and the check station attendants, and everyone to just say that if you are helping to manage a beautiful forest, and to challenge number six, as far as promoting the area I am planning this year, on doing a deep dive and inviting a lot of people out. A couple of planned hikes and hunts, and so, when those times come I would love to be able to talk to some of the staff especially Melanie who is on site, it seems, and just kind of, you know, be open for an introduction and you know you can invite a brain dump. And certainly, if there is ever any need for volunteerism, I would hope that you would reach out to me because we would be happy to help. Throw some warm bodies at it and that's really what I have to say, just really that it's a very positive place very well managed and just a true gem in Central Florida. And, you know, on a more cautious note, I would say as, as I think Eleanor kind of attested to earlier, you know there are some major proposed developments of the Desert Ranch immediately north in the community and I've seen potential roads and a number of different things and so my biggest fear is that the things that I use Triple N for, which are the hunting in the vast expanse and the ability to roam

and shoot guns and that these are going to be challenged in the coming years, and that my children would possibly not be able to enjoy this forest, the way that I have. And that's a sincere fear. I've seen it in a number of other areas wild areas near the Orlando Metropolitan growth and sprawling area. And so, I am ready to fight and assist FWC in fighting things that might hinder the ability for hunters like myself to use Triple N. So those are my points and thank you for hearing me.

FWC Response: Ms. Hannah Klein, responded:

Thank you, Cameron. I appreciate you saying that.

Adjournment:
Ms. Hannah Klein asked if there were any other members of the public that wished to give public testimony.

No other speakers offered further comments.

Then Ms. Klein declared the public hearing adjourned.

After Public Hearing Communication:

After the public hearing, the following comments were received by Ms. Hannah Klein.

Public Comment #1: Ms. Linda Cooper, provided the following comment:

Hello Hannah. I appreciated Cameron's comments and echo those as TNRWMA is very well managed as are the adjacent properties HHBCWMA & TLWMA. I could not hear any of Eleanor's comments as hers were typed. I have no comments except that I appreciate the opportunity to participate in the working group online meeting back in September. The North American Butterfly Association's annual butterfly counts at TNRWMA will continue each summer as part of the Bull Creek count circle.

Public Comment #2: Ms. Eleanor Foerste, provided the following comment:

I retired from UF IFAS Extension in Osceola County in 2016 after working there for 36 years as UF faculty. I have led educational guided walks for the public as a natural resources educator and coordinated with FWC in the past. I also have taught the Florida Master Naturalist Upland and Freshwater Wetlands modules and involved your FWC staff in helping us better understand our local ecosystems. I have worked together with your staff and we taught our 4-H youth about bluebird biology and then built bluebird boxes for Three Lakes years ago. We (oops, I am a has-been but Extension is in my heart) have many 4-H

project areas and UF faculty members across the state who teach youth and adults about the environment. The local number is 321-697-3000.

I also volunteer with Audubon EagleWatch and the Florida Native Plant Society Pine Lily Chapter. This year, FNPS Pine Lily was planning a guided field trip, but due to Covid-19, we have suspended all face to face activities for the future until further notice. Karina Veaudry, Valerie Anderson, Tayler Figueroa, Sandy Webb and Larry Rosen are members of the local Florida Native Plant Society Pine Lily Chapter and are good contacts for you as well. Continue to be in touch with that group for input. Not a huge membership, but lots of local knowledge and interest in protection and education. That is how I got the reminder notice of the meeting. I believe you already have their contact info from other meetings.

I love getting the public involved in the outdoors. I met Tom Mathews in a past life when I was summer camp staff at the FWC camp in the Ocala National Forest. He knew me as Ella back then. In the late 80's I organized with some other former staff members and we started the Friends of the Ocala Youth Camp. Back then we called it YCC, the Youth Conservation Camp. I first attended as a camper at the Everglades Camp and then became a counselor when it was a GIRLS ONLY camp week. Yep, a long time ago. I credit that and my parent's conservation ethic with inspiring me to pursue my career with Extension as a UF faculty member.

All this to say, I am so glad we have you and others looking out for our natural lands and the plants and animals that are critical to our natural ecosystems. Our county is growing at such a fast pace and if we do not have professionals like you speaking up for smoke corridors and wildlife crossings and natural connectivity, it will be lost forever. The area of Triple N has been "no man's land", so far from the urban area, but we blinked and the county planning process has allowed HUGE development with compromised conservation protections It is critical that FWC stay at the table with county planning staff to provide input regarding a state plan for north south wildlife connections on this side of the state. Please work closely with Bob Mindick and Dave Tomek with Osceola County government to find out the best way to stay involved with growth planning discussions while private development is meeting with the county, 407-742-0200 can get you to the correct phone numbers for them. It is a great connection to see what is in the works but not approved as final and still have opportunities for input with science before it is too late.

Thank you for all you do!

12.5 Land Management Review Report

2019 Land Management Review Team Report for Triple N Ranch Wildlife Management Area

1. Introduction

Section 259.036, F.S. requires a periodic on-site review of conservation and recreation lands titled in the name of the Board of Trustees to determine (1) whether the lands are being managed for the purposes for which they were acquired and (2) whether they are being managed in accordance with their land management plan adopted pursuant to s. 259.032, F.S. In cases where the managed areas exceed 1,000 acres in size, such a review must be scheduled at least every five years. In conducting this review, a statutorily constructed review team "shall evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions or archaeological features. The review shall also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan."

The land management review teams are coordinated by the Division of State Lands and consist of representatives from the Division of Recreation and Parks (DEP), the Florida Forest Service (DACS), the Fish and Wildlife Conservation Commission, the local government in which the property is located, the DEP District in which the parcel is located, the local soil and water conservation district or jurisdictional water management district, a conservation organization member, and a local private land manager.

Each Land Management Review Report is divided into three sections. Section 1 provides the details of the property being reviewed as well as the overall results of the report. Section 2 provides details of the Field Review, in which the Review Team inspects the results of management actions on the site. Section 3 provides details of the Land Management Plan Review, in which the team determines the extent to which the Management Plan provides for and documents adequate natural and recreational resource protection.

Finally, each report may also contain an Appendix that lists individual team member comments. This is a compilation of feedback, concerns or other thoughts raised by individual team members, but not necessarily indicative of the final consensus reached by the Land Management Review Team.

1.1. Property Reviewed in this Report

Name of Site: Triple N Ranch Wildlife Management Area

Managed by: Fish & Wildlife Conservation Commission

Acres: 16,295.14 **Counties:** Osceola

Purpose(s) for Acquisition: To ensure the survival of prairie wildlife species such as the swallow-tailed kite and crested caracara; to protect the watershed of Bull Creek and provide a large area for the public to enjoy hunting, wildlife observation, and other activities.

Acquisition Program(s): CARL/P2000/Florida Forever

Original Acquisition Date: 8/12/96

Area Reviewed: Entire Property **Last Management Plan Approval Date:** 8/20/12
Review Date: 8/30/19

Agency Manager and Key Staff Present:

- Melanie Mancuso, Manager
- Steve Glass
- Jon Webb
- Tina Hannon
- Matthew Hortman

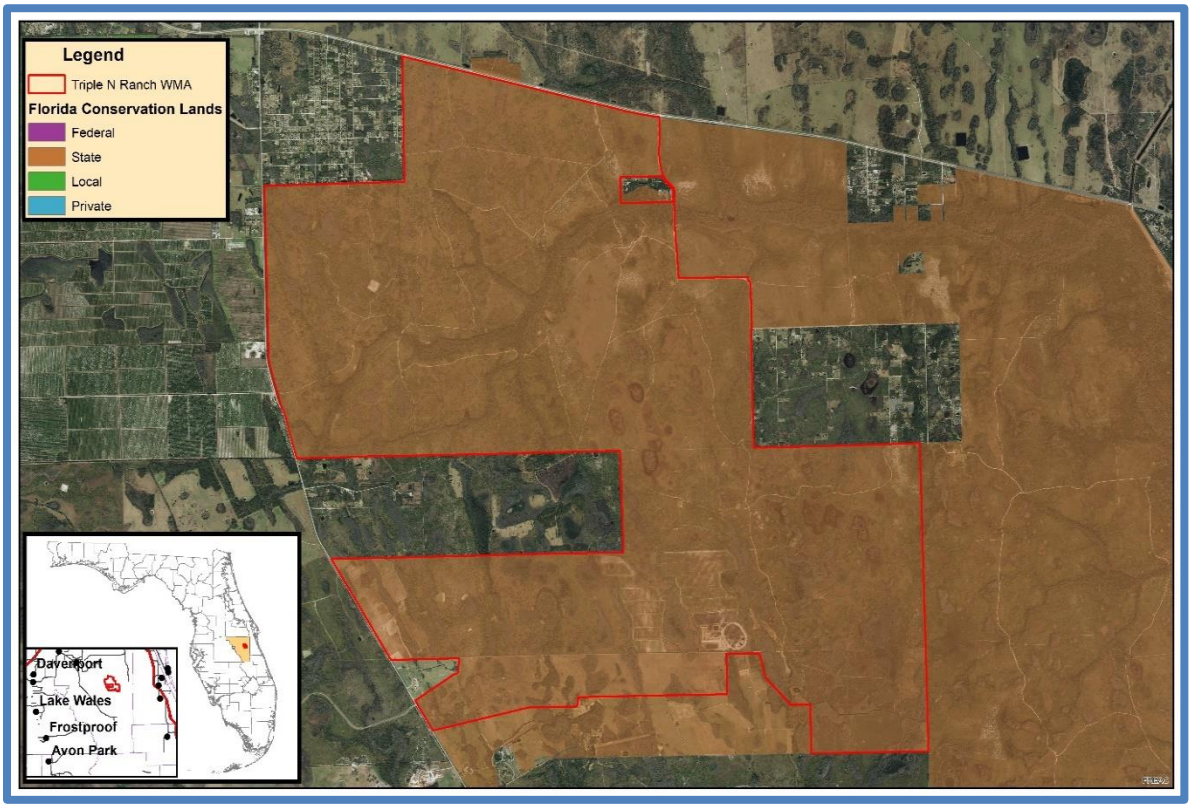
Review Team Members Present (voting)

- Catie Welch, DRP District
- Local Gov't., None
- Jess Rodriguez, FWC
- Brian Dailey, DEP District
- Michael Edwards, FFS
- Amy Copeland, SJRWMD
- Vince Lamb, Cons. Organization
- Private Land Manager, None

Other Non-Team Members Present (attending)

- Keith Singleton, DEP/DSL
- Andrew Lawrence, FWC/IPM
- Lance Jacobson, FWC
- Jennifer Paredes, FWC
- Jim Erwin, FNPS
- Jim Blush, SFWMD

1.2 Property Map



1.3. Overview of Land Management Review Results

Is the property managed for purposes that are compatible with conservation, preservation, or recreation?

Yes = 6, No = 0

Are the management practices, including public access, in compliance with the management plan?

Yes = 6, No = 0

Table 1 shows the average scores received for each applicable category of review. *Field Review* scores refer to the adequacy of management actions in the field, while *Management Plan Review* scores refer to adequacy of discussion of these topics in the management plan. Scores range from 1 to 5 with 5 signifying excellence. For a more detailed key to the scores, please see *Appendix A*.

Table 14: Results at a glance.

Major Land Management Categories	Field Review	Management Plan Review
Natural Communities / Forest Management	4.77	4.20
Prescribed Fire / Habitat Restoration	4.49	4.22
Hydrology	3.78	3.39
Imperiled Species	4.75	4.20
Exotic / Invasive Species	3.92	3.83
Cultural Resources	4.00	4.17
Public Access / Education / Law Enforcement	4.08	3.34
Infrastructure / Equipment / Staffing	4.31	N/A
Color Code (See Appendix A for detail)		
Excellent	Above Average	Below Average	Poor

1.3.1 Consensus Commendations for the Managing Agency

The following commendations resulted from discussion and vote of the review team members:

1. The team commends the Florida Fish and Wildlife Conservation Commission (FWC) for completing the archaeological resource monitor training. (5+, 0-)
2. The team commends the FWC staff for the work done on red cockaded woodpeckers and the results achieved. (5+, 0-)
3. The team commends the FWC for their prescribed burn program and the number of acres achieved per year, the frequency and quality of burns. (5+, 0-)
4. The team commends the FWC for the treatment of the invasive exotic plants at the WMA, and keeping the plants at a maintenance control level. (5+, 0-)
5. The team commends the FWC for the discovery of a novel population of the striped newt at the WMA, and the management following the discovery (removal of cattle grazing in the area). (5+, 0-)

1.3.2. Consensus Recommendations to the Managing Agency

The following recommendations resulted from a discussion and vote of review team members. The next management plan update should include information about how these recommendations have been addressed:

There were no consensus recommendations.

2. Field Review Details

2.1 Field Review Checklist Findings

The following items received high scores on the review team checklist, which indicates that management actions exceeded expectations.

1. **Natural communities, specifically mesic flatwoods, dome swamp/basin swamp, depression marsh, dry prairie, hydric hammock, wet prairie, scrubby flatwoods, baygall, scrub, mesic hammock, wet flatwoods, and xeric hammock.**
2. **Listed species, animals and plants in general, and specifically red cockaded woodpecker, and gopher tortoise.**
3. **Natural resource survey/monitoring resources, specifically listed species or their habitat monitoring, other non-game species or their habitat monitoring, other habitat management effects monitoring, and invasive species survey and monitoring.**
4. **Cultural resources, specifically protection and preservation.**
5. **Resource management (prescribed fire), specifically area being burned, frequency, and quality.**
6. **Restoration, specifically hydrological restoration and groundcover restoration.**
7. **Forest management, specifically timber harvesting.**
8. **Non-native, invasive, and problem species, specifically control of plants and animals.**
9. **Hydrologic/geologic function, specifically roads and culverts.**
10. **Resource protection, specifically boundary survey, gates and fencing, signage, and law enforcement presence.**
11. **Public access, specifically roads and parking.**
12. **Environmental education and outreach, specifically interpretive facilities and signs, recreational opportunities, and management of visitor impacts.**
13. **Management resources, specifically buildings, equipment, staff, and funding**.

2.2. Items Requiring Improvement Actions in the Field

The following items received low scores on the review team checklist, which indicates that management actions noted during the Field Review were not considered sufficient (less than 3.0 score on average). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. **The management plan update should include information on how these items have been addressed**:

The review team scores did not identify items requiring improvement in the field.

2.3. Field Review Checklist and Scores

Field Review Item	Reference #	Anonymous Team Members						Average		
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Mesic Flatwoods	I.A.1	5	5	5	5	5	5			5.00
Dome Swamp/Basin Swamp	I.A.2	3	5	4	4	4	5			4.17
Depression Marsh	I.A.3	4	5	5	5	5	5			4.83
Dry Prairie	I.A.4	5	5	5	5	5	5			5.00
Hydric Hammock/Floodplain Swamp	I.A.5	4	4	5	5	5	5			4.67
Wet Prairie	I.A.6	5	5	5	5	5	5			5.00
Scrubby Flatwoods	I.A.7	5	4	5	5	5	5			4.83
Baygall	I.A.8	4	4	5	5	5	5			4.67
Scrub	I.A.9	4	4	5	5	4	5			4.50
Mesic Hammock	I.A.10	4	4	5	5	5	5			4.67
Wet Flatwoods	I.A.11	5	4	5	5	5	5			4.83
Xeric Hammock	I.A.12	4	4	X	5	5	5			4.60
								Natural Communities Average Score		4.73
Listed species: Protection & Preservation (I.B)										
Animals	I.B.1	4	5		5	5	5			4.80
RCW	I.B.1.a	5	5	5	5	5	5			5.00
Gopher Tortoise	I.B.1.b	4	4	X	4	5	5			4.40
Plants	I.B.2	5	4		5	5	5			4.80
								Listed Species Average Score		4.75
Natural Resources Survey/Management Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	4	4	3	4	5	5			4.17
Other non-game species or their habitat monitoring	I.C.3	4	4	3	4	4	5			4.00
Fire effects monitoring	I.C.4	4	4	5	2	3	5			3.83
Other habitat management effects monitoring	I.C.5	4	4	X	3	5	5			4.20

Invasive species survey / monitoring	I.C.6	4	4	4	2	5	5			4.00
Cultural Resources (Archeological & Historic sites) (II.A, II.B)										
Cultural Res. Survey	II.A	4	4	X	3	4	5			4.00
Protection and preservation	II.B	4	4	X	3	4	5			4.00
								Cultural Resources Average Score		4.00
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A.1	5	5	5	5	5	5			5.00
Frequency	III.A.2	5	5	5	4	5	5			4.83
Quality	III.A.3	5	5	4	5	5	5			4.83
								Resource Management, Prescribed Fire Average Score		4.89
Restoration (III.B)										
Hydrological Restoration	III.B.1	4	4	4	3	4	5			4.00
Groundcover Restoration	III.B.2	4	4	4	4	4	5			4.17
								Restoration Average Score		4.08
Forest Management (III.C)										
Timber Inventory	III.C.1	4	X	5	5	5	5			4.80
								Forest Management Average Score		4.80
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.D.1.a	3	4	5	2	3	5			3.67
prevention - animals	III.D.1.b	3	4	5	2	3	5			3.67
Control										
control - plants	III.D.2.a	4	4	5	3	5	5			4.33
control - animals	III.D.2.b	3	4	5	3	4	5			4.00
								Non-Native, Invasive & Problem Species Average Score		3.92
Hydrologic/Geologic function Hydro-Alteration (III.E.1)										
Roads/culverts	III.E.1.a	4	4	4	4	5	5			4.33
Ditches	III.E.1.b	3	4	3	3	3	5			3.50
Hydro-period Alteration	III.E.1.c	X	4	X	3	2	5			3.50
								Hydrologic/Geologic function, Hydro-Alteration Average Score		3.78
Resource Protection (III.F)										
Boundary survey	III.F.1	4	4	4	5	4	5			4.33
Gates & fencing	III.F.2	4	4	5	5	4	5			4.50
Signage	III.F.3	3	4	5	4	3	5			4.00
Law enforcement presence	III.F.4	4	4	4	5	3	5			4.17
								Resource Protection Average Score		4.25
Adjacent Property Concerns (III.G)										

Land Use										
Inholdings/additions	III.G.2	3	4	3	3	3	X			3.20
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	4	4	5	5	4	5			4.50
Parking	IV.1.b	4	4	3	5	4	5			4.17
Environmental Education & Outreach										
Wildlife	IV.2.a	3	3	3	4	2	5			3.33
Invasive Species	IV.2.b	3	3	3	3	2	5			3.17
Habitat Management Activities	IV.2.c	3	3	3	4	2	5			3.33
Interpretive facilities and signs	IV.3	3	3	3	5	5	5			4.00
Recreational Opportunities	IV.4	4	4	5	5	5	5			4.67
Management of Visitor Impacts	IV.5	3	3	5	5	4	5			4.17
Public Access & Education Average Score										3.92
Management Resources (V.1, V.2, V.3. V.4)										
Maintenance										
Waste disposal	V.1.a	3	4	2	4	5	5			3.83
Sanitary facilities	V.1.b	3	4	3	4	5	4			3.83
Infrastructure										
Buildings	V.2.a	3	4	4	5	5	5			4.33
Equipment	V.2.b	4	4	5	5	5	5			4.67
Staff	V.3	3	5	4	5	5	5			4.50
Funding	V.4	4	5	4	5	5	5			4.67
Management Resources Average Score										4.31

Color Code:	Excellent	Above Average	Below Average	Poor	Missing Vote	Insufficient Information	See Appendix A for detail

3. Land Management Plan Review Details

3.1 Items Requiring Improvements in the Management Plan

The following items received low scores on the review team checklist, which indicates that the text noted in the Management Plan Review does not sufficiently address this issue (less than 3.0 score on average.). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. The next management plan update should address the checklist items identified below:

The review team scores did not identify items requiring improvement in the management plan.

3.2 Management Plan Review Checklist and Scores

Plan Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Mesic Flatwoods	I.A.1	4	4	5	4	2	5			4.00
Dome Swamp/Basin Swamp	I.A.2	3	4	5	4	2	5			3.83
Depression Marsh	I.A.3	3	4	5	3	2	5			3.67
Dry Prairie	I.A.4	3	4	5	4	2	5			3.83
Hydric Hammock/Floodplain Swamp	I.A.5	3	4	5	4	2	5			3.83
Wet Prairie	I.A.6	3	4	5	4	2	5			3.83
Scrubby Flatwoods	I.A.7	3	4	4	4	2	5			3.67
Baygall	I.A.8	3	4	5	3	2	5			3.67
Scrub	I.A.9	3	4	4	4	2	5			3.67
Mesic Hammock	I.A.10	3	4	5	4	2	5			3.83
Wet Flatwoods	I.A.11	3	4	5	4	2	5			3.83
Xeric Hammock	I.A.12	3	4	5	4	2	5			3.83
									Natural Communities Average Score	3.79
Listed species: Protection & Preservation (I.B)										
Animals	I.B.1	3	5		5	3	5			4.20
RCW	I.B.1.a	4	5	5	5	5	5			4.83
Gopher Tortoise	I.B.1.b	3	4	5	4	4	5			4.17
Plants	I.B.2	3	4		3	3	5			3.60
									Listed Species Average Score	4.20
Natural Resources Survey/Management Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	3	4	4	4	3	5			3.83
Other non-game species or their habitat monitoring	I.C.3	3	4	4	4	3	5			3.83
Fire effects monitoring	I.C.4	4	4	5	3	3	4			3.83
Other habitat management effects monitoring	I.C.5	3	4	4	3	3	4			3.50

Invasive species survey / monitoring	I.C.6	4	4	4	4	3	5			4.00
Cultural Resources (Archeological & Historic sites) (II.A, II.B)										
Cultural Res. Survey	II.A	4	4	4	5	4	4			4.17
Protection and preservation	II.B	4	4	4	4	4	5			4.17
									Cultural Resources Average Score	4.17
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A.1	4	5	5	4	3	5			4.33
Frequency	III.A.2	4	5	5	4	3	5			4.33
Quality	III.A.3	4	5	4	4	3	5			4.17
									Resource Management, Prescribed Fire Average Score	4.28
Restoration (III.B)										
Hydrological Restoration	III.B.1	4	4	4	5	4	4			4.17
Groundcover Restoration	III.B.2	4	4	4	4	4	5			4.17
									Restoration Average Score	4.17
Forest Management (III.C)										
Timber Inventory	III.C.1	4	X	5	5	5	4			4.60
									Forest Management Average Score	4.60
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.E.1.a	3	4	5	2	2	4			3.33
prevention - animals	III.E.1.b	3	4	5	2	2	4			3.33
Control										
control - plants	III.E.2.a	4	4	5	5	4	4			4.33
control - animals	III.E.2.b	4	4	5	5	4	4			4.33
									Non-Native, Invasive & Problem Species Average Score	3.83
Hydrologic/Geologic function, Hydro-Alteration (III.E.1)										
Roads/culverts	III.F.1.a	3	4	4	3	3	4			3.50
Ditches	III.F.1.b	3	4	3	3	3	4			3.33
Hydro-period Alteration	III.F.1.c	3	4	3	3	3	4			3.33
									Hydrologic/Geologic function, Hydro-Alteration Average Score	3.39
Resource Protection (III.F)										
Boundary survey	III.G.1	3	4	4	2	1	4			3.00
Gates & fencing	III.G.2	3	4	5	2	3	4			3.50
Signage	III.G.3	3	4	5	2	1	4			3.17
Law enforcement presence	III.G.4	3	4	4	2	1	4			3.00

									Resource Protection Average Score	3.17
Adjacent Property Concerns (III.G)										
Land Use										
Inholdings/additions	III.H.2	3	4	4	3	3	4			3.50
Discussion of Potential Surplus Land Determination	III.H.3	3		5	4	5	4			4.20
Surplus Lands Identified?	III.H.4	3	5	5	4	5	4			4.33
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	3	4	5	4	3	5			4.00
Parking	IV.1.b	3	4	3	4	3	4			3.50
Environmental Education & Outreach										
Wildlife	IV.2.a	3	3	3	3	3	5			3.33
Invasive Species	IV.2.b	3	3	3	3	3	5			3.33
Habitat Management Activities	IV.2.c	3	3	3	3	3	5			3.33
Interpretive facilities and signs	IV.3	3	3	3	3	3	4			3.17
Recreational Opportunities	IV.4	4	4	5	4	3	4			4.00
Management of Visitor Impacts	IV.5	3	3	4	4	3	4			3.50
									Public Access & Education Average Score	3.52
Managed Area Uses (VI.A, VI.B)										
Existing Uses										
Apiary Lease	VI.A.1	3	4	3	5	4	5			4.00
Cattle Grazing	VI.A.2	4	3	2	2	4	4			3.17
Hunting	VI.A.3	4	4	4	5	4	5			4.33
Hiking	VI.A.4	4	5	5	5	5	5			4.83
Equestrian Use	VI.A.5	3	5	5	5	4	5			4.50
Wildlife Viewing	VI.A.6	4	4	4	5	5	5			4.50
Camping	VI.A.7	3	5	2	5	4	4			3.83
Proposed Uses										
Shooting Range	VI.B.1	4	4	4	5	0	4			3.50

Color Code:	Excellent	Above Average	Below Average	Poor	Missing Vote	Insufficient Information	See Appendix A for detail

Appendix A: Scoring System Detail

Explanation of Consensus Commendations:

Often, the exceptional condition of some of the property's attributes impress review team members. In those instances, team members are encouraged to offer positive feedback to the managing agency in the form of a commendation. The teams develop commendations generally by standard consensus processes or by majority vote if they cannot obtain a true consensus.

Explanation of Consensus Recommendations:

Subsection 259.036(2), F.S., specifically states that the managing entity shall consider the findings and recommendations of the land management review. We ask team members to provide general recommendations for improving the management or public access and use of the property. The teams discuss these recommendations and develop consensus recommendations as described above. We provide these recommendations to the managing agency to consider when finalizing the required ten-year management plan update. We encourage the manager to respond directly to these recommendations and include their responses in the final report when received in a timely manner.

Explanation of Field Review Checklist and Scores, and Management Plan Review Checklist and Scores:

We provide team members with a checklist to fill out during the evaluation workshop phase of the Land Management Review. The checklist is the uniform tool used to evaluate both the management actions and condition of the managed area, and the sufficiency of the management plan elements. During the evaluation workshop, team members individually provide scores on each issue on the checklist, from their individual perspective. Team members also base their evaluations on information provided by the managing agency staff as well as other team member discussions. Staff averages these scores to evaluate the overall conditions on the ground, and how the management plan addresses the issues. Team members must score each management issue 1 to 5: 1 being the management practices are clearly insufficient, and 5 being that the management practices are excellent. Members may choose to abstain if they have inadequate expertise or information to make a cardinal numeric choice, as indicated by an "X" on the checklist scores, or they may not provide a vote for other unknown reasons, as indicated by a blank. If a majority of members failed to vote on any issue, that issue is determined to be irrelevant to management of that property or it was inadequately reviewed by the team to make an intelligent choice. In either case staff eliminated the issue from the report to the manager.

Average scores are interpreted as follows:

Scores 4.0 to 5.0 are *Excellent*

Scores 3.0 to 3.99 are *Above Average*

Scores 2.0 to 2.99 are *Below Average*

Scores 1.0 to 1.99 are considered *Poor*

12.6 Soil Series Descriptions

Map Unit Description

Osceola County, Florida

[Minor map unit components are excluded from this report]

Map unit: 1 - Adamsville sand, 0 to 2 percent slopes

Component: Adamsville (92%)

The Adamsville component makes up 92 percent of the map unit. Slopes are 0 to 2 percent. This component is on knolls on flatwoods on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 34 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY008FL Upland Hardwood Hammocks ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 4 - Arents, 0 to 5 percent slopes

Component: Arents (100%)

The Arents component makes up 100 percent of the map unit. Slopes are 0 to 5 percent. This component is on fills, rises on marine terraces on coastal plains. The parent material consists of altered marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 27 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 0 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 5 - Basinger fine sand, 0 to 2 percent slopes

Component: Basinger (90%)

The Basinger component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during July, August. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 6 - Basinger fine sand, depressional

Component: Basinger, depressional (85%)

The Basinger, depressional component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is very high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 9 - Cassia fine sand

Component: Cassia (95%)

The Cassia component makes up 95 percent of the map unit. Slopes are 0 to 2 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a

Map Unit Description

Osceola County, Florida

Map unit: 9 - Cassia fine sand

Component: Cassia (95%)

depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 23 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY001FL Sand Pine Scrub ecological site. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 10 - Delray loamy fine sand, depressional

Component: Delray, depressional (90%)

The Delray, depressional component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 4 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 11 - EauGallie fine sand

Component: EauGallie (90%)

The EauGallie component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 5 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 12 - Floridana fine sand, depressional

Component: Floridana, depressional (90%)

The Floridana, depressional component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 11 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 14 - Holopaw fine sand

Component: Holopaw (90%)

The Holopaw component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains, flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY012FL Wetland Hardwood Hammock ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

Osceola County, Florida

Map unit: 15 - Hontoon muck

Component: Hontoon (90%)

The Hontoon component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of herbaceous organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 80 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 16 - Immokalee fine sand

Component: Immokalee (90%)

The Immokalee component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 17 - Kaliga muck

Component: Kaliga (90%)

The Kaliga component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of herbaceous organic material over stratified loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 64 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 18 - Lokosee fine sand

Component: Lokosee (85%)

The Lokosee component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY012FL Wetland Hardwood Hammock ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 19 - Malabar fine sand

Component: Malabar (90%)

The Malabar component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water

Map Unit Description

Osceola County, Florida

Map unit: 19 - Malabar fine sand

Component: Malabar (90%)

saturation is at 6 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 20 - Malabar fine sand, depressional

Component: Malabar, depressional (85%)

The Malabar, depressional component makes up 85 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 22 - Myakka fine sand

Component: Myakka (85%)

The Myakka component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 5 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 24 - Narcoossee fine sand

Component: Narcoossee (90%)

The Narcoossee component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on rises on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY008FL Upland Hardwood Hammocks ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 25 - Nittaw muck

Component: Nittaw (90%)

The Nittaw component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of clayey marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is high. This soil is occasionally flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 55 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

Osceola County, Florida

Map unit: 26 - Oldsmar fine sand

Component: Oldsmar (85%)

The Oldsmar component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 27 - Ona fine sand

Component: Ona (85%)

The Ona component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy 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 low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 29 - Parkwood loamy fine sand, occasionally flooded

Component: Parkwood, occasionally flooded (90%)

The Parkwood, occasionally flooded component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 4 percent. This component is in the R155XY012FL Wetland Hardwood Hammock ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 30 - Pineda fine sand

Component: Pineda (90%)

The Pineda component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY012FL Wetland Hardwood Hammock ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 32 - Placid fine sand, depressional

Component: Placid, depressional (85%)

The Placid, depressional component makes up 85 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water

Map Unit Description

Osceola County, Florida

Map unit: 32 - Placid fine sand, depressional

Component: Placid, depressional (85%)

to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 34 - Pomello fine sand, 0 to 5 percent slopes

Component: Pomello (85%)

The Pomello component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY002FL Longleaf Pine-turkey Oak Hills ecological site. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 35 - Pomona fine sand

Component: Pomona (88%)

The Pomona component makes up 88 percent of the map unit. Slopes are 0 to 2 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 37 - Pompano fine sand, depressional

Component: Pompano, depressional (92%)

The Pompano, depressional component makes up 92 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 39 - Riviera fine sand, depressional

Component: Riviera, depressional (90%)

The Riviera, depressional component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

Osceola County, Florida

Map unit: 40 - Samsula muck

Component: Samsula (90%)

The Samsula component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of herbaceous organic material over sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 65 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 42 - Smyrna fine sand

Component: Smyrna (85%)

The Smyrna component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy 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 low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 4 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 45 - Wabasso fine sand

Component: Wabasso (88%)

The Wabasso component makes up 88 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 6 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 46 - Wauchula fine sand

Component: Wauchula (90%)

The Wauchula component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 99 - Water

Component: Water (100%)

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

Map Unit Description

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

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

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

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

12.7 Historical Resources

Environmental Resource Analysis

Historical Resources

Analysis Shape Type: Polygon

Analysis Timestamp: 08112020 10:24:01

Shape Name: Unnamed polygon centered at -81.021828 °, 28.090977 °

Boundary Area: 16429.54 acres

Buffer Area: 0 acres

Total Area: 16429.54 acres

Cultural Resources

Florida Sites

SITE NAME	SITEID	SITETYPE1	SITETYPE2	SITETYPE3	SITETYPE4	SITETYPE5	SITETYPE6	HUMANREMNS	Total Area (acres)	Percent of Area
HOLOPAW SAWMILL LOGGING RAILROAD	OS01903	Specialized site for procurement of raw materials	Land-terrestrial	Other	Railroad grade segment				17.89	0.11 %
Holopaw Schoolhouse	OS02883	Land-terrestrial	Artifact scatter-low density (< 2 per sq meter)	Historic town					0.27	0 %
								TOTAL:	18.16	0.11 %

Florida Structures

No Records Found

Historical Cemeteries

No Records Found

Historic Bridges

No Records Found

National Register of Historic Places

No Records Found

Resource Groups

No Records Found

Field Survey

SURVEY NUMBER	TITLE	Total Area (acres)	Percent of Area
1152	RECONNAISSANCE SURVEY IN THE UPPER ST. JOHNS RIVER FLOOD CONTROL PROJECT, OSCEOLA, BREVARD AND INDIAN RIVER COUNTIES, FLORIDA.	289.24	1.76 %
1842	PROPOSED MULTILANING OF EXISTING TWO-LANE US 192 FROM CR 532, NEAR ST CLOUD, TO I 95, IN OSCEOLA & BREVARD COUNTIES, FLORIDA	21.18	0.13 %
4443	AN ARCHAEOLOGICAL ASSESSMENT OF THE TRIPLE N RANCH WILDLIFE MANAGEMENT AREA, OSCEOLA COUNTY, FLORIDA	9,049.66	55.08 %
7840	AN ARCHAEOLOGICAL AND HISTORICAL RECONNAISSANCE SURVEY OF THE PROPOSED OAK HAMMOCK DISPOSAL FACILITY IN OSCEOLA COUNTY, FLORIDA	15.80	0.1 %
21422	ULTURAL RESOURCE ASSESSMENT SURVEY (CRAS) OF THE TRIPLE N WILDLIFE MANAGEMENT AREA SHOOTING RANGE COMPLEX PROJECT IN OSCEOLA COUNTY	179.93	1.1 %
	TOTAL:	9,555.80	58.16 %

12.8 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

12.9 FWC Agency Strategic Plan

The Florida Fish and Wildlife Commission

Strategic Plan
2020-2024

May 6, 2020

This plan was written by the FWC 2020+ Strategic Plan Development Team for the dedicated staff of the FWC, specifically designed with leaders and supervisors in mind with the intention of fostering and reinforcing our agency culture, core operations, and strategic approach to our conservation mission.

From the Executive Director

Balancing the needs of Florida's fish and wildlife resources with a diverse, growing population of people can be complicated and challenging. It is our honor to be the agency that is entrusted to take care of these resources on behalf of all Florida residents and visitors. The FWC team strives every day to uphold this public trust.

An important element of effective management and administration is focusing on strategic priorities that are vital in accomplishing our overall mission and adjusting resources accordingly. This reallocation must be done while continuing to atten to day-to-day functions. It is critical to accurately identify these developing issues and set forth a strategy to address them. This formula is the basis for a strategic plan. As with any plan, it works best if it is a collaborative effort, with everyone having the opportunity to provide input in the planning process and identify emerging issues that require strategic solutions. We have put together diverse teams to develop the FWC's strategic plan, to encompass the major issues affecting our agency as a whole.



I also firmly believe that strategic plans are less about a printed document, and more about the process and collaboration necessary to achieve such a plan. The benefits of this process are seen and continued far beyond printing the final draft.

The success of this effort – of our mission – rests upon the shoulders of each and every one of us. Whether you work in the field or in an office, whether you're a scientist, technician, accountant, law enforcement officer, administrative assistant, or programmer, your unique skills and expertise are necessary to continue the good work of conservation that we do every day as well as the strategic work we will be taking up over these next five years . As you read through this plan, I challenge you to look for ways that you can help make a difference. I also ask that you challenge your co-workers to leverage their skills and talents for the good of our mission as well. The future of Florida's fish and wildlife conservation depends on our collective and diverse perspectives, backgrounds, contributions, creativity, and energy.

Respectfully yours, Eric Sutton

Vision & Values

The mission of the FWC is to manage fish and wildlife resources for their long term well-being and the benefit of people. Every organization has an identity that is forged not only by what it does, but by how it conducts itself. The values embedded in our mission and expressed in the vision of FWC leadership are to make quality decisions by being dynamic, science-based, efficient, ethical, collaborative, competent, and committed to the vitality of the state and its environment.

We envision...

a Florida where fish and wildlife are abundant and thriving in healthy and connected natural landscapes with vital working lands and waterways; where natural resources are valued and safely enjoyed by all; and wherein natural systems support vibrant human communities and a strong economy.

We work diligently to conserve fish and wildlife in a manner that honors the public trust that has been vested in us through Florida's constitution. This is based in long-standing law and traditions commonly referred to as the "Public Trust Doctrine." This doctrine is steeped in the principle that fish and wildlife should be managed for the public, and reflects the belief that certain resources are an intergenerational inheritance, held in trust by government for the benefit of all current and future residents and visitors.

Consistent with this tradition, we strive to reinforce an inclusive culture that provides for public access, public input, technical assistance groups, stakeholder and public outreach, open communication, work teams, and shared decision making. The FWC encourages scientific inquiry and diversity of thought, and actively promotes these values with our public engagement efforts. The core concepts of these values are derived from a set of nationally accepted Wildlife Governance Principles that have been developed over time and focus efforts on conservation.

Additionally, we strive to make proactive resource decisions based on the best available science, balanced with social, economic and political interests, to create durable solutions with enforcement and managerial practicality. We empower staff to act locally on behalf of the agency to ensure decision making is as close to the issues as possible. We must cultivate a diverse and inclusive culture that cares and includes values of integrity, professionalism, dedication, and adaptability, and

create an environment that is inclusive and supports diverse opinions and voices in decision making at all levels

Wildlife Governance Principles

Wildlife governance will:

- Be adaptable and responsive to citizens' current needs and interests, while also being forward-looking to conserve options of future generations.
- Seek and incorporate multiple and diverse perspectives.
- Apply social and ecological science, citizens' knowledge, and trust administrators' judgment.
- Produce multiple, sustainable benefits for all beneficiaries.
- Ensure that trust administrators are responsible for maintaining trust resources and allocating benefits from the trust.
- Be publicly accessible and transparent.
- Ensure that trust administrators are publicly accountable.
- Include means for citizens to become informed and engaged in decision making.
- Include opportunities for trust administrators to meet their obligations in partnerships with non-governmental entities.
- Facilitate collaboration and coordination across ecological, jurisdictional, and ownership boundaries.



Our Core Values

Resource Stewardship We are passionate about Florida's natural resources and use our expertise to manage and conserve fish and wildlife

Service Excellence We are solution-oriented and committed to achieving wildlife and fisheries conservation results, and efficiently meeting the needs of the public and stakeholders

Teamwork and Collaboration We communicate openly and work together effectively to achieve our common goals We appreciate the value of diverse backgrounds, expertise, and ideas, and incorporate multiple perspectives into decision making

Professional Integrity We operate honestly and ethically, and apply our processes, rules, and regulations in a consistent manner that engenders a climate of trust and fairness

Scientific and Technical Excellence We use our science-based expert knowledge, technology, and other available resources to achieve high-quality work

Accountability We set challenging goals for our achievement and hold ourselves accountable for the results



Business Practices

In addition to our core values, we also strive to follow a core business model that addresses how best to deliver our vision, strategy, and mission through key practices. These include:

♦ Thinking proactively and strategically to anticipate challenges and opportunities while taking actions that contribute to the achievement of long-term interests.

♦ Coordinating science, resource management, enforcement, and research.

♦ Providing a safe and healthy environment where the public can enjoy Florida's resources and waterways.

♦ Providing an excellent experience for our customers.

♦ Creating and maximizing the use of integrated work and issue teams.

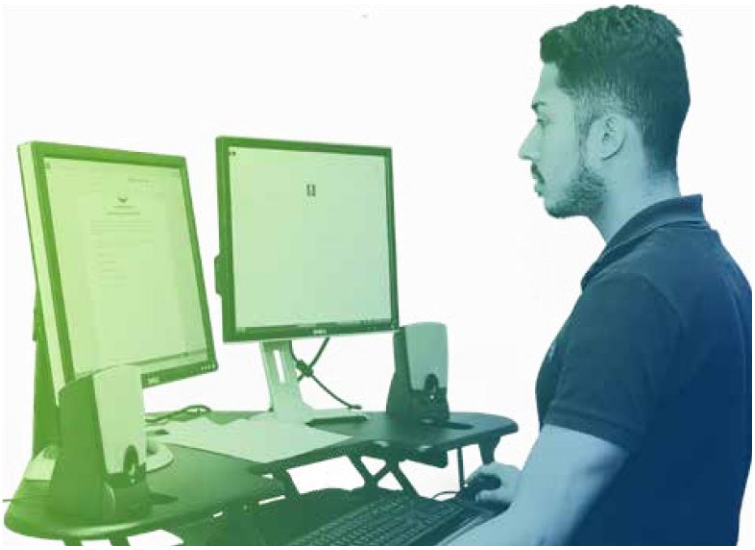
♦ Continually striving to improve processes and efficiency for the benefit of residents and visitors.

♦ Leveraging technology.

♦ Integrating leadership development.

♦ Optimizing fiscal management.

♦ Adapting to new and emerging needs for communication.



These core values and business practices are further defined in, and serve as, the foundation of our internal communications programs, hiring practices, and annual employee evaluation process, embedding these principles into the fabric of our organization and making them meaningful to employees in their daily activities.

Overview of Strategic Planning

2014-2019 Strategic Initiatives

Boating as a Gateway to Conservation and the Outdoors: Strengthen and promote the conservation connections of boating while protecting people and natural resources, and improving boating related opportunities.

Conflict Wildlife: Maintain the support and appreciation of fish and wildlife through sustainable coexistence by reducing human wildlife conflict.

Conservation through Innovation – Marine Fisheries Management: Enhance marine fisheries through the expansion of progressive and collaborative management techniques.

Conservation through Innovation – Private Lands: Partner with private landowners as a key to enhanced conservation.

Expanding Participation in Conservation: Expand partnerships and FWC programs to encourage diverse youth and families to be more involved in the future of conservation.

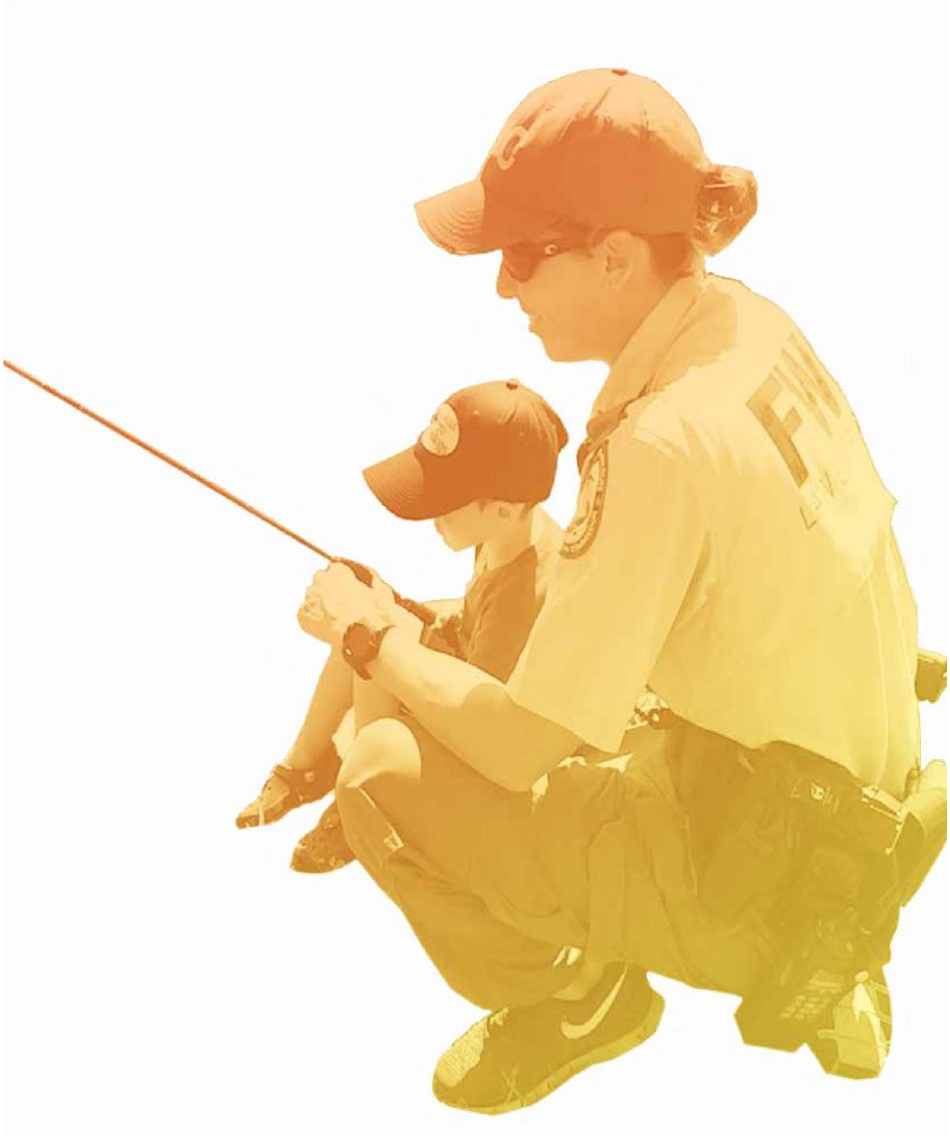
Imperiled Species Management Plan: Improve the status of imperiled species to effectively reduce the risk of extinction.

Running the Business: Establish an internal infrastructure that identifies the areas of business operations and practices that represent high risk, prioritize them, and modify them to address risks.

We have been developing strategic and operational plans since the FWC's inception in 1999. Our first planning effort focused on developing the structure and culture of a newly-formed agency. Subsequent plans similarly focused on norms and values, including development of a collaborative and team based culture. The strategic planning effort that resulted in the "FWC Agency Strategic Plan 2014-2019" was the first time we incorporated a large-scale, highly collaborative process to determine how to focus the strength of the agency on the most essential conservation challenges while ensuring safe and enjoyable public access to Florida's fish and wildlife resources . The 2014-2019 strategic plan identified agency Themes, Goals, and Strategies to define the conservation work required to achieve our mission. Hundreds of staff from across the agency at multiple levels worked in teams to create 109 measurable objectives across each of the five Themes, which were then prioritized by each Regional Leadership Team before being presented to our Commissioners. Executive leadership used that guidance, along with elements from other planning efforts, to develop seven Strategic Initiatives. These initiatives emphasized areas where we wanted to focus attention, discipline, and resources to make significant conservation gains over the subsequent five to 10 years. Strategic work is complex and takes considerable

planning and developmental investment to accomplish. Cross-divisional teams worked together to further define the SIs, develop implementation plans, and operationalize key portions of the initiatives. The work that was accomplished on these seven SIs created a foundation for furthering more effective strategic thinking, planning, and implementation of meaningful and long-lasting conservation efforts for Florida's fish and wildlife resources. The 2014-2019 SIs are now becoming part of the broader conservation work that we do and will continue to influence operational planning moving forward

The current strategic plan builds upon the knowledge gained and lessons learned from all our prior strategic planning efforts. The purpose of our agency strategic planning is to leverage our values and behaviors as an agency with our operational workforce to produce significant conservation outcomes that align with an ever-changing world to better position ourselves in the future



Strategic Landscape

We must be strategic in identifying our emerging issues and opportunities to put our agency in the best position to achieve our mission. We must adapt to take advantage of changing technology, seize opportunities to improve our fiscal and operational resources, increase efficiencies, and align priorities across the agency. In order to adapt to a changing environmental, economic, and socio-political landscape, we must first understand and define the environment in which we work. This plan is focused on aligning our agency resources to address our strategic opportunities. The issues, challenges, and risks we face will be addressed in division operational plans and priorities.

Issues We Face

- Maintaining the significance of natural resources as pillars of the community and economy.
- Habitat loss and degradation.
- Climate change impacts.
- Water quality and water quantity issues.
- Changes in public views of wildlife and conservation.
- Impacts from exotic and invasive species on natural systems.
- Natural disasters and disease outbreaks.

Challenges we must address:

- Static revenue streams.
- Increasing program costs and infrastructure improvement needs.
- Loss of institutional knowledge with an unprecedented rate of upcoming retirements.
- Recruiting and retaining qualified employees.
- Leveraging legislative support for agency operations.
- Maintaining an adequate level of research, monitoring programs, and population assessments for fish and wildlife resource management.
- Balancing state and federal regulatory authorities and reducing unneeded regulatory burdens while ensuring sustainable species populations and protecting habitat.
- Securing habitat for fish and wildlife in the face of increasing development pressure.

- Managing aquatic systems and resources without control over water quality, quantity, timing, and distribution
- Gaining public support for conservation and management
- Shifts in demographics, changing attitudes toward conservation, and declining percentages of hunters and anglers, which all impact our relevancy to the public

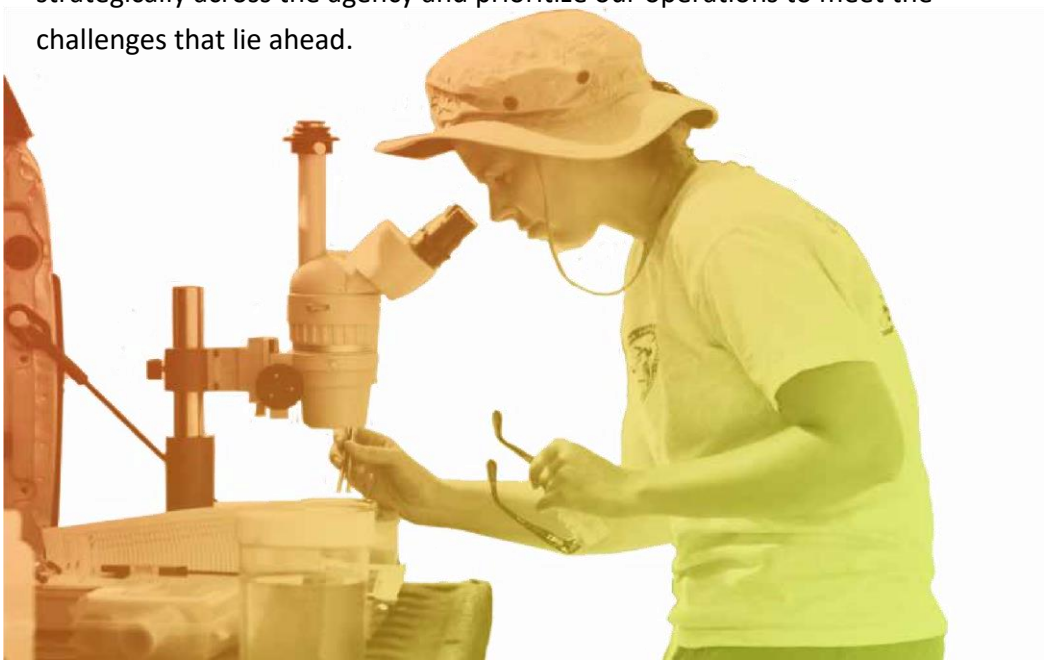
Meeting the Challenges

We have a broad scope of core work that keeps us focused on our mission This core work is the foundation of our agency and provides the basis for building a culture of strategic planning and doing To address the identified challenges through strategic and operational planning, we must invest in the people, programs, and technology that best advance our highest priorities, which requires that we sunset low-priority activities, programs, or services We must foster an agency culture and capacity to accept, understand, engage, and serve people with different interests and uses of fish, wildlife, and habitats We must demonstrate fairness, honesty, and compassion; practice dedication and adaptability; and include diverse opinions throughout our decision-making processes



As demographics change across the state, it becomes increasingly important to develop practices and processes that are responsive to the changing nature-based values of the public. We must focus on providing a safe environment for people to enjoy Florida's natural resources and the outdoors; adapt to the impacts of social media on communication; increase focus, capacity, and use of social sciences into agency conservation and management decisions and public engagement strategies; and foster cultural acceptance of hunting and fishing .

As we maintain a high level of core work and increase strategic planning and doing as part of our foundation, we will have a greater workload than the available resources can address. This will require a priority-based approach, meaning some work will not be completed. We will need to increase efficient use of our existing resources through realignments and decrease work on lower priority activities. We will need to work with our legislative team to secure the resources necessary for agency operations and priority issues, and leverage stakeholder relationships and partnerships to increase capacity for conservation work. We will integrate research, management, and law enforcement to focus on emerging threats, landscape conservation, and a holistic approach to watershed management. This will be accomplished through partnerships, leveraging funding sources, implementing existing plans, and fostering locally-led conservation. Achieving our conservation goals will require us to think strategically across the agency and prioritize our operations to meet the challenges that lie ahead.



Our Organization

The core work of the FWC is broad and forms the basis from which strategic effort springs. Maintaining our core competencies and work is critical to our success and this section contains an overview of the core work areas within the FWC. This is by no means an all-encompassing description of the multifaceted work conducted throughout the agency. Additional information on each of the divisions, offices, and the institute can be found within the "Programs of the FWC" annual report as well as within each division's operational plans. This agency strategic plan focuses on a small portion of our overall work with the intent of identifying areas of strategic focus, using our existing work as the foundation.

Moreover, it is important to note that our agency's structure is intentionally organized into inter-dependent parts that must work together to achieve our mission. Divisions serve as the main operational elements, while offices provide critical support functions across the entire agency. Regions then serve to ensure geographic continuity of policy and programs across the state. This structure necessitates strong collaboration and teaming amongst all parts of the FWC. We then carry this heavy focus on working together outside of the agency and actively engage partners, stakeholders, and the public in our decision making and implementation.

FWC

Florida Fish and Wildlife Conservation Commission

Mission: Managing fish and wildlife resources for their long-term well-being and the benefit of people.



The FWC consists of more than 3,000 employees, including 848 sworn law enforcement officers. All personnel work together to protect and manage more than 575 species of wildlife, 200 species of freshwater fish, and 500 species of saltwater fish. The FWC works to balance the needs of these fish and wildlife species and the habitats that support them with the needs of Florida's growing population of more than 21 million residents and record numbers of visitors coming to the state – well over 100 million annually.

The Commissioners

The FWC's seven Commissioners are appointed by the Governor and confirmed by the Florida Senate to five-year terms. Their constitutional duty is to exercise the " . . .regulatory and executive powers of the state with respect to wild animal life and fresh water aquatic life and shall also exercise regulatory and executive powers of the state with respect to marine life, except that all license fees and penalties for violating regulations shall be as provided by law ."

Office of the Executive Director

OED

The Office of the Executive Director provides coordination, oversight, and support for FWC operations. It provides policy guidance, fosters accountability, and promotes continual improvement among the agency's divisions and offices. To address important conservation issues, OED coordinates and supports strong engagement of Commissioners and facilitates effective interaction with agency customers; stakeholders; federal, state, and local elected officials; federal and state agencies; and FWC staff. Further responsibilities include maintaining facilities and infrastructure and leading efforts to strategically focus agency staff and resources on conservation priorities. OED staff work closely with the agency's Senior Leadership Team to ensure effective integration of agency activities and programs across all divisions and offices.



There are multiple functions within OED, with some primary functions including media relations and informing residents and visitors about fish and wildlife resources; quickly and efficiently issuing licenses and permits for recreational fishing and hunting and for commercial saltwater and freshwater fishing; providing oversight for the agency's administrative functions such as disbursements, financial management, procurement, leasing, and property; managing an automated information technology environment that is reliable, secure, cost-effective, and responsive; and working closely with division, regional, and office directors to identify and coordinate programs with boundary-spanning implications that will benefit the FWC.

Fish and Wildlife Research Institute

FWRI

The Fish and Wildlife Research Institute provides timely information and guidance to protect, conserve, and manage Florida's fish and wildlife resources through effective research and technical knowledge.

The work done by the Fish and Wildlife Research Institute reaches far beyond the confines of the FWC. Research conducted on habitats, freshwater and marine fisheries, harvested and imperiled species, and other important plant and wildlife communities in Florida is used by federal, state, and local governments; universities; recreational and commercial fishing interests; recreational hunting and boating interests; nongovernmental organizations; and the public . FWRI integrates its research activities with management efforts of other FWC divisions.



Primary work areas within FWRI include conducting monitoring, assessments, mapping, and research to support development of management practices to protect and improve the quality of habitat and diversity of wildlife on state managed lands; maintaining an extensive collection of fish and invertebrate specimens and providing data management services and scientific library services; integrating research on predicted or emerging threats to fish and wildlife conservation, such as climate change; and acquiring and distributing biological and ecological information critical for the science based management, conservation, restoration, and wise use of Florida's fish and wildlife resources .

Freshwater Fisheries Management

FFM

The Division of Freshwater Fisheries Management manages, enhances, and conserves Florida's freshwater aquatic life for public benefit.

The Division of Freshwater Fisheries Management is responsible for directing the management and identifying the research needs of freshwater fisheries within

public lakes, rivers, streams, and canals, with efforts focused on improving the fish populations and their habitats to benefit anglers and other stakeholders . This is accomplished through strategies revolving around improving aquatic habitat; increasing access; improving freshwater sport and commercial fisheries; stocking sportfish; regulations; developing management plans; increasing aquatic stewardship; and building partnerships with state, county, and city governments, industry leaders, and freshwater stakeholders . FFM has developed a private-public partnership through the TrophyCatch conservation and marketing program, which uses citizen science to provide valuable information that contributes to the management of Florida's trophy bass fisheries. Special projects, such as the high school fishing program and kids' fishing clinics, encourage responsible fishing practices and help bolster future generations' understanding of and personal investment in the conservation of fish and wildlife resources.



Primary work areas include evaluating freshwater resources through surveys and inventories of fish populations and angler use; maintaining Fish Management Areas that provide access and promote fishing; developing aquatic habitat enhancement/restoration projects; producing fingerling and subadult fish for stocking in public waters to enhance fisheries, provide new opportunities, supplement urban pond populations, and for youth events; and work with communities surrounding major freshwater resources so they appreciate the intrinsic value and economic importance of the resource and the fishery .

HSC

Habitat and Species Conservation

The Division of Habitat and Species Conservation ensures healthy populations of all native wildlife and their habitats on a statewide basis.

The Division of Habitat and Species Conservation integrates scientific data with applied habitat and species management to maintain stable or increasing populations of fish and wildlife. Conservation integration efforts focus on the ecosystem or landscape scale to provide the greatest benefits to the widest

possible array of fish and wildlife species. Accomplishing this mission requires extensive collaboration and partnering with local, state, and federal agencies to maintain diverse and healthy fish and wildlife populations for the benefit of all Floridians and visitors, which provides direct ecological, economic, aesthetic, scientific, and recreational benefits.



Primary work areas include managing, maintaining, enhancing, and restoring native natural habitats on 1.4 million acres, assisting cooperators with wildlife management on another 4.5 million acres, and working with partners to connect and expand public conservation lands; providing technical assistance to private landowners to implement wildlife conservation strategies; restoring, enhancing, and managing publicly-owned aquatic resources to improve the ecological health of freshwater, estuarine, and marine habitats; directing, coordinating, and funding control of invasive upland plants on public conservation lands and invasive aquatic plants in public waterways; developing and implementing high-priority conservation activities to improve conditions for native and imperiled wildlife; addressing human wildlife interactions and managing the impact of native and nonnative fish and wildlife species; reviewing growth management and regulated land and water use project proposals that have potential to impact Florida's fish, wildlife, and habitat resources; and promoting, facilitating, and expanding nature-based tourism, recreational opportunities, and public participation in conservation .

HGM

Hunting and Game Management

The Division of Hunting and Game Management manages and conserves game wildlife for the future, while fostering safe and responsible hunting.

The Division of Hunting and Game Management uses scientifically proven game-management strategies and professional expertise to conserve game wildlife and perpetuate sustainable hunting opportunities on public and private lands statewide. The Division also manages public shooting sports facilities throughout the state and offers hunter safety programs to foster safe, responsible hunting.



Primary work areas include managing Florida's wild game populations using science, leadership, and key partnerships; providing opportunities for responsible and sustainable hunting on public and private lands; working with stakeholders and partners to coordinate support for hunting-related activities; providing hunter safety courses and special events to ensure Florida hunters are well prepared to be safe, responsible, and conservation minded; and constructing and managing public shooting ranges located throughout the state.

LE

Law Enforcement

The Division of Law Enforcement protects Florida's natural resources and people through proactive and responsive law enforcement services.

The FWC Division of Law Enforcement, comprised of 1,043 members including 848 sworn law enforcement officers, operates in six regions throughout the state. FWC officers are responsible for uniformed patrol and investigative law enforcement services on more than 8,400 miles of coastline, more than 13,000 square miles of offshore waters, and more than 34 million acres of land encompassing a variety of habitats including private lands, wildlife management areas, state parks, and forests.



Primary duties include protecting Florida's fish and wildlife and their habitats, and providing law enforcement services that protect public safety throughout the state of Florida. The division also provides support for state Emergency Operations Center activities and readiness for natural disasters and mutual aid requests. Personnel also engage in targeting illegal black markets and trafficking in fish and wildlife, conduct federal fisheries enforcement patrols, help to regulate the Florida seafood industry, and enforce rules related to captive wildlife.

Some internal programs undertaken by the division include professional recruitment efforts of new officers; providing world-class training and recruit instruction; conducting progressive advanced training; implementing the division career development programs; and providing intelligence information to officers in the field. The DLE enhances boating safety and waterway experiences through maintenance and repair of approximately 244 boat ramps, construction of new boat ramps, and placement and maintenance of waterway markers.

MFM

Marine Fisheries Management

The Division of Marine Fisheries Management manages Florida's marine fisheries for their long-term sustainability, their economic benefits, and for the enjoyment of the public.

The Division of Marine Fisheries Management works with stakeholders, federal agencies, other states, and regional councils to manage and provide outreach on more than 500 marine fish and invertebrates. The division also provides expertise, monitoring, and grant funding for the deployment of artificial reefs; recovers lost or abandoned lobster and crab traps; conducts wholesale-dealer audits; provides agency comments on proposed development projects that may affect marine resources; and issues special activity licenses for harvest of species for research and educational purposes . This division additionally provides outreach and education to introduce people to the sport of fishing, instill ethical angling values, and ensure comprehension of marine fisheries regulations.



Primary work areas include compiling fishery data, coordinating with other government agencies and research institutions, and soliciting information from the public regarding fishery management strategies for state saltwater fisheries regulations; serving as liaison between the FWC Commissioners, interstate fisheries commissions, and federal fishery management councils that manage marine fish species such as snapper and grouper in federal and interstate waters; promoting responsible recreational and commercial fishing activities; and administering the statewide artificial reef programs.

Approach to the Future

Strategic Framework

Maintaining the FWC's core work is foundational to achieving our mission and continuing our success of achieving conservation. Enforcement and education, public engagement, species and habitat management, comprehensive research, freshwater and marine fisheries enhancement, sustaining game wildlife as a public resource, and operating within responsible business practices are all components of the exceptional work we do every day. These central functions comprise the majority of our time and effort, and continuing to excel in this work is key to successfully conserving Florida's fish and wildlife and their habitats into the future.

Currently, considerable effort is spent responding to urgent challenges. Much of this work is reactive in nature, rapidly consumes resources, and ultimately pulls focus from identified priorities. A refined approach to the future – one that results in a more agile and focused organization – is necessary to minimize time spent reacting and increase time spent making progress toward our strategic priorities. By increasing the portion of work we do that is strategic, focused, and proactive, we can better adapt to our changing environment, integrate strategic solutions into our operations to address specific issues, and position ourselves to successfully conserve fish and wildlife into the future (Figure 1) .

The strategic approach presented here is a framework for infusing strategy into our operations and ultimately positioning the FWC to proactively address known challenges, capitalize on opportunities, and continue to successfully fulfill our mission. Investing time in strategic priorities is necessary to sustain the model for fish and wildlife conservation that the FWC has built. The conservation gains realized through focused planning and dedicated action are both worthwhile and essential. When strategic initiatives become fully integrated into the core components of the work we do, we achieve long-term, sustainable success.



Figure 1 Currently, a significant portion of our effort is spent reacting to urgent issues . With a shift to a more proactive, forward-focused approach, through time we can reduce the overall amount of reactive efforts by using approaches that address future challenges .



Establishing Dynamic Strategic Initiatives

Identifying strategic priorities at the agency, division, and section/ program level is an important component of a future-focused approach. Strategic initiatives are intended to leverage areas of strategic importance and strengthen conservation efforts. SIs are distinguished as proactive, timely, and important topics requiring increased focus and a shift in resources. SIs are not a response to urgent, reactive challenges, nor are they a shift in course due to opportunities to address topics of lower priority. They are those critically important conservation efforts that focus on future opportunity or alignment, require dedicated attention, challenge us to work across organizational lines, and for which a shift in resources or change in operational structure may be required.

Initiatives will be selected through an ongoing process that includes environmental scanning and staff input. Strategic planning will include feedback and ongoing discussion with each division to clarify emerging issues and priorities. A cross-divisional strategic planning team will compile input, identify common themes across the agency, and evaluate potential initiatives. This team will produce recommendations on strategic areas of focus for agency and division-level initiatives to be discussed with each division leadership team and by the FWC's Executive Leadership Team. Collectively, the ELT will determine which issues become agency-level initiatives. Then, with support from the agency's strategic planning team, initiative sponsors will coordinate cross-divisional work to further describe the initiative and develop clear objectives and timelines.

Strategic initiatives:

- Realize significant benefits for conservation that otherwise would not occur.
- Are forward-focused instead of reactive.
- Need directed increase in agency focus.
- Span section or division boundaries.
- Require resource reallocation.
- May necessitate realignment or organizational transformation.

To ensure available resources are fully focused on priorities, no more than three agency SIs will be active at any given time. Limiting the number of topics we are addressing through a strategic shift in resources is intended to yield more progress in each initiative more quickly than when resources are divided among numerous initiatives. Initiatives will develop clearly defined objectives from the onset and will be evaluated annually. Many topics identified through consideration of influences, challenges, and opportunities may be urgent in nature and require cross-divisional coordination at an operational level. While only a subset of these topics will be active as an SI at any given time, we will continue to design our core work to sustainably address urgent needs by working across organizational boundaries. As this intentionally necessitates an adaptive approach, we will reassess this process after another five-year period to improve our development of strategic initiatives moving forward.

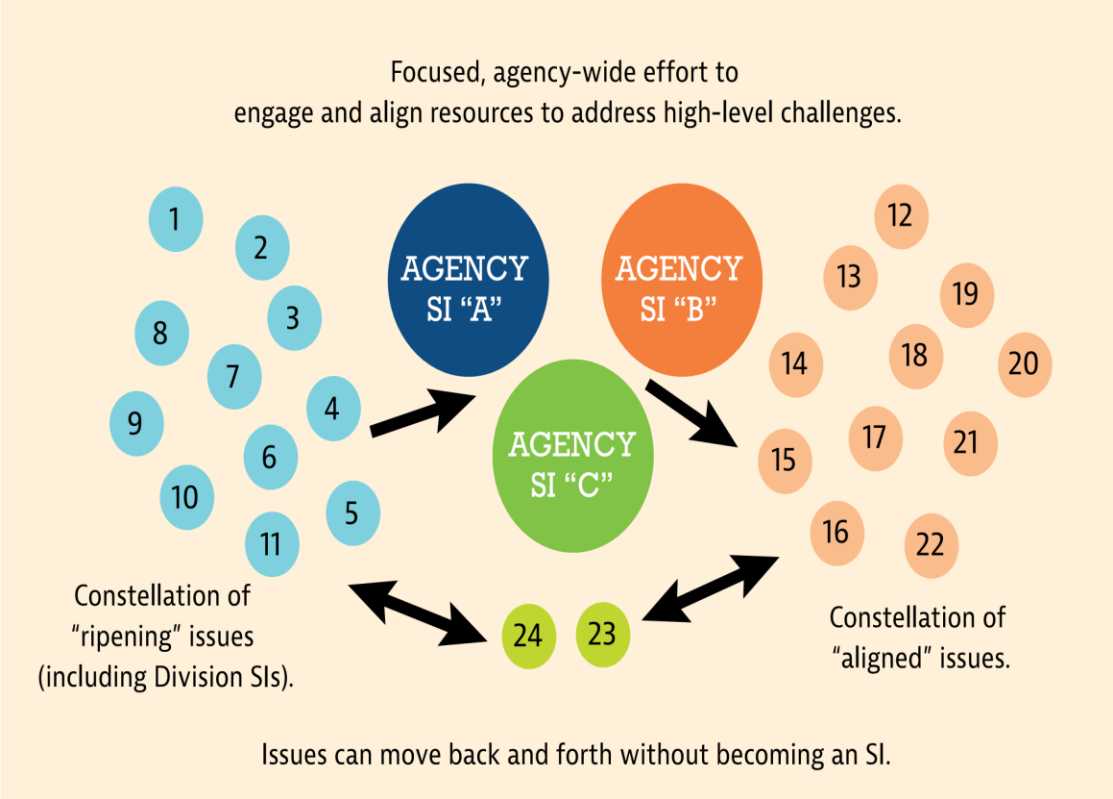


Figure 2. Dynamic Strategic Initiatives for 2020-2024

There will be no more than three agency strategic initiatives at any one time with no more than three strategic initiatives per division. Initiatives can change when special emphasis is no longer needed and they will be tracked as part of the strategic plan framework.

Integrative Work Planning

To help weave strategic thinking into the fabric of the FWC, we will identify initiatives at multiple levels of the agency (e .g ., division, section, and program initiatives) to both support agency initiatives and integrate the strategic framework into the structure of our core work . While key issues will be addressed through agency initiatives, division initiatives are also critical to addressing important topics. Sections and programs may also identify initiatives by shifting focus to a refined set of topics. Divisions, sections, and programs are encouraged to apply a framework similar to the one presented here to identify priorities requiring a strategic approach and develop timely initiatives to address them. Like agency-level initiatives, these will have a refined focus, so no more than three initiatives will be active for a division at any given time. Divisions with a significant role in an agency initiative will assume the agency initiative as one of up to three initiatives on which to focus as a division. This framework is founded on each division, section, and program initiating proactive strategies in addition to maintaining operational priorities. To achieve this, divisions may need to identify operational activities that no longer warrant agency focus and evaluate where capacity can be created to refocus on proactive topics. With strategic efforts active at the agency, division, and potentially section and program levels, we will strive to align vertically to leverage resources and coordinate efforts (Figure 3).

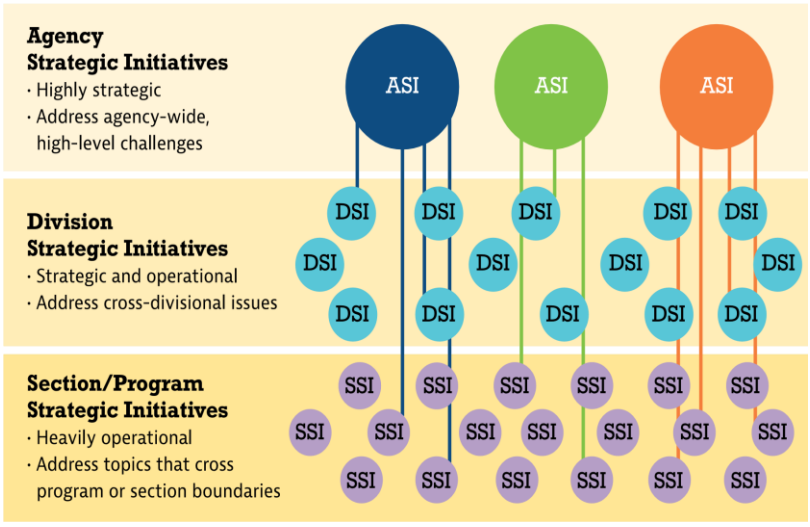


Figure 3. Strategic initiatives at the agency, division, and section or program levels. Vertical alignment of effort and coordination supports progress toward initiatives at multiple levels within the agency.

Future-focused Conservation

FWC's 2020-2024 strategic plan is built upon the idea that we must be intentional in our work to conserve Florida's fish and wildlife resources so they are available for current and future generations. Our success in this arena directly depends on our individual and collective action, and accountability for achieving our mission. Guided by this strategic approach, shaped by our values and fueled by our passion, we will work together to build the Florida we envision: a Florida where fish and wildlife are abundant and thriving in healthy and connected natural landscapes with vital working lands and waterways; where natural resources are valued and safely enjoyed by all; and wherein natural systems support vibrant human communities and a strong economy.



Strategic Initiatives: 2020

Agency Initiatives

From October 2019 through March 2020, the agency strategic planning team worked with division leadership teams to determine the next round of SIs (this process is outlined in Appendix 1). The ELT collectively affirmed the initial three agency SIs and discussed initiative alignment under the new strategic approach. Moving forward, initiative sponsors will coordinate cross-divisional work to establish clear milestones and time frames for achieving objectives under the following areas of strategic focus:

Invest Inward

A strong foundation to maintain our core functions is critical to sustaining the important work we do and achieving our mission. **Investing Inward** means focusing on key challenges within our agency that, when addressed, position us to better accomplish sustainable conservation into the future. These challenges include: 1) staff retention, recruitment, capacity, and distribution; 2) infrastructure improvements, facilities, technology, and equipment; and 3) cultivating a culture that cares through investing in morale, professional development, diversity, and inclusion.

Landscape Conservation

The **Landscape Conservation** initiative will define a unified conservation vision to be implemented at the local level and fit within a broadly agreed-upon conservation target. This conservation vision should be one that can be shared with and implemented by internal and external, public and private partners to achieve broad-scaled, long-lasting conservation outcomes. Conservation delivery at the local level will require that we develop a network of local, state, federal, and private partners to provide technical and financial resources (data, information, assistance, funding opportunities) and a stable communication network.

Relevancy, Engagement, and Support

Recognizing the need to adapt to Florida's changing demographics and values by improving agency engagement and service to broader constituencies, **Relevancy, Engagement, and Support** focuses on the need to enhance conservation through broader engagement, identify available capacity for and challenges to reaching and servicing more constituents, and establish logical steps to helping the public understand the impact that fish and wildlife conservation has on their quality of life and mental and physical well-being. This includes increasing both social and financial support for conservation.

Division Initiatives

The input provided by division leadership to determine agency strategic initiatives was also used to determine division initiatives. As outlined in the strategic framework section, divisions with a significant role in an agency strategic initiative will assume the agency initiative as one of their three division initiatives. The initiatives in Figure 4 were identified as the most timely to address at the agency and division levels. Division initiatives were also affirmed by the ELT. Each initiative will be further described by divisions as part of their workplans.

Many division initiatives align with the broader agency initiatives but will address discrete challenges relevant to the core work of those divisions. This alignment increases the focus and shift of resources towards these topics through both strategic and operational approaches and unifies work across the agency. Some divisions also have initiatives that do not directly align with agency initiatives but do represent important, timely topics that divisions, programs, and sections will strategically address. The constellation of initiatives at the agency and division levels illustrates the alignment of strategic work proposed in Figure 3.

Strategic Alignment

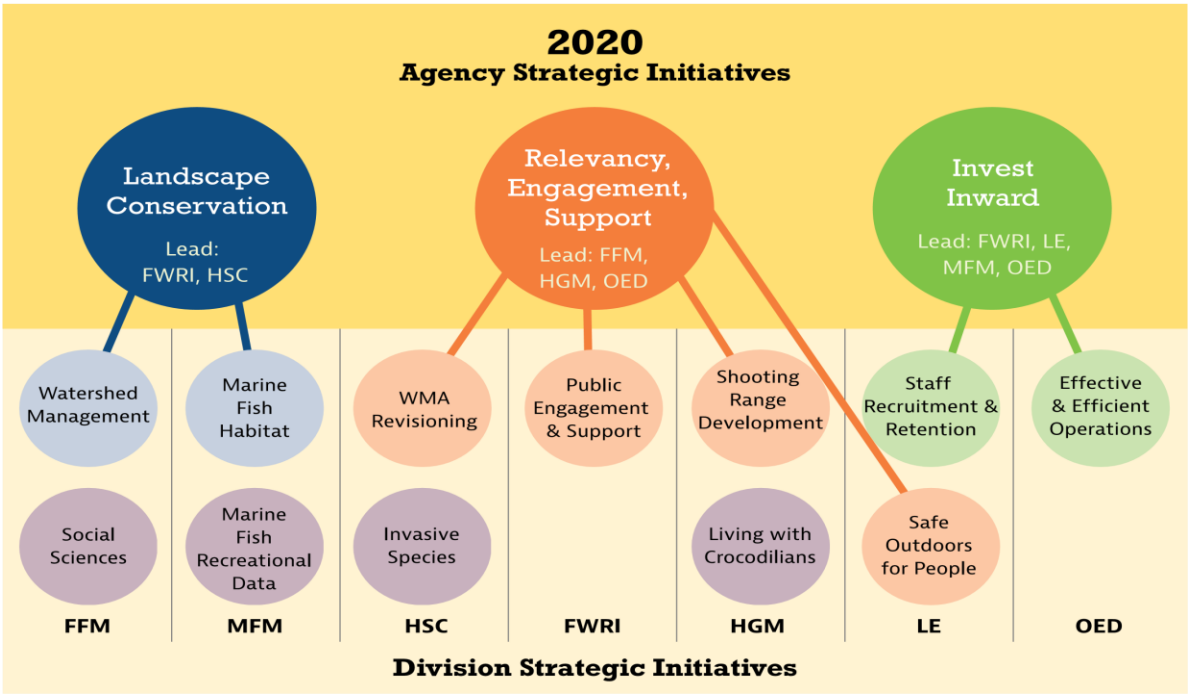


Figure 4. Vertical alignment between the agency and division initiatives shows multiple tiers of support for the broad initiative topics.

APPENDIX 1
2020 Strategic Initiative Selection Process

Division leadership teams provided input on timely initiatives to the agency strategic planning team throughout the selection process. A number of challenges and opportunities were identified through a questionnaire and follow-up discussions. Common themes emerged among the initiatives proposed by each division, and alignment was strong in several themes. These themes may affect each division in unique ways, but they represent agency-wide challenges that require a directed focus to fully address.

Table 1 on the following page is a process illustration of preliminary initiatives from the first round of data analysis. Development of agency and division initiatives went through several iterations of division-level review through the ELT as concepts evolved and solidified, eventually becoming the 2020 Strategic Initiatives outlined in Figure 4.



Table 1. Common themes were identified from the initiatives, influences, and challenges put forward by each division. This crosswalk represents proposed initiatives and alignment among agency-wide challenges. This information guided the initiative selection process for 2020.

Proposed Initiatives

	Agency Initiatives	Division Initiatives
FFM	Wildlife conflict	Lake management plans
	Watershed management	Chipola and shoal bass
	Social sciences	Largemouth bass
FWRI	Relevancy	Staff recruitment and retention
	Landscape conservation	Integrative research on events
	Diversify and modernize revenue	Integrative research on events
		Integrate research and management
	K-12 and new resident education	
HGM	Landscape conservation	Implement R3 plan
	Expand participation in conservation	Shooting range construction
		Living with crocodilians campaign
	Wildlife conflict	
HSC	Infrastructure improvement	WMA re-visioning (relevancy)
	Landscape conservation	HSC's role in landscape conservation
	Relevancy	
	Invasive species	
LE	Invest inward	Reinforce culture that cares
	Public service	Recruit and retain quality staff
	Science and conservation	Safe environment for people
MFM	Invasives	Maximize productivity, capacity
	Wildlife trafficking	Marine fish habitat
	Corals	Marine fish recreation data collection
	Invest inward	
OED	Internal focus/invest inward	OED organizational management
	Human dimensions and social science	
	Connectivity with other D/Os	
	Effective, efficient operatio	

Common Themes

Invest Inward

- Staff: recruitment, retention, pay, capacity, distribution
- Infrastructure: facilities, technology
- Funding: stable sources
- Culture that cares: training, morale, professional development, diversity

Landscape Conservation

- Watershed management
- Integrate science with management
- WMA re-visioning
- Landscape conservation prioritization
- Marine and freshwater habitat

Relevancy, Engagement, and Support

- For fish and wildlife conservation
- For FWC as an agency
- Safe environment for people
- EPIC, R3, K-12 education
- Public service (good work)

Social Science and Human Dimensions

- Apply to management decisions
- Increase capacity to gather social science
- Increase value in FWC
- Use to influence behaviors
- Maintain focus on relevancy

Wildlife Conflict and Invasives

- Native species conflict
- Nonnative wildlife
- Invasive plants
- Aquaculture
- Trafficking and trade
- Living with crocodilians

Operational: Proactive Research and Development/Other

- Climate change
- Marine fish recreational data
- Largemouth bass
- Corals ♦Shooting Range Construction

12.10 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: _____

_____

_____
and
Witness

_____

_____
Witness

FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

Mike Brooks, Section Leader
Terrestrial Habitat Conservation

Restoration

Date:

Approved as to form and legality

_____

Commission Attorney

Date:

_____

AGREEMENT
ATTACHMENT 1

Use of Electric Fencing to Exclude Bears And Prevent Property Damage

Florida Fish and Wildlife Conservation Commission
Technical Information Bulletin (2001)

Electric fencing has proven effective in deterring bears from entering landfills, apiaries (beehives), livestock pens, gardens, orchards, and other high-value properties. Numerous electrical fence designs have been used with varying degrees of success. Design, quality of construction, and proper maintenance determine the effectiveness of an electric fence. The purpose of this technical bulletin is to assist the property owner in understanding and implementing electrical fencing as a tool to exclude and prevent damage caused by black bears.

Understanding Electric Fencing

Electric fencing provides an electrical shock when an animal comes into contact with the electrically charged wires of the fence. People unfamiliar with electric fencing often are afraid that it will injure, permanently damage, or kill an individual or pet that contacts the fence. **This is not true!** A properly constructed electric fence is safe to people, pets, and bears.

Components of Electric Fencing

An electric fence is composed of four main elements: a charger, fence posts, wire, and the ground rod.

Fence Charger. On a small scale electric fence (like that typically needed for bear exclusion), the largest cost is normally the fence charger. A fence charger's job is to send an electrical pulse into the wire of the fence. Contrary to popular belief, there is not a continuous charge of electricity running through the fence. Instead the charger emits a short pulse or burst of electricity through the fence. The intensity and duration of the electrical pulse varies with the type of charger or controller unit. Chargers with a high-voltage, short duration burst capacity are the best because they are harder to ground out by tall grass and weeds. These types are also the safest, because, even though the voltage is high (5 kilovolts) the duration of the burst is very short (2/10,000 of a second) (FitzGerald, 1984).

Two basic energy sources for chargers are batteries (12-volt automotive type) and household current (110 volt). Battery-type chargers are typically cheaper to purchase but require more maintenance because of the necessity of charging the battery. The advantage of a battery powered charger is that it can be used in a remote location where 110-volt current is not available. Most units that are powered by a fully charged 12-volt deep-cycle batteries can last three weeks before needing a charge. Addition of a solar trickle charger will help prolong the duration of effective charge in 12-volt batteries.

Fence Posts. On small scale fences, the posts are normally the second largest expense involved in construction. Therefore, when planning an electric fence it is a good idea to utilize existing fencing in order to save money. If no existing fence is available, posts will need to be placed around the area needing protection. Posts may be wood, metal, plastic, or fiberglass. Wood and metal posts will need to have plastic insulators attached to them which prevent the electric wire from touching the post causing it to ground out. Plastic and fiberglass posts do not need insulators, the wire may be affixed directly to these posts. Wood and metal posts are typically more expensive and require the added expense of insulators, however, they are more durable and generally require less maintenance.

Wire. Fourteen to seventeen gauge wire is the most common size range used in electric fencing. Heavier wire (a lower gauge number) is more expensive but carries current with less resistance and is more durable (FitzGerald, 1984).

The two most common types of wire are galvanized and aluminum. Galvanized wire is simply a steel wire with a zinc coating to prevent rust, which makes the wire last longer. Some wire is more galvanized than others. The degree or amount of zinc coating that is around the core steel wire is measured in three classes. A class I galvanization means the wire has a thinner coating of zinc than a class II galvanization. Class III galvanized wire has the heaviest zinc coating and will last longer than the class I and class II wire (FitzGerald, 1984). In general, the cost of galvanized wire increases as the class or amount of galvanization increases.

Aluminum wire is typically more expensive than the galvanized wire. Some advantages of aluminum wire are: it will not rust, it conducts electricity four times better, and it weighs one-third less than steel wire.

The Ground Rod. The ground is an often overlooked, but critical part of an electric fence. Without a good ground, electricity will not flow through the wire. When an animal touches a charged wire, the body of the animal completes the electrical circuit and the animal feels the “shock”. The current must travel from the charger through the

wire to the animal and then back through the ground to the charger if the animal is to feel the shock. The soil acts as the return “wire” (ground) in the circuit. However, if a bird was to land on a charged wire without touching the soil the bird would not complete the circuit and would be unaffected (FitzGerald, 1984). Some fence configurations use actual grounded wires within the fence to enhance the grounding system.
The ground may be a commercial ground rod or a copper tube or pipe driven six to eight feet in moist soil. Copper is expensive, so a copper coated steel pipe or any other good conducting metal pipe will work also. Very dry soil can effect the ability to create a good ground and has sometimes been a problem during drought conditions. Pipe may be a better choice than a solid rod during drought conditions, because water may be poured down the ground pipe to improve the ground. Some fence configurations use wires as the grounding system, rather than relying solely on the soil as a ground.

Recommended Electric Fence to Deter Black Bears

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

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

Installation. These instructions are for a square shape fence exclusion, but the process would be very similar for other applications. Drive 4 corner posts 1-foot deep into ground and stake with guy wires. Clip, rake, and keep clear any vegetation in a 15-inch wide strip under the fence and apply herbicide. Attach and stretch the aluminum wire at 8-inch increments starting 8 inches from ground level. A loop of wire

should be left on each wire at the first corner post. Once the wire has been stretched around the outside of all the corner posts back to the first post a plastic gate handle should be attached to each wire and the gate handles should be attached to each corresponding loop on the first corner post. Drive in the remaining 16 posts to the same depth at 8-foot intervals between corner posts. Secure each of the five wires to each of the posts with additional wire. Attach four plastic electric fence signs (one on each side) to the top wire of the fence. Attach a 12-gauge strand of insulated wire to the positive terminal of the fence charger and attach it to the first, third, and fifth wires of the fence. Attach another 12 gauge insulated wire to the negative terminal of the charger and attach this wire to the ground pipe which has been driven into the ground 6 to 8-feet deep. Attach another 12 gauge insulated wire from the negative terminal of the charger to the second and fourth wires on the fence. Plug the charger into a 110 volt power supply and the fence is in operation.

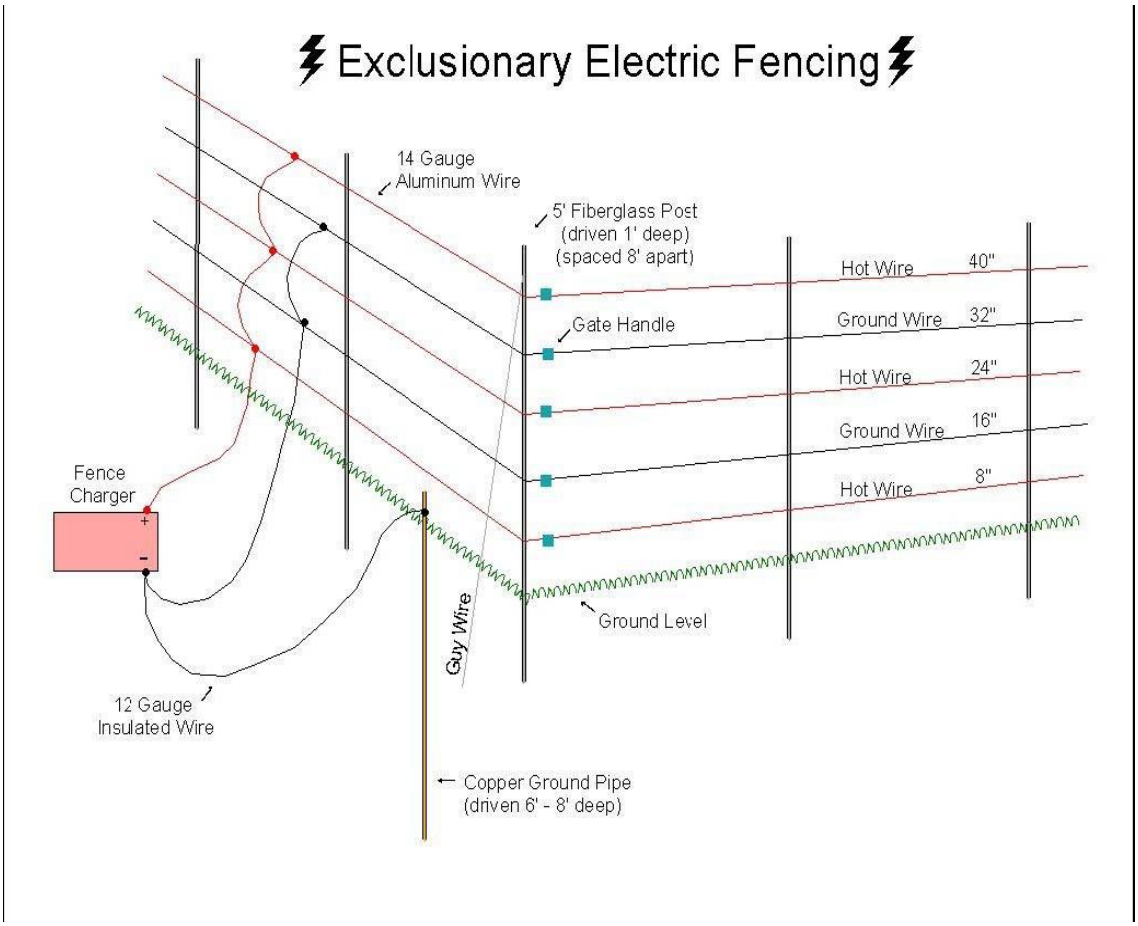
Tips to improve the effectiveness of your electric fence to deter black bears:

1. If using a 12-volt fence charger, ensure that the battery is charged; check every two weeks.
2. Make sure terminals on the charger and battery are free of corrosion.
3. Make sure hot wires are not being grounded out by tall weeds, fallen tree branches, broken insulators, etc.
4. If fence wires have been broken and repaired, make sure wires are corrosion free where they have been spliced together. Also, tighten the fence at each corner post as wires that have been spliced and are loose make poor connections.
5. Be sure to rake vegetation from under and around the outside of the fence as this may act as an insulator.
6. To improve the ground around the perimeter of the fence add a piece of 24 inch chicken wire laying on the ground around the outside of the fence. This should be connected to ground.
7. During periods of drought pour water down the ground pipe and around the ground pipe to improve the ground. Digging a 6 inch deep 6 inch diameter hole around the ground pipe and back filling with rock salt will also improve the ground. Additional ground pipes may also be added to portions of the fence farthest from the charger.
8. To ensure that the bear solidly contacts the charged portion of the fence, a bait like bacon strips, a can of sardines, or tin foil with peanut butter may be attached to one of the top hot wires. Make sure these do not contact the ground, thus shorting out the fence.
9. When protecting a specific structure (like a shed or rabbit hutch), the fence should be placed 3 to 5 feet away from the structure (rather than on it) so that the bear encounters the fence before reaching the attractant.
10. Protect the fence charger from the elements by covering it with a plastic bucket

or a wooden box.
11. Place plastic electric fence signs around the perimeter of your fence to improve visibility and to warn other people.

LITERATURE CITED

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



AGREEMENT
ATTACHMENT 2

Place Holder for Map

Of

Apiary Locations

At

WMA/WEA

APIARY SITE APPLICATION FORM

Florida Fish and Wildlife
Conservation Commission

RETURN TO: The Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, FL 32399-1600. Please print or type all information. Attach additional sheets if necessary.

Name _____ Telephone Number _____

Mailing Address _____

City or Town_____ County _____ Zip Code _____

Physical Address (If Different from Mailing Address)

_____

Company Name:

_____

Email Address

_____

Requested Wildlife Management or Wildlife and Environmental Area(s)(see attached list of WMA/WEAs with apiary sites):

WMA/WEA _____ County_____ # of Sites_____

WMA/WEA _____ County_____ # of Sites_____

WMA /WEA_____ County_____ # of Sites_____

WMA /WEA_____ County_____ # of Sites_____

Planned Number of Hives Per Site: _____ Permanent: ____ Seasonal: _____

Member of Beekeepers Association: Yes____ No____

Number of Years a Member_____

Name of Beekeepers Association:_____

Are you registered with Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI):_____Yes _____No _____N/A If yes, please provide proof.

Are you current with any and all special inspection fees:_____Yes _____No _____N/A. If yes, please provide proof.

Do you follow all recommended Best Management Practices from FDACS/DPI?:_____Yes _____No

If no, then please explain on a separate piece of paper.

Please provide below a chronological history of your beekeeping experience. If you need more space, please provide additional sheets:

References: If a new apiary contractor, please provide on a separate piece of paper at least 3 references who can verify your apiary experience. Provide each reference's name, address, phone number and email address (if applicable). Please attach reference sheet to this document and submit.

MISSION STATEMENT

Management

Of

Florida Fish and Wildlife Conservation Commission's

Wildlife Management Areas

And

Wildlife and Environmental Areas

The mission of the Florida Fish and Wildlife Conservation Commission (FWC) is to manage fish and wildlife resources for their long-term well-being and the benefit of the people. To aid in accomplishing this mission, one of FWC's management goals is to manage fire-adapted natural communities on our Wildlife Management and Environmental Areas (WMA/WEA) to support healthy populations of the plants and animal's characteristic of each natural community. In order to achieve this goal various habitat management techniques are used. These include prescribed burning, applications of herbicides and mechanical treatment of vegetation. These management efforts will take place at various times and locations on each of the FWC's WMA/WEAs. Staff on each WMA/WEA will work with and make users aware of these activities when necessary. Users must be aware and accept that these activities are necessary for the proper management of the area.

Note: This document is included as an attachment with each Application and executed Contract.

FDACS/DPI's BMP

Florida Department of Agriculture & Consumer Services

BEST MANAGEMENT PRACTICES FOR MAINTAINING EUROPEAN HONEY BEE COLONIES

1. Beekeepers will maintain a valid registration with the Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI), and be current with any and all special inspection fees.

2. A Florida apiary may be deemed as European Honey Bee with a minimum 10% random survey of colonies using the FABIS (Fast African Bee Identification System) and/or the computer-assisted morphometric procedure (i.e., Universal system for the detection of Africanized Honey Bees (AHB) (USDA-ID) or other approved methods by FDACS on a yearly basis or as requested.

3. Honey bee colony divisions or splits should be queened with production queens or queen cells from EHB breeder queens following Florida's Best Management Practices.

4. Florida beekeepers are discouraged from collecting swarms that cannot be immediately re-queened from EHB queen producers.

5. Florida Beekeepers should practice good swarm-prevention techniques to prevent an abundance of virgin queens and their ready mating with available AHB drones that carry the defensive trait.

6. Maintain all EHB colonies in a strong, healthy, populous condition to discourage usurpation (take over) swarms of AHB.

7. Do not allow any weak or empty colonies to exist in an Apiary, as they may be attractive to AHB swarms.

8. Recommend re-queening with European stock every six months unless using marked or clipped queens and having in possession a bill of sale from an EHB Queen Producer.

9. Immediately re-queen with a European Queen if previously installed clipped or marked queen is found missing.

10. Maintain one European drone source colony (250 square inches of drone comb) for every 10 colonies in order to reduce supercedure queens mating with AHB drones.

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

12. Treat all honey bees with respect.

RANDOM

SELECTION PROCESS

FOR VACANT APIARY SITE

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

A. The THCR Contract Manager will maintain an "Apiary Wait List Folder" on the THCR SharePoint for each WMA/WEA with apiary sites.

B. A wait list is either created or updated when an Apiary Application(s) is received by the THCR Contract Manager from a qualified apiarist.

C. 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".

D. If a list exists then the qualified applicant will be added to the list.

E. 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.

F. The letter will request a response within 10 working days to make them eligible for the random drawing.

G. 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*.

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

I. 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.

J. 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.

12.11 Prescribed Burn Plan

Triple N Ranch WMA

Prescribed Burning Plan

INTRODUCTION

Many ecosystems in Florida evolved with fire and rely on its frequent return in order to sustain their unique structure and species assemblages (Myers and Ewel 1990). The Florida landscape is barraged with lightning storms more frequently than most parts of the country (Abrahamson et al., 1984), and fires have frequently been spawned from these storms for thousands of years. Native Americans also started fire frequently for a variety of reasons (Van Lear and Harlow 2000); these fires released fire-tolerant plants from competitors that could not withstand burns, and some fire-tolerant plants actually "encourage" fires by possessing flammable oils (Mutch 1970). Removing fire from the landscape has far-reaching effects, and can cause successional change in fire-adapted ecosystems (Monk 1968), often culminating in a climax hardwood community. This shift results in degraded or unsuitable conditions for species that rely on fire (Gilliam and Platt 1999).

Lightning-sparked wildfires still occur annually in Florida, but are usually suppressed to protect public safety. In order to continue the important effects that fire has on the landscape, prescribed fires are conducted. These fires mimic "natural" fires, but are carefully planned and controlled.

Triple N Ranch Wildlife Management Area (TNRWMA) is located within the Eastern Flatwoods District of Florida, a physiographic area characterized by pine flatwoods, prairies, and cypress domes (Brooks 1982). These communities are all shaped by fire, and prescribed fire is used extensively on TNRWMA to maintain them. In addition, prescribed fire provides the following benefits on the area as well:

1) Reduction of fuel loads, which will help to prevent or mitigate effects of wildfires.
2) Enhancement of the areas aesthetics by controlling undesirable vegetation.
3) Control of exotic plant species.

4) Improved public access.

5) Increased success of longleaf pine regeneration.

BURN OBJECTIVES

Prescribed fire will be used on TNRWMA as a habitat management tool exclusively or in conjunction with other management techniques to accomplish a variety of objectives. The primary objective for using prescribed fire on TNRWMA is to maintain fire-dependent native habitat communities. This will result in preserving native plant communities and improving wildlife habitat for species that require a fire maintained landscape. Secondary objectives for the use of prescribed fire include the maintenance of early successional habitats and control of exotic species. Early successional habitats are important for many species of wildlife found on TNRWMA.

DESCRIPTION OF AREA

The TNRWMA is located approximately 17 miles east of St. Cloud, FL. Nearby roads include US HWY 192 to the north, 441 to the west, and Crabgrass Road to the east. Adjacent lands are used for ranching, citrus production, and conservation. Adjacent landowners include several large ranches, conservation lands (Herky Huffman/Bull Creek WMA to the east), and many small privately owned parcels.

The TNRWMA contains 16,295 acres of land, comprised of the following natural communities: Baygall, Depression Marsh, Dome Swamp, Dry Prairie, Hydric Hammock, Mesic Flatwoods, Open Water, Improved Pasture, Semi-Improved Pasture, Ruderal, Scrub, Scubby Flatwoods, Wet Flatwoods, Wet Prairie, and Xeric Hammock. Full descriptions of these communities, including the importance and recommended frequency of fire, are found in Appendix A. The Florida Natural Area Inventory (FNAI) has prepared a community classification map for TNRWMA showing the extent of each of these communities (Figure 1).

PRESCRIBED BURNING PROGRAM

A. <u>Firelines</u>

Natural features (e.g. drains, creeks and rivers) and existing roads are used as firelines whenever possible. Lines disked to mineral soil will be used when

necessary. Nearby vegetation may be mowed or chopped to reduce fire intensity along firelines.

B. Size and Arrangement of Compartments

Eighty eight burn units have been delineated on TNRWMA, averaging 172 acres in size (range: 12 - 803; Figure 2). Burns will be conducted at 2-3 year intervals for most units (Table 1). The size and arrangement of compartments is static since we have no plans to construct new firelines although some of the improved pasture units may be modified as needed. Burn units will be burned in a mosaic pattern when possible so species with small home ranges, such as bobwhite quail, have nearby escape cover. If burn days are limited due to weather constraints, several burn units may be burned on the same day.

C. Type of Burn

Most burns will begin with a backfire along the downwind side of the unit. The rest of the unit will be burned with spot, flank, or headfires depending on fuel loads and desired fire intensity. Due to good fuel continuity and access on TNRWMA, the majority of burns will be ignited using ground crews instead of aerial ignition.

D. Season and Time of Day

We will be conducting burns during both the growing and dormant seasons. The majority of native acreage will be burned in the growing season, with early growing season (late April-early June) burns being the most desired. The ruderal areas on TNRWMA are vegetated primarily by exotic grasses that will not burn well in the growing season. We will concentrate on these areas during the dormant season, and prefer the late dormant season (February – March) due to increased burn effects on encroaching wax myrtle and oaks. Most burning will be done during daylight hours. In general, fire conditions become most volatile in the mid-afternoon hours, so we will plan burns accordingly. If conditions allow we may conduct burns at night as well.

E. Optimal Weather Conditions

Natural communities within burn units will be evaluated beforehand to determine the desired wind direction. Areas we want to burn at a low intensity should be on the downwind side of the unit, and high intensity (scrub or encroaching hardwoods) on the upwind side whenever possible.

Areas surrounding the burn unit will also be used to determine the best wind direction. In general, we will favor winds that blow away from private property and areas where containment would be difficult should we have an escape.

Other parameters, such as time since last rain and desired relative humidity, will be prescribed based on fire objectives within the unit and containment concerns. We will not burn on days that are deemed too volatile or days in which we are not meeting our objectives.

F. Smoke Management

Direction, volume and dissipation of smoke from prescribed burning on TNRWMA are of primary concern due to the proximity of smoke-sensitive areas. Areas that may be affected by smoke (or particulates carried by smoke) include Highway 192, Highway 441, Crabgrass Road, and nearby residents.

To minimize smoke problems, preferred conditions will include a minimum mixing height of 1,700 feet and transport wind speed of 9 mph or more. We will favor winds that blow away from smoke-sensitive areas. Additionally, the use of backfires, as prescribed, will produce less smoke and consume fuel more completely than headfiring. Residual smoke problems (such as stumps, snags, or logs near state or county roads) will be promptly mopped-up and monitored to minimize smoke hazards.

Smoke management is difficult when night burning because smoke often stays close to the ground and smoke drift is difficult to predict. Additionally, smoke tends to seek lower laying areas (along streams and creeks). In general a surface wind speed of greater than 4 mph and relative humidity under 80 percent are recommended for night burns. Night burning will be approached with caution and in close association with the Florida Forest Service to avoid these problems.

G. Personnel

Under ideal conditions, burning can be conducted with a minimum crew of four. Most burns will be conducted with a crew size range of 4-12. Burn crew members will be assigned tasks according to their training, equipment, and burn requirements. Personnel from other state and federal agencies (FFS, DEP, SJRWMD) will be used if needed.

H. Equipment

All members of the fire crew will wear, at a minimum, the PPE required by FWC's Prescribed Burning and Wildfire Suppression Standards (Appendix B). Type VI engines, tractor-plows, farm tractors, 4-wheelers, and other equipment may be used as conditions require. Smoke caution signs for nearby roads will be deployed as necessary.

I. Permits and Notifications

A permit will be obtained from FFS on the afternoon before or the morning of the burn in accordance with the provisions of FS 590.125. Adjacent landowners near the planned burn may also be contacted.

J. Evaluation of Burn

Burns will be evaluated informally during and shortly after each burn by comparing burn objectives with burn effects. Objective Based Vegetation Monitoring (OBVM) data will be used to determine if the fire intensity is maintaining the desired vegetative composition and structure.

K. Special Considerations

Special attention will be given to ensure our burns do not adversely affect adjacent landowners and nearby roads. We will minimize smoke impacts on nearby roads and residents by utilizing the FFS's smoke screening tool and responding to changing weather conditions during the burn.

Sensitive wildlife resources, such as Red-cockaded Woodpecker cavity trees and Bald Eagle nests, will be depicted on burn maps and protected. Infrastructure within the burn unit such as power poles, informational signs, and gates will be depicted on burn maps and protected as well.

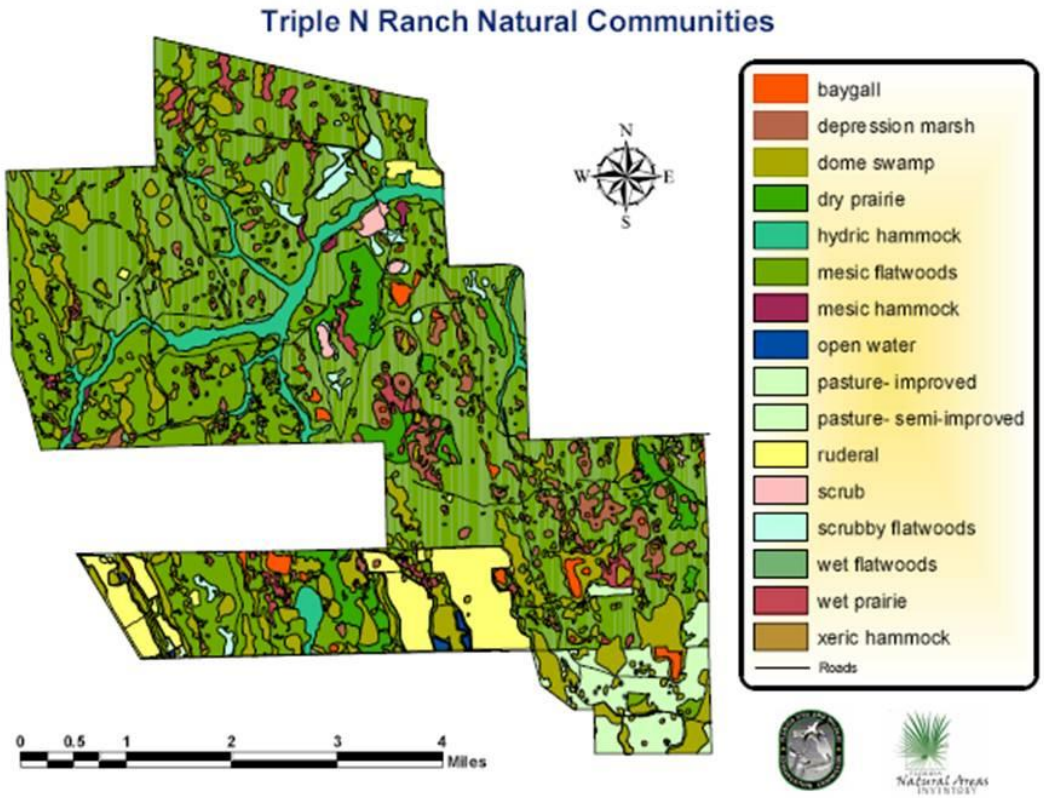


Figure 1: Natural Community map of Triple N Ranch Wildlife Management Area, Osceola County, FL.



Figure 2: Defined burn units on Triple N Ranch Wildlife Management Area, Osceola County, FL.

Table 1: Number, size, and ten year schedule of burn units for Triple N Ranch Wildlife Management Area, Osceola County, FL.

UNIT	LAST_BURN	ACRES	Predominant Community	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1	3/16/2010	280	Mesic Flatwoods		280		280			280		280	
2	6/10/2009	638	Mesic Flatwoods	638			638		638			638	
3	5/12/2010	212	Mesic Flatwoods		212			212		212			212
4	5/26/2010	159	Mesic Flatwoods		159		159			159			159
5	7/19/2010	162	Mesic Flatwoods	162		162			162			162	
6	6/4/2009	321	Mesic Flatwoods	321		321			321			321	
7	6/22/2010	76	Mesic Flatwoods	76		76		76		76		76	
8	7/18/2011	125	Mesic Flatwoods		125		125		125		125		125
9	5/7/2010	263	Mesic Flatwoods		263			263			263		
10	6/1/2009	100	Mesic Flatwoods	100			100			100		100	
11	6/1/2009	91	Mesic Flatwoods	91			91		91			91	
12	6/1/2009	133	Mesic Flatwoods	133			133			133			133
13	1/27/2010	195	Mesic Flatwoods		195			195			195		
14	6/17/2010	227	Mesic Flatwoods			227		227			227		227
15	8/1/2011	125	Mesic Flatwoods			125		125			125		
16	8/1/2011	378	Dry Prairie		378		378		378		378		378
17	8/5/2011	344	Mesic Flatwoods		344			344			344		344
18	2/3/2011	86	Mesic Flatwoods		86			86		86		86	
19	7/12/2011	81	Mesic Flatwoods		81		81	81		81	81		81
20	6/4/2009	219	Mesic Flatwoods	219		219		219		219		219	
21	6/4/2009	114	Mesic Flatwoods		114		114		114		114		114
22	3/9/2010	167	Mesic Flatwoods		167		167		167		167		167
23	3/9/2010	157	Mesic Flatwoods		157		157		157		157		157
24	7/13/2009	188	Mesic Flatwoods	188		188			188		188		
25	4/30/2010	81	Mesic Flatwoods		81		81			81		81	
26	2/1/2011	100	Mesic Flatwoods		100		100		100		100		100
27	2/1/2011	261	Mesic Flatwoods		261		261		261		261		261
28	6/17/2010	486	Mesic Flatwoods	486		486		486		486		486	
29	6/17/2010	89	Mesic Flatwoods	89		89		89		89		89	
30	5/12/2010	129	Mesic Flatwoods	129		129		129		129		129	
31	5/26/2010	123	Mesic Flatwoods	123		123		123		123		123	
32	5/26/2010	203	Mesic Flatwoods		203			203		203		203	
33	7/18/2011	183	Mesic Flatwoods		183		183		183		183		183
34	1/24/2008	152	Mesic Flatwoods	152		152		152		152		152	
35	5/7/2010	220	Mesic Flatwoods	220			220		220			220	
36	2/18/2011	188	Mesic Flatwoods		188		188		188		188		188
37	7/18/2011	107	Mesic Flatwoods		107		107			107		107	
38	7/26/2011	341	Mesic Flatwoods		341			341			341		341
39	6/3/2010	264	Mesic Flatwoods	264		264			264		264		264
40	6/3/2010	115	Mesic Flatwoods	115		115			115		115		115
41	1/27/2010	15	Srubby Flatwoods	15		15		15		15		15	
42	8/5/2011	17	Srubby Flatwoods		17			17			17		17
43	8/1/2011	22	Srubby Flatwoods		22		22		22		22		22
44	4/30/2010	22	Srubby Flatwoods		22		22			22		22	
45	2/19/2011	185	Mesic Flatwoods		185		185		185		185		185
46	7/20/2011	198	Mesic Flatwoods		198		198		198		198		198
47	1/27/2010	265	Mesic Flatwoods		265		265			265		265	
48	6/18/2009	97	Dry Prairie	97		97		97		97		97	
49	4/16/2010	165	Mesic Flatwoods	165		165		165		165		165	
50	7/12/2011	127	Mesic Flatwoods		127		127		127		127		127
51	6/1/2010	94	Mesic Flatwoods	94		94		94		94		94	
52	3/8/2010	42	Mesic Flatwoods		42		42			42			42
53	3/8/2010	223	Mesic Flatwoods	223		223		223		223		223	
54	6/14/2010	205	Mesic Flatwoods		205			205	205		205		205
55	7/12/2011	144	Mesic Flatwoods		144		144		144		144		144
56	6/10/2009	534	Mesic Flatwoods	534		534		534		534			534
57	6/10/2009	803	Mesic Flatwoods	803		803		803		803			803
58	7/22/2011	90	Wet Prairie		90		90		90		90		90
59	7/22/2011	221	Mesic Flatwoods		221		221		221		221		221
60	6/17/2009	465	Mesic Flatwoods	465		465			465		465		
61	7/31/2009	153	Mesic Flatwoods	153		153		153		153		153	
62	7/24/2009	257	Mesic Flatwoods	257			257		257		257		257
63	3/16/2011	160	Improved Pasture		160		160		160		160		160
64	3/16/2011	132	Improved Pasture		132		132		132		132		132
65	3/16/2011	21	Improved Pasture		21		21		21		21		21
66	3/16/2011	56	Improved Pasture		56		56		56		56		56
67	3/16/2011	138	Improved Pasture		138		138		138		138		138
68	3/16/2011	140	Improved Pasture		120	120		120	120		120	120	
69	3/16/2011	16	Improved Pasture		16	16		16	16		16	16	
70	3/16/2011	12	Improved Pasture		12	12		12	12		12	12	
71	3/16/2011	91	Improved Pasture		91	91		91	91		91	91	
72	8/1/2011	43	Scrub				43					43	
72b	12/23/2008	93	Mesic flatwoods and Ruderal		93		93		93		93		93
73	1/24/2006	48	Mesic Flatwoods (Restored)			48		48		48		48	
74	5/12/2010	257	Mesic Flatwoods	257		257		257		257		257	
75	4/26/2011	81	Mesic Flatwoods			81		81			81	81	
75b	1/9/2009	81	Ruderal		81		81		81		81		81
76	1/26/2009	90	Mesic Flatwoods	90		90		90		90		90	
78	1/26/2009	190	Ruderal	190		190		190		190		190	
79	3/14/2011	366	Ruderal		366		366		366			366	
80	1/20/2011	234	Improved Pasture		234		234		234		234		234
81	1/20/2011	132	Improved Pasture		132		132		132		132		132
82	1/20/2011	119	Improved Pasture		119		119		119		119		119
83	1/20/2011	40	Improved Pasture	40		40		40		40		40	
84	1/20/2011	30	Improved Pasture	30		30		30		30		30	
85	1/20/2011	99	Improved Pasture	99		99		99		99		99	
86	1/20/2011	82	Improved Pasture	82		82		82		82		82	
87	unknown	172	Improved Pasture	172		172		172		172		172	
Total Units				**35**	**48**	**37**	**42**	**41**	**42**	**37**	**45**	**42**	**41**
Total Acres				**7273**	**7335**	**6555**	**6711**	**6986**	**7359**	**6136**	**7235**	**6335**	**7560**

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Appendix A. Natural Community Descriptions from Guide to the Natural Communities of Florida, Florida Natural Area Inventory and Florida Department of Natural Resources, 1990).

Baygall (201 Acres)

Baygalls are generally characterized as densely forested, peat-filled seepage depressions often at the base of sandy slopes. The canopy is composed of tall, densely packed, generally straight-boled evergreen hardwoods dominated by sweetbay, swamp red bay, and loblolly bay. A more or less open understory of shrubs and ferns commonly occurs, while sphagnum mats are often interlaced with the convoluted tree roots. Other typical plants include dahoon holly, Atlantic white cedar, fetterbush, male-berry, myrtle-leaved holly, large gallberry, wax myrtle, odorless wax myrtle, hurrah-bush, doghobble, white alder, possumhaw, red chokeberry, Virginia willow, laurel greenbrier, poison ivy, cinnamon fern, chain fern, wild grape, netted chain fern, sweetgum, cypress, lizard's tail, and needle palm. Typical animals include mole salamander, southern dusky salamander, southern mud salamander, opossum, southeastern shrew, short-tailed shrew, marsh rabbit, black bear, raccoon, southern mink, and bobcat.

Baygalls typically develop at the base of a slope where seepage usually maintains a saturated peat substrate. They may also be located at the edges of floodplains or in other flat areas where high lowland water tables help maintain soil moisture. Baygall soils are generally composed of peat with an acidic pH (3.5 - 4.5).

Since Baygalls rarely dry out enough to burn, the normal fire interval in these communities is probably 50-100 years or more. After a fire, bay trees usually resprout from the roots and replace themselves, but severe fires may change a Baygall into a different community. If only a small amount of surface peat is removed, a Baygall may be replaced by a Wet Flatwoods community. If the ground surface is lowered considerably, willows may invade, followed by a cypress-gum community. With recurrent fire, the site will become a shrub bog. If the subsurface peat does not burn and fire and hydrological regimes are undisturbed, a burned out bay forest may be replaced by a stand of white cedar.

Baygall is often associated with and may grade into Seepage Slope, Floodplain Forest or Floodplain Swamp. The species composition of Baygalls frequently overlaps with Bog, Dome Swamp, Basin Swamp, Strand Swamp, Bottomland Forest, Wet Flatwoods, and Hydric Hammock.

Baygalls are dependent upon seepage flow and a high water table. Alterations in the local or regional hydrology could impact Baygall communities. They may also need fire protection during droughts, especially if water tables are lowered. Baygalls are vulnerable to logging, peat mining, and conversion to agricultural land. When drained, the peat soils are valued for farming, although they then begin to oxidize and disappear. The renewed interest in mining peat as fuel may place greater pressure on these wetlands.

Depression Marsh (779 Acres)

Depression Marsh is characterized as a shallow, usually rounded depression in sand substrate with herbaceous vegetation often in concentric bands. Depression Marshes are similar in vegetation and physical features to, but are generally smaller than, Basin Marshes. Typical plants

include St. John's wort, spikerush, yellow-eyed grass, chain fern, willows, maidencane, wax myrtle, swamp primrose, bloodroot, buttonbush, fire flag, pickerelweed, arrowheads, and bladderwort.

Larger and more permanent Depression Marshes may have many of the same plants and animals listed as typical of Basin Marshes. However, because of their isolation and small size, many Depression Marshes support a very different assemblage of species than that found in larger, more permanent wetlands. Depression Marshes are considered extremely important in providing breeding or foraging habitat for such species as the flatwoods salamander, mole salamander, tiger salamander, dwarf salamander, striped newt, oak toad, cricket frog, pinewoods treefrog, barking treefrog, squirrel treefrog, little grass frog, southern chorus frog, ornate chorus frog, narrowmouth toad, eastern spadefoot toad, gopher frog, white ibis, wood stork and sandhill crane. Depression Marshes occurring as isolated wetlands within larger upland ecosystems are of critical importance to many additional wetland and upland animals.

Depression Marshes are typical of karst regions where sand has slumped around or over a sinkhole and thereby created a conical depression subsequently filled by direct rain fall, runoff, or seepage from surrounding uplands. The substrate is usually acid sand with deepening peat toward the center. Some depressions may have developed or be maintained by a subsurface hardpan. Hydrological conditions vary, with most Depression Marshes drying in most years. Hydroperiods range widely from as few as 50 days or less to more than 200 days per year.

Fire is important to maintaining this community type by restricting invasion of shrubs and trees and the formation of peat. Fire frequency is often greatest around the periphery of the marsh and least toward the center. A severe peat fire can lower the ground surface and create a pond at the center of the marsh.

Depression Marshes are often associated with and grade into Wet Prairie, Seepage Slope, Wet Flatwoods, Mesic Flatwoods, Dome Swamp or Bog. They also may occur in association with various types of lakes, such as Sandhill Lake or Flatwoods Lake.

Depression Marshes are threatened by drainage, agriculture, pollution, fire suppression, and invasion of exotic species. Depression Marshes may be filled and converted to other uses. A regional lowering of the water table as a result of overuse may eliminate many Depression Marshes. Depression Marshes on some public lands have been deepened by explosives to allow for stocking with game fish. By preying upon the eggs and larvae of frogs and salamanders, these fish may eliminate the amphibians that depend on such seasonal wetlands for successful reproduction. Likewise, many species of invertebrates not adapted to predation by fishes may be eliminated.

Dome Swamp (2171 Acres)

Dome Swamps are characterized as shallow, forested, usually circular depressions that

generally present a domed profile because smaller trees grow in the shallower waters at the outer edge, while bigger trees grow in the deeper water in the interior. Pond cypress, swamp tupelo, and slash pine are common plants. Other typical plants include red maple, dahoon holly, swamp bay, sweetbay, loblolly bay, pond apple, Virginia willow, fetterbush, chain fern, netted chain fern, poison ivy, laurel greenbrier, Spanish moss, wild pine, royal fern, cinnamon fern, coastal plain willow, maidencane, orchids, wax myrtle, swamp titi, St. John's wort, sawgrass, lizard's tail, swamp primrose, water hyssop, redroot, sphagnum moss, floating heart, buttonbush,

arum, and fire flag. Typical animals include flatwoods salamander, mole salamander, dwarf salamander, oak toad, southern cricket frog, pinewoods treefrog, little grass frog, narrowmouth toad, alligator, snapping turtle, striped mud turtle, mud turtle, eastern mud snake, cottonmouth, woodstork, wood duck, swallow-tailed kite, barred owl, pileated woodpecker, great-crested flycatcher, prothonotory warbler, and rusty blackbird.

Dome Swamps typically develop in sandy flatwoods and in karst areas where sand has slumped around or over a sinkhole, creating a conical depression. Soils are composed of peat, which becomes thickest toward the center of the dome, and are generally underlain with acidic sands and then limestone, although other subsoils may also occur. Some domes have a clay lens that helps retain water levels.

Dome Swamps often derive much of their water through runoff from surrounding uplands, but they may also be connected with underground channels, in which case subterranean flows would dominate the hydrological regime. Dome Swamps generally function as reservoirs that recharge the aquifer when adjacent water tables drop during drought periods. The normal hydroperiod for Dome Swamps is 200 to 300 days per year with water being deepest and remaining longest near the center of the dome.

Fire is essential for the maintenance of a cypress dome community. Without periodic fires, hardwood invasion and peat accumulation would convert the dome to Bottomland Forest or Bog. Dome Swamps dominated by bays are close to this transition. Fire frequency is greatest at the periphery of the dome and least in the interior where long hydroperiods and deep peat maintain high moisture levels for most of the year. The normal fire cycle might be as short as 3 to 5 years along the outer edge and as long as 100 to 150 years towards the center. The profile of a Dome Swamp (i.e., smaller trees at the periphery and largest trees near the center) is largely attributable to this fire regime. The shorter hydroperiods along the periphery permit fires to burn into the

edge more often, occasionally killing the outer trees. Cypress is very tolerant of light surface fires, but muck fires burning into the peat can kill them, lower the ground surface, and transform a dome into a pond.

Dome Swamps may have a Depression Marsh or pond in their center, creating a doughnut appearance when viewed from above. Dome Swamps typically grade into Wet Prairie or Marl Prairie around the periphery, but they may also be bordered by Bottomland Forest or Swale. The species composition of Dome Swamps frequently overlaps with Strand Swamp, Wet Flatwoods, Basin Swamp, Baygall, Floodplain Swamp, and Freshwater Tidal Swamp.

Normal hydroperiods must be maintained. Somewhat deeper than normal water levels are not likely to do much harm, but extended hydroperiods will limit tree growth and prevent reproduction. Shortened hydroperiods will permit the invasion of mesophytic species, which will change the character of the understory and eventually allow hardwoods to replace cypress. Dome Swamps may also be degraded by pollution and the invasion of exotic plants.

Dry Prairie (654 Acres)

Dry Prairie is characterized as a nearly treeless plain with a dense ground cover of wiregrass, saw palmetto, and other grasses, herbs, and low shrubs. Other typical plants include broomsedge, carpet grass, runner oak, Indian grass, love grass, blazing star, rabbit tobacco, pine lily, marsh pink, milkwort, goldenrod, musky mint, pawpaw, dwarf wax myrtle, gallberry, stagger bush, fetterbush, and dwarf blueberry. Typical animals include box turtle, six-lined racerunner, black racer, coachwhip, turkey vulture, crested caracara, bobwhite, sandhill crane, burrowing owl, loggerhead shrike, meadowlark, grasshopper sparrow, least shrew, cotton rat, harvest mouse, spotted skunk, and bobcat.

Dry Prairie occurs on relatively flat, moderately to poorly drained terrain. The soils typically consist of 1 to 3 feet of acidic sands generally overlying an organic hardpan or clayey subsoil. The hardpan substantially reduces the movement of water below and above its surface, such that Dry Prairies may become flooded for short periods during rainy seasons. The normal water table, however, is several inches to several feet below the surface. Dry Prairie is very similar to Mesic Flatwoods in most respects, except that pines and palms are absent or at a density below one tree per acre.

The natural fire frequency in Dry Prairies appears to be every 1 to 4 years, which averages slightly more frequent than generally occurs in Mesic Flatwoods. The higher frequency of fire is probably the primary factor that limits pine recruitment in this community. Some authorities suggest that fire every 1 to 4 years is unnaturally high and an artifact of human intervention; i.e., they suggest that Dry Prairie is not a natural biological community. Other authorities disagree and suggest that Dry Prairies were at one time more widespread. Further research is necessary to solve this controversy.

Dry Prairie is closely associated with and often grades into Wet Prairie or Mesic Flatwoods. Some Mesic Flatwoods differ only in having a pine overstory, and when timbered are often difficult to distinguish from Dry Prairies. Many of the plants and animals occurring in Dry Prairies also occur in Scrubby Flatwoods, Mesic Flatwoods, Sandhill, and Coastal Grassland.

Dry Prairies are apparently endemic to Florida and largely confined to a few regions of the state. Most representatives of this community have been converted to farm fields or citrus groves. The

few remnants of Dry Prairie are disappearing rapidly. Because Dry Prairie is an important habitat for several animals that occur nowhere else in the eastern United States (e.g., caracara and burrowing owl), the preservation of existing tracts through appropriate management is paramount.

Hydric Hammock (628 Acres)

Hydric Hammock is characterized as a well developed hardwood and cabbage palm forest with a variable understory often dominated by palms and ferns. Typical plants include cabbage palm, diamond-leaf oak, red cedar, red maple, swamp bay, sweetbay, water oak, southern magnolia, wax myrtle, saw palmetto, bluestem palmetto, needle palm, poison ivy, dahoon holly, myrsine, hackberry, sweetgum, loblolly pine, Florida elm, swamp chestnut oak, American hornbeam, Walter viburnum, royal fern, peppervine, rattanvine, yellow jessamine, and Virginia creeper. Typical animals include green anole, flycatchers, warblers, and gray squirrel.

Hydric Hammock occurs on low, flat, wet sites where limestone may be near the surface and frequently outcrops. Soils are sands with considerable organic material that, although generally saturated, are inundated only for short periods following heavy rains. The normal hydroperiod is seldom over 60 days per year. Because of their generally saturated soils and the sparsity of herbaceous ground cover, Hydric Hammocks rarely burn.

Hydric Hammock occurs as patches in a variety of lowland situations, often in association with springs or karst seepage, and in extensive forests covering lowlands just inland of coastal communities. Hydric Hammock generally grades into Floodplain Swamp, Strand Swamp, Basin Swamp, Baygall, Wet Flatwoods, Coastal Berm, Maritime Hammock, Slope Forest, Upland Mixed Forest, or Upland Hardwood Forest. Hydric Hammock is often difficult to differentiate from Bottomland Forest, Prairie Hammock, and Floodplain Forest.

The normal hydrological regime must be maintained in Hydric Hammock. If the water table is lowered, Hydric Hammock will gradually change to mesic conditions. If the hammock is flooded, many trees will die and eventually be replaced by more hydrophytic species.

Mesic Flatwoods (8717 Acres)

Mesic Flatwoods are characterized as an open canopy forest of widely spaced pine trees with little or no understory but a dense ground cover of herbs and shrubs. Several variations of Mesic Flatwoods are recognized, the most common associations being longleaf pine - wiregrass - runner oak and slash pine - gallberry - saw palmetto. Other typical plants include: St. Johns-wort, dwarf huckleberry, fetterbush, dwarf wax myrtle, stagger bush, blueberry, gopher apple, tar flower, bog buttons, blackroot, false foxglove, white-topped aster, yellow-eyed grass, and cutthroat grass. Typical animals of Mesic Flatwoods include: oak toad, little grass frog, narrowmouth toad, black racer, red rat snake, southeastern kestrel, brown-headed nuthatch, pine warbler, Bachman's sparrow, cotton rat, cotton mouse, black bear, raccoon, gray fox, bobcat, and white-tailed deer.

Mesic Flatwoods occur on relatively flat, moderately to poorly drained terrain. The soils typically consist of 1-3 feet of acidic sands generally overlying an organic hardpan or clayey subsoil. The hardpan substantially reduces the percolation of water below and above its surface. During the rainy seasons, water frequently stands on the hardpan's surface and briefly inundates much of the flatwoods; while during the drier seasons, ground water is unobtainable for many plants whose roots fail to penetrate the hardpan. Thus, many plants are under the stress of water saturation during the wet seasons and under the stress of dehydration during the dry seasons.

Another important physical factor in Mesic Flatwoods is fire, which probably occurred every 1 to 8 years during pre-Columbian times. Nearly all plants and animals inhabiting this community are adapted to periodic fires; several species depend on fire for their continued existence. Without relatively frequent fires, Mesic Flatwoods succeed into hardwood-dominated forests whose closed canopy can essentially eliminate the ground cover herbs and shrubs. Additionally, the dense layer of litter that accumulates on unburned sites can eliminate the reproduction of pines which require a mineral soil substrate for proper germination. Thus, the integrity of the Mesic Flatwoods community is dependent on periodic fires. However, fires that are too frequent or too hot would eliminate pine recruitment and eventually transform Mesic Flatwoods into Dry Prairie.

Mesic Flatwoods are closely associated with and often grade into Wet Flatwoods, Dry Prairie, or Scrubby Flatwoods. The differences between these communities are generally related to minor topographic changes. Wet Flatwoods occupy the lower wetter areas, while Scrubby Flatwoods occupy the higher drier areas.

Mesic Flatwoods are the most widespread biological community in Florida, occupying an estimated 30 to 50% of the state's uplands. However, very few undisturbed areas of Mesic Flatwoods exist because of habitat mismanagement and silvicultural, agricultural, or residential development. Mesic Flatwoods are often fairly resilient, and with proper management they can generally be restored.

Scrub (79 Acres)

Scrub occurs in many forms, but is often characterized as a closed to open canopy forest of sand pines with dense clumps or vast thickets of scrub oaks and other shrubs dominating the understory. The ground cover is generally very sparse, being dominated by ground lichens or, rarely, herbs. Open patches of barren sand are common. Where the overstory of sand pines is widely scattered or absent altogether, the understory and barren sands are exposed to more intense sunlight. Typical plants include sand pine, sand live oak, myrtle oak, Chapman's oak, scrub oak, saw palmetto, rosemary, rusty lyonia, ground lichens, scrub hickory, scrub palmetto, hog plum, silk bay, beak rush, milk peas, and stagger bush. Typical animals include red widow spider, scrub wolf spider, oak toad, Florida scrub lizard, blue-tailed mole skink, sand skink, six-lined racerunner, coachwhip, ground dove,scrub jay, loggerhead shrike, yellow-rumped warbler, rufous-sided towhee, Florida mouse, and spotted skunk. Scrubs of the Lake Wales Ridge are notable for the large number of narrowly endemic plants and animals that occur in them.

Scrub occurs on sand ridges along former shorelines. Some of the sand ridges originated as winddeposited dunes, others as wave-washed sand bars. Some Scrub soils are composed of well-washed, deep sands that are brilliant white at the surface; some Scrubs occur on yellow sands. The loose sands drain rapidly, creating very xeric conditions for which the plants appear to have evolved several water conservation strategies.

Scrub is essentially a fire maintained community. Ground vegetation is extremely sparse and leaf fall is minimal, thus reducing the chance of frequent ground fires. As the sand pines mature, however, they retain most of their branches and build up large fuel supplies in their crowns. When a fire does occur, this fuel supply, in combination with the resinous needles and high stand density, ensures a hot, fast burning fire. Such fires allow for the regeneration of the Scrub community which might otherwise succeed to Xeric Hammock. The minerals in the vegetation are deposited on the bare sand as ashes, and the heat of the fire generally facilitates the release

of pine seeds. As discerned from the life histories of the dominant plants, scrub probably burns catastrophically once every 20 to 80 years or longer.

Scrub is associated with and often grades into Sandhill, Scrubby Flatwoods, Coastal Strand, and Xeric Hammock. Some Xeric Hammocks are advanced successional stages of Scrub, making intermediate stages difficult to classify. Scrub occurs almost exclusively in Florida, although coastal scrubs extend into adjacent Alabama and Georgia.

Because Scrub occurs on high dry ground and is not an aesthetically pleasing habitat, at least to the uninitiated, this ecosystem and its many endangered and threatened species are rapidly being lost to development. Scrub is also readily damaged by off-road vehicle traffic or even foot traffic, which destroys the delicate ground cover and allows the loose sand to erode. Ground lichens may require 50 years or more to recover.

Scrubby Flatwoods (235 Acres)

Scrubby Flatwoods are characterized as an open canopy forest of widely scattered pine trees with a sparse shrubby understory and numerous areas of barren white sand. The vegetation is a combination of Scrub and Mesic Flatwoods species; Scrubby Flatwoods often occupy broad transitions or ecotones between these communities. Typical plants include longleaf pine, slash pine, sand live oak, Chapman's oak, myrtle oak, scrub oak, saw palmetto, staggerbush, wiregrass, dwarfblueberry, gopher apple, rusty lyonia, tarflower, golden-aster, lichens, silkbay, garberia, huckleberry, goldenrod, runner oak, pinweeds, and frostweed.

Scrubby Flatwoods generally occur intermingled with Mesic Flatwoods along slightly elevated relictual sandbars and dunes. The white sandy soil is several feet deep and drains rapidly. However, the water table is unlikely to be very deep. Scrubby Flatwoods normally do not flood even under extremely wet conditions. Temperatures and humidities of air and soil in Scrubby Flatwoods fluctuate substantially more than in most other communities because the scattered overstory,

sparse understory, and barren sands of Scrubby Flatwoods do not ameliorate daily and seasonal changes very well.

Although the elevated, deeper sandy soils of scrubby flatwoods engender a drier environment than the surrounding mesic flatwoods, the general sparsity of ground vegetation and the greater proportion of relatively incombustible scrub-oak leaf litter reduces the frequency of naturally occurring fires. Only after a long absence of fire and during periods of drought does the leaf litter become sufficiently combustible and concentrated enough to support an ecological burn. Several species of plants in Scrubby Flatwoods are typical scrub plants which endure only when long intervals between fires occur. Thus, a periodicity of approximately 8 to 25 years between fires appears to be natural for this community.

Scrubby Flatwoods are associated with and often grade into Mesic Flatwoods, Scrub, Dry Prairie or Sandhills. This community is essentially a Mesic Flatwoods with a Scrub understory.

Wet Flatwoods (45 Acres)

Wet Flatwoods are characterized as relatively open-canopy forests of scattered pine trees or cabbage palms with either thick shrubby understory and very sparse ground cover, or a sparse understory and a dense ground cover of hydrophytic herbs and shrubs. Several variations exist

between these extremes. Typical plants include pond pine, slash pine, sweetbay, spikerush, beakrush, sedges, dwarf wax myrtle, gallberry, titi, saw palmetto, creeping beggarweed, deer tongue, gay feather, greenbrier, bluestem, and pitcher plants. Typical animals include oak toad, cricket frog, chorus frog, black racer, yellow rat snake, diamondback rattlesnake, pygmy rattlesnake, red-shouldered hawk, bobwhite, opossum, cottontail rabbit, cotton rat, cotton mouse, raccoon, striped skunk, bobcat, and white-tailed deer.

Wet Flatwoods occur on relatively flat, poorly drained terrain. The soils typically consist of 1 to 3 feet of acidic sands generally overlying an organic hardpan or clay layer. Cabbage palm flatwoods tend to occur on more circumneutral sands (pH 6.0 - 7.5) underlain by marl or shell beds. The hardpan substantially reduces the percolation of water below and above its surface. During the rainy season, water frequently stands on the surface, inundating the flatwoods for 1 or more months per year. During the drier seasons, ground water is less accessible for many plants whose roots fail to penetrate the hardpan. Thus, many plants are under the stress of water saturation during the wet seasons, and under the stress of dehydration during the dry seasons.

Another important physical factor in Wet Flatwoods is fire. Natural fires probably occurred every 3 to 10 years during pre-Columbian times. Nearly all plants and animals inhabiting this community are adapted to periodic fires, and several species depend on fires for their continued existence. Without relatively frequent fires, Wet Flatwoods succeed into hardwood dominated forests whose closed canopy would essentially eliminate the ground cover herbs and shrubs. In fact, much of the variation in community structure is probably associated with fire frequency. Thus, the longer the period of time since the last fire, the more developed will be the understory shrubs. If the understory is

allowed to grow for too long, the accumulation of needle drape and the height of flammable understory shrubs will increase the probability of a catastrophic canopy fire.

Wet Flatwoods are closely associated with and often grade into Hydric Hammock, Mesic Flatwoods, Wet Prairie, or Basin Swamp. Wet Flatwoods may also grade into Dome Swamp or Strand Swamp, but the absence of a Wet Prairie ecotone suggests that the hydrology has been disturbed.

Although Wet Flatwoods may have been an abundant biological community of the Coastal Plain at one time, examples with an intact overstory and understory, without exotics, and with the potential for future maintenance by fire are rare. They are relatively resilient to overstory damage but recover poorly when the ground cover or hydrology has been disturbed. Wet Flatwoods are vulnerable to disruptions of fire and hydrological regimes. Exotic plants readily invade Wet Flatwoods in south Florida and must be controlled promptly.

Wet Prairie (511 Acres)

Wet Prairie is characterized as a treeless plain with a sparse to dense ground cover of grasses and herbs, including wiregrass, toothache grass, maidencane, spikerush, and beakrush. Other typical plants include hatpins, marsh pinks, crownbeard, sundews, black-eyed susan, stargrass, white-top sedge, meadowbeauty, yellow-eyed grass, sneezeweed, sunflower, wax myrtle, pitcher plants, tickseed, St. John's wort, and panicums. Typical animals include cricket frog, chorus frog, little grass frog, black racer, yellow rat snake, cottonmouth, pygmy rattlesnake, northern harrier, caracara, southeastern kestrel, killdeer, long-billed marsh wren, red-winged blackbird, marsh rabbit, cotton rat, and cotton mouse.

Wet Prairie occurs on low, relatively flat, poorly drained terrain of the coastal plain. Soils typically consist of sands often with a substantial clay or organic component. The most important physical factors are hydrology and fire. Wet Prairie is seasonally inundated or saturated for 50 to 100 days each year and burns every 2 to 4 years. Wax myrtle quickly invades and will dominate Wet Prairies with longer fire intervals. In south Florida, melaleuca invasions can seriously impact Wet Prairies. Generally, Wet Prairies have a much shorter hydroperiod than other herbaceous wetlands and are subject to regular and prolonged desiccation during the dry season due to their flat topography.

Wet Prairie is closely associated with and often grades into Wet Flatwoods, Depression Marsh, Seepage Slope, Mesic Flatwoods, or Dry Prairie. Several other biological communities have somewhat similar species compositions or overlap in characteristics, including Swale, Seepage Slope, Basin Marsh, Floodplain Marsh, and Marl Prairie.

Wet Prairies were probably common throughout the Coastal Plain at one time. Few good quality, intact examples remain and some types, e.g. pitcher plant prairies, are becoming increasingly rarer. Wet Prairie is vulnerable to hydrological and fire regime alterations, overgrazing, and soil disturbances by off-road vehicles. Recovery from disturbances is often poor and slow.

Xeric Hammock (7 Acres)

Xeric Hammock is characterized as either a scrubby, dense, low canopy forest with little understory other than palmetto, or a multi-storied forest of tall trees with an open or closed canopy. Several gradations between these extremes exist. Typical plants include live oak, sand live oak, laurel oak, turkey oak, blackjack oak, red oak, sand post oak, staggerbush, saw palmetto, sparkleberry, pignut hickory, southern magnolia, redbay, American holly, wild olive, black cherry, fox grape, beautyberry, bluejack oak, Chapman's oak, persimmon, and

yaupon. Typical animals include barking treefrog, spadefoot toad, gopher tortoise, worm lizard, fence lizard, black racer, red rat snake, hognose snake, crowned snake, screech-owl, turkey, blue jay, eastern mole, gray squirrel, and eastern flying squirrel.

Xeric Hammock is an advanced successional stage of Scrub or Sandhill. The variation in vegetation structure is predominantly due to the original community from which it developed. In all cases, however, the soils consist primarily of deep, excessively-drained sands that were derived from old dune systems. The sparsity of herbs and the relatively incombustible oak litter preclude most fires from invading Xeric Hammock. When fire does occur, it is nearly always catastrophic and may revert Xeric Hammock into another community type. Xeric Hammock only develops on sites that have been protected from fire for 30 or more years.

Xeric Hammocks are often associated with and grade into Scrub, Sandhill, Upland Mixed Forest or Slope Forest. The species composition of Xeric Hammock is also often similar to Prairie Hammock and Maritime Hammock. Xeric Hammock is often considered the climax community on sandy uplands.

Xeric Hammock occurs generally as isolated patches that rarely cover extensive areas. Mature examples are rare, and scrub derived types have always been scarce. Because of its general location on high ground with big trees, Xeric Hammock is prime residential property, especially when near the coast. Remaining tracts of Xeric Hammock require protection from fire and development.

Appendix B

DIVISION OF HABITAT AND SPECIES CONSERVATION
Internal Operating Policy
Revised March 2011

Subject: **Prescribed Burning and Wildfire Suppression Standards**

Policy:

The following policy shall apply to all Division of Habitat and Species Conservation (DHSC) employees engaged in prescribed burning or wildfire suppression activities.

General Guidelines:

This policy establishes minimum standards for participation in prescribed burning and wildfire suppression activities. In addition to conducting prescribed burning on Commission-managed lands, DHSC employees are periodically asked to assist the Florida Division of Forestry with wildland fire suppression efforts, particularly during declared wildfire emergencies. Working on prescribed fires or wildfires is an inherently dangerous and risky activity that can result in significant property damage, personal injury, or loss of life. Therefore, it is necessary to establish minimum standards for training and certification to insure DHSC employees have the appropriate skills and knowledge to perform these activities safely and effectively. Employees are encouraged to obtain higher levels of training and certification as warranted and approved through supervisory channels.

Chapter 1 Prescribed Burning

1.1 Prescribed Burn Participation: This section establishes minimum training, certification, and experience required for members of a prescribed burn team. These same standards apply to non-DHSC employees, volunteers, and contractors participating on a burn on FWC-managed state lands.

A. Crew Member Trainee: Employees who do not meet the requirements for Crew Member shall be classified as a Crew Member Trainee. A Crew Member Trainee may participate in prescribed burning activities provided that they are under the direct supervision of a Crew Member. A Crew Member may supervise no more than one Crew Member Trainee. It is recommended that no more than 40% of the burn crew be Crew Member Trainees.

   Note: Crew members may supervise more than one Crew Member Trainee, and more than 40% of the burn crew may be Crew Member Trainees during prescribed burns conducted during training classes.

B. Crew Member: May participate independently in prescribed burning activities. Shall have successfully completed the following level of training:

1) Interagency Basic Prescribed Fire Course; ***or***
2) Basic Wildland Firefighter Training (S-130) **and** Introduction to Wildland Fire Behavior (S-190).

C. Burn Manager Trainee: May serve as burn manager to fulfill the responsibilities of acquiring certified prescribed burn manager status. Burn Manager Trainee must be under the direct supervision of a Certified Burn Manager on prescribed burns that will be used to qualify them for certified prescribed burn manager status. Shall have successfully completed the following level of training and have the specified level of experience:

1) Interagency Basic Prescribed Fire Course;
2) S-130/S-190; ***and***
3) Participated on at least five prescribed burns.

D. Certified Burn Manager: May request prescribed burn authorizations and serve as burn manager. Shall have successfully completed the following level of training, and have the specified certification and level of experience:

1) Interagency Basic Prescribed Fire Course;
2) S-130/S-190;
3) Prescribed Burn Manager Certification; ***and***
4) Participated on at least ten prescribed burns.

1.2 Prescribed Burn Engine (Pumper Unit/Brush Truck) Operator: Before an employee may independently operate a water-delivery engine in support of active prescribed burns, they shall have successfully completed the following level of training and have the specified level of experience:

A. S-130/S-190;
B. On-the-job training for operation of water-delivery engines by a trained and/or experienced engine operator; ***or*** successful completion of Southern Area Engine Academy or Engine Operator (PMS 419); ***and***
C. Participated on at least five prescribed burns.

1.3 Prescribed Burn Tractor/Bulldozer Plow Unit Operator: Before an employee may independently operate tractor/dozer fire-plow during prescribed burns, they shall have successfully completed the following level of training and have the specified level of experience:

A. The wildland fire portion of Basic Fire Control Training; ***and***
B. Participated on at least five prescribed burns.

1.4 Prescribed Burn Aerial Ignition Dispenser (AID) Operator: Before an employee may independently operate an AID during a prescribed burn, they shall have successfully completed the following level of training and have the specified level of experience:

A. Qualified at or above Crew Member level for prescribed burning;
B. Completed an FWC AID training workshop or other courses that provide an equivalent level of training; ***and***
C. Participated on at least five prescribed burns.

1.5 General: All prescribed burns shall be conducted in complete compliance with all laws regulating the use of prescribed fire; specifically Chapter 590.125(3) F.S. and Chapter 5I-2 F.A.C. Burn plans shall have all the required elements as specified in Chapter 5I-2.006 as well as a contingency plan, mop-up standards, and standards for declaring the fire out. All prescribed burns shall be conducted as a certified prescribed burn, and managed by a certified prescribed burn manager.

Chapter 2 Wildfire Suppression

2.1 General: The Division of Forestry, or other firefighting entity, may request assistance from DHSC staff during a wildfire suppression incident. This request will usually be for a wildfire strike team. A wildfire strike team consists of one wildfire strike team leader, and two wildfire strike team members per Type V or VI engine. Standards for strike team members and leaders are outlined below. In addition, requests may be made for personnel to fill positions on a suppression incident that are not covered by the following standards. The decision to assist, and the level of assistance provided, on fire suppression incidents will be made by DHSC leadership (includes Division Director, Deputy Division Director, Section Leaders and/or Assistant Section Leaders) and the Wildland Fire Coordinator.

2.2 Wildfire Strike Team Member: Before an employee may participate on wildfire strike teams in support of wildfire suppression efforts, they shall have successfully completed the following level of training and have the specified level of experience:

A. S-130/S-190;
B. Southern Area Engine Academy;
C. Experience and demonstrated proficiency operating a Type V or VI engine; ***and***
D. Participated on at least ten prescribed burns and/or wildfire suppression incidents.

* Exception - Employees who do not meet the above standards can be approved by DHSC leadership and the Wildland Fire Coordinator to serve on a wildfire strike team. Exceptions can be granted when available strike team personnel are not sufficient to meet the requested need. Training and experience levels should be considered when approving exceptions.

2.3 Wildfire Strike Team Leader: Before an employee may serve as team leader for wildfire strike teams in support of wildfire suppression efforts, they shall have completed the following

level of training and have the specified level of experience **in addition to that required to participate on a wildfire strike team:**

A. Basic Incident Command System (I-200); ***and***
B. Experience as burn manager, crew boss, or strike team leader on at least ten prescribed burns or wildfire suppression incidents.

2.4 Wildfire Tractor/Bulldozer Plow Unit Operator: Before an employee may independently operate tractor/dozer fire-plow units in support of wildfire suppression efforts, they shall have completed the following level of training and have the specified level of experience:

A. The wildland fire portion of Basic Fire Control Training;
B. Experience and demonstrated proficiency operating a tractor/bulldozer plow unit; ***and***
C. Participated on at least ten prescribed burns or wildfire suppression incidents.

Chapter 3 Safety

3.1 Personal Protective Equipment: Required items of Personal Protective Equipment for all wildland fire activities include:

- Flame Resistant Shirt and Pants, or Jumpsuit
- Wildland Fire Hard Hat
- Leather Gloves
- Leather Boots – 8" Lace-up
- Eye Protection
- Bandana or Dust Mask
- Hand-held Radio
- Fire Shelter

Safety considerations and/or vegetative types may dictate that crew members wear additional equipment or in some cases deviate from the above required equipment. The burn manager/strike team leader shall determine what Personal Protective Equipment will be worn by their crew to maximize safety, and shall document justifications for any deviations of the required equipment.

3.2 Physical Standards: Prescribed burning and firefighting are physically demanding activities. Each prescribed burn crew/strike team member shall maintain a level of fitness that will allow full participation in these activities. It is the burn crew/strike team member's responsibility to make the burn manager/strike team leader aware of any limitations that may restrict their activities so that they can be assigned an appropriate role.

3.3 Mobile Equipment: The following is a list of required items for mobile equipment used during wildland fire activities. Mobile equipment includes all-terrain vehicles, utility vehicles, airboats, swamp buggies, trucks, tractors, and bulldozers.

- An ABC fire extinguisher that has been inspected, serviced, and maintained in accordance with the manufacturer's maintenance procedures shall be in or on all mobile equipment. Below are minimum sizes:
  - All-terrain and utility vehicles – 2.5 pound extinguisher
  - Trucks and tractors – 5 pound extinguisher
  - Bulldozers and Swamp Buggies– 10 pound extinguisher
  - Vessels – 5 pounds (could be two, 2.5 pound extinguishers)
- An operational winch shall be installed on all-terrain vehicles, utility vehicles, swamp buggies, and trucks used in the interior of a burn unit.
- An operational water delivery system with at least five gallons of water shall be installed in or on any mobile equipment used in the interior of a burn unit.

Chapter 4 Incident Reviews

4.1 Incident Reviews: This section outlines a mechanism for how DHSC will respond to and review a prescribed fire that had unintended negative consequences. The purpose of a fire-related incident review is to gather facts regarding the incident, and if necessary, recommend actions that may help minimize the chance of reoccurrence.

4.2 Fire-related Incident: A fire or smoke related incident that includes any of the following:

A. Notice of Violation;
B. Conducting a burn outside of the prescription;
C. Fire leaves the prescribed burn area;
D. Fire leaves the WMA or WEA; or
E. Fire causes property damage, personal injury, or loss of life.

4.3 Reporting of Fire-related Incidents: The burn manager shall notify their Regional Wildlife Management Biologist as soon as possible but no later than 8:00 am the day after the fire-related incident occurred. The Regional Wildlife Management Biologist shall notify THCR leadership and the Wildland Fire Coordinator of the incident as soon as possible. The notification should include the following:

A. Date, Time and Location of Incident
B. Brief Description of the Incident and Current Status
C. Other Agencies or Entities Assisting

THCR leadership will notify Division leadership and the Executive and Assistant Executive Director of any incidents involving escapes from the WMA, escapes requiring unplanned

suppression assistance, or any incidents resulting in private property damage or injury to a member of the public.

4.4 Fire-related Incident Review: A review of a fire-related incident initiated by the Wildland Fire Coordinator resulting in a written finding of facts and recommendations. The following guidelines should be used to determine the type of review conducted:

A. No Review – No review is required if the prescribed fire escaped from the burn unit, stayed on the WMA/WEA, and was suppressed. These incidents, however, need to be reported to the Regional Wildlife Management Biologist and the Wildland Fire Coordinator if Division of Forestry or other entity assisted with suppression efforts.
B. Level 1 Review – Review to be conducted by the Wildland Fire Coordinator or alternate if one or more of the following occurred and no Level 2 review criteria were met:
   1) A Notice of Violation was issued to the burn manager.
   2) Motorized equipment was damaged requiring the completion of an Equipment Damage Report.
   3) A Level 1 review is requested by DHSC leadership.
C. Level 2 Review – Review to be conducted by the Wildland Fire Coordinator or alternate, and one representative from at least three of the administrative regions if one or more of the following occur:
   1) Prescribed fire escaped from the burn unit and from the WMA/WEA.
   2) Injury or private property damage resulted from the fire or smoke. If an injury occurs to a member of the burn crew, the need to convene a review team will be determined by DHSC leadership.
   3) A Level 2 review is requested by DHSC leadership.

4.5 Fire-related Incident Report: Within 45 days of completing a Fire-related Incident Review, the Wildland Fire Coordinator shall submit a report to DHSC leadership for approval. The report should include: 1) a summary of the incident; 2) a review of the weather forecast and observed weather conditions; 3) a review of the burn prescription; 4) a summary of the execution of the burn and the suppression of the escape, if applicable; and 5) recommendations for future burns. After being approved, the report will be made available to appropriate personnel via e-mail and by being posted on the Terrestrial Habitat and Conservation's Wildland Fire Sharepoint site.

Approved: Timothy A Breault — 3-2-2011

Division Director or Designee — Date
Division of Habitat & Species Conservation
Florida Fish and Wildlife Conservation Commission

12.12 Wildlife Conservation and Prioritization and Recovery Program Strategy (WCPR)

Herky Huffman/Bull Creek WMA

and Triple N Ranch WMA

Species Management Strategy

Original – 9/28/2012

Revised – 7/15/2015

Florida Fish and Wildlife Conservation Commission

Wildlife and Habitat Management Section

Produced by the Wildlife Conservation,

Prioritization and Recovery Program

Explanation of Revisions

The Herky Huffman/Bull Creek WMA (HHBCWMA) and Triple-N-Ranch WMA (TNRWMA) Species Management Strategy was finalized in 2012. In 2015, staff revised the Strategy to address the internal relocation of gopher tortoises (*Gopherus polyphemus*) on TNRWMA, and to document the management and monitoring associated with the relocation. FWC's Gopher Tortoise policy team, Division of Hunting and Game Management (HGM), Division of Habitat and Species Conservation (HSC), Wildlife and Habitat Management Section (WHM) staff have provided input and oversight during the revision process (Section 6.1.1). In addition to the proposed changes, all hyperlinks and agency contacts have been updated to reflect the most current information available.

Changes to the "Management and Monitoring Since State Acquisition – TNRWMA" synopsis (Section 2.3) include the documentation of 40 acres of property undergoing ground cover restoration (GCR) that has been identified as a recipient site for the on-site relocation of tortoises on the property. Changes to the species assessment for gopher tortoise (Section 3.2.4) include the relocation of 14 tortoises to the recipient area, located adjacent to US 441 on the west side of the property. The text of the assessment was modified to address the management, species monitoring, and habitat monitoring of the recipient area as required by the permitting guidelines for the relocation of gopher tortoises. The need for a Gopher Tortoise Recipient Site Strategic Management Area (SMA) was identified and inserted (Section 4.1.3), and we amended Section 5.2.2 to describe recommendations for monitoring the gopher tortoise recipient site.

Executive Summary

The Florida Fish and Wildlife Conservation Commission's (FWC) Wildlife and Habitat Management section (WHM) takes a proactive, science-based approach to species management on lands in the Wildlife Management Area system (WMA/WEA). This approach uses information from statewide models, in conjunction with input from species experts and people knowledgeable about the area, to create site-specific assessments of a number of focal species. Staff combines these assessments with management considerations to develop a wildlife management strategy for the area. The FWC intends for this Strategy to: 1) provide land managers with information on actions that should be taken provided the necessary resources are available, 2) promote the presence of and ensure the persistence of focal wildlife species on the area, and 3) provide measurable species objectives that can be used to evaluate the success of wildlife management on the area.

This document presents the results of a science-based process for evaluating focal species needs using an ecosystem management approach on the Herky Huffman/Bull Creek Wildlife Management Area (HH/BCWMA) and Triple N Ranch Wildlife Management Area (TNRWMA). Natural community management designed for a set of focal species benefits a host of species reliant upon the same natural communities. Monitoring select species verifies whether natural community management is having the desired effect on wildlife. To maximize the potential wildlife conservation benefit, staff

considers the role of the WMA in regional and statewide conservation initiatives throughout the process.

Section 1 informs the reader about the process used to generate this document.

Section 2 describes the historic and ongoing management actions on the properties.

Section 3 provides a list of the focal and listed species on the area, and an assessment of each species' level of opportunity and need. This includes species-specific objectives that were identified for the gopher frog, gopher tortoise, Bachman's sparrow, brown-headed nuthatch, northern bobwhite, and red-cockaded woodpecker.

Section 4 describes specific land management actions recommended for focal species. Staff identified the need for a Strategic Management Area (SMA) on HH/BCWMA to investigate the potential for enhancement or restoration of Bull Creek. Another SMA spanning both WMAs was identified for the creation of additional red-cockaded woodpecker recruitment clusters. Staff also identified an SMA for a Gopher Tortoise Recipient Site on TNRWMA. Staff also recommended a change to Objective-Based Vegetation Management (OBVM) considerations for assessing pine seedlings within mesic flatwoods. This section also discusses management considerations necessary to ensure continued persistence of focal species.

Section 5 describes species-specific management and monitoring that is prescribed for the area, and identifies any research that would be necessary to guide future management efforts. For this area, we discuss species management actions for the red-cockaded woodpecker. Monitoring is recommended for the gopher frog, gopher tortoise, Bachman's sparrow, brown-headed nuthatch, northern bobwhite, and red-cockaded woodpecker. Opportunistic documentation of encounters with other focal species is recommended.

Section 6 identifies coordination that will assist in conserving these focal species. We identify coordination with 7 other units in FWC and inter-agency coordination with 5 other entities.

Section 7 describes efforts that should occur "beyond the area's boundaries" to ensure 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. Some of the monitoring recommendations may require additional resources, while FWC can accomplish others with continuation of existing resources.

Acronym List

AC	Active Cluster
AHREs	Aquatic Habitat Restoration / Enhancement Subsection
ARCI	Avian Research and Conservation Institute
CPS	Conservation Planning Services (office; formerly Habitat Conservation Scientific Services)
DFC(s)	Desired Future Condition(s)
FFS	Florida Forest Service (formerly Division of Forestry)
FNAI	Florida Natural Areas Inventory
FWC	Florida Fish and Wildlife Conservation Commission
FWLI	Florida's Wildlife Legacy Initiative
FWRI	Fish and Wildlife Research Institute
HGM	Hunting and Game Management (section)
HH/BCWMA	Herky Huffman / Bull Creek Wildlife Management Area
ISM	Imperiled Species Management (section)
MU	Management Unit
NC	Natural Community
OBVM	Objective-Based Vegetation Management
PBG	Potential Breeding Group
PLCP	Public Lands Conservation Planning (project)
PVA	Population Viability Analysis
SCP	Species Conservation Planning (section)
SJRWMD	Saint Johns River Water Management District
SMA	Strategic Management Area
TLWMA	Three Lakes Wildlife Management Area
TNRWMA	Triple N Ranch Wildlife Management Area
USFWS	United States Fish and Wildlife Service
WCPR	Wildlife Conservation Prioritization and Recovery
WHM	Wildlife and Habitat Management (section)
WMA	Wildlife Management Area

Statewide Species Prioritization Parameters

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

Species Common Name	Millsap Report, 2008		Legacy Initiative		PVA on managed lands	
	Biological Score[1]	Supplemental Score[2]	Population Status[3]	Population Trends[4]	Probability of a 50% decline[5]	Populations persisting (to 80 or 100 years)[6]
Gopher Frog	24.6	12	med[7]	**decl**	0	**9% (to 80)**
Eastern Indigo Snake	24.7	16	low	decl	N/A	N/A
Florida Pine Snake	23.7	**15**	med	**decl**	0	**31% (to 80)**
Gopher Tortoise	**27.3**	**17**	med	**decl**	0	**55% (to 100)**
Swallow-tailed Kite	25.7	13	**low**	**unk**	**20%**	**50% (to 100)**
Bachman's Sparrow	16.0	12	med	**decl**	0	**49% (to 80)**
Brown Headed Nuthatch	17.0	13	med	**decl**	0	**25% (to 80)**
Burrowing Owl	15.3	**15**	med	**unk**	**>90%**	**6% (to 100)**
Cooper's Hawk	15.0	12	not a SGCN[8]	not a SGCN	**96%**	100% (to 100)
Crested Caracara	**37.7**	**17**	**low**	**unk**	0	100% (to 100)
Florida Grasshopper Sparrow	**39.7**	**18**	**low**	**decl**	**100%**	**12% (to 100)**

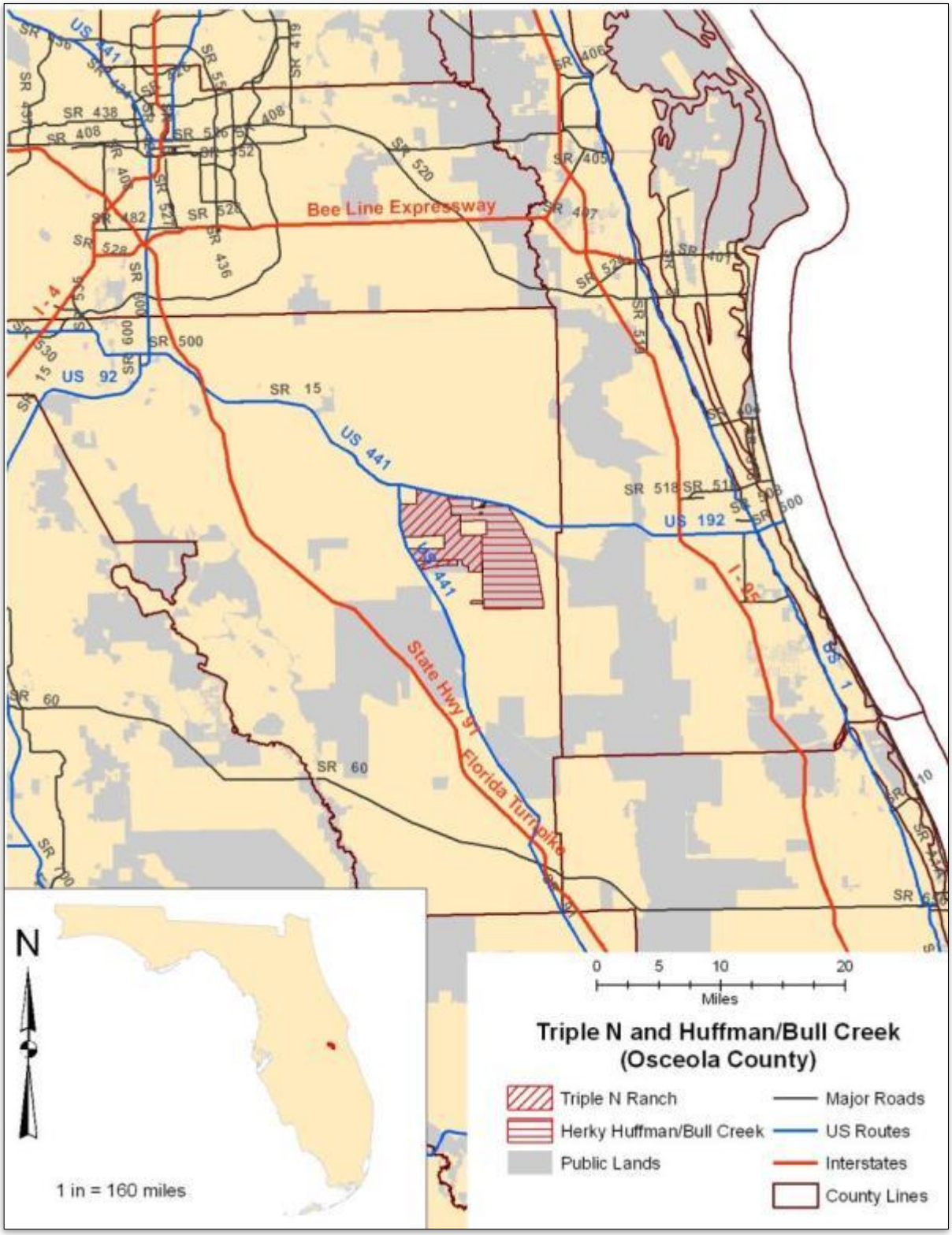
Species Common Name	Millsap Report, 2008		Legacy Initiative		PVA on managed lands	
	Biological Score[1]	Supplemental Score[2]	Population Status[3]	Population Trends[4]	Probability of a 50% decline[5]	Populations persisting (to 80 or 100 years)[6]
Florida's Mottled Duck	17.3	**18**	med	**decl**	**1%**	100% (to 100)
Florida Sandhill Crane	**27.0**	**16**	med	**decl**	0	**33 % (to 80)**
Limpkin	24.3	14	med	**unk**	0	100% (to 100)
Northern Bobwhite	11.0	14	**low**	**decl**	0	100% (to 100)
Red-cockaded Woodpecker	**27.6**	14	**low**	**decl**	0	**45% (to 100)**
Short-tailed Hawk	**30.6**	**15**	**low**	**unk**	**61%**	**50% (to 100)**
Snail Kite	**50.0**	**17**	**low**	**decl**	0	100% (to 100)
Southern Bald Eagle	21.3	10	med	inc[7]	0	100% (to 100)
Wading Birds	23.7	13	n/a	n/a	0	100% (to 100)
Florida Black Bear	**32.7**	13	med	stbl[7]	**5%**	100% to (100)
Florida Panther	**40.3**	**15**	**low**	**unk**	0	100% (to 100)
Sherman's Fox Squirrel	24.0	**17**	**low**	**decl**	0	**28% (to 80)**
Species Common Name	**Millsap Report, 2008**		**Legacy Initiative**		**PVA on managed lands**	
	Biological Score[1]	**Supplemental Score[2]**	**Population Status[3]**	**Population Trends[4]**	**Probability of a 50% decline[5]**	**Populations persisting (to 80 or 100 years)[6]**

Species Common Name	Millsap Report, 2008		Legacy Initiative		PVA on managed lands	
	Biological Score[1]	Supplemental Score[2]	Population Status[3]	Population Trends[4]	Probability of a 50% decline[5]	Populations persisting (to 80 or 100 years)[6]
Gopher Frog	24.6	12	med[7]	**decl**	0	**9% (to 80)**
Eastern Indigo Snake	24.7	16	low	decl	N/A	N/A
Florida Pine Snake	23.7	**15**	med	**decl**	0	**31% (to 80)**
Gopher Tortoise	**27.3**	**17**	med	**decl**	0	**55% (to 100)**
Swallow-tailed Kite	25.7	13	**low**	**unk**	**20%**	**50% (to 100)**
Bachman's Sparrow	16.0	12	med	**decl**	0	**49% (to 80)**
Brown Headed Nuthatch	17.0	13	med	**decl**	0	**25% (to 80)**
Burrowing Owl	15.3	**15**	med	**unk**	**>90%**	**6% (to 100)**
Cooper's Hawk	15.0	12	not a SGCN[8]	not a SGCN	**96%**	100% (to 100)
Crested Caracara	**37.7**	**17**	**low**	**unk**	0	100% (to 100)
Florida Grasshopper Sparrow	**39.7**	**18**	**low**	**decl**	**100%**	**12% (to 100)**
Florida's Mottled Duck	17.3	**18**	med	**decl**	**1%**	100% (to 100)
Florida Sandhill Crane	**27.0**	**16**	med	**decl**	0	**33 % (to 80)**
Limpkin	24.3	14	med	**unk**	0	100% (to 100)

Species Common Name	Millsap Report, 2008		Legacy Initiative		PVA on managed lands	
	Biological Score[1]	Supplemental Score[2]	Population Status[3]	Population Trends[4]	Probability of a 50% decline[5]	Populations persisting (to 80 or 100 years)[6]
Northern Bobwhite	11.0	14	**low**	**decl**	0	100% (to 100)
Red-cockaded Woodpecker	**27.6**	14	**low**	**decl**	0	**45% (to 100)**
Short-tailed Hawk	**30.6**	**15**	**low**	**unk**	**61%**	**50% (to 100)**
Snail Kite	**50.0**	**17**	**low**	**decl**	0	100% (to 100)
Southern Bald Eagle	21.3	10	med	inc[7]	0	100% (to 100)
Wading Birds	23.7	13	n/a	n/a	0	100% (to 100)
Florida Black Bear	**32.7**	13	med	stbl[7]	**5%**	100% to (100)
Florida Panther	**40.3**	**15**	**low**	**unk**	0	100% (to 100)
Sherman's Fox Squirrel	24.0	**17**	**low**	**decl**	0	**28% (to 80)**

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

9 Locator Map



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 for FWC focal species conservation. We then combine 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. Finally, 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 that should be taken 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 that can be used to evaluate the success of wildlife management on the area. Staff considered the goals and objectives included in the Management Plan (formerly known as Conceptual Management Plan) when discussing and assessing the species; 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.

The process to develop an area's Strategy consists of the following steps. First, staff used species-specific habitat models to create statewide potential habitat maps. Then, staff conducted a GIS analysis to determine which of the focal species were modeled have potential habitat on HH/BCWMA and TNRWMA. To prepare for the workshop, we combined local staff knowledge, species-expert knowledge, and area-specific maps of natural communities to refine habitat information for each focal species. Next, we conducted a workshop at which individuals evaluated the area's potential role in conservation of the species. This included discussing the focal species' status, evaluating opportunities for land and species management, and deciding on appropriate monitoring and research actions. Discussion during the workshop also involved identifying intra- and interagency coordination, and any "beyond the boundary" considerations (e.g., working with neighboring landowners) necessary for the management of species. Workshop participants agreed upon area-specific species objectives, a list of necessary actions to achieve these objectives, and the monitoring necessary to verify progress towards objectives. After the workshop, a wildlife Strategy is developed considerate of the notes from the workshop. Staff sends the draft Strategy to species experts and workshop attendees for review prior to finalizing the document.

While this Strategy focuses on the HH/BCWMA and TNRWMA, it considers the role of these areas within the larger state or regional context. Similarly, while the Strategy has species-specific objectives and actions, it does not endorse single-species management. 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 to recover from past declines, or to be restored to formerly occupied habitat. By implementing the Strategy, FWC believes our management will keep common species common, aid in the recovery of listed species, and benefit the largest suite of native wildlife.

Section 2: Historic, Current and Planned Management on Herky Huffman Bull Creek and Triple N Ranch Wildlife Management Areas

2.1: Location, Acquisition, and Influences on Current Condition

Herky Huffman/Bull Creek WMA - In 1967, the Central and Southern Florida Flood Control District purchased the approximately 23,350 acres that became HH/BCWMA. A lease with the Florida Game and Fresh Water Fish Commission (predecessor to the FWC) in 1970 established the property as Bull Creek WMA. In 1977, the land was transferred to the Saint Johns River Water Management District (SJRWMD). The SJRWMD acquired the property to serve as a water detention basin to ensure water supply for navigation, and as a storage area for flood protection. Over time, the responsibilities of SJRWMD for HH/BCWMA expanded to include management and protection of the property's ecological function, and to promote public recreation. In 2010, the SJRWWD transferred management authority for Bull Creek WMA to FWC through a lease agreement. The agencies renamed the WMA the Herky Huffman / Bull Creek WMA in 2010 in memory of former FWC commissioner, Herky Huffman. While FWC has had staff dedicated to management on HH/BCWMA since 1970, the lease transfer effectively made FWC the lead management agency for the site. Additional acres added to HH/BCWMA from the purchase of TNRWMA have brought the total acreage to approximately 23,479.

The HH/BCWMA shares its western boundary with TNRWMA, is connected to the Three Forks Marsh Conservation Area to the east via a conservation easement, and exists in a portion of Florida that has several large pieces of conservation land. Private lands around the WMA generally consist of large tracts utilized for cattle grazing or citrus production.

The HH/BCWMA has several archeological sites, including two non-permanent hunting camps utilized by the Tonycua Indians between 5000 and 3000 B.C. One of the earliest settlers, George W. Hopkins, purchased 104,000 acres in 1902; and HH/BCWMA exists within a portion of this purchase area. Completion of Henry Flagler's east coast railroad to Melbourne opened the area to northern timber markets. On the property that became HH/BCWMA, timber harvests began in 1912 and concluded by 1928. There were no active reforestation efforts. Because of this past management, there are large portions of the property without trees, or with a limited number of trees. This complicates natural community management because it is difficult to distinguish areas of true dry prairie from areas of mesic flatwoods with no pine canopy.

Triple N Ranch WMA - The FWC and SJRWMD acquired the original 8,893-acre Triple N Ranch using Save Our River funds in November 1994. TNRWMA was purchased as an addition to the SJRWMD's Bull Creek Project and was the first tract acquired within the Conservation And Recreation Lands Program's Osceola Pine Savannahs project boundary. One of the purposes for acquisition was to ensure the persistence of prairie wildlife species such as the swallow-tailed kite and crested caracara. Additionally, the purchase allowed the public access to a large area for hunting, wildlife observation, and other outdoor activities. FWC established the tract as the TNRWMA in July 1995. Additional purchases, including the McNamara tract, the Equitable tract, the Yates tract, and the Vanosdol tract, increased TNRWMA to approximately 16,350 acres.

The TNRWMA shares its eastern boundary with HH/BCWMA, lies roughly 4 miles north of Three Lakes Wildlife Management Area (TLWMA), and exists in a portion of the state with several large pieces of conservation land. Private lands around the WMA generally consist of large tracts utilized for cattle grazing or citrus production.

Previous landowners used much of the Osceola Pine Savannahs for grazing cattle on native groundcover. On much of the property throughout this region, including TNRWMA, the level and duration of grazing is believed to have been low, as damage to native groundcover was minimal. Beginning in the 1960s, native groundcover or "native range" in Osceola County was reduced from 333,000 acres to 127,000 acres. This conversion to non-native sod-forming grasses has continued to occur, which makes TNRWMA's intact natural communities particularly unique. Wiregrass (*Aristida stricta*) remained prevalent on the WMA when it was originally acquired, which suggests the previous owners regularly burned the property.

Extensive logging occurred during the 1920s-30s to provide timber to a mill located in Holopaw, just north of the WMA. Cypress (*Taxodium* sp.) harvesting occurred throughout Osceola County, including on TNRWMA (particularly the southern portion). Currently, TNRWMA's flatwoods contain a sparse canopy of longleaf pine (*Pinus palustris*) with pockets of young saplings. The continued use of frequent, low-intensity prescribed fire in these areas should allow for the eventual use of uneven-aged forest management. Portions of the Equitable tract were used for citrus production and remained in this condition upon acquisition by the state.

2.2: Management and Monitoring Since State Acquisition – HH/BCWMA

The Florida Natural Areas Inventory (FNAI) completed current and historic plant community mapping at HH/BCWMA as part of FWC's OBVM program (Table 1). Through the OBVM workshop process, staff delineated management units (MUs) and defined the desired future conditions (DFCs) for the actively managed natural communities. Fortunately, much of HH/BCWMA's natural communities remain in good condition with intact groundcover.

The primary land management tool utilized on the property is prescribed fire, which is the most cost-effective means to enhance and maintain natural communities. There are approximately

17,832 acres of fire-dependent communities on HH/BCWMA. Staff plans to burn an average of 7,000 acres/year with a running average of 5,500 acres/year actually burned. In MUs with herbaceous groundcover below desired levels, staff uses roller-chopping in concert with prescribed fire to reduce palmetto height and density, thereby encouraging groundcover growth. Although HH/BCWMA is fortunate in that it has a limited amount of exotic invasive plant species, chemical control of cogon grass (*Imperata cylindrica*) and old world climbing fern (*Lygodium microphyllum*) occurs opportunistically as staff detect these species.

Recreational activities occurring on HH/BCWMA include hiking, horseback riding, bird watching, and hunting. Hunts on HH/BCWMA occur during all of FWC's major hunting seasons. The WMA's main roads remain open to the public at all times and a campground is located at the main entrance and check station.

Current wildlife monitoring by FWC on HH/BCWMA includes annual spotlight surveys for white-tailed deer (*Odocoileus virginianus*) and an ongoing population study of red-cockaded woodpeckers. Staff implemented a fall covey count for Northern Bobwhite in 2011 and produced an estimate of 1 bird per 1.9 acres. White-tailed deer populations remain stable and continue to provide good hunting opportunities. Section 3.2.15 contains detailed information on the status of red-cockaded woodpeckers on HH/BCWMA.

Current staff for the 23,479-acre property include one Biological Scientist III and one Biological Technician. Because HH/BCWMA and TNRWMA are contiguous and staffing levels are low, staff from both WMAs work together to efficiently manage the properties. Given this, management on either WMA would be hampered without the resources from the other WMA.

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

Natural Community	**Estimated Current Acres**	**Estimated Historic Acres**	**Actively Managed[1]**	**# of Focal Species That Use the NC**
Baygall	285	159		2
Depression Marsh	967	1,176		5
Dome Swamp	1,429	1,329		5
Dry Prairie	528	530	Yes	9
Floodplain Swamp	2,853	2,746		6

Hydric Hammock	1,179	1,198		4
Mesic Flatwoods	11,805	12,316	Yes	14
Mesic Hammock	176	20		5
Pasture – Improved	26	0		11
Pasture – Semi-improved	2	0		11
Pine Plantation	9	0		7
Ruderal	460	0		11
Sandhill	5	5	Yes	12
Scrub	160	160	Yes	4
Scrubby Flatwoods	959	1,237	Yes	8
Wet Flatwoods	2,059	1,961	Yes	8
Wet Prairie	577	642	Yes	5
TOTAL ACRES	23,479	23,479		

[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.

2.3: Management and Monitoring Since State Acquisition – TNRWMA

The FNAI completed plant community mapping at TNRWMA as part of FWC's OBVM program (Table 2); however, due to the relatively intact condition of the natural communities, historic plant community mapping was not done. Through the OBVM workshop process, staff delineated MUs and defined the DFCs for the actively managed natural communities.

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

Natural Community	**Acreage mapped**	**Actively Managed[1]**	**# of Focal Species That Use the NC**
Baygall	206		2
Depression Marsh	749		5
Dome Swamp	2,204		5

Dry Prairie	479	Yes	9
Hydric Hammock	829		4
Mesic Flatwoods	7,988	Yes	14
Mesic Hammock	49		5
Pasture – Improved	1,169		11
Pasture – Semi-improved	94		11
Ruderal	850		11
Scrub	43	Yes	4
Scrubby Flatwoods	311	Yes	8
Wet Flatwoods	324		8
Wet Prairie	1,046	Yes	5
Xeric Hammock	5		6
TOTAL ACRES	**16,346**		

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

As with HH/BCWMA, prescribed fire is the main management tool staff uses to enhance and maintain natural communities on TNRWMA. Groundcover is generally in good to excellent condition throughout the area's fire-dependent natural communities. TNRWMA has approximately 10,931 acres of fire-dependent natural communities, and roughly 1,457 acres of ruderal and improved pasture that experience occasional prescribed fire. Staff plans to burn 6,000 acres annually and have burned an average of 5,888 acres annually over the last 5 years. In addition to prescribed fire, staff uses roller-chopping as a management tool to reduce palmetto cover where necessary. To date, staff have roller-chopped over 2,000 acres.

Grazing occurs on 9,103 acres of native range on TNRWMA. The current grazing contract allows for up to 130 cattle grazing units (defined as a cow and her offspring) on the designated area. To prevent the spread of tropical soda apple (*Solanum viarum*), all cattle must be quarantined for 6 days prior to being released onto TNRWMA.

Exotic plants are sparse on northern portions of the property, and more prevalent within the ruderal areas on the southern portions. Staff aggressively treats cogon grass, old-world climbing

fern, Brazilian pepper (*Schinus terebinthifolius*), tropical soda apple, Australian pine (*Casuarina equisetifolia*), melaleuca (*Melaleuca quinquenervia*), and torpedo grass (*Panicum repens*).

Habitat restoration is needed on the acres that have been completely altered. In 2007, staff began restoration of mesic flatwoods that had been converted to citrus by previous landowners. All canals and beds were restored to original topography, and staff initiated planting 88 acres in native groundcover. Once the groundcover has responded and can successfully carry fire, staff will facilitate planting of longleaf pine to continue the restoration process.

Recreational activities occurring on TNRWMA include hiking, horseback riding, bird watching, and hunting. Hunts on TNRWMA include a special opportunity deer season, a special opportunity spring turkey season, a regular quota wild hog season, and a small game season. A campsite is located at the check station and camping is allowed only during the various hunting seasons. Unlike HH/BCWMA, roads on TNRWMA do not remain open year round. Vehicular access is limited to named and numbered roads, which are only open during the various hunting seasons.

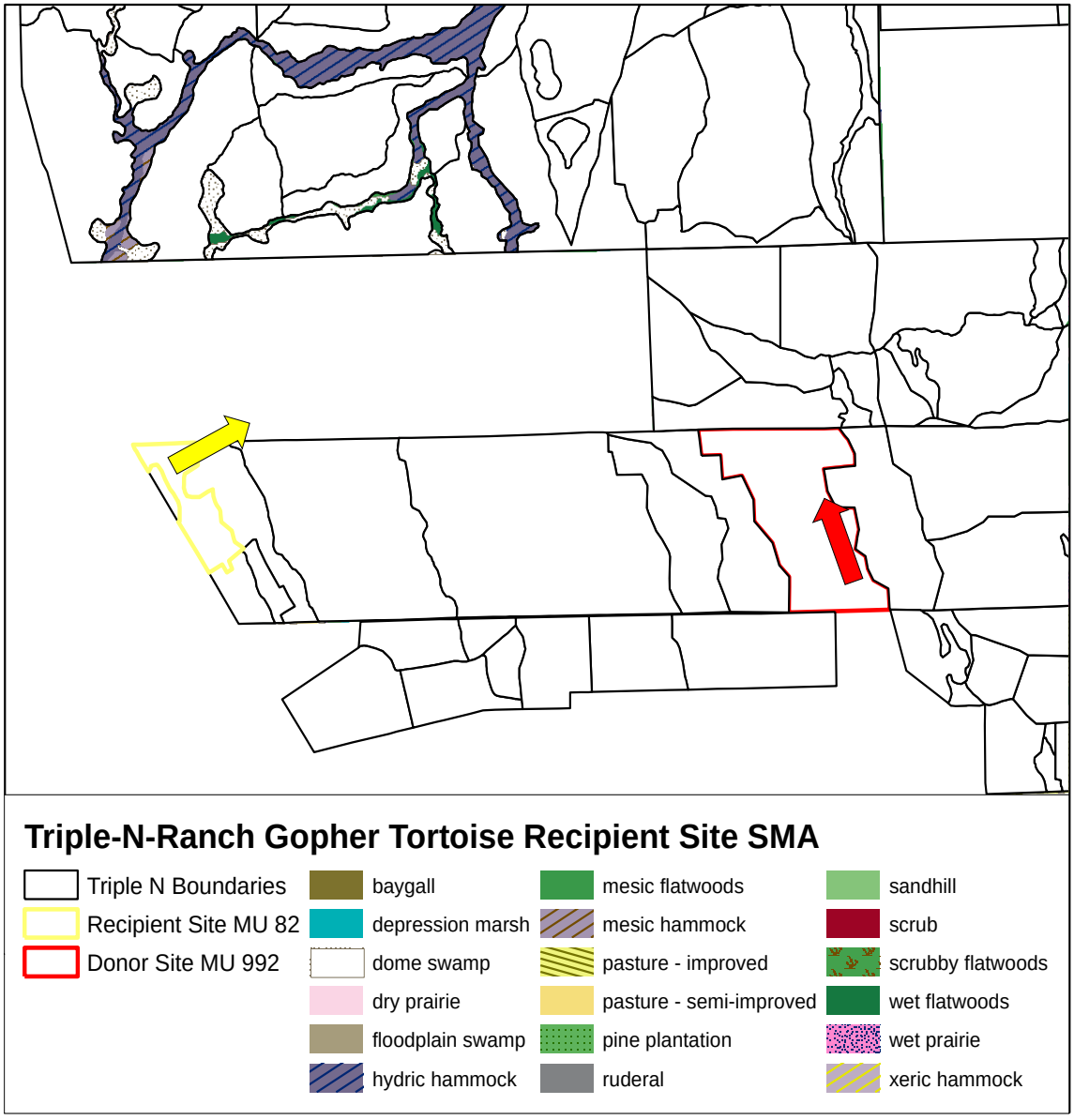
Current wildlife monitoring by FWC on TNRWMA includes annual spotlight surveys for white-tailed deer, an ongoing population study of red-cockaded woodpeckers, and fall covey counts for Northern bobwhites. White-tailed deer populations remain stable and continue to provide good hunting opportunities, with a 5-year average density of 14 deer/square mile. Because TNRWMA is adjacent to HH/HH/BCWMA, the RCWs found on both properties are treated as one population. A total of 8 active clusters and 17 individual RCWs occur on the combined areas. According to the WMA's management plan for RCWs, the area (including both TNRWMA and HH/HH/BCWMA) can support up to 47 potential breeding groups. Section 3.2.15 contains detailed information on the status of red-cockaded woodpeckers on HH/BCWMA and TNRWMA. In 2007, staff initiated fall covey counts on TNRWMA to evaluate and track through time the number of bobwhite prior to the hunting season. Results from these surveys have varied from a high of 1 bird/2.5 acres in 2007 to a low of 1 bird/3.9 acres in 2008.

The Hunting and Game Management Division (HGM; Section 6.1.2) selected TNRWMA for development of a shooting range. Rather than alter any natural communities for the range, HGM selected 83-acres of the 'East Grove' improved pasture tract in Management Unit (MU) 992. During a pre-construction assessment in March 2015, surveyors observed 51 potentially occupied gopher tortoise (*Gopherus polyphemus*) burrows in the proposed shooting range construction project site. In order to abide by agency policy for regulating gopher tortoises, FWC was issued a Conservation permit to relocate the tortoises within TNRWMA to an area undergoing ground-cover restoration (GCR). The 40-acre relocation site, located adjacent to US 441 in the 'Office North' GCR tract of MU 82 (Figure 1), was selected to be the recipient site for the tortoises, and FWC was required to comply with the FWC Gopher Tortoise Permitting Guidelines. Contractors from Ecological Consulting Solutions, Inc. constructed the temporary enclosure around the site, and assessed the area for habitat composition and tortoise density prior to the relocation. In April 2015, these consultants moved 14 adult tortoises from the shooting range site to the recipient site, where the

gopher tortoises will be monitored and managed. More details regarding this management are in the gopher tortoise assessment (Section 3.2.4).

The current staff level for HHBCWMA and TNRWMA includes one Biological Scientist III, two Biological Scientist IIs, and two Wildlife Technicians.

Figure 1. Management units and natural communities associated with gopher tortoise relocation on TNRWMA. Consultants moved 14 adult tortoises to a 40-acre recipient site in MU 82 to accommodate the construction of a shooting range on MU 992.



Section 3: Area Focal Species

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 to monitor the influences of natural community management on select wildlife. To achieve a focused, science-informed approach to species management, FWC uses the focal species concept embraced by the Wildlife Habitat Conservation Needs in Florida project. This concept, if applied correctly, allows one to identify the needs of wildlife collectively by strategically focusing on a subset of wildlife species. The subset of species selected as focal species includes umbrella species, keystone species, habitat specialist species, 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 with the base layer for all models being the FWC's 2003 landcover data. Considering the natural history of species, staff selected additional data layers such as the species' range, soils used, land use, etc. As such, each model is species specific. Once statewide potential habitat maps were available, a PVA was conducted for each focal species.

The statewide landcover-based habitat models identified the same 22 of the 60 focal species to have potential habitat on both WMAs (Section 3.1). One additional species, the eastern indigo snake (*Drymarchon couperi*), was added because of its conservation importance. Staff created more accurate area-specific potential habitat maps by using the same statewide model for each focal species on the area but replacing the landcover data with area-specific natural community data. The resulting potential habitat map was then refined based on the input of local managers and species experts. All potential habitat acreage estimates provided in Section 3.2 are the results of this area-specific model and resulting map.

The HH/BCWMA and TNRWMA WCPR Workshop on January 25-26, 2012 brought decision makers together to assess species' opportunities and needs, determine required actions including monitoring, identify measurable objectives, and identify necessary coordination efforts. WCPR staff compiled information on the focal species in a workbook to facilitate informed discussion of the species. Participants at the workshop discussed the "level of opportunity and need" for each species. This included considering the number of statewide prioritizations the species triggered (Statewide Species Prioritization Table), the long-term security of the species (i.e., examining PVA results), if the species occurs in actively managed communities (Table 1 and Table 2), if the species is management responsive, and any other local overriding considerations (e.g., status of species in the region, local declines/extirpations). A brief summary of the opportunity and need assessment for each focal species is available in Section 3.2.

3.1: Focal Species

Workshop participants assessed the following 23 species for their level of opportunity or need on both properties. Species that have a measurable objective are indicated with a [1], and species for which monitoring is recommended are indicated with a [2], and species for which a SMA is

recommended are identified with a [3]. Occasionally, statewide models indicated a species had potential habitat on the area, but the local assessment indicated there is little opportunity to manage for these species on the area and they should not be a focus of management on the area. These species are identified with an *.

Gopher frog (*Lithobates [Rana] capito*) [1, 2]

Eastern indigo snake (*Drymarchon couperi*)

Florida pine snake (*Pituophis melanoleucus mugitus*)

Gopher tortoise (*Gopherus polyphemus*) [1, 2, 3]

American swallow-tailed kite (*Elanoides forficatus*)

Bachman's sparrow (*Peucaea [Aimophila] aestivalis*) [1, 2]

Brown-headed nuthatch (*Sitta pusilla*) [1, 2]

Burrowing owl (*Athene cunicularia floridana*)

Cooper's hawk (*Accipiter cooperii*)

Crested caracara (*Caracara cheriway*)

Florida grasshopper sparrow (*Ammodramus savannarum floridanus*) [*]

Florida mottled duck (*Anas fulvigula*)

Florida sandhill crane (*Grus canadensis pratensis*)

Limpkin (*Aramus guarauna)*[3]

Northern bobwhite (*Colinus virginianus*) [1, 2]

Red-cockaded woodpecker (*Picoides borealis*) [1, 2, 3]

Short-tailed hawk (*Buteo brachyurus*)

Snail kite (*Rostrhamus sociabilis plumbeus*) [*]

Southern bald eagle (*Haliaeetus leucocephalus*)

Wading birds (*Multiple spp.*) [3]

Florida black bear (*Ursus americanus floridanus*)

Florida panther (*Puma concolor coryi*)

Sherman's fox squirrel (*Sciurus niger shermani*)

3.2: Focal Species Opportunity and Needs Assessment

This section provides an assessment of the opportunity for management and needs of each of the focal species. Because all federally listed species are FWC-listed, we will provide only the federal listing status for federally listed species. When a species is not federally listed but is FWC-listed, we will provide the FWC listing status. The FWC 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 warrants a revision to any of these assessments. Revisions will be amended to the strategy.

Unless otherwise noted, all reported acres of potential habitat are the result of using the area-specific natural community data in the species' potential habitat model. These estimates include all the area mapped in a natural community identified as potential habitat including patches that may not be contiguous with other suitable habitat. During the workshop, participants considered the spatial arrangement and habitat patch size when assessing the potential role these WMAs play in the conservation of each species. For species that require larger habitat patches, we considered the continuity and condition of habitat on lands adjacent to the WMAs. We presume that by doing the actions called for in this strategy, we will ensure both areas fulfill their role in the conservation of wildlife.

3.2.1: Gopher Frog

Gopher frogs occur on both HH/BCWMA and TNRWMA with staff occasionally hearing their vocalizations when in the field. Staff is working with FWC herpetologists to document the overall distribution of gopher frogs and to identify specific breeding ponds on either WMA. Surveys completed in spring 2012 identified a single breeding pond, but it is possible others exist. In Florida, gopher frog habitat is a subset of gopher tortoise habitat that contains fishless ephemeral wetlands in which gopher frogs breed. After breeding, gopher frogs move back into surrounding upland habitat within a mile of the breeding pond. They prefer native, fire-maintained xeric habitats with intact groundcover, but can persist in areas with some habitat alteration. Gopher frogs often occupy gopher tortoise burrows, but they will use rodent and crayfish burrows, stump holes, and hollow logs.

Gopher frogs in Florida are an FWC-listed species of special concern. Considered a moderate priority statewide, this species triggers 2 of 6 prioritization parameters (priorities table). On HH/BCWMA, models identified 17,023 acres of gopher frog potential habitat with 17,795 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 11,368 acres of gopher frog potential habitat. While little is known about specific habitat requirements or home range size, experts presume that both areas have enough potential habitat to support viable gopher frog populations providing more breeding ponds exist.

Management actions that benefit gopher frogs include the continued use of frequent prescribed fire in mesic flatwoods, scrubby flatwoods, dry prairie, scrub, and isolated wetlands

occurring within this matrix of uplands. On both WMAs, the continued use of prescribed fire in these natural communities will provide benefit to this species. Additional land management recommendations for gopher frogs can be found in Section 4.3.1. Because ongoing efforts to maintain or enhance the natural community structure and function on both areas will be sufficient to meet this species' needs, no SMA is required. There are no specific species management actions for gopher frogs at this time.

Monitoring would be useful for tracking gopher frog use of breeding ponds over time on both areas. Information on the location and abundance of this species should be shared with FWRI (Section 6.1.3). However, it may be necessary to identify additional resources to complete this monitoring. Gopher frog call-counts or dipnetting of breeding ponds could be conducted with assistance from FWC herpetologists and committed volunteers if they can be identified (Section 5.2.1). Additionally, the monitoring protocol for gopher frogs requires very specific weather conditions that can complicate implementation. If baseline monitoring is not possible given current staff resources, opportunistic documentation of gopher frogs or breeding ponds is recommended.

The goal for both areas is to support a viable population of gopher frogs. Staff will accomplish this goal by protecting known breeding ponds and continuing to apply frequent prescribe fire in gopher frog habitat. Assuming monitoring is a reasonable action, the measurable objective is to:

1. Conduct a baseline survey to determine the general spatial distribution of breeding ponds on both areas by 2015.

2. Repeat these surveys on an approximate 5-year interval to track use of breeding ponds (depending on suitable weather conditions).

3.2.2: Eastern Indigo Snake

Eastern indigo snakes are rarely observed on either WMA. Generally associated with sandhill, scrub, and scrubby flatwoods, indigo snakes also use pine flatwoods, dry prairies, hardwood hammocks, marsh edges, and agricultural fields. Gopher tortoise burrows are important refuge sites for indigo snakes and provide protection from cold and desiccation. Indigo snakes also will use cotton rat burrows, hollowed tree stumps, ground litter, trash piles, and rock piles for refuge.

The indigo snake was added to the focal species list for these WMAs because it is a federally-listed species and triggers 3 of 4 available prioritization parameters (priorities table). On HH/BCWMA, models identified 18,172 acres of potential habitat with 18,760 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 11,634 acres of potential habitat. The body of research for indigo snakes suggests that at least 4,000 acres of habitat are required to support a viable population. Given this, each WMA has enough potential habitat to support a viable population. In reality, indigo snakes occurring on either WMA likely function as a single population that also uses adjacent private lands.

Management actions that maintain or enhance habitat for this species include prescribed fire and mechanical treatments that aid in restoring natural community structure and function. Stumps and other coarse woody debris should be retained during land management activities as potential refuge sites (Section 4.3.2).

Because there is no adequate monitoring technique available for this species, no measurable objectives have been identified. However, opportunistic monitoring is recommended (Section 5.2.6) and the results should be shared with FWRI (Section 6.1.3). Although drift-fence surveys will not provide population level information on this species, future drift-fence surveys conducted on the area should include the use of large upland snake traps to ensure adequate detection of large snakes such as the indigo or pine snake.

The goal for both WMAs is to support indigo snakes on these WMAs. This will be accomplished by continuing to apply frequent prescribed fire in upland communities that could be used by indigo snakes. Although these areas can accommodate the needs of this species, the continued presence of this species on these WMAs is supported by conditions on private lands that influence the regional population. Accordingly, some coordination with FWC's Conservation Planning Services (CPS; Section 6.1.5) is recommended to ensure adjacent private landowners are aware of the habitat needs and conservation of indigo snakes.

3.2.3: Florida Pine Snake

There is no documentation of Florida pine snakes occurring on HH/BCWMA or TNRWMA. In 2012, pine snakes were documented on TLWMA, south of HH/BCWMA and TNRWMA. Although pine snakes use a number of plant communities, they typically occupy areas with sandy soils, a well-developed grassy understory, and sparse pine canopy, such as upland pine and sandhill communities. Pine snakes actively seek out and burrow into pocket gopher mounds to capture pocket gophers, which are a major source of food for this species. The absence of pocket gophers, however, does not directly correlate to an absence of pine snakes.

The Florida pine snake triggers 3 of 6 prioritization parameters (priorities table) and is an FWC-listed species of special concern. On HH/BCWMA, models identified 11,240 acres of potential habitat with 11,530 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 9,343 acres of potential habitat. According to the literature, pine snakes and indigo snakes have similar home range sizes, and >2,471 acres of suitable habitat are required to support a viable population of pine snakes. The majority of potential habitat for pine snakes on both WMAs occurs in mesic flatwoods with dry soils, which does not reflect optimal habitat. However, the interspersion of more xeric communities like scrub, sandhill, and scrubby flatwoods around these mesic sites can support snakes during flooding events. Given this arrangement of potential habitat on both WMAs, the large size of these WMAs, the physical connection to each other, and the good to excellent condition of their natural communities, there is a good opportunity for management to support pine snakes if they occur.

Management actions that maintain or enhance habitat for this species include prescribed fire and mechanical treatments that promote appropriate groundcover. Stumps and other coarse woody debris should be retained during land management activities as potential refuge sites (Section 4.3.2). Efforts to restore and maintain natural community structure and function on both WMAs will benefit pine snakes; therefore, no SMA is recommended.

Because there is no adequate monitoring technique available for this species, no measurable objectives have been identified. However, opportunistic monitoring is recommended (Section 5.2.6). Although drift-fence surveys will not provide population level information on pine snakes, any future drift-fence surveys conducted on these areas should include the use of large upland snake traps to ensure adequate detection of large snakes.

The goal for both WMAs is to support pine snakes on these WMAs. This will be accomplished by continuing to apply frequent prescribed fire in upland communities that could be used by pine snakes. Although these areas can accommodate the needs of this species, the continued presence of pine snakes on these WMAs is supported by conditions on adjacent private lands that influence the regional population. Accordingly, some coordination with FWC's Conservation Planning Services (CPS; Section 6.1.5) is recommended to ensure adjacent private landowners are aware of the habitat needs and conservation of pine snakes.

3.2.4: Gopher Tortoise

Gopher tortoises are common on both HH/BCWMA and TNRWMA. On HH/BCMWA, tortoise burrows generally occur in low densities throughout mesic flatwoods with drier soils. Pockets of scrub and scrubby flatwoods appear to have a higher density of burrows than flatwoods, but no assessment on the status or distribution of tortoises has been completed on HH/BCWMA. On TNRWMA, tortoise burrows are common in pockets of scrubby flatwoods and occur occasionally in mesic flatwoods.

The gopher tortoise is a management-responsive species that can serve as an indicator of properly managed upland pine or grassland communities. It prefers xeric upland communities maintained with fire that helps perpetuate the groundcover on which it feeds. Ecologists consider the gopher tortoise a keystone species because many other species, including focal species such as the Florida mouse and gopher frog, use tortoise burrows. This FWC-listed threatened species triggers 4 of 6 prioritization parameters (priorities table), making it a high priority species statewide. The FWC approved a gopher tortoise management plan in 2007 that placed emphasis on increasing the number of tortoises on public lands. The FWC is in the process of revising this plan with the revision scheduled for completion in September 2012, and the revised plan retains the emphasis on habitat restoration on public lands.

On HH/BCWMA, models identified 11,583 acres of potential habitat with 11,884 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 9,694 acres of potential habitat. Although there is considerable discussion in the

literature about the amount of habitat required to maintain a viable population, both areas have more potential habitat than even the most conservative estimates, and therefore are capable of supporting a viable population.

There is a high level of opportunity on both HH/BCWMA and TNRWMA to maintain habitat suitable for gopher tortoises and maintain good tortoise densities. Further, the maintenance of suitable habitat for gopher tortoises will benefit a number of other wildlife species. Much of the potential habitat within mesic flatwoods on both WMAs is presently in good to excellent condition and is subject to frequent prescribed fire. Ongoing efforts to maintain natural community structure and function in these flatwoods with prescribed fire will continue to benefit the gopher tortoise. Scrub and scrubby flatwoods on HH/BCWMA presently are in fair condition for tortoises; mechanical vegetation treatments, where required, in advance of prescribed fire would help reduce shrub heights, promote open ground, and improve herbaceous cover. These actions would provide direct habitat benefits for gopher tortoises. Additional land management recommendations are found in Section 4.3.3.

In April 2015, consultants began construction on a FWC-approved shooting range in MU 992 (see Section 2.3). During a pre-construction survey of MU 992, consultants found that the ruderal agricultural field contained a low-density of gopher tortoises (51 potentially occupied burrows over 82 acres of habitat) that would need to be moved from the footprint of the shooting range. To accommodate this relocation, area staff and HGM identified a 40-acre block of habitat on MU 82 that had been undergoing ground cover restoration (GCR), and contained no resident gopher tortoises (Figure 1). At the time of construction, the herbaceous groundcover on MU 82 was in good condition to support gopher tortoises, and species experts believed the habitat would benefit from tortoise restocking.

In spring 2015, consultants built a temporary enclosure around the area in MU 82 to accommodate the release of 14 tortoises from the donor area in MU 992. Prior to the relocation, consultants monitored the habitat conditions and tortoise population as required by the FWC Gopher Tortoise Permitting Guidelines for relocating gopher tortoises (Appendix 12). To accommodate the other special management and monitoring considerations required by the relocation permit, this area was identified as the Gopher Tortoise Recipient Site SMA (Section 4.1.3). The identification of this SMA ensures that future management will enhance and maintain suitable habitat conditions for the relocated gopher tortoises, and benefit the overall tortoise population on TNRWMA. Staff should manage and monitor the area as detailed in the SMA section throughout the lifetime of the Strategy (Section 4.1.3).

As a management-responsive species, density and abundance of tortoises can be indicators that land management activities are having a positive influence. Due to the size of these WMAs, monitoring this species will be time consuming and expensive. However, the completion of a baseline tortoise survey on both areas would be beneficial in providing additional guidance on the effect of management practices (Section 5.2.2). Current resource levels make accomplishing this effort difficult, and additional resources are required to accomplish the baseline survey. Funds

requested through the annual enhancement list would support conducting the baseline, and any subsequent, monitoring for tortoises.

The goal for both areas is to maintain a viable population of gopher tortoises. This will be achieved by maintaining habitat in a suitable condition. If resources are obtained, the measurable objectives are:

1. Complete a baseline assessment (including burrow scoping if possible) of gopher tortoise burrow distribution and density on both WMAs by 2016.

2. Repeat these assessments on a 5-10 year interval, pending resource availability.

3.2.5: American Swallow-Tailed Kite

Swallow-tailed kites are occasionally seen on both HH/BCWMA and TNRWMA. Staff has not documented nesting on either property, but do report seeing groups of swallow-tailed kites foraging or loafing over the areas during the breeding season. The Avian Research and Conservation Institute (ARCI), a research organization that conducts statewide research on swallow-tailed kite and short-tailed hawk populations, suggests that there is some potential for nesting to occur on both WMAs. ARCI also indicates the areas may be important for providing foraging habitat to swallow-tailed kites that are moving through the landscape. Regionally, one of the largest pre-migratory roosts for swallow-tailed kites in Florida occurs on Lake Hellen Blazes, located approximately 6 miles from HH/BCWMA. ARCI estimates 1,000–2,000 individuals use this lake from late June to early August in advance of their migratory flight south. As stated in the Osceola Pine Savannahs Florida Forever project proposal, one of the purposes for acquisition of lands in the project area, including TNRWMA, was to ensure the persistence of prairie wildlife species such as the swallow-tailed kite. As such, management on TNRWMA needs to be compatible with swallow-tailed kite conservation needs.

Swallow-tailed kites are habitat generalists and utilize a variety of natural communities on both WMAs. Open areas are used for foraging, and trees that are dominant or taller than surrounding trees are preferred as nest trees. Shrub height and density tends to be higher around nest sites. Because this species has high nest site fidelity, maintaining suitability of nesting areas is important. Riparian areas and cypress strands along Bull Creek provide the best potential nesting habitat due to their large, continuous acreage.

American swallow-tailed kites trigger 4 of 6 statewide prioritization parameters (priorities table), making them a moderate statewide priority. On HH/BCWMA, models identified 15,649 acres of potential habitat with 16,303 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 12,584 acres of potential habitat.

American swallow-tailed kites are not typically considered management-dependent and the opportunity to affect this species at the management area level on HH/BCWMA and TNRWMA is low. However, ongoing efforts to maintain natural community structure and function will benefit

swallow-tailed kites. Management actions that maintain or enhance habitat for this species include prescribed fire and mechanical actions that aid in restoring natural community structure, as this maintains foraging habitat. FWC's management that protects riparian areas and cypress strands will ensure the existence of potential nesting sites. If staff observes swallow-tailed kite nesting activity, this information should be documented and reported (Section 5.2.6). If nests are located on the area, protective measures around these sites will be applied (Section 4.3.4), and the nest will be reported to ARCI (Section 6.4).

Because this species has low management opportunity, it is not a good species to monitor to verify the effect of management, and area-specific objectives for this species are not needed. Cooperation with ARCI for future monitoring efforts is encouraged to further define the regional needs of the species and the role of both WMAs. There is no need to establish a SMA as there is no specific management that could be applied specifically for the benefit of this species.

The area goal is to promote suitable foraging and nesting habitat for the American swallow-tailed kite that will allow kites using these WMAs to function as part of a regional population. While the continued presence of American swallow-tailed kites is dependent on conditions affecting the regional population, the amount of potential habitat on these WMAs and the adjacent conservation areas increases the likelihood that swallow-tailed kites will continue to persist and utilize these WMAs.

3.2.6: Bachman's Sparrow

Bachman's sparrows are common throughout both WMAs. Staff reports this species as being widespread throughout frequently burned mesic flatwoods and dry prairie on both WMAs. Nesting has not been documented but it is believed to be occurring. No specific monitoring to determine the spatial distribution or relative abundance of Bachman's sparrows has been completed on either WMA. Bachman's sparrows prefer mature open pine forests, dry prairies, or old-field communities with a healthy herbaceous groundcover maintained with frequent prescribed fire. Research suggests Bachman's sparrows prefer fire return intervals of 18-24 months. Current management on HH/BCWMA and TNRWMA provides suitable habitat for this species.

The Bachman's sparrow triggers 2 of 6 prioritization parameters (priorities table) and is currently experiencing range-wide population declines. Regionally, Bachman's sparrows have been documented on nearby conservation areas and are common on TLWMA. On HH/BCWMA, models identified 12,337 acres of potential habitat with 12,851 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 8,467 acres of potential habitat. Literature suggests a viable population can be maintained on around 520 acres, which suggests both areas have enough potential habitat to support a local population of Bachman's sparrows.

Management actions that benefit this species include the frequent application of prescribed fire, which is already occurring throughout the majority of mesic flatwoods and dry prairie on both

properties. Continuing efforts to apply prescribed fire on both WMAs provide the opportunity for maintaining habitat suitability for Bachman's sparrows; therefore, no SMA is required. Additional land management recommendations for Bachman's sparrow can be found in Section 4.3.5.

Staff does not monitor Bachman's sparrows on either HH/BCMWA or TNRWMA, largely due to limitations in resources. Because Bachman's sparrows are management responsive, some level of monitoring (Section 5.2.3) is recommended as a means to track the continued affect of prescribed fire and other management actions on the area's wildlife species. Because this species is common and responds well to current management practices, monitoring can occur infrequently (e.g., every 3 years) to verify their continued presence. Any decline in Bachman's sparrows on either WMA should result in additional monitoring to determine the cause. Volunteers may be an effective mechanism to complete monitoring activities for Bachman's sparrows. Monitoring for Bachman's sparrows can be accomplished simultaneously with monitoring for brown-headed nuthatches.

The goal for both areas is to continue to support viable Bachman's sparrow populations. Measurable objectives are:

1. Conduct a baseline survey on both WMAs by 2015.
2. Repeat avian monitoring surveys on a 3-year interval.

3.2.7: Brown-Headed Nuthatch

Brown-headed nuthatches are common throughout the mesic flatwoods of both HH/BCWMA and TNRWMA. While breeding has not been documented, it is suspected to be occurring on both properties. This species is dependent on open stands of mature pine. Older pine forests (>35 years for longleaf-slash pine) and stands with basal area between 35–50 ft^2/ acre are preferred, although nuthatches can use pine stands with younger trees and higher basal areas. This cavity-nesting species is dependent on the presence of snags for suitable nesting habitat.

This species triggers 2 of 6 prioritization parameters (priorities table) and is currently experiencing range-wide declines due to habitat loss and degradation. Regionally, nuthatches have been documented on nearby conservation areas and are common on TLWMA. On HH/BCWMA, models identified 13,877 acres of potential habitat with 14,282 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 8,312 acres of potential habitat. Literature suggests 1,000 acres of habitat is necessary to support a viable population, therefore, both WMAs could support a viable population.

Management actions that benefit this species include frequent application of prescribed fire, which is ongoing throughout the majority of mesic flatwoods on both properties. The average basal area for TNRWMA is around 15 ft^2/ acre, which may somewhat reduce the area's suitability for nuthatches. However, basal areas on TNRWMA will increase with time and should enhance the area's role for nuthatches. Ongoing efforts to maintain natural community structure and function on both WMAs have a high opportunity to maintain or improve the current habitat suitability for

nuthatches. Because current management practices aimed at maintaining natural community structure and function are sufficient, no SMA is required. Efforts to protect and allow for the creation of snags during land management activities will further improve habitat suitability (Section 4.3.6).

Staff does not monitor brown-headed nuthatches on either HH/BCMWA or TNRWMA, largely due to limitations in resources. As with Bachman's sparrows, some level of monitoring (Section 5.2.4) for nuthatches is recommended as one way to track the continued affect of prescribed fire and other management actions on this snag-dependent species. Because this species is common and responds well to current management practices, monitoring can occur infrequently (e.g., every 3 years) to verify their continued presence. Any decline in nuthatches on either WMA should result in additional monitoring to determine the cause.

The goal for both areas is to continue to support viable brown-headed nuthatch populations. Measurable objectives are:

1. Conduct a baseline survey on both WMAs by 2015.

2. Repeat avian monitoring surveys on a 3-year interval.

3.2.8: Burrowing Owl

There is no documentation of burrowing owls occurring on either HH/BCMWA or TNRWMA. Burrowing owls require open, treeless areas with low groundcover and sandy soils in which they excavate burrows. Historically, burrowing owls predominately utilized dry prairie habitat. Currently, most burrowing owl populations utilize non-native habitats and are frequently found on altered landscape features, such as pasture and berms or canal banks. This species uses underground burrows extensively, particularly during the spring for nesting and in the winter for protection from predators. Optimal habitat for this species includes soils that remain dry during times of peak burrow use. Much of the current burrowing owl habitat occurs on private land and in urban areas in danger of development. Therefore, even small populations occurring on public land are significant.

The burrowing owl is a species of special concern in Florida and triggers 4 of the 6 prioritization parameters (priorities table). The literature suggests areas that can support at least 30 pair have potential to persist. This species is loosely colonial with reported densities of 0.44 pairs per acre (0.18 pairs/ha). On HH/BCWMA, models identified 879 acres of potential habitat with 530 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 1,238 acres of potential habitat. Occurrence records indicate burrowing owls have been documented on TLWMA as well as private lands south of TLWMA. There is a record of burrowing owls from River Lakes Conservation Area, which is located northeast of HH/BCWMA.

Dry prairie, which occurs as small, isolated patches scattered across the properties, accounts for 1,007 acres (528 on HH/BCWMA, 479 on TNRWMA) of the modeled potential habitat. A large spoil berm on HH/BCWMA's eastern boundary and a 500-acre block of improved pasture on

TNRWMA represents the majority of the remaining potential habitat. Using density estimates reported for burrowing owls (0.44 pairs/acre), the WMAs together could potentially support 443 pairs on dry prairie communities alone. With the addition of potential habitat in pastures and ruderal sites, there is enough acreage, in theory, to support a viable population on these WMAs. Dispersal estimates for burrowing owls suggest it is reasonable to assume all patches of potential habitat on both WMAs would function to support a single, viable population. However, no burrowing owls have been documented on either WMA and the status of owls on private lands around these WMAs is unknown. Given these factors, these WMAs currently play a minimal role in the conservation of this species.

However, because pasture is included in the borrowing owl potential habitat model and there is a large amount of ranchland in this part of Florida, the habitat model indicates considerable acres of potential habitat on private lands around HH/BCWMA and TNRWMA. FWC's Conservation Planning Services staff (Section 6.1.5), which works with private landowners, indicates that burrowing owls likely occupy some private lands near these conservation lands. While these WMAs currently play a minimal role in the conservation of this species, if burrowing owls do disperse onto these WMAs, there would be a high opportunity for management activities to support their persistence.

The continued use of frequent prescribed fire in dry prairie communities is compatible with the needs of this species and will maintain the treeless canopy and low stature groundcover this species prefers. Section 4.3.7 contains additional land management recommendations for this species. Translocation is not currently a viable option for this species and staff believes that if the habitat is suitable, burrowing owls will naturally colonize this property. Opportunistic documentation of burrowing owls is recommended (Section 5.2.6).

The goal for both WMAs is to continue to maintain habitat in a condition that allows for the potential occupancy by burrowing owls. There are no measurable objectives at this time; however, this should be re-evaluated in future Strategies should burrowing owls be detected.

3.2.9: Cooper's Hawk

The Cooper's hawk is common on HH/BCWMA and TNRWMA. Commonly associated with woodlands, this species will nest in a variety of habitats including swamps, floodplain and bottomland forests, sand pine scrub, and baygalls. Nest trees are usually located close to an edge in dense stands of oaks or pine, and nests usually are placed near the crown of a tree. 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 both properties.

The Cooper's hawk triggers 1 of 6 prioritization parameters (priorities table). On HH/BCWMA, models identified 18,817 acres of potential habitat with 16,249 acres modeled to occur if management could restore all natural communities. This apparent reduction in acreage with restoration is an artifact of the modeling process that over-emphasizes the need for a mosaic of

different natural communities. As such, much of the area historically served as, and will continue to serve as, potential habitat. On TNRWMA, models identified 10,257 acres of potential habitat.

Cooper's hawks are not typically considered management-dependent and the opportunity to influence this species at the management-area level is low. However, ongoing efforts to apply prescribed fire and mechanical treatments designed to maintain natural community structure and function will benefit the Cooper's hawk by enhancing prey abundance while providing adequate nest sites.

Because the opportunity to manage the Cooper's hawk is low, local monitoring is not recommended. Species-specific objectives or a SMA would be inappropriate given that there is no management to apply specifically for the Cooper's hawk. 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 (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 if feasible (Section 4.3.8).

The area goal is to provide suitable foraging and nesting habitat that will allow Cooper's hawks using HH/BCWMA and TNRWMA to function as part of a regional population. While the continued presence of the Cooper's hawk on these WMAs is dependent on conditions that influence the regional population, the recent population increases experienced by this species and the amount of potential habitat on the WMAs and in the surrounding landscape greatly increase the chance of persistence of this species.

3.2.10: Crested Caracara

Crested caracaras are occasionally seen on both HH/BCWMA and TNRWMA; nesting has not been documented, but managers feel there is potential for it to occur on-site. Regionally, caracaras have bred on the Whaley Conservation Easement and TLWMA, south of TNRWMA. Caracaras prefer to forage in open areas with low ground and shrub cover, conditions that are maintained with fire, grazing, or mechanical treatments. Caracaras typically build their nests in a cabbage palm (*Sabal palmetto*) in an open area with scattered trees. Caracaras have high nest site fidelity; therefore, protection of known nest sites is important.

The crested caracara is federally listed as threatened and triggers 4 of 6 prioritization parameters (priorities table), making it a high statewide priority. A majority of the crested caracara population in Florida occurs on private lands where they take advantage of the open condition created for ranching. However, this dependence on private lands contributes to the threats of habitat loss and degradation. On HH/BCWMA, models identified 12,537 acres of potential habitat with 12,865 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 10,577 acres of potential habitat.

Given that caracaras have relatively large home range sizes (average of 3,000 acres), these two WMAs could be important to the regional caracara population as they could potentially support

up to 7 breeding pairs. Additionally, the proximity to private ranchlands and other conservation lands with potential habitat increases the likelihood that there is a regional population of caracaras utilizing both the public and private lands.

Ongoing efforts to restore and maintain the WMAs' plant community structure and function through prescribed fire, and roller chopping where palmetto coverage is too high, will benefit caracaras. Because these actions are sufficient, there is no SMA required for this species. The presence of pre-dispersal young with adults will be recorded. If there is reason to believe nesting is occurring, an attempt will be made to document the nest (Section 5.2.6). When nests are detected, staff will implement protective measures (Section 4.3.9). Since much of the state's caracara population utilizes private lands, coordination with private landowners through FWC's CPS staff will be necessary to ensure persistence on and around HH/BCWMA and TNRWMA (Section 6.1.4).

The areas' goal is to maintain appropriate natural communities in a condition suitable to ensure the crested caracaras occurring on both WMAs function as a part of the regional population. There are no measurable objectives recommended. While these properties have a role in supporting the regional caracara population, ultimately, the continued existence of this species on these WMAs is dependent on conditions that influence the regional population. However, the amount of potential habitat on the conservation lands in this part of Florida, including these WMAs, in combination with the current use of nearby private lands, greatly enhance the chance of persistence.

3.2.11: Florida Mottled Duck

Mottled ducks are rarely observed on either WMA. Regionally, mottled ducks occupy the TM Goodwin Waterfowl Management Area, located approximately 10 miles southeast of HH/BCWMA. Additionally, the Florida Breeding Bird Atlas has confirmed breeding by mottled ducks in Osceola County. Natural communities on both WMAs are likely to support individual ducks foraging through the landscape and may provide nesting opportunities. Nesting females tend to locate their nests on the ground in dense vegetation clumps (tall grasses, rushes, or palmetto thickets) occurring in otherwise open area near water. Mottled ducks nest in dry marshes, pine flatwoods, citrus groves, and urban areas. Habitats these ducks avoid include wet prairies, shrub and forested wetlands, open water, and deeply flooded areas. This species prefers shallow water less than 10 inches deep and wetlands with emergent vegetation. Management activities that promote a mosaic of open water and cover within shallow emergent wetlands can enhance foraging habitat. In uplands adjacent to appropriate wetlands, management practices that maintain a generally open condition with some interspersion of cover such as thick patches of grass or palmetto will enhance nesting opportunities.

The mottled duck is not listed by either the FWC or the United States Fish and Wildlife Service (USFWS), and triggers 2 of the 6 statewide prioritization parameters (priorities table). Being a Florida endemic and a popular game species, the Florida mottled duck is a medium priority statewide. On HH/BCWMA, models identified 2,135 acres of potential habitat with 2,348 acres modeled to occur if management could restore all natural communities. On TNRWMA, models

identified 2,267 acres of potential habitat. Both WMAs have ephemeral wetland communities embedded within the larger upland communities. These types of wetlands may be suitable as foraging habitat when inundated, but are not used during dry periods. On these WMAs, the dry season often coincides with the mottled duck nesting season.

While basin marshes and depression marshes are not actively managed natural communities, prescribed fire is allowed to burn into and across wetlands, which helps reduce hardwood encroachment. This will benefit mottled ducks using these marshes for foraging. Staff's use of frequent, low-intensity prescribed fires in the adjacent uplands is compatible with the nesting habitat needs of mottled ducks.

Because the existing use of prescribed fire in uplands and wetlands will create and maintain any potential mottled duck habitat, no SMA is recommended. FWC's Waterfowl program monitors this species at the State level, so local monitoring is not necessary. However, opportunistic observations of nesting activity and juveniles will be recorded (Section 5.2.6).

The goal for both WMAs is to enhance and maintain a mosaic of suitable wetland and upland habitats that will allow mottled ducks using these WMAs to function as part of a regional population. While the continued existence of this species on these WMAs is dependent on conditions that influence the regional population, the proximity of the WMAs to important mottled duck habitat on existing conservation lands increases the chance of long-term persistence.

3.2.12: Florida Sandhill Crane

The Florida sandhill crane is common on HH/BCWMA and TNRWMA. Staff has documented nesting on TNRWMA, and has seen juveniles on both properties. This species uses a combination of shallow wetlands and open upland habitats with a majority of the vegetative cover $\leq$20 inches in height. Standing water is an important component of nesting habitat for Florida sandhill cranes. Nests consist of herbaceous plant material mounded in shallow water or marshy areas. Home range size varies seasonally and regionally, with adult pairs requiring approximately 300-600 acres per pair. Habitat used includes a mosaic of emergent palustrine wetlands and open uplands such as pasture, prairie, and open pinelands. Historically, fire maintained the open condition in these habitats; but managers can use fire, cattle grazing, and mechanical actions to create and maintain acceptable conditions.

The Florida sandhill crane is a FWC-listed threatened species that triggers 4 of 6 prioritization parameters (priorities table), making it a moderate to high statewide priority. Concern for ongoing loss of habitat on private lands makes conservation of this species on State lands more of a priority. Sandhill cranes will occupy the same territory for many years, and typically move only when necessitated by environmental conditions (e.g. drought) or deteriorating habitat.

On HH/BCWMA, models identified 15,963 acres of potential habitat with 16,624 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 11,848 acres of potential habitat. Species experts indicate that areas with at least 1,200

acres of suitable crane habitat can support 6 pairs, and 6 pairs can persist at least in the short term. Therefore, these WMAs may have an important role in maintaining this species, particularly in combination with other conservation and private lands located nearby. While there are limited occurrence records around these WMAs, private and public lands in this part of Florida are known to be frequently used by cranes. Given this, both WMAs have good potential to support the regional stability of this species.

Management actions that will benefit sandhill cranes include prescribed fire and mechanical treatments that maintain upland habitat in the open condition cranes prefer. Protection of nesting habitat is also essential. Because current management actions on HH/BCWMA and TNRWMA support the habitat needs of sandhill cranes, it is not necessary to designate an SMA. Staff may find sandhill crane nests while conducting ongoing management actions and actions taken for other species. When this occurs, nest locations will be documented. This level of monitoring is not sufficient to be considered a full count, and will therefore be opportunistic (Section 5.2.6). Staff will share observations of nesting activity with appropriate entities (Section 6.5). When nests are detected, management activities will be planned to avoid disturbance (Section 4.3.10).

The areas' goal is to maintain appropriate natural communities in a condition suitable to the species to ensure the Florida sandhill cranes occurring on these WMAs function as a part of the regional population. While these properties have a role in supporting the regional sandhill crane population, ultimately, the continued existence of this species on these WMAs is dependent on conditions that influence the regional population. However, the amount of potential habitat on the conservation lands in this part of Florida, including these WMAs, in combination with the current use of nearby private lands, greatly enhance the chance of persistence for this species.

3.2.13: Limpkin

Limpkins occasionally occur on HH/BCWMA and are rarely seen on TNRWMA. Nesting has not been documented. Limpkins typically inhabit freshwater marshes, swamps, springs, and spring runs. Limpkins are highly mobile and influenced by regional water levels and the availability of prey items, including apple snails (*Pomacea paludosa*). The status and distribution of apple snails on both WMAs is unknown; although the best potential habitat for apple snails (and limpkins) occurs along Bull Creek.

Limpkins are a FWC-listed species of special concern and trigger 1 of 6 prioritization parameters (priorities table). On HH/BCWMA, models identified 5,888 acres of potential habitat with 5,892 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 4,001 acres of potential habitat. It is not known if this is enough habitat to support an independent population of limpkins, but limpkins using either WMA are part of a larger regional population. Regionally, limpkins are known to occur throughout this portion of Florida with records on TLWMA. The Florida Breeding Bird Atlas has confirmed breeding of limpkins in Osceola County.

Prescribed fire in wet prairie and wet flatwoods enhances foraging opportunities and can prevent shrub encroachment of wetland systems. Allowing prescribed fire to burn into marsh systems will maintain or improve habitat conditions and continue to promote use of these wetlands by limpkins. As mentioned above, Bull Creek and its associated riparian community represent the best potential habitat for limpkin on these WMAs. Typically, these creek systems and riparian edges are within non-managed natural communities. Unless there is a need for treating exotic species or restoration from past human actions, these communities need little directed management. Bull Creek, however, has been negatively affected by past water retention practices that have flooded the canopy hardwoods. The loss of these canopy trees resulted in an explosion of wetland vegetation within Bull Creek's main channel. This excess vegetation has reduced water flow to the point where the main channel is difficult to identify and is not navigable. Restoration of this creek system could improve its suitability for apple snails and enhance the creek's potential to serve as foraging and nesting habitat for limpkins. Given the potential to benefit limpkins and wading birds, we recommend a SMA to examine the potential for enhancement or restoration of Bull Creek (Section 4.1.1).

Because this species has significant dispersal capabilities and is impacted by regional water levels, monitoring is not recommended because it would be difficult to determine if any documented change was reflective of local management or regional conditions. However, opportunistic observations of juveniles or nesting will be recorded (Section 5.2.6). Sections 6.2 and 6.5 describe coordination recommendations with SJRWMD and FNAI.

The areas' goal is to maintain and enhance natural communities to provide high quality wetlands that allow limpkins utilizing the WMAs to function as a part of the regional population. While it is improbable any except the largest of conservation lands could independently sustain a population of limpkins and what happens to the regional population will influence the long-term persistence of this species on these WMAs. However, the proximity of the WMAs to important limkpin habitat on existing conservation lands increases the chance of long-term persistence.

3.2.14: Northern Bobwhite

Northern bobwhite (quail) are common on both HH/BCWMA and TNRWMA, and nesting is common. Staff has used fall covey counts to monitor quail on TNRWMA since 2007. The results of these surveys have varied from a high of 1 bird/2.5 acres in 2007 to a low of 1 bird/3.9 acres in 2008, with an average of 1 bird/2.9 acres. Monitoring of quail on HH/BCWMA during fall 2011 indicated an average of 1 bird/1.9 acres. This represents a very high density of quail on the landscape and is a reflection of the quality of land management applied by area staff. Check stations are used to collect data on quail harvest on both areas. Staff compare these numbers against fall density estimates to ensure a sustainable number of individuals are harvested annually. To date, harvest levels have never exceeded 15% of the fall estimate and typically are less than 5%. Staff also collects wings at the check stations to get an annual ration of juveniles to adults for the population.

Quail have experienced significant range-wide population declines since the 1980s and are currently a major focus of many initiatives including the Upland Ecosystem Restoration Project. Quail are typically associated with open canopy forests and grassland communities dominated by warm-season grasses, legumes, and patchy bare ground. Quail use areas with dense herbaceous cover for brooding and foraging; shrubs or other thickets are useful as roosting habitat or escape cover. Managers can use the frequent application of prescribed fire to create the mosaic of vegetation conditions this species requires to meet its life history needs.

Quail trigger 2 of 6 prioritization parameters (priorities table). On HH/BCWMA, models identified 15,823 acres of potential habitat with 16,299 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 11,112 acres of potential habitat. As the literature suggests that 2,000-4,000 acres are necessary to support a viable population, it appears these areas do support a viable population. Monitoring data from TNRWMA would support this conclusion.

Most of the potential quail habitat on both WMAs is currently in good to excellent condition. The focus on using frequent fire in mesic flatwoods and dry prairie has produced, and should maintain, a nice interspersion of cover types desired by northern bobwhites. MUs with higher than desired palmetto cover are being roller-chopped in advance of fire. This should further improve habitat conditions for quail. Because ongoing management activities will continue to support a viable local population of quail on both WMAs, no SMA is recommended. Additional land management recommendations for quail are found in Section 4.3.11. Monitoring of quail through the continued use of fall covey counts is recommended (Section 5.2.3). Check stations should continue to monitor harvest rates and collect wings for assessment. Survey results and harvest information should be shared with FWC's quail biologist (Section 6.1.2).

The goal for both WMAs is to continue to maintain a viable population of bobwhites. Management actions have produced a very healthy population of quail and it is likely these areas will continue to provide habitat as long as management resources continue to be available. The measurable objectives are:

1. Maintain a 3-year average density of 1 bobwhite per 2-4 acres indefinitely.
2. Over the life of this Strategy, monitor harvest and consider additional regulations if the 3-year average harvest rate exceeds 15% of the area's estimated northern bobwhite population.

3.2.15: Red-Cockaded Woodpecker

Red-cockaded woodpeckers on HH/BCMWA and TNRWMA have a patchy distribution throughout both WMAs and staff manages these birds as a single population (the BC3N population). In 2000, there was 1 active cluster (AC) with 1 potential breeding group (PBG) each on HH/BCWMA and on TNRWMA. The population was low and unstable from 2003-2005, but increased until 2008 when it leveled off at 8 ACs. As of 2012, there were 11 ACs containing 9 PBGs.

The red-cockaded woodpecker requires open, mature pine woodlands that have a diversity of grass, forbs, and shrub species. Red-cockaded woodpeckers nest in cavities in older living pines. Optimal foraging and nesting habitat for the species includes a reduced hardwood component and limited mid-story height. Frequent fire is necessary to maintain the open forest structure this species prefers. This species is management responsive and can be an indicator of properly managed pine stands. It is often considered an umbrella species as many other species benefit from management designed for this species.

Red-cockaded woodpeckers are federally endangered, and this species triggers 4 of 6 prioritization parameters (priorities table). The only prioritization parameters not triggered are the PVA parameters. However, the results of this PVA should be used with caution as several of the model's assumptions are not suited to this species, and the model had a starting population higher than the known population. This species is a moderate to high priority statewide.

The FWC Red-cockaded Woodpecker Management Plan created 6 management units throughout Florida. The BC3N population exists within the South-Central Peninsula Management Unit. The FWC statewide plan set an objective of supporting 166 ACs with 133 PBGs in the South-Central Peninsula Management Unit by the year 2020. As of 2012, the South-Central Peninsula Management Unit contained 126 ACs with 116 PBGs on public lands plus a handful of ACs and PBGs on private lands. The South-Central Peninsula Management Unit contains 4 metapopulations: Avon Park, Big Econ, Saint Sebastian, and Three Lakes. The BC3N population is part of the Three Lakes metapopulation, which, in addition to the BC3N population, also contains the birds on TLWMA and on a piece of private land south of HH/BCWMA known as Escape Ranch. The FWC statewide plan set an objective of supporting 72 ACs with 58 PBGs in the Three Lakes metapopulation by 2020. As of 2010, the metapopulation had 63 PBGs. While the metapopulation objective has been met, the South-Central Peninsula Management Unit objective has not been met.

At the federal level, the USFWS management plan puts the BC3N population within the larger South/Central Florida Recovery Unit. This Recovery Unit contains multiple conservation lands from Big Cypress National Preserve in the south to Camp Blanding in the north. The federal recovery plan for this species calls for a delisting goal of 400 PBGs in the South/Central Florida Recovery Unit, with a number of populations containing >40 PBGs. Populations with >40 PBGs are believed to have a higher chance of long-term persistence.

On HH/BCWMA, models identified 14,836 acres of potential habitat with 15,519 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 9,163 acres of potential habitat. Depending on habitat conditions, each PBG may need anywhere from 125 to 400 acres, with south and central Florida having some of the largest reported home ranges. The literature suggests that populations with 10 well-clumped PBGs have reasonable short-term persistence; populations with at least 30 well-clumped PBGs should allow for moderate persistence; and at least 100 PBGs are necessary to avoid the risk of inbreeding and stochasticity. Staff estimates the habitat on BC3N could support 47 PBGs in the future.

Staff drafted a BC3N-specific red-cockaded woodpecker management plan to guide management decisions. This plan calls for the addition of 8 new recruitment clusters across both properties in 2011-2015. Discussions with area staff suggest re-evaluating the focus of red-cockaded woodpecker management on these WMAs to support core areas and building around them. This approach has been successful in growing the local area population.

In areas that currently hold ACs and PBGs, existing management activities should be sufficient to maintain this species over time. Management at these sites include frequent prescribed fire on a 2-3 year return interval, with staff applying water or foam around nest trees before the burn to minimize damage. In areas where new clusters are to be located, specific management actions including, but not limited to, exotic species control, midstory control, and palmetto reduction may be required prior to fire. MUs 56 and 57 on HH/BCWMA historically held woodpeckers; these areas are unoccupied as of February 2012. Management activities like mowing and/or roller-chopping in combination with prescribed fire is recommended to improve habitat suitability. Additional land management recommendations for red-cockaded woodpeckers can be found in Section 4.3.12.

Reforestation efforts did not follow the logging that occurred in the early 1900s. As a result, many flatwoods on HH/BCMWA and TNRWMA have pine basal areas that are currently too low for this species, and mature pines that could serve as cavity sites are limited on both properties. These reduced basal areas may reduce connectivity between ACs due to the limited amount of sites where new clusters could naturally occur. Because of the BC3N population's importance in supporting the regional conservation of red-cockaded woodpeckers, and the limited areas in which mature pines currently exist, a SMA is recommended for MUs where recruitment clusters and artificial cavities will be developed (Section 4.1.2). Additionally, we recommend the monitoring of pine recruitment during OBVM sampling as a means to track natural reforestation. Staff should examine the results of this monitoring over the life of this Strategy to identify potential areas, if needed, where understocked sites exist.

Species management (Section 5.1.1) includes the addition of new clusters (recruitment clusters), restoration of historical clusters, installation of artificial cavities (inserts, drilled cavity starts, and complete drilled cavities) to supply AC with $\geq$4 suitable cavities, and translocating birds. Management has been successful at increasing this population over the last 10 years. Fledgling production has increased annually since monitoring began. The current population (as of 2011) of 28 individuals includes 8 translocated birds. Staff has translocated 4-6 juvenile red-cockaded woodpeckers to this population every year since 2005 (with the exception of 2010). Of the 34 individuals translocated to these properties, 9 became breeders on-site, 1 joined a cluster as a helper, and 5 became breeders on TLWMA. The 8 translocated birds currently breeding have produced 32 chicks since 2007. Without the infusion of translocated birds, it is unlikely this population would have persisted.

The BC3N population has a high number of recruitment clusters, largely because of the requirement to have 2 recruitment clusters available per pair of translocated birds. Recruitment

clusters are sites that are currently unoccupied but have foraging habitat and cavity trees in suitable condition. Assuming that existing land management and monitoring continues, there is a high opportunity for these WMAs to support the regional stability of this species.

Population monitoring is required to remain eligible to receive translocated birds. Monitoring activities include determining cluster status, tree activity and cavity use, group size, reproduction, and survival data (Section 5.2.5). In addition to maintaining the current level of occupied clusters, future management actions will focus on expanding the spatial distribution of red-cockaded woodpeckers on HH/BCWMA and TNRWMA. Staff also should continue to be involved with the red-cockaded woodpecker Southern Range Translocation Cooperative (Section 6.6).

The area goal is to grow the red-cockaded woodpecker population to 30 PBGs as quickly as possible. Obtaining this goal will require the continuation of resources that allow for the active prescribe fire program, the installation of artificial cavities, and the translocation of red-cockaded woodpeckers. The ultimate goal is to have > 40 PBGs. The measurable objectives are:

1. Ensure all active clusters are maintained annually with at least 4 suitable cavities per cluster for the breeding season.

2. Increase the population to at least 15 PBGs by 2022.

3.2.16: Short-tailed Hawk

The status of the short-tailed hawk on both HH/BCWMA and TNRWMA is unknown; staff has never documented the species on the WMAs. There is a record of an adult short-tailed hawk on TNRWMA from 1989 and another record on Three Forks Marsh Conservation Area from 1992. Conversations with ARCI suggest these properties have good potential to support foraging short-tailed hawks and a limited opportunity for nesting.

The short-tailed hawk is an elusive species that breeds in dense or open woodland stands in wetlands, cypress swamps, and bayheads. Vegetation surrounding nest trees is often very dense, making it difficult to locate and assess nests from the ground. This species exhibits high nest-site fidelity, emphasizing the need to locate and preserve nest sites. Foraging habitat includes prairies and open areas adjacent to breeding sites. Transitional zones and ecotones may be important components of foraging habitat for this species. The short-tailed hawk triggers 6 of 6 prioritization parameters (priorities table), making it a high priority.

On HH/BCWMA, models identified 6,689 acres of potential habitat with 6,124 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 6,849 acres of potential habitat. On HH/BCWMA, the best potential nesting habitat occurs within the variety of narrow cypress strands and the floodplain swamp of Bull Creek. Ecotones here quickly transition from thick shrubs to the more open flatwoods where short-tailed hawks can actively forage. On TNRWMA, most of the potential habitat could be used for foraging

due to its open condition. Crabgrass Creek has a narrow band of floodplain swamp adjacent to the creek; it could have some potential to support nesting short-tailed hawks.

Short-tailed hawks are not typically considered management-dependent and the opportunity to influence this species at the management-area level on these WMAs is low. However, ongoing efforts such as prescribed fire, removal of exotic vegetation, and mechanical actions that aid in restoring natural community structure will benefit short-tailed hawks by maintaining the suitability of foraging habitat.

Because this species is not a good indicator of management and is difficult to monitor, no measurable objective or SMA is recommended. Monitoring for this species will be opportunistic (Section 5.2.6), and should include season and color phase. Observations of this species will be shared with ARCI (Section 6.4) and FNAI (Section 6.5). If a nest is identified, nest protection guidelines surrounding the nest site will be followed (Section 4.3.13).

The goal is to continue to provide suitable foraging and nesting habitat for the short-tailed hawk that will allow individuals using these WMAs to function as part of a regional population. However, the presence of short-tailed hawks on-site is dependent on conditions that influence the larger statewide population.

3.2.17: Southern Bald Eagle

Staff report occasionally seeing bald eagles flying through HH/BCWMA and TNRWMA. Five nests have been documented within 5 miles of these WMAs, including one nest in the southwest corner of TNRWMA. This nest was last active in 2007(it was surveyed last in 2009). These properties occur several miles east of the Kissimmee Chain of Lakes, a core nesting area for bald eagles as identified by the FWC Bald Eagle Management plan.

The bald eagle does not trigger any of the prioritization parameters (priorities table), but is protected by specific legal rules and requirements under the Bald and Golden Eagle Protection Act. The FWC approved a Bald Eagle Management Plan in 2008 to ensure the continued recovery of this species. On HH/BCWMA, models identified 2,986 acres of potential habitat with 2,824 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 3,436 acres of potential habitat.

Southern bald eagles are habitat generalists, use a number of natural communities, and are not typically considered management-dependent. Eagles generally nest within forested areas close to large amounts of open water where fish and other prey can be easily obtained. Because large bodies of water are not found on or adjacent to either HH/BCWMA or TNRWMA, these areas will have a reduced role in the conservation of this species. However, ongoing efforts to maintain both areas' natural community structure and function will benefit this species by providing potential foraging or loafing habitat for individuals moving across the landscape. Management actions that maintain or enhance habitat for this species include managing for mature stands, and applying prescribed fire and mechanical actions that aid in restoring natural community structure. Actions to

enhance or restore the flow of Bull Creek (Section 4.1.1) may provide additional foraging habitat to eagles.

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 bald eagle nesting is documented on site, the nest will be reported via the FWC eagle nest website. Managers will follow management guidelines around existing and future nesting sites (Section 4.3.14).

The area goal is to provide suitable habitat that will allow individuals using these WMAs to function as part of a regional population. While the continued use of these WMAs by the bald eagle is dependent on conditions that influence the regional population, the recent population growth experienced by the species and the occurrence of core nesting areas nearby increases the potential for continued use.

3.2.18: Wading Birds

Of the 8 focal species of wading birds, the white ibis (*Eudocimus albus*) is commonly seen, and the wood stork (*Mycteria americana*), great egret (*Ardea alba*), snowy egret (*Egretta thula*), and tricolored heron (*E. tricolor*) are occasionally seen on these areas. The little blue heron (*E. caerulea*) is rarely seen, and the roseate spoonbill (*Platalea ajaja*) and reddish egret (*E. rufescens*) are not typically seen on either WMA. There are no nesting colonies documented on either WMA.

Statewide, this group of species is a moderate priority (priorities table). Several species are FWC-listed species of special concern and the USFWS lists the wood stork as endangered. The Millsap biological scores for the reddish egret, little blue heron, and wood stork are high. Florida's Wildlife Conservation Plan identified the snowy egret, little blue heron, and roseate spoonbill as having declining population trends, while the tricolored heron and white ibis have unknown trends. Reddish egret and roseate spoonbill were identified as having low population status. On HH/BCWMA, models identified 8,771 acres of potential habitat with 8,567 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 4,313 acres of potential habitat.

Natural community management that includes prescribed fire and exotic plant control in wet prairie and wet flatwoods will enhance and maintain these natural communities in good condition for wading birds. Nesting colonies typically occur within areas of high shrub or tree cover over open water. On both properties, this type of habitat is not common; the exception being portions of the riparian edge along Bull Creek. Given this, the SMA to investigate enhancement or restoration of Bull Creek has good potential to benefit this group of species (Section 4.1.1). Opportunistic documentation of any nesting activity is recommended (Section 5.2.6), and any known nesting colonies will be protected from disturbance (Section 4.3.15).

The goal is to enhance and then maintain the suitability of habitat for these species to allow the wading birds using these WMAs to function as part of a regional population. By maintaining suitable foraging and potential nesting habitat, these WMAs, in combination with other public lands, can

increase the potential for the regional persistence of wide-ranging species like wading birds. While regional water management decisions will influence the long-term persistence of these species on both WMAs , it is likely both properties will continue to see use by wading birds due to large amount of conservation lands throughout this region.

3.2.19: Florida Black Bear

Black bears, or their sign, are rarely noted on either HH/BCWMA or TNRWMA. Both properties are not associated with the primary or secondary range of any of the state's major bear populations as identified by the FWC Bear Management Plan. The nearest known population of bears occurs within the Glades/Highlands population located in Glades and Highlands Counties on the west side of the Kissimmee River. Black bear are capable of significant dispersal; however, it is typically dispersing males that move long distances. Because females tend to establish a home range near where they were born, this species is slow to colonize new breeding territory, and tends to grow out from existing populations. Therefore, it is unlikely these WMAs will be part of a breeding population in the near future.

Formally FWC-listed as threatened, FWC removed the black bear from the threatened list in 2012 after biological review and the development of a statewide Bear Management Plan. This species triggers 2 of 6 prioritization parameters (priorities table). Home range sizes vary according to resource availability and the level of habitat fragmentation on the landscape. A mosaic of flatwoods, swamps, scrub oak ridges, bayheads, and hammocks provides adequate den sites, a diversity of seasonally abundant food sources, and cover when traveling between these habitat types.

On HH/BCWMA, models identified 18,218 acres of potential habitat with 21,607 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 11,303 acres of potential habitat. While this is not enough habitat to support an independent population, it is adequate for providing foraging habitat for individual bears that are moving through the landscape. Given the distance between occupied bear range and HH/BCWMA and TNRWMA, these WMAs have a low opportunity to affect the conservation of bears. Conversations with FWRI's bear research staff supports the conclusion that bears occurring on these WMAs are most likely moving through the landscape in search of mates or new territories. Because of this, the role of HH/BCWMA and TNRWMA is to support this species by providing travel corridors for dispersing individuals.

Existing management actions should be sufficient to support the area's role for bears, therefore no SMA is recommended. These large areas with limited human activity and the interspersion of creeks and wetlands should provide enough space and cover for individual bears moving through the landscape. While denning is very unlikely on these WMAs, staff should follow additional management recommendations if dens are located or suspected (Section 4.3.16).

Monitoring Florida's bear population is best done at the landscape level by the FWC's Bear Management Program, and there is no need for area-specific bear monitoring. Opportunistic documentation of bear sightings should be noted and any dens should be reported to FWRI (Section 6.1.3). The goal for both areas is to promote suitable dispersal habitat for black bears, where appropriate.

3.2.20: Florida Panther

Panthers, or their sign, are a rare occurrence on both HH/BCWMA and TNRWMA. However, radio-collared panthers [dispersing males] have been documented on both properties and on private lands adjacent to the WMAs. These WMAs do not fall within the primary or secondary range for this species as identified by the USFWS Panther Recovery Plan. Florida panthers use a variety of habitats that generally consist of forested uplands and wetlands interspersed with open habitats, such as freshwater wetlands, dry prairie, old fields, pasture, and agricultural land. While several studies found a proportionally higher use of forested habitat types, non-forested habitats are important for hunting and maintaining prey species and serve as travel corridors between resting sites. This species triggers 4 of the 6 statewide prioritization parameters (priorities table) and is a high priority.

On HH/BCWMA, models identified 15,944 acres of potential habitat with 16,243 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 9,670 acres of potential habitat. Primary habitat zones for Florida panther, as identified by the federal Recovery Plan, occur south of the Caloosahatchee River. This river defines the northern boundary of the breeding range for this species. Despite this, dispersing males are known to move north of the river and do occasionally pass through these WMAs.

While HH/BCWMA and TNRWMA are not part of the primary or secondary range of Florida panthers, a model did identify these WMAs as part of a >124 square mile patch of potential habitat north of the Caloosahatchee River that panthers could use for future population expansion. The report suggested these WMAs, along with TLWMA, would have good connectivity with potential panther habitat on a nearby patch that includes the Avon Park Air Force Range and other conservation lands adjacent to the Air Force Range (> 602 square miles of potential habitat). Establishment of a population here, however, would require the natural movement of breeding females north of the Caloosahatchee River or the translocation of individuals into these habitat patches. The likelihood of any translocation activities occurring is extremely low. Given these factors, both WMAs have a moderate opportunity to support the occasional dispersing male panther that moves northwards from their primary and secondary zones.

As with black bears, existing management actions should be sufficient to support the area's role for panthers; therefore, no SMA is recommended. These large WMAs with limited human activity and the interspersion of creeks and wetlands should provide enough space and cover for individual panthers moving through the landscape.

FWC's panther management team (Section 6.1.7) monitors the panther population, so additional systematic monitoring by local staff is unnecessary. Area staff should coordinate directly with FWC panther biologists for anything specifically related to panthers on these WMAs. Section 5.2.6 describes the opportunistic monitoring recommended for this species. The goal for both WMAs is to promote suitable foraging habitat and travel corridors for panthers, where appropriate. However, until breeding panthers move north of the Caloosahatchee River, these areas will continue to see only an occasional panther dispersing through the landscape.

3.2.21: Sherman's Fox Squirrel

Fox squirrels are infrequently seen on either WMA. Historic records show numerous fox squirrel sightings on properties to the south, west, and north of these WMAs. There are recorded observations from TLWMA and several records from Escape Ranch to the southeast. Other records come from Lake Lizzie Nature Preserve (Osceola County), Lake Kissimmee State Park, and several private lands.

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

On HH/BCWMA, models identified 11,273 acres of potential habitat with 11,385 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 8,813 acres of potential habitat. The fox squirrel is a wide-ranging species and the literature suggests 2,000-9,000 acres of suitable habitat are required to support a population. Given this, the combined habitat on these WMAs should be enough to support a local population. However, much of this potential habitat is mesic flatwoods with a dwarf live oak (*Quercus minima*) component, which may not provide nesting or refugia habitat for this species. Additionally, because of logging that occurred in the early 1900s, the number of mature pines is limited on these WMAs, and this may influence their suitability for fox squirrels. Therefore, while these WMAs have a moderate role in supporting the regional population, it will be important to maintain additional habitat for fox squirrels on adjacent public and private lands.

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. Because ongoing management will meet the needs of this species, no SMA is recommended. Area staff recommends burning the Yates tract more frequently as fox squirrels used to be more common in this area. Staff believe the groundcover has become more dense in this tract after the removal of cattle, and increased burning

could improve conditions. Because this species naturally occurs at low densities and can be difficult to detect, no specific monitoring aside from opportunistic documentation is recommended (Section 5.2.6). Measurable objectives are not recommended for this species.

The goal for these WMAs is to provide suitable habitat for Sherman's fox squirrels that allows the individuals using these WMAs to function as part of the regional population. Because habitat availability and management on private lands affects the continued regional presence of fox squirrels, FWC staff from Conservation Planning Services (Section 6.1.5) should work with private landowners to identify and maintain suitable conditions.

3.2.22: Limited Opportunity Species

Two focal species (Florida grasshopper sparrow and snail kite) modeled (using statewide data) to have potential habitat on these WMAs lack reasonable opportunity for management. Opportunistic observations of these species should be documented (Section 5.2.6). If any of these species are documented with increasing regularity, the areas' role in their conservation and recovery should be re-visited.

Florida Grasshopper Sparrow - Florida Grasshopper Sparrows currently do not occur on either HH/BCWMA or TNRWMA. Both WMAs exist outside of the historic range of this species; the northernmost historic observation of Florida grasshopper sparrows is near Kenansville and the TLWMA, approximately 10 miles south. Land surveys of the area during the late 1800s noted the transition to longleaf pine flatwoods around Lake Marian (on TLWMA) and the dominance of the flatwood community northwards towards HH/BCWMA and TNRWMA. The increasing dominance of these flatwoods would have significantly reduced any possibility of Florida grasshopper sparrows moving northward to occupy the small pockets of dry prairie in northern Osceola County.

The Florida grasshopper sparrow is believed to need large patches of treeless dry prairie. On HH/BCWMA, models identified 527 acres of current potential habitat with 530 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 479 acres of potential habitat. However, the patches of dry prairie on these WMAs are small and scattered, and would not be large enough to support the Florida grasshopper sparrow.

While models identified potential habitat for this species, both WMAs occur outside the historic range, and the small isolated patches of dry prairie are not large enough to support the species. The nearest known population on TLWMA is beyond dispersal distance and there are no current records of Florida grasshopper sparrows on adjacent private lands near HH/BCWMA or TNRWMA. Because of these factors, the opportunity for management on HH/BCMWA and TNRWMA to affect the conservation of Florida grasshopper sparrows is limited. However, opportunistic observation of this species will be documented and trigger a re-assessment of these WMAs' role.

Snail Kite - Area staff have never documented snail kites on either HH/BCWMA or TNRWMA. Nesting has not been documented and it is unlikely to occur on either WMA. Snail kites prefer large,

contiguous patches of wetland habitat and are dependent on apple snails for food. To be suitable for snail kites, wetlands must have an interspersion of emergent vegetation and open water. Snail kites also utilize shallow lake habitat when snails are available.

On HH/BCWMA, models identified 701 acres of potential habitat with 641 acres modeled to occur if management could restore all natural communities. On TNRWMA, models identified 1,074 acres of potential habitat. Most of the WMAs' potential habitat for snail kites occurs within small, isolated, depression marshes that snail kites may use sparingly for foraging, but these wetlands are unsuitable for nesting snail kites.

Regionally, snail kites forage and nest in Lake Kissimmee and Lake Tohopekaliga to the west of TNRWMA. Conversations with FWC's Snail Kite Coordinator indicate that snail kites are unlikely to travel very far from these major bodies of water unless conditions change dramatically; therefore, HH/BCWMA and TNRWMA have a limited potential to affect the regional stability of this species. Although the species is a high statewide priority, the opportunity for area managers to affect the species is low. The University of Florida monitors snail kites on a statewide level, so additional monitoring on these WMAs is unnecessary. Monitoring for this species will be opportunistic (Section 5.2.6), and coordination with FWC's snail kite coordinator is recommended if these areas' role should change (Section 6.1.1).

3.3 Other Listed and Locally Important Species

While natural community management focused on a set of focal species provides benefits to a host of species reliant upon these natural communities, species that are imperiled sometimes require specific attention. Additionally, Florida statutes direct conservation land managers to manage for imperiled species. In this subsection, we discuss listed or locally important species that were not focal species.

It is possible other imperiled species occur on these WMAs, and if encountered, staff will document these encounters. Imperiled species on HH/BCWMA and TNRWMA should continue to benefit from FWC's ongoing management actions that aim to restore natural communities' 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.

3.3.1: Other Focal and Imperiled Wildlife Species

American Alligator - Excepting the listed species discussed above, the American alligator (*Alligator mississippiensis*) is the only other listed wildlife species documented on HH/BCWMA and TNRWMA. No specific management actions are necessary to ensure alligators will continue to persist on these areas.

3.3.2: Rare Plants

While no formal rare plant inventory has been conducted, several imperiled plant species have been documented on HH/BCWMA and TNRWMA. The Florida Department of Agriculture and Consumer Services listed the large-flowered rosemary (*Conradina grandiflora)*, nodding pinweed (*Lechea cernua)*, hooded pitcher plant (*Sarracenia minor*), long-lipped ladies' tresses (*Spiranthes longilabris*), and giant orchid (*Pteroglossaspis [Eulophia] ecristata)* as threatened. Cutthroat grass (*Panicum abscissum)*, plume polypody (*Pecluma [Polypodium] plumula)*, and swamp plume polypody (*Pecluma [Polypodium] ptilodon*) are listed as endangered. The protections afforded plants by existing on conservations lands, in conjunction with management actions that include exotic plant removal and prescribed fire, will continue to maintain habitat for these and other rare plants. As such, these species should persist under current management on HH/BCWMA and TNRWMA.

Large-Flowered Rosemary - Large-flowered rosemary occurs in scrub communities of central and south Florida. They are largely at risk due to the loss and degradation of scrub communities throughout Florida. The continued use prescribed fire to manage scrub on these WMAs should promote the persistence of this species.

Nodding Pinweed - Nodding [scrub] pinweed occurs in scrub communities of central and south Florida. They are largely at risk due to the loss and degradation of scrub communities throughout Florida. The continued management of scrub on these WMAs with an emphasis on prescribed fire should promote the persistence of this species.

Hooded Pitcher Plant - Hooded pitcher plants will respond well to current management actions focused on the frequent use of prescribed fire in wet flatwoods, prairies, and other sites in which they occur. Pitcher plants survive fire by re-sprouting from rhizomes. In the absence of fire, shrubby species overgrow and out-compete these plants.

Long-Lipped Ladies' Tresses - The long-lipped ladies' tresses is an orchid typically found in wet prairies and pine flatwoods. Management for this species includes the use of prescribed fire to create sunny openings and reduce competition from woody species. Soil-disturbing activities such as bedding and plowing fire lanes can be destructive to these orchids, as would actions that alter the hydrology of their habitat.

Giant Orchid - Giant orchid is typically found in sandhill, scrub, pine flatwoods, and pine rockland natural communities that are actively managed. Management for this species includes the use of prescribed fire to create sunny openings and reduce competition from woody species. Soil-disturbing activities such as bedding and plowing fire lanes can be destructive to these orchids, and should be avoided near know occurrences.

Cutthroat Grass - Cutthroat grass is typically found within flatwoods, wet prairies, and depression marshes. Management for this species includes maintaining natural communities with prescribed fire to maintain open-canopied communities. Removal of exotic groundcover is also beneficial to this species. Timing of prescribed fire in cutthroat grass communities should include burning in the

spring or summer to stimulate flowering. Excessive site preparation and soil disturbance should be avoided near known occurrences.

Plume Polypody and Swamp Plume Polypody - Plume polypody and swamp plume polypody are ferns typically found on tree branches or exposed limestone within hardwood hammocks, wet flatwoods, or sinkholes. As these species occur in communities that are not actively managed, they will benefit from the protection afforded plants occurring on State conservation lands. Staff will take appropriate steps to ensure chemical and mechanical treatments do not negatively affect specific sites known to support these species.

Section 4: Land Management Actions and Considerations

Models identified potential habitat for 23 focal species on these WMAs (Section 3.1); however, not all of these species have the same level of management opportunity or need (Section 3.2). The FWC's natural community-based management, which emphasizes prescribed fire methods that produce a mosaic of burned and unburned areas, will promote the habitat conditions necessary for most of these species without the need for further strategic management actions.

However, we may designate SMAs when actions over and above ongoing natural community management are required (Section 4.1) in a specific location. In order to ensure natural community management addresses the needs of these focal species, the OBVM DFCs are evaluated (Section 4.2). 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 these WMAs is to maintain intact natural communities in good condition and to restore degraded or altered natural communities to a condition that will better suit focal species. However, SMAs focus targeted actions on areas with the highest possibility of success and or areas most critical for the conservation of a species on the area. Staff designates SMAs to achieve at least one of the following:

- Identify the area in which to apply specific land or species management that creates the highest probability for persistence and conservation of a species or suite of species. These specific actions should aid in restoring, enhancing, or maintaining the habitat or population.

- On areas with more restoration and enhancement than can be accomplished in short order, identify an area in which to focus specific land or species management actions for the best chance of success. This might be the first or next step in a sequential series of management actions that will increase the likelihood of occupation and or persistence of a specific species.

- Identify an area that is so critical to the persistence of a species on the WMA that it warrants identification to ensure protection against negative alteration.
- Identify areas that are more critical for research or monitoring.
- Recommend OBVM DFCs in a specific area to benefit a particular species when we would not want to change the DFCs in the natural community area-wide.

Workshop participants agreed on the need for a SMA on HH/BCWMA. This SMA would focus on investigating the potential for the enhancement or restoration of Bull Creek's main channel. Another SMA occurring on both WMAs is recommended for the creation of additional red-cockaded woodpecker recruitment clusters. Staff developed a SMA-specific goals and strategies to guide management for each SMA. In 2015, the Strategy Revision included the Gopher Tortoise Recipient Site SMA to document management and monitoring associated with the relocation of gopher tortoises from the site of the shooting range to an appropriate on-site recipient site. We define goals, objectives and strategies in Section 1.

4.1.1: Bull Creek Restoration SMA

During the 1990s, a large amount of water was held on Bull Creek for a period of several weeks. Because of this, canopy hardwoods and other shrubs quickly died within the floodplain swamp. Loss of canopy trees allowed more sunlight to reach the creek's surface, which resulted in an explosive growth of tussocks, myrtle, and other aquatic vegetation. The growth of this vegetation has continued to the point where the main channel is no longer navigable. Because of this and the reduced flow within the creek's main channel, staff has identified this SMA (Figure 2) to investigate the potential to apply specific actions to restore plant communities that will benefit a number of species.

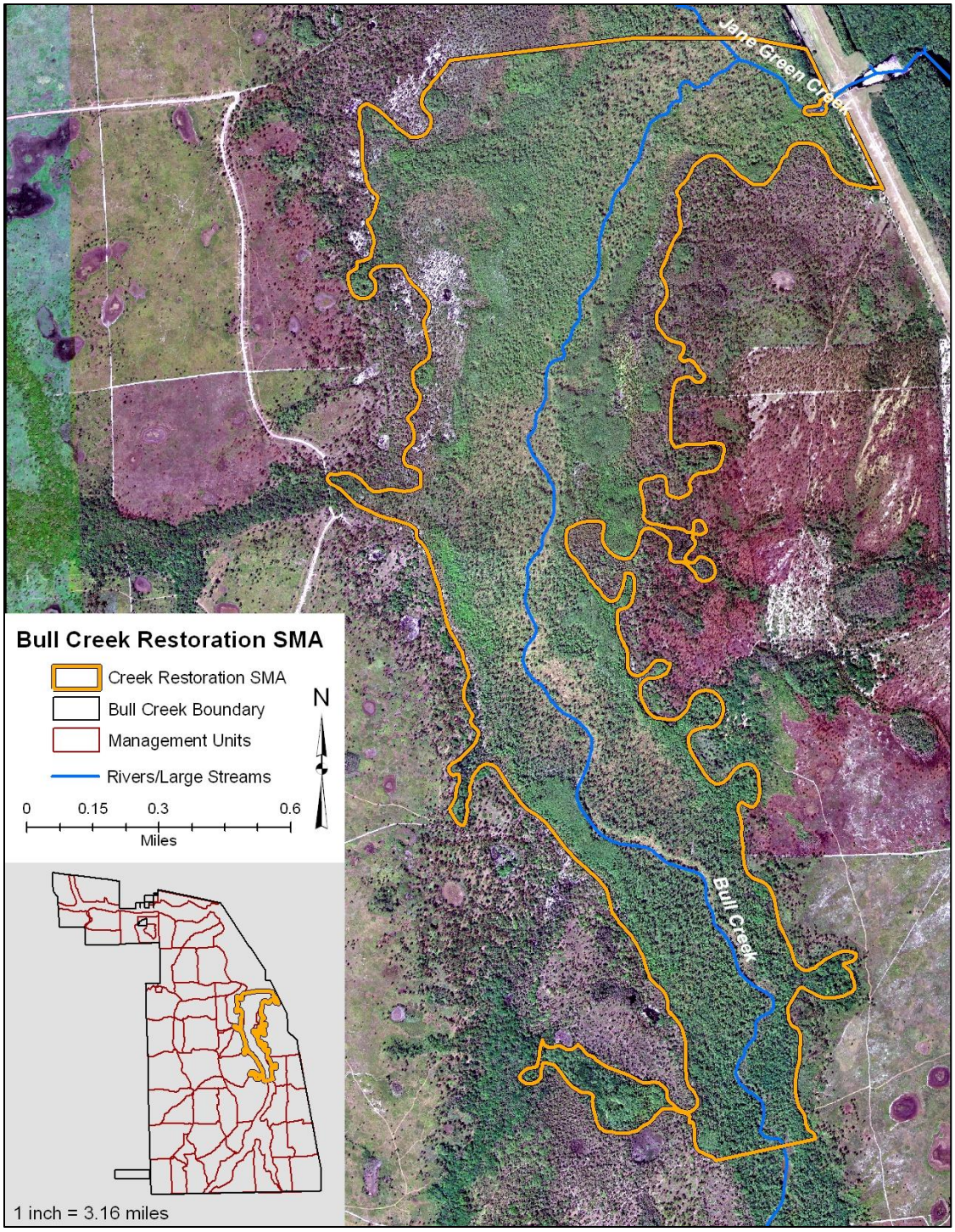


Figure 2: Geographic area associated with the Bull Creek Restoration Strategic Management Area on HH/BCWMA.

The property was acquired for water retention purposes and various state and federal water management agencies require that Bull Creek maintain the ability to hold water during flood events. Therefore, full restoration of Bull Creek is unrealistic. Enhancement of the creek's main channel is a more achievable outcome, and there may be specific management actions that would increase flow to the main channel and restore plants that provide wildlife value. Management actions taken to enhance the creek's flow and manage aquatic vegetation should provide habitat benefits to wading birds, limpkins, and other wildlife.

SMA Goal: Enhance habitat conditions for wading birds, limpkin, and other wildlife species by increasing or restoring flow within the main channel of Bull Creek and restoring appropriate vegetation.

SMA Objective 1: By 2015, determine the feasibility of implementing a plan for enhancing or restoring Bull Creek.

Description of the SMA: The portion of Bull Creek identified in this SMA occupies approximately 880 acres of floodplain swamp in MU 6 from the water control structures on HH/BCWMA's eastern boundary south to Ronnie Ford crossing. The floodplain swamp and main creek within this SMA has lost most, if not all, of its canopy hardwoods. The dominant plant species that have choked the main channel include black willow (*Salix nigra*) and the exotic Cuban bulrush [burhead sedge] (*Oxycaryum cubense*), although other species are present. Due to the loss of canopy hardwoods, large tussocks of vegetation have become prolific and clogged the main channel. The tussocks and other vegetation have greatly reduced Bull Creek's water flow, and much of the creek within the SMA is no longer navigable.

Strategy: Because specific actions to enhance or restore the creek are uncertain at this time, the strategy for this SMA is to initiate discussion on what enhancements are feasible, to determine the interest of other agencies in affecting these enhancements, and to determine the cost the project. Enhancement or restoration of Bull Creek will involve participation from multiple state and federal agencies. Staff anticipates the need to involve SJRWMD (Section 6.2), the Army Corps of Engineers, and FWC's Aquatic Habitat Restoration and Enhancement (AHRE) section (Section 6.1.4). However, it is possible that additional agencies will be identified. These discussions should focus on defining project goals, objectives, and strategies; identifying opportunities and limitations; and the development of a project proposal that includes costs and timelines.

4.1.2: Red-Cockaded Woodpecker SMA

Staff designated a SMA to facilitate expansion of the BC3N red-cockaded woodpecker population (Figure 3). The purpose of this SMA is to identify the MUs where applying specific actions will facilitate the expansion of the local red-cockaded woodpecker population. Management within the red-cockaded woodpecker SMA will facilitate the growth of the current "core" population and will provide connectivity to the larger Three Lakes metapopulation. Past management and

monitoring has shown that when concentrated effort is applied, red-cockaded woodpeckers respond.

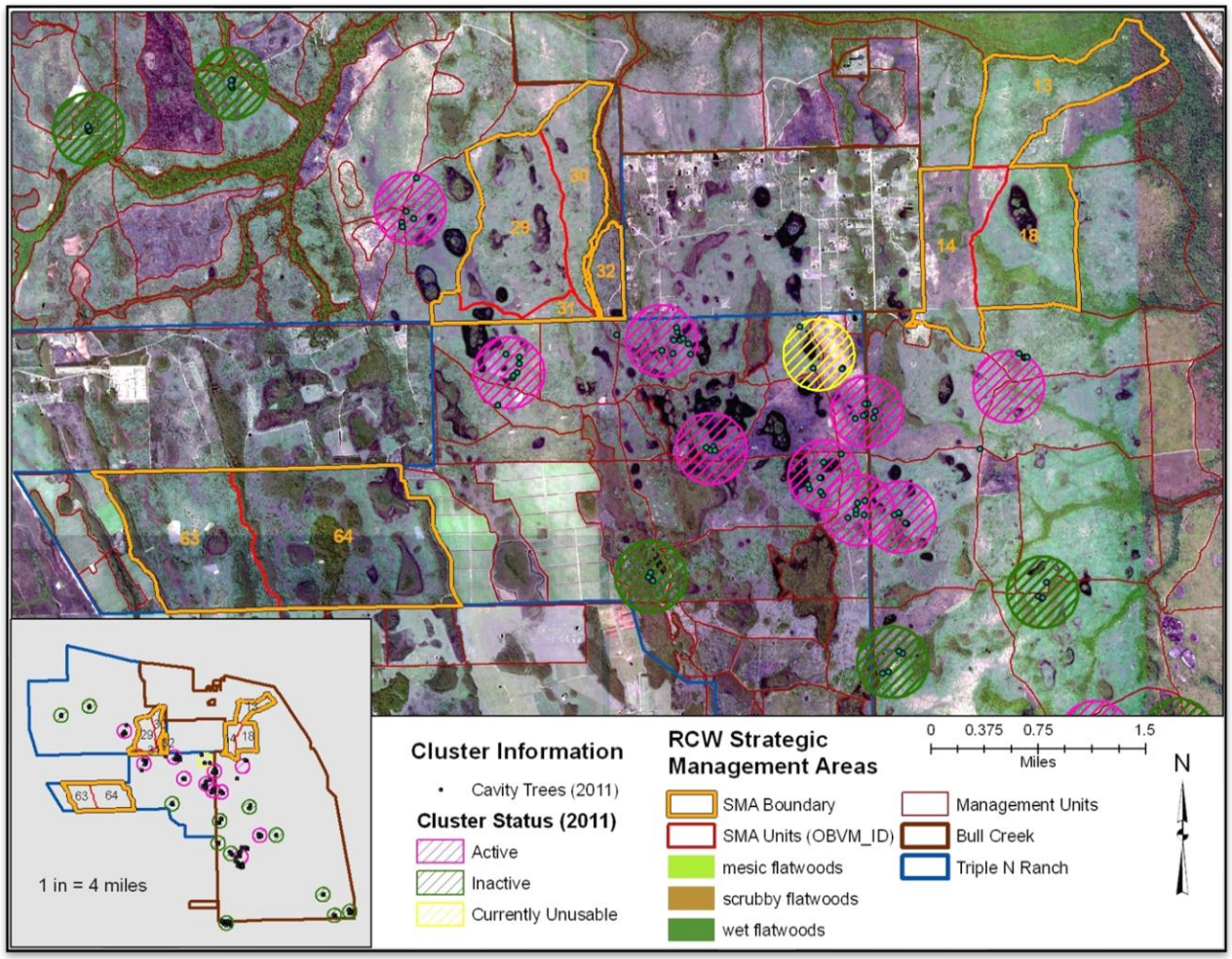


Figure 3: Management units and natural communities associated with the red-cockaded woodpecker Strategic Management Area on HH/BCWMA and TNRWMA. Figure also shows the location of current red-cockaded woodpecker clusters.

The USFWS red-cockaded woodpecker recovery plan provides guidance on use of recruitment clusters. Typically, clusters should be no closer than 0.25 miles to active clusters, and no further than 2 miles. The preferred distance is no further than 1 mile from active clusters. Because the BC3N population receives translocated birds, there is the requirement to have at least 2 available recruitment clusters for each pair of birds translocated to the population.

MUs in this SMA currently contain large diameter pines that can serve as cavity trees. This is important, as much of the mesic flatwoods in these WMAs have limited numbers of mature pines, and this constrains efforts to create recruitment clusters in the most desired locations. Because the SMA is close to currently occupied clusters, it will provide recruitment and dispersal habitat for individuals currently using these WMAs, as well as for birds that may be translocated. This SMA will concentrate new restoration and management efforts for red-cockaded woodpeckers in MUs where staff will install new recruitment clusters. This SMA will not reduce monitoring or management activities already occurring within existing active or recruitment clusters on either WMA.

Desired habitat conditions for red-cockaded woodpeckers include open, mature pine woodlands that have a diversity of grasses and forbs. Invasive exotic plants must be controlled to enhance native plant diversity and to allow for safe prescribed fire. Fire is an important aspect in red-cockaded woodpecker ecology. Increased hardwoods favor red-cockaded woodpecker predators and competitors; therefore, growing season burns are conducted to decrease the hardwood component. Further, fire increases the abundance of red-cockaded woodpecker prey, and may increase the nutritional value of prey. On both WMAs, staff uses prescribe fire to achieve optimal habitat conditions in longleaf pine flatwoods. Fortunately, most of the natural communities within this SMA appear to be in good condition, except for the limited number of mature pines. Where pockets of midstory oaks or excessive palmetto cover reduce habitat suitability for red-cockaded woodpeckers, staff will combine prescribed fire with mechanical vegetation management (e.g., mowing or roller-chopping). To meet the vegetative DFC, staff strives to maintain red-cockaded woodpecker clusters on a 2-3 year average burn rotation.

While vegetative conditions within MUs identified in this SMA generally appear to be good, the availability of suitable cavities appears to be the limiting factor. This is not uncommon on many sites where red-cockaded woodpecker populations persist and artificial cavities can quickly provide nesting and roosting opportunities. Installation of these cavities has been successful in facilitating population expansion. Staff will work with the TLWMA red-cockaded woodpecker biologist and other experts to determine the appropriate time and location for installation of artificial cavities within this SMA. Mesic flatwoods within the SMA have longleaf pines with diameters that will support now, or in several years, the installation of artificial cavities.

SMA Goal: Enhance habitat conditions for red-cockaded woodpeckers to facilitate occupation of the area by the species thereby enhancing connectivity between the currently occupied clusters on these WMAs and within the larger Three Lakes metapopulation.

SMA Objective 1: Create 2-4 recruitment clusters within the SMA by 2020.

SMA Objective 2: Maintain a 3–year average prescribed fire interval in red-cockaded woodpecker habitat within the SMA.

Description of the SMA: The red-cockaded woodpecker SMA includes 2,177 acres of scrubby, mesic, and wet flatwoods in MUs 29, 30, 31, 32,63, and 64 on TNRWMA and in MUs 13, 14, and 18 on

HH/BCWMA. A red-cockaded woodpecker foraging matrix model completed by the local red-cockaded woodpecker biologist previously identified MU 63 and 64 as potentially suitable for recruitment clusters. Foraging matrix models have not been completed for HH/BCWMA, but area staff previously identified portions of MU 13 and 14 as suitable for recruitment clusters. Acres of scrubby, mesic, and wet flatwoods habitat within each MU are listed below.

HH/BCWMA - 899 acres

MU 13: 355 acres consisting of 187 acres mesic flatwoods, 108 acres wet flatwoods, and 60 acres scrubby flatwoods

MU 14: 251 acres consisting of 220 acres mesic flatwoods and 31 acres scrubby flatwoods

MU 18: 293 acres consisting of 281 acres mesic flatwoods and 12 acres scrubby flatwoods

TNRWMA - 1,278 acres

MU 29: 285 acres consisting of 280 acres mesic flatwoods and 5 acres scrubby flatwoods

MU 30: 191 acres consisting of 178 acres mesic flatwoods, 11 acres wet flatwoods, and 2 acres scrubby flatwoods

MU 31: 38 acres consisting of 37 acres mesic flatwoods and 1 acre scrubby flatwoods

MU 32: 69 acres mesic flatwoods

MU 63: 370 acres consisting of 333 acres mesic flatwoods and 37 acres scrubby flatwoods

MU 64: 325 acres mesic flatwoods

Not all of the 2,177 acres of flatwoods are suitable as red-cockaded woodpecker recruitment cluster sites. Much of these flatwoods have longleaf pines that are currently too small in diameter to support the installation of artificial cavities. However, staff have identified core areas within this SMA where pines have suitable diameters (≥13 inch at breast height) to support cavity installation. Acreage that is not currently suitable to support recruitment clusters will function as foraging habitat.

Strategy: The main strategy is to continue natural community management and to identify the locations most suitable for recruitment cluster installation that will provide the best opportunity for population expansion. This SMA could theoretically hold 7 recruitment clusters (assuming a minimum of 300 acres of foraging habitat per cluster in sites with lower pine densities) within its defined area, and the number would increase when considering the additional foraging habitat adjacent to, but outside, of the defined SMA acreage. However, not all acres have suitable pine trees for cavity creation. Potential recruitment sites within TNRWMA's MUs 63 and 64 are 1.5–2 miles from active clusters and provide the potential for a closer link with the red-cockaded woodpecker population on TLWMA. While the literature suggests recruitment clusters be closer

than this recommendation, the fact that birds are known to move from the BC3N population to the TLWMA population supports the concept that this distance is not unrealistic for red-cockaded woodpeckers in this part of Florida. Potential sites within HH/BCWMA's MUs 13, 14, and 18 are within the recommended distance for recruitment clusters (0.5–1.5 miles from active clusters) and will support the expansion of the existing core population.

Staff has maintained a 2-3 year burn rotation within the mesic flatwoods of this SMA. Because of this fire history, midstory oaks are not a management concern and groundcover diversity is good. The continued emphasis on growing season fire should maintain or enhance this diversity. Exotic plant species are not a major management concern within this SMA. Meeting the objectives for this SMA will require the continued use of prescribed fire and the identification of areas with large diameter pines where recruitment clusters can be created through the installation of artificial cavities. Area staff will continue to work with the local red-cockaded woodpecker biologist in identifying proper sites for recruitment clusters. Depending on the site, some midstory control or mechanical removal of vegetation may be required.

To achieve the objective of creating 2-4 recruitment clusters, area staff will install 8-16 artificial cavities. In all cases, a minimum of 4 suitable cavities will be available in each recruitment cluster. However, the actual number of cavities will depend on habitat conditions and population needs at the time of installation.

4.1.3: Gopher Tortoise Recipient Site SMA

Staff designated the Gopher Tortoise Recipient Site SMA to document management and monitoring needs of the 40-acre gopher tortoise recipient site, per the requirements outlined in the Gopher Tortoise Permitting Guidelines (Appendix 12; Restocking Guidelines for Publicly Owned Conservation Lands). The designation of this SMA is to ensure that future management and monitoring actions will maintain and enhance habitat for the relocated gopher tortoises. The 40-acre recipient site received gopher tortoises from a site located on TNRWMA 3 miles to the east (Figure 4) of where shooting range construction started in April 2015 (See Section 2.3). The Gopher Tortoise Permitting Guidelines requires staff to incorporate the changes into the area-wide management plan as a commitment to managing the recipient site to benefit the relocated tortoises. By identifying this 40-acre portion of habitat as a SMA within the WCPR Strategy, FWC will have fulfilled this requirement, as WCPR Strategies are included as an appendix to the Triple-N-Ranch WMA Management Plan.

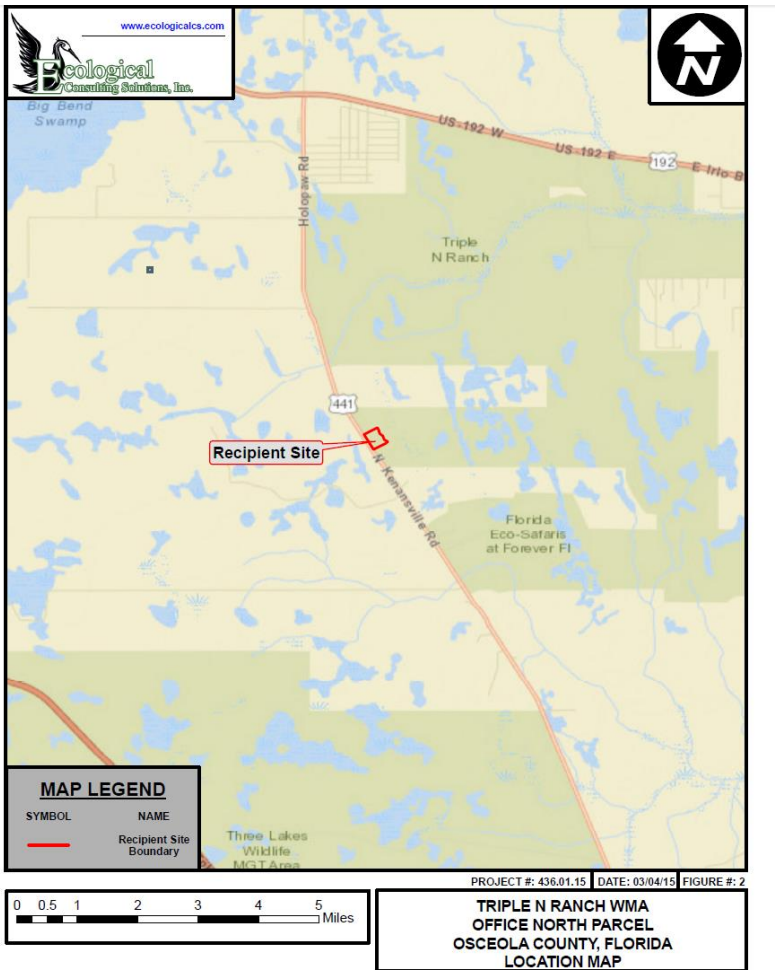


Figure 4: Locator map of the Gopher Tortoise Recipient Site SMA located along US 441.

The gopher tortoise is a state-Threatened species that is also a candidate for federal listing within the eastern portion of its range (the states of Alabama, Georgia, South Carolina, and Florida). Florida has an extensive history of managing for and mitigating disturbance to the statewide gopher tortoise population, which includes procedures for relocating tortoises off properties slated to be developed. Areas that receive relocated tortoises are referred to as 'recipient sites', and the FWC has outlined specific management and monitoring requirements to ensure relocated tortoises have the best possible chance of becoming established and sustained at the new location (see Gopher Tortoise Permitting Guidelines; Appendix 4, Appendix 7). These requirements include specifications for maintaining certain habitat conditions, conducting burrow and vegetation surveys at specified intervals, and a timeline for when management and monitoring actions should occur on the site.

By permitting the 40-acre gopher tortoise recipient site, FWC has committed to conducting the specific actions detailed in the Gopher Tortoise Permitting Guidelines. These actions are

detailed as SMA Goals, Objectives, and Strategy for managing the area appropriately. Actions within the SMA can be contracted to external consultants; however, area staff should ensure that actions are accomplished within the designated timeframe. Because this timeframe extends past the life of this WCPR Strategy, future updates to the HHBCWMA/TNRWMA Species Management Strategy will need to include the monitoring and management recommendations therein. However, monitoring actions can be adjusted to reflect the best available protocol at that time, adhering to statewide strategies for monitoring gopher tortoise populations on public conservation lands.

SMA Goal: Maintain habitat conditions, management considerations, and monitoring recommendations within the SMA as required by the Gopher Tortoise Permitting Guidelines for relocating tortoises onto public conservation lands.

SMA Objective 1: Maintain the fencing around the temporary enclosure for 6-12 months following release of the last gopher tortoise relocated into the enclosure, checking regularly for breaks until it is removed.

SMA Objective 2: Amend the Fiscal Year 2015/2016 TNRWMA work plan to ensure prescribed burning on the recipient site occurs as early as June 2016.

SMA Objective 3: Conduct a 15% burrow-count survey within the recipient site by July 2018, and repeat the survey once every 3 years so that 5 surveys have been completed by July 2030. After 2030, conduct the appropriate gopher tortoise survey within the recipient site once every 5 years until July 2040, and then once every 10 years thereafter.

SMA Objective 4: Monitor 30% of the burrow-count survey locations for vegetation composition by July 2018, and repeat the survey once every 3 years until July 2030.

Description of the SMA: The recipient site encompasses a 40-acre groundcover restoration field located adjacent to US 441 along the western edge of the property (MU 82, Figure 4). The recipient site is close to the TNRWMA office, and can be easily accessed by area staff. Prior to its selection as a recipient site, the 40-acre block of former agriculture underwent groundcover restoration (GCR) to improve the herbaceous component and recruit longleaf pines onto that portion of habitat. The goal of the restoration was to move MU 82 towards a more native mesic flatwoods structure, and staff were planting a seed mix taken from nearby flatwoods on TLWMA. By the time consultants selected MU 82 as the recipient site, a vegetation assessment determined the condition of the habitat. A contracted consultant estimated >80% herbaceous groundcover within the site, which is at an ideal level to support gopher tortoises. Sparse longleaf saplings have recently established on the site, which ensures the habitat will contain low canopy cover for the foreseeable future. In April 2015, consultants constructed a temporary enclosure around the 40-acre recipient site in MU 82 (Figure 4), and 14 adult gopher tortoises were relocated to the site.

Strategy: The strategy for this SMA is to apply management and monitoring that will fulfill the requirements of the gopher tortoise recipient site, in accordance with the Gopher Tortoise Permitting Guidelines for Public Conservation Lands. The actions described under this SMA will be

accomplished by a combination of area staff and hired consultants. As the WCPR Strategy is reviewed and updated, actions contained within this SMA will be added to future revisions of the WCPR Strategy until they are complete. These actions can be amended to reflect the most up-to-date processes available and authorized in the Guidelines for gopher tortoise monitoring and management following relocation.

Within the first year following relocation, area staff will monitor the enclosure fence around the recipient site to ensure that the fence remains intact as tortoises settle in the new area. For the first month (April-May 2015), staff will check the enclosure weekly and repair any breaks or collapsed fencing along the perimeter. After the first month, area staff can extend the interval for checking once per month until the time when the fence is removed. The fence shall stay up for a minimum of 6 months following the last gopher tortoise relocated into the enclosure. If area staff begin observing evidence of increased tortoise activity along the perimeter fencing after 6 months, they should consult with the Gopher Tortoise Permit Coordinator whether to take down the enclosure (Section 6.1.1). After 12 months, staff can remove the fencing without consulting the Permit Coordinator.

Also in the first year following relocation, WHM staff will ensure that management needs for the recipient site are included in the annual work plan. If the work plan does not already contain plans to apply prescribed fire on the site by July 2016, staff will amend it to include the management actions. For the life of the recipient area, staff will continue managing the 40-acre site to maintain and enhance habitat conditions for the gopher tortoise, including burning the area on a 2-3 year rotation.

Beginning in 2018, either area staff or consultants will conduct burrow-count surveys every 3 years to document the success of the relocated tortoises over time. The method prescribed by the Gopher Tortoise Permitting Guidelines involves surveying at least 15% of the 40-acre recipient site (approximately 6 acres) and counting the number of potentially occupied burrows. Transects will likely comprise 6, 1-acre transects distributed randomly over the site. Surveyors will walk the transects once every 3 years to look for the conspicuous burrow aprons that are inherent to tortoise burrows, and document the number within the transect area that are potentially occupied. Burrow activity will be based on the evidence at the burrow mouth and apron. Because this method relies on recording tortoise burrows based on activity, the surveys should occur during the growing season (March – October in central Florida) to coincide with the time of year when tortoises are most active.

Surveyors will extrapolate the number of potentially occupied burrows found within the 15% of habitat to the total 40 acres as a way of estimating tortoise abundance. Surveyors will repeat these surveys every 3 years for the first 15 years following the relocation (until 2030), at which point, surveys should be repeated every 5 years until 2040. After 2040, the recipient site can be monitored every 10 years along with the rest of TNRWMA. Area staff or consultants will write a report following each monitoring event, which will include a land cover map, soil map, gopher tortoise habitat map, and burrow location map. Area staff or consultants will submit these reports

to the Gopher Tortoise Permit Coordinator (Section 6.1.1). For details on gopher tortoise survey methods within the recipient site, see Section 5.2.2.

During the first 15 years following relocation (until 2030), surveyors will conduct vegetation monitoring on the recipient site at a 3-year interval. Either area staff or a consultant can conduct these vegetation surveys in conjunction with burrow surveys. Vegetation surveys will be conducted on 30% of the recipient site burrow survey transects. Surveyors will establish fixed photo points at each of the vegetation stations at 75-meter intervals to establish qualitative vegetation trends over time. See Section 5.2.2 for more details on the vegetation monitoring protocol. Desirable conditions for tortoises in suitable habitat are included in Table 2 of the Gopher Tortoise Permitting Guidelines. After 2030, area staff can incorporate vegetation monitoring on the recipient site with other gopher tortoise habitat on TNRWMA as a part of regular OBVM natural community monitoring. Area staff or consultants will also write a report detailing the vegetation monitoring findings, which they will provide to the Gopher Tortoise Permit Coordinator after each survey (Section 6.1.1). For more details on survey methods within the recipient site, see Section 5.2.2.

4.2: Objective-Based Vegetation Management (OBVM) Considerations

Staff will use OBVM to monitor progress towards DFCs of various natural community parameters (Table 3; Table 4). As such, OBVM will be effective in monitoring progress towards land management strategies.

OBVM is an approach to land management that emphasized maintaining and restoring natural plant communities towards pre-determined desired conditions or outcomes. The OBVM DFCs target a range in values for various habitat parameters within actively managed communities. However, some focal species require a more restricted range in habitat parameters than is reflected in the area-wide DFCs or a species depends on a vegetative parameter that is not currently monitored on the area and we can recommend adding the parameter and provide DFCs. The workshop gave participants the opportunity to evaluate if the current DFCs meet the needs of focal species and if not, to suggest modifications. We use Section 4.2.1 to suggest which parameters should be modified if habitat parameters important to a particular species require a change. The following are common reasons to modify DFCs:

- Our management objective is to obtain maximum habitat suitability for a species that requires a more restricted range of vegetative values than the current DFCs.
- An SMA has been designated that requires DFCs in a specific area to benefit a particular species when we do not want to change the DFCs in the natural community area-wide.
- To add a parameter that was not previously monitored.

Workshop participants recommended the addition of a parameter to measure the number of pine seedlings in mesic flatwoods. This data would help staff better meet the needs of the red-cockaded woodpecker.

4.2.1: Modifications to Desired Future Conditions

Mesic Flatwoods:

Pine Regeneration (# pines >1ft and less than 2" dbh):

All management units: add this as a new parameter

Justification: The inclusion of this variable in mesic flatwoods is to provide an opportunity to evaluate natural regeneration of longleaf pine in MUs on these WMAs. Management actions by previous landowners left much of the flatwoods under stocked. Managers need to have information on the location and extent of natural regeneration to determine if other actions are necessary. There is no DFC assigned to this variable at this time as area staff are most interested in collecting baseline information on the amount of regeneration occurring.

Table 3. Desired Future Conditions for specific vegetative parameters in actively managed natural communities at TNRWMA as identified via the OBVM workshop process.

Mesic Flatwoods	
Pine basal area	10 – 50 ft^2/ac
Average maximum shrub height	≤ 2.5 feet
Shrub cover	≤ 25%
Average maximum palmetto height	≤ 3 feet
Palmetto cover	10 - 25%
Herbaceous cover	≥ 25%
Wiry graminoid cover	≥ 10%
Weedy cover	< 2%
Exotics cover	0%
Scrubby Flatwoods	
Pine basal area	10 – 40 ft^2/ac

Average maximum shrub height	≤ 3 feet
Shrub cover	10 - 40%
Average maximum palmetto height	≤ 3 feet
Palmetto cover	5 - 30%
Herbaceous cover	1 - 15%
Wiry graminoid cover	1 - 15%
Weedy cover	< 2%
Exotics cover	0%
Dry Prairie	
Tree stem density	0
Average maximum shrub height	≤ 2 feet
Shrub cover	10 - 40%
Average maximum palmetto height	≤ 2 feet
Palmetto cover	5- 20%
Herbaceous cover	≥ 10%
Wiry graminoid cover	≥ 10%
Weedy cover	< 2%
Exotics cover	0%
Scrub	
Tree presence > 15’	Yes/No
Shrub cover	10 – 40%
Average maximum shrub height	< 5 feet

Bare ground cover	10 – 40%
Weedy cover	< 2%
Exotics cover	0%

Table 4. Desired Future Conditions for specific vegetative parameters in actively managed natural communities at HH/BCWMA as identified via the OBVM workshop process.

Mesic Flatwoods	
Pine basal area	10 – 50 ft^2/ac
Average maximum shrub height	≤ 2.5 feet
Shrub cover	≤ 25%
Average maximum palmetto height	≤ 3 feet
Palmetto cover	10 - 25%
Herbaceous cover	≥ 25%
Wiry graminoid cover	≥ 10%
Weedy cover	< 2%
Exotics cover	0%
Scrubby Flatwoods	
Pine basal area	10 – 40 ft^2/ac
Average maximum shrub height	≤ 3 feet
Shrub cover	10 - 40%
Average maximum palmetto height	≤ 3 feet
Palmetto cover	5 - 30%
Herbaceous cover	1 - 15%
Wiry graminoid cover	1 - 15%

Weedy cover	< 2%
Exotics cover	0%
Dry Prairie	
Tree stem density	0
Average maximum shrub height	≤ 2 feet
Shrub cover	10 - 40%
Average maximum palmetto height	≤ 2 feet
Palmetto cover	5- 20%
Herbaceous cover	≥ 10%
Wiry graminoid cover	≥ 10%
Weedy cover	< 2%
Exotics cover	0%
Scrub	
Tree presence > 15’	Yes/No
Shrub cover	10 – 40%
Average maximum shrub height	< 5 feet
Bare ground cover	10 – 40%
Weedy cover	< 2%
Exotics cover	0%

4.3: Further Land Management Considerations

Most generalist or wide-ranging species benefit from management that restores the structure and function of the natural communities they use. However, specific management recommendations and precautions are necessary to ensure continued suitability of the area for

some species. The following recommendations should help these WMAs continue to fulfill their role in the conservation of these species.

4.3.1: Gopher Frog

Gopher frogs frequently move between wetland breeding ponds and adjacent uplands. Avoid placing new firebreaks or roads along wetland ecotones because they can alter or destroy the herbaceous component of pond margins preferred by this species and other amphibians. Wet-lining can be an alternative to mineral firebreaks around wetlands if necessary; however, it is 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 primary management tool in suitable wetlands. Because it is important to maintain potential breeding ponds in good condition, minimize soil disturbance within 500 yards of potential breeding ponds.

Growing season (April–September) burns, preferably after April, are more beneficial to gopher frogs than dormant season (October–March) burns. This is because growing season burns are more effective at reducing shrub cover and litter in the wetland basin, stimulating the growth of herbaceous emergent vegetation, enhancing the wetland/upland ecotone, and stimulating the reproduction of wiregrass in the surrounding uplands. The most beneficial time to burn is when the wetland is dry. Although growing season fires are preferred, it is better to burn during the dormant season than to avoid burning.

4.3.2: Eastern Indigo Snake / Florida Pine Snake

Large upland snakes such as the eastern indigo snake and Florida pine snake are relatively wide-ranging and elusive. Ongoing land management activities will enhance the suitability of habitat for these species, but could also be directly detrimental. When using heavy equipment during land management activities, it is important to avoid direct mortality by allowing snakes to move away from the path of the equipment. When practical during land management activities, keep heavy equipment at least 25 feet from areas with a high density of pocket gophers or gopher tortoise burrows. This precaution will help to avoid direct mortality of pine snakes, which regularly use gopher tortoise burrows for refuge, and forage on pocket gophers. When possible, leave coarse woody debris and residual stumps intact to provide cover for both of these snake species. If necessary to reduce smoke management issues, it is acceptable to pile and burn excess logging slash, but leave some debris in the stand to provide cover for these species and their prey. Creating brush piles can provide cover for these species if natural cover is sparse or absent.

4.3.3: Gopher Tortoise

Gopher tortoises are generally less active and spend more time in burrows during the winter months; therefore, mechanical equipment at this time will be less likely to crush or otherwise harm foraging tortoises. To minimize potential negative impacts, in areas where gopher tortoises occur, the timing of land disturbance activities (e.g., roller-chopping, timber removal) should, whenever

appropriate, occur during the winter. In addition, because it is difficult for equipment operators to see hatchling tortoises, and hatchlings are most abundant during September and October, avoid mechanical treatments during these months when practical. However, also consider how the timing of the treatment will affect management results, and conduct the treatment in a way that allows for meeting management objectives while minimizing negative impacts on tortoises. Regardless of timing, take steps (e.g., flagging burrows) to minimize impacts on known burrows.

4.3.4: American Swallow-Tailed Kite

Because swallow-tailed kites exhibit high nest site fidelity, if nests are found on the WMAs, protect known nest sites from disturbance and alteration, and retain all of the tallest pines in the area of nest sites. Minimizing activities above existing management levels within a 330-foot protective buffer around active nests during nest season should reduce the chance of disturbance. If kite activity, particularly if kites are observed carrying nesting material, mobbing, or congregating in groups of 3 or more, is observed during nesting season, this information should be documented and an effort to locate the nest should be made. For information on how to locate nests, see:

Meyer, K. D., and M. W. Collopy. 1995. Status, distribution, and habitat requirements of the American swallow-tailed kite (*Elanoides forficatus*) in Florida. Project Report, Florida Game and Fresh Water Fish Commission, Tallahassee.
http://research.myfwc.com/publications/publication_info.asp?id=47206

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

4.3.5: Bachman's Sparrow

Prescribed fire improves habitat quality for Bachman's sparrows, and is the primary land management tool recommended to promote habitat for Bachman's sparrow on both WMAs. Suitable habitat can be created and maintained through frequent (≤3 year rotation) use of prescribed fire. The repeated occurrence of fire is critical to sustaining this species as use of an area by Bachman's sparrows declines rapidly around 18 months post-fire, and Bachman's sparrows may abandon habitat if fire is excluded for more than 3 years. When using mechanical treatment to reduce palmetto, follow the mechanical treatment with a prescribed burn.

4.3.6: Brown-Headed Nuthatch

This species is a cavity nester that is dependent on the presence of snags for suitable nesting habitat. As such, make an effort to retain snags during land management activities and evaluate the impact of management activities on snags to ensure new snags will replace consumed snags. Old short snags with flaking bark and soft wood and old decaying oaks with a diameter at breast height of <10 inches are important nesting sites for this species. Take care to retain these particular types of snags.

4.3.7: Burrowing Owl

Burrowing owls have not been documented on either of the WMAs. However, should burrowing owls occupy either WMA, some specific management actions can benefit the species. Artificial perches provide hunting and observation sites for burrowing owls. Wooden fence posts or other perches placed in immediate vicinity of burrows will provide a suitable perch. Placing a T perch near known burrows will not only benefit the owl, but will aid managers in their efforts to avoid burrows during management activities.

Cattle grazing will reduce vegetation height to a level that is beneficial for burrowing owls, but cattle may also degrade or destroy burrows by trampling or wallowing in them. Area managers should consider excluding cattle from the immediate vicinity of known active burrows, when feasible. If staff identifies active burrows, staff will provide a 50-foot limited activity buffer from February 15 through July 10. Inside this buffer, staff will minimize activities that may cause nest abandonment or burrow collapse. The SCP regional biologist can be used as a resource to help determine which actions may be problematic.

4.3.8: 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 nesting territories. For this reason, whenever possible, protect known nesting sites from additional human disturbance, 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.

4.3.9: Crested Caracara

Crested caracaras have high fidelity to their home ranges and nest sites. Cabbage palms should be retained on the landscape in appropriate natural communities as potential nesting sites for this species. Staff will protect known nesting sites and maintain surrounding habitat in suitable condition if individuals are known to occupy a particular MU. If nests are detected, efforts to minimize any increased human activity (above current levels) around these sites will be considered. It is important to note that a technical report requested by FWC on management for caracaras suggests that prescribed fire, mowing, roller-chopping, and or grazing are essential to maintaining the open habitat this species requires. These activities can occur year-round within home ranges and should be limited (but not excluded) when occurring near nest sites. A significant increase in human activity within the home range or territory can cause caracaras to abandon the area, even outside of the nesting season. Complete management guidelines are available in:

Morrison, J.L. 2001. Recommended Management Practices and Survey Protocols for Audubon's Crested Caracara (*Caracara cheriway audubonii*) in Florida. Florida Fish and Wildlife Conservation Commission, Technical Report No. 18. Tallahassee, Fl. 19 pp. http://research.myfwc.com/publications/publication_info.asp?id=49246

4.3.10: Florida Sandhill Crane

Prescribed fire improves the quality of upland habitat for this species. In known nesting areas, fires should occur, whenever possible, outside of the nesting season, which occurs from December to June. However, the use of fire around nesting areas a month or two before chicks hatch may improve brood habitat. Because the presence of standing water is a major feature of nesting sites for cranes, prescribed fire from surrounding uplands should generally not directly impact nests. Staff, however, should minimize the likelihood of fire directly burning nests. Reducing disturbance to nest areas decreases chances of abandonment or other negative impacts. Consider seasonality of wetland management activities to avoid flooding or draining of nests. To ensure management is conducive with the needs of this species, follow the management guidelines found at:

Stys, B. 1997. Ecology of the Florida sandhill crane. Florida Game and Fresh Water Fish Commission, Nongame Wildlife Program Technical Report No. 15. Tallahassee, FL. 20 pp.

4.3.11: Northern Bobwhite

The primary land management tool used to benefit northern bobwhite is the frequent use of prescribed fire. Ignite fires using a variety of firing techniques and environmental conditions with the goal of promoting a mosaic burn. Mosaic burns result in a patchwork of burned and unburned areas that meet different life history requirements for northern bobwhite. Growing season fires are generally preferred as they are required to trigger flowering and viable seed production in many native species. Recent evidence suggests that the frequency of fire in flatwoods communities may be just as important as the seasonality of burn. Thus, if growing season burns do not occur, it is better to burn the unit during the following dormant season rather than waiting until the following summer.

Pine stands with higher basal areas (>70 ft^2/acre) should be thinned to trigger herbaceous growth and improve habitat conditions for this species. Ruderal areas can be managed for northern bobwhite through mechanical actions like mowing and/or disking strips during the summer months to promote herbaceous growth.

4.3.12: Red-Cockaded Woodpecker

Current land management actions in actively managed natural communities that include mowing or mechanical removal of excess vegetation, removal of exotic vegetation, and prescribed fire on a 2-3 year return interval will maintain and enhance habitat conditions for this species. During land management activities, protect active and inactive cavity trees as well as large, old pines that are potential cavity trees. Potentially suitable trees have ≥13 inches (25.4 cm) dbh and flat tops.

As HH/BCWMA and TNRWMA have active red-cockaded woodpecker clusters and participate in federally regulated translocation, managers will follow management guidelines found at FWC Red-

Cockaded Woodpecker Management Plan and USFWS Red-Cockaded Woodpecker Recovery Plan, especially sections 3 (Management Techniques) and 8 (Management Guidelines).

4.3.13: Short-Tailed Hawk

Short-tailed hawks exhibit high nest site fidelity, and historic nest areas are often used for multiple years, even if not active every year. Nests of this species are difficult to locate and monitor. If nest sites are located, protective action should be taken if/when nests are known to be active. Protect known nesting sites from disturbance by minimizing any management activities above normal baseline activities within a 330-foot buffer around the nest during the nesting season. Avoid heavy alteration of the nesting location and protect trees near the nest to preserve the integrity of the nest area. Protect potential future nest trees by retaining the largest, oldest trees on the landscape during land management activities.

4.3.14: Southern Bald Eagle

State and federal law requires protection of bald eagles, including avoiding disturbance of nesting eagles. Managers will consider the management guidelines in the state management plan and follow them when planning activities. Any new nests that are located will be documented. As this species is surveyed on a statewide basis, the bald eagle nest locator will be checked annually to determine if any new nests are detected via the survey. It is undesirable to have unnaturally dense stands around eagle nests. Continue to manage stands in which eagle nests occur, but use 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 future eagle nesting sites.

4.3.15: 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. Minimizing any management activities above existing conditions within 330 feet of the 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 use methods that do not damage the plants in which wading birds construct their nests.

4.3.16: Florida Black Bear

Bears require large areas of dense vegetation for escape and denning cover. They also require a mosaic of dense and edge habitat, in both uplands and wetlands, which provides seasonally abundant forage. Efforts to restore and maintain natural communities on both WMAs will result in a more open landscape with reduced tree density and lower shrub height. Efforts to restore natural communities in pasture and abandoned agricultural fields will increase cover. Non-actively managed natural communities and the number and interspersion of wetland habitats will ensure these WMAs always provide escape and potential denning cover. During the planning of

land management activities on these WMAs, give consideration to promoting and protecting travel corridors for bears within the WMA and across boundaries to other managed areas.

Should denning ever be documented on either WMA, limit the use of mechanical and prescribed fire activities during the denning season (mid-December-mid-April) at known dens. Preserve connectivity between cypress heads, depressional wetlands, and the hardwood swamp to allow bears to move across the area with appropriate cover.

4.3.17: Sherman's Fox Squirrel

To help these areas reach their full potential for fox squirrels, prescribed fire should continue to be used to create an open, mature forest structure. Efforts to reduce dense palmetto cover in some MUs will benefit this species by enhancing conditions for food producing species such as runner oak (*Quercus pumila*) and dwarf live oak (*Q. minima*), and providing the open conditions the species prefers. As fox squirrels require an oak component, some oaks should be retained in appropriate sites (e.g., fire shadows) during natural community restoration. Ideally, a variety of oak species in a range of age classes should be retained, but not to the extent this interferes with other species needs and natural community management.

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, have limited dispersal capabilities, or are unlikely to occupy a site without reintroduction. 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. 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: Red-Cockaded Woodpecker Translocation and Artificial Cavity Installation

Translocation efforts, coupled with continuing habitat improvement on both HH/BCWMA and TNRWMA, are vital to increasing the local red-cockaded woodpecker population. These WMAs

participate in the Southern Range Translocation Cooperative and are currently a recipient site for translocations. Continuation of the translocation efforts is critical to the long-term persistence of the larger Three Lakes red-cockaded woodpecker metapopulation.

To increase the local red-cockaded woodpecker population, it is necessary to supplement existing habitat with artificial cavities. Artificial cavities, both inserts and drilled, can be used to increase the number of suitable cavities within a cluster, or to create recruitment clusters in areas where managers would like to encourage population growth. Recruitment clusters are critical to support natural population growth, and guidelines require 2 recruitment clusters be available for each pair of translocated red-cockaded woodpeckers. Efforts have been underway since 2005 to install the artificial cavities that are required to be eligible for translocation. These artificial cavities also increase available habitat for resident bird and provide opportunities for fledged birds to create new active clusters. Managers will follow the USFWS species management guidelines (Section 4.3.12) and FWC guidelines found at FWC red-cockaded woodpecker Management Plan.

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 HH/BCWMA and TNRWMA, 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. The FWC will make monitoring data available to cooperating agencies and organizations such as FNAI (Section 6.5).

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 verify where the species breeds on either WMA and to track the use of breeding ponds over time. Dip-net surveys or call surveys will be completed following a WHM standard protocol. Because the gopher frog is an opportunistic breeder that responds quickly to heavy rains, surveys should occur around potential wetlands after major rain events and during late winter to early spring.

5.2.2: Gopher Tortoise Monitoring

No assessment of the status and distribution of tortoises has been completed for either HH/BCWMA or TNRWMA. Therefore, it would be beneficial to conduct an area-wide survey to establish a baseline using a standard monitoring protocol. The purpose of gopher tortoise monitoring is to

evaluate the population trend over time. This trend is based on the number of burrows, and is not considered an actual population or density estimate. To convert the burrow density into a tortoise density would require determining the area-specific occupancy rate of burrows on the area during the survey. If funding is available to support the additional burrow scoping needed to determine occupancy, area staff should consider incorporating scoping into the burrow-only monitoring. To evaluate response over time, the survey should be repeated at least every 10 years, though a 5-year interval is preferable. The completion of these surveys is dependent on outside resources (i.e., funding for a contracted survey); without such funding, these surveys cannot be accomplished on HH/BCWMA and TNRWMA.

The FWC is working with the USFWS and other land managers throughout the range of the gopher tortoise in an effort to establish a standard distance sampling protocol for use throughout the range of the species. As such, gopher tortoise monitoring should not occur on these WMAs until this formal protocol is agreed upon, or a determination is made that a standard protocol is not forthcoming.

Gopher Tortoise Recipient Site Monitoring - Within the Gopher Tortoise Recipient Site SMA (Section 4.1.3), either area staff or consultants will conduct burrow surveys every 3 years for the first 15 years following relocation (up until 2030). Surveyors will randomly-space 6, 1-acre transects over all potential habitat within the recipient site to provide at least 15% coverage of gopher tortoise habitat. Maximum dimensions for the individual transect are 250-meters by 16-meters, and should be oriented to allow for 100% detection of burrows within the transect. One or more surveyors will conduct the surveys, and they will space themselves evenly across the transect to provide for greatest detection. When a burrow is encountered while walking the transect, surveyors will mark the burrow with flagging tape, record the GPS coordinates of the burrow, and identify the level of gopher tortoise activity (potentially occupied or abandoned) based upon visual cues described in the Gopher Tortoise Permitting Guidelines, Appendix 4.

After each survey repetition, surveyors will calculate the average tortoise density ([Total Potentially Occupied Burrows/Total Acres within Survey Area] x 0.50), the estimated population size within the site (Tortoise Density x Total Acres within Recipient Site) for that given year. The raw data, map with the burrow locations, tortoise density, and estimated population size will be provided to the Gopher Tortoise Permit Coordinator (Section 6.1.1) following each survey. After 2030, area staff can revisit the methods for surveying gopher tortoises on the recipient site to include the most up-to-date protocol authorized in the Guidelines, and conduct surveys every 5 years until 2040. After 2040, monitoring can be extended to every 10 years.

Within these burrow survey transects, area staff or consultants are also required to conduct vegetation monitoring every 3 years for the first 15 years following relocation (until 2030). Vegetation sampling will occur at 30% of the burrow survey transects (2 transects) and should be selected based on representative habitat condition. The beginning and end of the transect will be recorded on a GPS with sub-meter accuracy and staff will mark the location with either a T-post or rebar pole. The selected transect will have 4 vegetation monitoring stations located at the 0-, 75-,

150, and 225-meter point along the burrow survey transect. During vegetation surveys, surveyors will record canopy cover, shrub cover, and herbaceous ground cover for each point, as detailed in the Gopher Tortoise Permitting Guidelines. Photo stations will be established at each sampling point to collect qualitative photographic habitat data during each survey year. The specific steps for conducting this sampling are found in Appendix 7 of the Gopher Tortoise Permitting Guidelines.

Either area staff or consultants will draft a report after each sampling event. This report will include a brief description of the location, size, ownership, authorized agent and permit number of the property; the quantitative vegetation survey; a habitat management summary; a written narrative of the qualitative vegetation assessment; recent aerial images of the site; the photographic station points; and a transect map showing the vegetation points. Area staff or consultants will submit reports to the Gopher Tortoise Permit Coordinator (Section 6.1.1) no later than 90 days following survey completion. This report will be included with the above tortoise report for the first 15 years. After 2030, reports do not need to include the quantitative vegetation survey and vegetation transect maps. After 2040, reports do not need to include the tortoise survey transects and GPS coordinates. Area staff or consultants will submit these reports to the Gopher Tortoise Permit Coordinator to ensure appropriate permitting guidelines have been met for the recipient site (Section 6.1.1).

5.2.3: Avian Spring Call Count Survey

The purpose of monitoring the Bachman's sparrow and brown-headed nuthatch is to establish a baseline measure of relative abundance (% of occupied points) and then to track this measure of relative abundance over time. Because these species are management responsive, they are good indicators of management success. Surveys will use spring point counts and a protocol currently being developed that includes the use of callback tapes to maximize detectability. On both WMAs, these avian surveys should occur annually, though if resources are limited they can be conducted every other year (or every 3 years) after the initial baseline survey. If resources are very limited, area staff could consider using a local volunteer group (like the Kissimmee Audubon) or other FWC staff (e.g., SCP section) to complete these surveys.

5.2.4: Northern Bobwhite Fall Covey Counts

The purpose of monitoring bobwhites on these WMAs is to determine an annual estimate of density. Staff use fall covey counts to estimate northern bobwhite population size prior to the hunting season. This monitoring should continue as it provides an estimate of density, in the form of 1 bird per every X acres. As a management-responsive species, monitoring of northern bobwhite will help staff determine the effectiveness of their prescribed fire program and other management activities. Further, staff will compare harvest data to population data to determine if harvest levels are within levels deemed sustainable. Monitoring results should be shared with FWC's Small Game Program Coordinator (Section 6.1.2).

5.2.5: Red-Cockaded Woodpecker Monitoring

Ongoing monitoring efforts include pre-nesting season cluster and cavities status checks; nest checks and chick banding; fledge checks; and monitoring of banded birds. These monitoring efforts document translocation success, number of potential breeding groups, active clusters, group size, active trees and cavities, new cavity trees and clusters, nest success, and fledgling success. Staff uses these metrics to determine population size and trend, and to fulfill reporting requirements required to remain eligible for translocation. Staff will continue monitoring in accordance with USFWS guidelines (USFWS red-cockaded woodpecker Recovery Plan, especially sections 3A and 8 C & D).

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. By following the standardized monitoring protocol, data will be compatible with other opportunistic observations. Staff will document opportunistic sightings by recording information that includes the species name, location (approximate coordinates or appropriate MU), number of individuals, behavior, and habitat type. Monitoring data will be made available to cooperating agencies, and organizations such as FNAI (Section 6.5). Record encounters with or sign of the following focal species:

- Swallow-tailed kite (aggregations of 3 or more birds on regular basis in one area during spring, and any nesting activity)
- Burrowing owl
- Cooper's hawk (nesting activity only)
- Crested caracara (juveniles, nesting activity and banded individuals only)
- Florida black bear
- Florida grasshopper sparrow
- Florida panther
- Florida pine snake
- Florida sandhill crane (juveniles and nesting activity only)
- Florida mottled duck (juveniles and nesting activity only)
- Limpkin (juveniles and nesting activity only)
- Sherman's fox squirrel
- Short-tailed hawk (individuals and nesting activity)
- Snail kite (nesting activity only)

- Southern bald eagle (nesting activity only)
- Wading birds (nesting activity only)
- Any listed species that does not have a monitoring protocol in this section

5.3: Species Research Needs

Species management recommendations in other sections of this document are based on the most current information available for a given species. Cases may arise where little or no information is available to guide management, and research is needed. However, workshop participants did not identify any species research needs on HH/BCWMA or TNRWMA.

Section 6: Intra/Inter Agency Coordination

Throughout the WCPR process, there were many recommendations regarding possible management strategies for focal species. WHM staff can handle most proposed management actions; however, coordination with other sections in FWC or with other agencies is sometimes necessary or more efficient. This section identifies cases in which coordination is necessary outside of WHM, 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 or supervisor to determine the appropriate contact.

6.1: Florida Fish & 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 population response to management. If this information is not shared with others, valuable data that useful in assessing statewide conservation efforts often is lost or unused. Therefore, WHM will share monitoring data with the appropriate taxa coordinators, and with program coordinators for species that have formal conservation initiatives or management programs. The regional SCP biologist is a good source of information on the regional status of non-game species. Additionally, the Endangered Species Act Section 6 Cooperative Agreement between the FWC and the USFWS provides the authorization for FWC staff to handle federally listed wildlife. However, staff must be in compliance with the terms and conditions of the Agreement, which includes proper reporting of actions with federally listed wildlife. Staff will coordinate with FWC's Endangered Species Coordinator to meet the reporting requirements. In addition, any reports from the Gopher Tortoise Recipient Site SMA management and monitoring (see Section 4.1.3 and Section 5.2.2) should be sent to the SCP gopher tortoise conservation program. Please note some contacts will also be covered under Section 6.1.3; FWRI, and Section 6.1.6; Florida's Wildlife Legacy Initiative.

Contacts:

Brad Gruver, Species Conservation Planning Section Leader: (850) 488-3831

Craig Faulhaber, Avian Conservation Coordinator: (352) 732-1225

Terry Doonan, Mammal Conservation Coordinator: (386) 758-0525

Brooke Talley, Reptile and Amphibian Conservation Coordinator: (850) 488-3831

David Cook, Invertebrate Conservation Coordinator: (850) 921-1021

Alex Kropp, Northeast Regional SCP Biologist: (352) 732-1225

Deborah Burr, Gopher Tortoise Conservation Program Coordinator: (850) 921-1019

Richard McCann, Gopher Tortoise Permitting Coordinator (850) 921-1028

Eric Seckinger, Northwest and North Central Gopher Tortoise Conservation Biologist (850) 921-1029

Rachel King, South Gopher Tortoise Conservation Biologist (561) 882-5714

Michelle Vandeventer, Bald Eagle Management Plan Coordinator: (941) 894-6675

6.1.2: Hunting and Game Management (HGM)

As the FWC has a statewide quail strategy, information collected on northern bobwhite should be shared with the FWC Quail Biologist. Staff should stay informed about northern bobwhite monitoring protocol. Information on the Florida mottled duck can be obtained from the waterfowl staff within the Waterfowl and Small Game Management Program. Questions pertaining to possible changes to hunting regulations for northern bobwhite should be directed to the Regional Public Hunting Areas Coordinator.

Contacts:

Paul Schulz, Game Species Management Section Leader: (850) 488-3831

Greg Hagan, Small Game Program Coordinator: (850) 488-3831

Jen Williams, Regional Public Hunting Areas Biologist, (352) 620-7349

6.1.3: Fish and Wildlife Research Institute (FWRI)

Area staff will cooperate with FWRI staff conducting monitoring and research for bald eagles by reporting new eagle nests through the FWC bald eagle database. Area staff will cooperate with Kevin Enge on herpetofauna monitoring and report documentation of these species to FWRI. The research administrator oversees the FWC's migratory bird scientific collection permit. Report handling of migratory birds covered by the permit to the research administrator in January of each year.

Contacts:

Robin Boughton, Section Leader: (352) 334-4218

Andrew Cox, Avian Research Administrator: (352) 334-4241

Janell Brush, Avian Research Biologist (bald eagle): (352) 334-4202

Karl Miller, Avian Biological Administrator: (352) 334-4215

Amy Schwarzer, Avian Research Biologist (wading birds): (352) 334-4201

Jeff Gore, Mammalian Research Administrator (southeastern bat): (850) 767-3624

Anna Farmer, Reptile and Amphibian Research Administrator: (352) 334-4216

Kevin Enge, Associate Research Scientist (gopher frog): (352) 334-4209

6.1.4: Aquatic Habitat Restoration/ Enhancement Subsection (AHREs)

A number of focal and imperiled species on these WMAs depend on aquatic ecosystems to meet their life requirements. Area staff should maintain contact with AHREs when conducting any hydrological assessments. Additionally, staff from AHREs will be helpful in the development of the enhancement or restoration SMA (in concert with SJRWMD and other agencies) for Bull Creek.

Contacts:

Steve Rockwood, Section Leader: (850) 617-9471

Bill Caton, Section Leader: (850) 617-9428

6.1.5: Office of Conservation Planning Services (CPS)

Private lands biologists within FWCs Office of CPS work to provide technical and financial assistance to landowners interested in managing their properties in a manner compatible with the needs of wildlife. These biologists are able to write management plans for landowners and enroll them in cost-share programs that offset some of the financial costs associated with land management. If private landowners near HH/BCWMA or TNRWMA express an interest in managing of their lands for wildlife, CPS biologists should be contacted and provided the landowner's information.

Contacts:

Scott Sanders, Office Director: (850) 488-3831

Mark Asleson, Regional CPS Coordinator: (352) 620-7355

Macky Thurman, CPS Biologist: (352) 732-1225

6.1.6: Florida's Wildlife Legacy Initiative (FWLI)

Monitoring animal populations on a WMA gives managers a way to gauge population response to management. If this information is not shared with others, valuable data that useful in assessing statewide conservation efforts often is lost or unused. FWRI can assist in identifying potential partners for collaboration of monitoring and management efforts. FWLI also might be a source of funding via the State Wildlife Grants program; therefore, regular communication with this section will be important.

Contacts:

Brian Branciforte, Program Coordinator: (850) 488-3831

Heather Hitt, Regional Legacy Biologist: (772) 469-4267

6.1.7: Imperiled Species Management Section (ISM)

The Imperiled Species Management Section is responsible for the implementation and evaluation of imperiled species management and recovery plans. While these WMAs are not critically important for the conservation of Florida black bears or Florida panthers, staff should contact staff with ISM with questions about these species.

Contacts:

Carol Knox, Section Leader: (850) 922-4330

Darrell Land, Panther Team Leader: (239) 417-6352

Dave Telesco, Biological Administrator (bears): (850) 922-4330

Mike Orlando, Biological Scientist (bears): (386) 965-2464

6.2: Saint Johns River Water Management District (SJRWMD)

The SJRWMD is responsible for water manipulation practices that affect the Bull Creek system, and would be involved in any restoration of the creek. Additionally, SJRWMD is responsible for management of the adjacent Three Forks Marsh Conservation Area.

Contacts:

JB Miller, Senior Land Resource Planner: (386) 329-4381

Doug Voltolina, Land Manager: (321) 676-6614

6.3: Florida Forest Service (FFS)

The FFS provides authorizations for prescribed burning, and will provide assistance with escaped fires. FFS can provide assistance with timber management including administration of

contracts for thinning or reforestation operations. WMA staff should continue to coordinate prescribed fire and timber management activities with FFS.

Contacts:

Tom Donahoe, Forest Area Supervisor; (407) 892-3024

6.4: Avian Research and Conservation Institute (ARCI)

ARCI surveys and keeps information on American swallow-tailed kite and short-tailed hawk populations. Location information on the swallow-tailed kite and short-tailed hawk, particularly nests or nesting behavior, should be shared with ARCI.

Contacts:

Dr. Ken Meyer, Avian Researcher: (352) 335-4151; meyer@arcinst.org

Gina Kent, Research Ecologist and Coordinator: (352) 514-5607; gkent@arciinst.org

6.5: Florida Natural Areas Inventory (FNAI)

FNAI collects, interprets, and disseminates ecological information critical to the conservation of Florida's biological diversity. The FNAI's database and expertise facilitate environmentally sound planning and natural resource management to protect the plants, animals, and communities that represent Florida's natural heritage. The FNAI maintains a database of rare and listed species that is often used for planning purposes. As such, WHM will share information about rare and listed species occurrences on HH/BCWMA and TNRWMA with FNAI to ensure this information is included in their database. Additionally, FWC has a contract that allows FNAI to provide plant and animal surveys if the need exists and resources are available.

Contacts:

Dan Hipes, Chief Scientist: (850) 224-8207

6.6: Southern Range Translocation Cooperative (SRTC)

The SRTC was created in 1998 to coordinate the translocation of red-cockaded woodpeckers from secure (e.g., source) populations to sites where local populations need to be increased. Area staff should be encouraged to attend the annual meeting of the SRTC where decisions are made about the number of individual woodpeckers available to the local BC3N population.

Contacts:

Will McDearman, USFWS RCW Recovery Coordinator; (601) 321-1124

Section 7: Beyond the Boundaries Considerations

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

The current management boundaries for these WMAs do not include all important habitat for focal species. The FWC originally identified Strategic Habitat Conservation Areas (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". This report identified SHCA within 3 miles of these WMAS for the burrowing owl, swallow-tailed kite, short-tailed hawk, snail kite, Cooper's hawk, Florida black bear, and Florida panther. Although it is unlikely Florida will acquire all property identified in SHCAs, property acquisition and actions that encourage land use and management that is compatible with the needs of the WMAs' focal species should be a priority in the area. One tract, the Roberson parcel, is currently for sale (as of Spring 2012). Bordered on three sides by TNRWMA's southwest corner, acquisition of this property would provide additional acreage to support most of the areas' focal species including, but not limited to, red cockaded woodpecker, Bachman's sparrow, brown-headed nuthatch, and gopher tortoise.

While the current conditions and management of HH/BCWMA and TNRWMA 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 staff's ability to conduct prescribed fire would be detrimental to the persistence of species such as northern bobwhite, red-cockaded woodpecker, and gopher tortoise. Much of the land surrounding both WMAs is used for agriculture, but many of these landowners are involved in private lands conservation programs. Staff within FWC's Office of Conservation Planning Service (Section 6.1.5) should be encouraged these landowners to continue managing their agricultural operations in a manner that is compatible with the needs of wildlife. If these lands are cleared for development due to an expanding Orlando and Kissimmee/St. Cloud population, species that require large home ranges, or that are dependent on dispersal for maintaining viable populations, will 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		6.1.3
Eastern indigo snake	3.2.2	4.3.2		5.2.6		6.1.3; 6.1.5
Florida pine snake	3.2.3	4.3.2		5.2.6		6.1.5
Gopher tortoise	3.2.4	4.1.3, 4.3.3		5.2.2		6.1.1
American swallow-tailed kite	3.2.5	4.3.4		5.2.6		6.4
Bachman's sparrow	3.2.6	4.3.5		5.2.3		
Brown-headed nuthatch	3.2.7	4.3.6		5.2.3		
Burrowing owl	3.2.8	4.3.7		5.2.6		
Cooper's hawk	3.2.9	4.3.8		5.2.6		
Crested caracara	3.2.10	4.3.9		5.2.6		6.1.4
Florida grasshopper sparrow	3.2.22			5.2.6		
Florida mottled duck	3.2.11			5.2.6		
Florida sandhill crane	3.2.12	4.3.10		5.2.6		6.5
Limpkin	3.2.13			5.2.6		6.2; 6.5
Northern bobwhite	3.2.14	4.3.11		5.2.4		6.1.2
Red-cockaded woodpecker	3.2.15	4.3.12	5.1.1	5.2.5		
Short-tailed hawk	3.2.16	4.3.13		5.2.6		6.4; 6.5
Snail kite	3.2.22			5.2.6		
Southern bald eagle	3.2.17	4.3.14		5.2.6		

Wading birds	3.2.18	4.3.15		5.2.6		
Florida black bear	3.2.19	4.3.16		5.2.6		6.1.3
Florida panther	3.2.20			5.2.6		6.1.7
Sherman's fox squirrel	3.2.21	4.3.17		5.2.6		6.1.5

Appendix I

This Appendix contains the original text from Section 3.2.4 as approved in the original Strategy dated February 2012 (prior to the revision on 5/31/2015).

3.2.4 Gopher Tortoise

Because existing management actions will continue to maintain and or enhance potential habitat for tortoises, no SMA is required.

12.13 Conservation Action Strategy

A Conservation Action Strategy for the Triple N Ranch Wildlife Management Area

Osceola County, Florida

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

1. Introduction

Adjacent to the small town of Holopaw in Osceola County, the 16,430-acre Triple N Ranch Wildlife Management Area (TNRWMA) is an excellent example of native pine-palmetto flatwoods scattered with wet and dry prairie, cypress domes, oak hammocks, and oak scrub. This rich tapestry of natural areas provides important habitat for a diverse assemblage of imperiled and common wildlife species.

Scenic Crabgrass Creek, a tributary of the St. Johns River, snakes across the area. On the TNRWMA limited hunting increases your chances of harvesting a mature deer or Osceola turkey. A network of well-maintained and marked roads provides ample opportunities for hiking, wildlife viewing, bicycling, and horseback riding.

The TNRWMA is managed by the Florida Fish and Wildlife Conservation Commission (FWC) for the conservation of imperiled and more common wildlife and for fish and wildlife-based public outdoor recreation. The area is managed to conserve the important natural communities on site that provide habitat for a wide range of imperiled and more common wildlife species.

The TNRWMA is owned by the Board of Trustees of the Internal Improvement Fund (Board of Trustees). The FWC has lead management authority for all resources within the established boundary. The TNRWMA is managed to conserve and restore natural wildlife habitat, and to provide high-quality opportunities for hunting, fishing, wildlife viewing, and public outdoor recreation opportunities including horseback-riding, boating, shooting range facilities, and hiking.

The FWC is responsible for the operation of the TNRWMA as a wildlife management area, as well as a number of other responsibilities. Further management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 372, 373, 375, 378, 379, 403, 487, 597, and 870 Florida Statutes. These laws provide the authority for the FWC with regard to protection and management of the State's fish and wildlife resources.

More detailed information about the TNRWMA including operational and resource management goals, objectives, and baseline resource data may be found in the TNRWMA Management Plan.

The TNRWMA Conservation Action Strategy (CAS) has been developed as an integral component of the FWC Land Conservation Work Plan and the TNRWMA Management Plan. The CAS provides recommended land conservation acquisition and stewardship actions for the TNRWMA. As described in the TNRWMA Management Plan, the FWC utilizes a three-tiered approach to land conservation and stewardship analysis and recommended actions that include identifying, acquiring, or otherwise protecting important conservation lands adjacent to, or in proximity to, existing FWC-managed areas. Part of this process involves the development of an Optimal Resource Boundary (ORB), Optimal Conservation Planning Boundary (OCPB), and a CAS.

The CAS was developed to aid in the recommendation of lands within the TNRWMA OCPB for inclusion on the FWC Florida Forever Additions and Inholdings (A&I) Acquisition list; to enhance the ongoing operational and resource management of the TNRWMA; sustain the overall conservation of wildlife within and adjacent to the TNRWMA; increase wildlife habitat or

landscape conservation connectivity on adjacent public and private conservation lands; maintain adequate prescribed burning buffers; aid in landscape conservation connectivity; conserve additional wildlife habitat; and provide more public access opportunities on conservation lands.

Additionally, the CAS also fulfills an objective of the TNRWMA Management Plan, specifically the Land Conservation and Stewardship Goal. Following, are other elements of this CAS including more information on the area's location; acquisition purposes and history; adjacent land uses within the vicinity of the TNRWMA; the OCPB; and the recommended prioritized conservation actions that have been developed to provide a proactive, comprehensive and long-term strategy for further potential land conservation opportunities within, adjacent to, and surrounding the TNRWMA.

2. Location

The TNRWMA consists of 16,430 acres and is in Osceola County, lying in multiple sections within Township 27 South, Ranges 32 and 33 East and multiple sections in Township 28 South, Range 33 East. The TNRWMA is located approximately 26 miles west of Melbourne in Brevard County, 28 miles southeast Kissimmee of in Osceola County, 37 miles east of Haines City in Polk County, and 40 miles southeast of Orlando in Orange County. The area is surrounded by privately and publicly owned forested uplands and wetlands, herbaceous wetland, citrus groves, and lands used for other agricultural practices (Figure 1).

3. Purpose for Acquisition

The TNRWMA was purchased as an addition to the St. Johns River Water Management District (SJRWMD) Bull Creek Project and was the first tract acquired within the Osceola Pine Savannas Conservation and Recreational Lands (CARL) project boundary. Among the State's purposes for acquisition, as expressed in the CARL Annual Report, are to link the Herky Huffman/Bull Creek Wildlife Management Area (HHBCWMA) and the Three Lakes Wildlife Management Area (TLWMA), helping to ensure the survival of prairie wildlife species such as the grasshopper sparrow and crested caracara. According to the CARL Annual Report, the acquisition would also protect the watershed of Bull Creek and provide a large area for the public to enjoy hunting, wildlife observation, and other activities.

The FWC's land management objectives for the TNRWMA are consistent with the original CARL objectives and purpose. These objectives are also consistent with the acquisition purpose and management goals set forth under the Preservation-2000 (P-2000) Act and the Florida Forever Act which established the purpose for lands the FWC has acquired and continues to manage under both programs. The purpose, goals, and objectives for all of the lands acquired and managed as the TNRWMA are more comprehensively expressed in the TNRWMA Management Plan that is reviewed and approved by the Acquisition and Restoration Council (ARC), the land acquisition and management advisory council to the Governor and Cabinet.

4. Acquisition History

The TNRWMA has 50%/50% undivided title interest to the Board of Trustees and the SJRWMD. (Figure 2). The initial acquisition of 8,893 acres of the TNRWMA was made in 1994 using Save Our Rivers funds.

The first purchase of the TNRWMA was in November 1994 from the Maury L. Carter Trust III, Maury L. Carter Trust II, and the Hilltop Trust. This 8,893-acre tract was acquired by the FWC and the SJRWMD using Save Our Rivers funds partly appropriated to the SJRWMD from P-2000 Land Acquisition Program bonds, and funds appropriated to the FWC as its share of the A&I Acquisition Program funding provided from P-2000 bond series. The tract lies completely within the SJRWMD and was established by the FWC in July 1995 as the TNRWMA.

In 1996, the management boundary between the TNRWMA and the HHBCWMA was adjusted. The HHBCWMA took over management for a 1,279-acre portion of the original acquisition, previously managed under the TNRWMA. Also, in 1996, the 1,366-acre Carter tract, which lies within the South Florida Water Management District (SFWMD), was acquired by the State utilizing P-2000 funds. Additionally, using P-2000 funds, the State acquired the 1,915-acre McNamara tract in 1997, the 3,594-acre Equitable tract in 2000, the 161 acres Campos-Haviland tract in 2000, and the 903-acre Yates tracts in 2000 and leased these areas to the FWC for management. In 2006, the State also acquired the 904-acre Vanosdol tract utilizing Florida Forever funds. Recently, in 2018, another one-acre tract was acquired by the Department of Environmental Protection (DEP), bringing the TNRWMA to its current size of 16,430.

Proximity to Other Public Conservation Lands and Florida Forever Projects
The TNRWMA is surrounded by a myriad of conservation lands including the Lonesome Camp Ranch Conservation Area to the west, Three Forks Conservation Area to the east, Holopaw Conservation Area to the northwest, and Whaley Conservation to the southwest. Conservation lands near the TNRWMA's boundary are shown in Figure 1. The surrounding lands include conservation areas managed by the U.S. Fish and Wildlife Service (USFWS), DEP, FWC, the SJRWMD, Osceola County, and other private and public conservation organizations.

The TLWMA is located a few miles to the south of the TNRWMA, and HHBCWMA is located to the east. Florida Forever projects and conservation lands within a fifteen-mile radius of the TNRWMA include lands managed by public and private entities and contribute to the conservation of cultural and natural resources within this region of Florida.

Some of the conservation lands within the vicinity of the TNRWMA are owned in full-fee by a public entity. While others are owned in full-fee by a private not-for-profit entity. However, many of the nearby conservation areas fall within a less-than-fee ownership classification. These privately-owned conservation lands are owned and being managed by a private landowner while a public agency or not-for-profit organization holds a conservation easement and monitoring responsibility for the land. Others are simply owned by the private landowner, while public agencies or not-for-profit organizations manage the land. Some conservation lands may also be co-owned by multiple agencies.

The TNRWMA is part of three Florida Forever projects. These include Big Bend Swamp/Holopaw Ranch, Osceola's Pine Savannas Ranch, and the Ranch Reserve. Big Bend Swamp/Holopaw Ranch includes a total of 52,466 acres, in which approximately 10,594 acres have been acquired, leaving 41,872 remaining acres to be acquired. Osceola's Pine Savannas Ranch includes a total of 46,563 acres, in which approximately 19,063 have been acquired, leaving 27,500 remaining acres to be acquired. Ranch Reserve includes a total of 36,334 acres, with approximately 23,818 acres

acquired, leaving 12,516 acres remaining acres to be acquired. Other Florida Forever projects near the TNRWMA include Adams Ranch, Bombing Range Ridge, the Pine Island Slough Ecosystem, and Catfish Creek (Figure 1).

5. Adjacent Land Use

The TNRWMA is in central Osceola County, west of the City of Melbourne. Over the last 50 years, the economy of this area has been based primarily on tourism and to a lesser extent, citrus, and ranching. The urban areas of Kissimmee and Orlando have been growing in the southerly and easterly directions, which will likely influence future development in the area.

The current zoning ordinance for the TNRWMA is agricultural development and conservation. According to Osceola County's Comprehensive Plan, this designation allows for one unit/five acres. Osceola County's future land use maps indicate that the TNRWMA will continue to be designated and zoned as Rural/Agriculture. Activities allowed on the TNRWMA, as identified in the Recreation Master Plan and Management Plan, include biking, hunting, fishing, wildlife viewing, nature study, photography, hiking, horseback riding, and picnicking.

Based on the location of the property, the current and five-year future zoning ordinances for the TNRWMA and surrounding properties, and Florida's population growth, the TNRWMA could face development impacts and challenges in the future. Currently, there is a discussion regarding a roadway project by the Central Florida Expressway (CFX) Authority that could occur near the TNRWMA. FWC staff will continue communication with the CFX and other partners regarding this potential project. The closest cities are considered rural; apart from Kissimmee, whose current proximity is considered near enough to effect development trends or the ongoing conservation of the TNRWMA during the ten-year Management Plan, planning period (2021-2031).

6. Florida's Changing Population

More U.S. residents moved to Florida than any other state in 2018, making it one of the fastest-growing in the nation. Florida had the nation's fourth-highest growth rate (1.5 percent), the third-highest population (21 million), the second-highest number of total new residents (323,000) and 133,000people who came from elsewhere in the country between July 1, 2017 and July 1, 2018. This means that, Florida's population is growing by nearly 1,000 people a day: about half of the newcomers are foreign-born immigrants and half are from other U.S. states. In the years to come, Florida's growth rate is expected to stabilize, but the state's population will approach 22 million by 2020. The 2019 U.S. Census estimates that there are 370,552 people living in Osceola County. The Department of Economic Affairs, Bureau of Economic and Business Research's (BEBR) medium-range population projection indicates that in the year 2030, there will be 510,200 people living in Osceola County. The BEBR population projections for the counties surrounding Osceola county for the year 2030 are as follows: Brevard County – 665,000; Indian River – 180,200; Okeechobee – 44,400; Orange County – 1,696,800; Polk – 817,000.

However, it should be noted that, according to Wildlife 2060, the population of coastal counties is predicted to double from 12.3 million to more than 26 million by 2060 (FWC 2008). The FWC has prepared a report titled, "Wildlife 2060: What's at Stake for Florida" to relay changes that may occur in Florida's fish and wildlife and in our own lifestyles, if the state's population doubles. But

recent predictions indicate if that happens, as a study published by 1000 Friends of Florida suggests, about seven million acres of land could be converted from rural and natural to urban uses.

7. TNRWMA Optimal Conservation Planning Boundary

Several properties have been identified for inclusion in the OCPB (Figure 3). These properties have been identified to further protect the wildlife and other resources of the property, to lessen conflicts caused by housing development within an area where prescribed burning is required for resource management, to achieve an optimum property boundary, and to provide critical habitat connectivity for the TNRWMA and other wildlife habitat. Lands within the OCPB are important to buffer the boundaries of the TNRWMA from potential adjacent incompatible developments and to aid the FWC, other state and federal governmental entities, non-governmental organizations, and local governments with their acquisition and planning efforts in order to better manage the area on a landscape level for the benefit and continued conservation of wildlife and other natural resources.

8. Potential Conservation Stewardship Opportunities Adjacent to the TNRWMA

The FWC Landowner Assistance Program (LAP) provides many potential opportunities for conservation minded landowners to obtain the assistance and advice of FWC staff and programs for improving land conservation practices on their lands. The LAP routinely conducts workshops for interested landowners to interact with FWC staff and learn how they may participate in the program. In addition, the LAP works with landowners to enroll in the Natural Resources Conservation Service (NRCS) conservation cost-share programs in order to assist with implementation of wildlife friendly practices.

At the time of the plan development, no specific land stewardship workshops had been conducted for landowners adjacent to the TNRWMA. The role and development of Land Conservation and Stewardship Partnerships is fully explained in both sections 5.11 and 6.10 of the Management Plan. Private landowners seeking assistance with habitat management will likely find it offered within the FWC's LAP. The FWC employs biologists who are available to provide wildlife-related assistance with land use planning and habitat management. There are many forms of assistance that include technical, financial, educational, and various forms of recognition that seek to award landowners who manage their wildlife habitat responsibly. The FWC will continue to evaluate the level of interest and efficacy of providing technical assistance to adjacent private landowners on enhancing the conservation management of their lands. More information on FWC's LAP program and online habitat management tools are available online at: http://myfwc.com/conservation/special-initiatives/lap/.

9. FWC Florida Forever Additions and Inholdings Acquisition List Conservation Benefits Analysis

Several properties have been identified for recommended acquisition under the auspices of FWC's Florida Forever A&I Acquisition program for the TNRWMA (Figure 4-11). The Additions and Inholdings list identifies lands within or adjacent to FWC-managed areas that are important for the conservation of fish and wildlife, serve as a link or corridor to other publicly owned property, enhance the protection or management of the property, would create a more manageable boundary configuration, have a high resource value that would otherwise be unprotected, or that could be acquired at substantially less than fair market value. Consistent with Florida Forever program

criteria, parcels on the list have been ranked High, Medium, or Low priority based on a score generated by a GIS-based resource evaluation model, along with technical input from FWC staff.

The FWC Florida Forever A&I acquisition list is updated through time, thus staying up to date for land ownerships, County parcel records, land conservation opportunities, and evolving management challenges. The FWC continually analyzes, evaluates, and prioritizes its recommended conservation actions in a systematic, comprehensive, and consistent manner over time.

The FWC continues to recommend acquisition of the remaining lands within the Big Bend Swamp/ Holopaw Ranch, Osceola's Pine Savannas Ranch, and the Ranch Reserve Florida Forever projects as essential to the long-term conservation of wildlife and to the optimal resource and operational management of the TNRWMA. Parcels on the FWC Florida Forever A&I acquisition list will be acquired if possible, according to their priority ranking for acquisition and landowner willingness to sell their lands. Participation in any FWC acquisition is entirely voluntary and at the sole discretion of willing landowners.

10. Prioritization of Lands on the FWC Florida Forever Additions and Inholdings Acquisition List

Figures 4-10 depicts the results of the FWC's Acquisition Prioritization Model Analysis and the recommended prioritization of acquisition actions of lands on the FWC Florida Forever A&I acquisition list for the TNRWMA. These parcels are prioritized on the accompanying map (Figure 11), into one of three priority categories: High, Medium, and Low. The order of acquisition priority may be changed as necessary based on factors including available funding necessary to complete a particular acquisition project, changing development pressures, landowner willingness, funding partnerships, unique acquisition opportunities like bargain sales (less than 80% of appraised value), and donations.

It should be noted that, only parcels located directly in or adjacent to the subject area can be recommended for acquisition through the FWC Florida Forever A&I Acquisition program. A corresponding list also provides more detailed ownership information. A complete list of all the parcel identification numbers, corresponding prioritization ranking, and acreage are provided in Table 1. If the circumstances with adjacent land uses and conservation opportunities arise, the FWC may recommend adding other parcels to the FWC Florida Forever A&I acquisition list.

11. Acquisition Partnership Opportunities

Opportunities for working with other potential acquisition partners within this project area include the USFWS, U.S. Department of Defense (DOD), NRCS, DEP, Florida Department of Agriculture and Consumer Services (DACS), Florida Forest Service (FFS), SJRWMD, Conservation Florida, other non-governmental conservation organizations, and potential grant programs.

12. Analysis of the Potential and Need for Fee vs. Less-than-Fee Acquisition

At this time, the FWC often recommends full-fee acquisition of the lands on the FWC Florida Forever A&I acquisition list for the TNRWMA that are either inholdings, or are located immediately adjacent to the area, to optimize the conservation of fish and wildlife, public access and use, and overall resource and operational management of the area. However, since the

TLWMA is located within a rural landscape of working agricultural and silvicultural lands, less-than-fee acquisition of large acreage tracts on the FWC Florida Forever A&I Acquisition List should also be considered as a viable conservation alternative for larger tracts of land. Since, less-than-fee acquisitions in a largely rural, working landscape may often provide many of the same conservation benefits that are derived from full-fee acquisitions, if the landowner has a desire to continue to manage their lands to maintain a working landscape in a manner that will also enhance the conservation benefits provided by their lands. Nevertheless, the FWC continues to recommend full-fee acquisition or may pursue less-than-fee acquisition with adjacent landowners within the Big Bend Swamp/Holopaw Ranch, Osceola Pine Savannas Ranch, and the Ranch Reserve Florida Forever project in order to optimize the conservation of wildlife and overall resource and operational management of the TNRWMA. Though it should be noted that landowner preference is often the key element in determining whether to pursue full-fee or less than fee acquisition.

13. Recommendations for Prioritized Land Conservation Actions

Following are the prioritized recommendations of conservation actions for the TNRWMA:

1. Acquire parcels on the FWC Florida Forever A&I Acquisition List as prioritized and feasible with available funding.
2. Recommend adding parcels within the Big Bend Swamp/Holopaw Ranch, Osceola Pine Savannas, and the Ranch Reserve Florida Forever projects and/or parcels that are within the TNRWMA OCPB for inclusion on the FWC Florida Forever A&I acquisition list.
3. Working with surrounding landowners and as needed, recommend addition of parcels to nearby Florida Forever projects, the OCPB, and/or the A&I acquisition list.
4. Continue to work with private landowners near the TNRWMA to encourage participation in available conservation stewardship programs for private landowners.
5. Recommend landowner assistance workshop(s) for neighboring and surrounding landowners to assist with enhanced conservation of these lands.
6. Continue to cooperate with public and private organizations for conservation of lands within the OCPB.
7. Continue to recommend acquisition of identified land through the USFWS, DOD, NRCS, DACS, FFS, DEP, Conservation Florida, SJRWMD, and other organizations and potential grant programs.

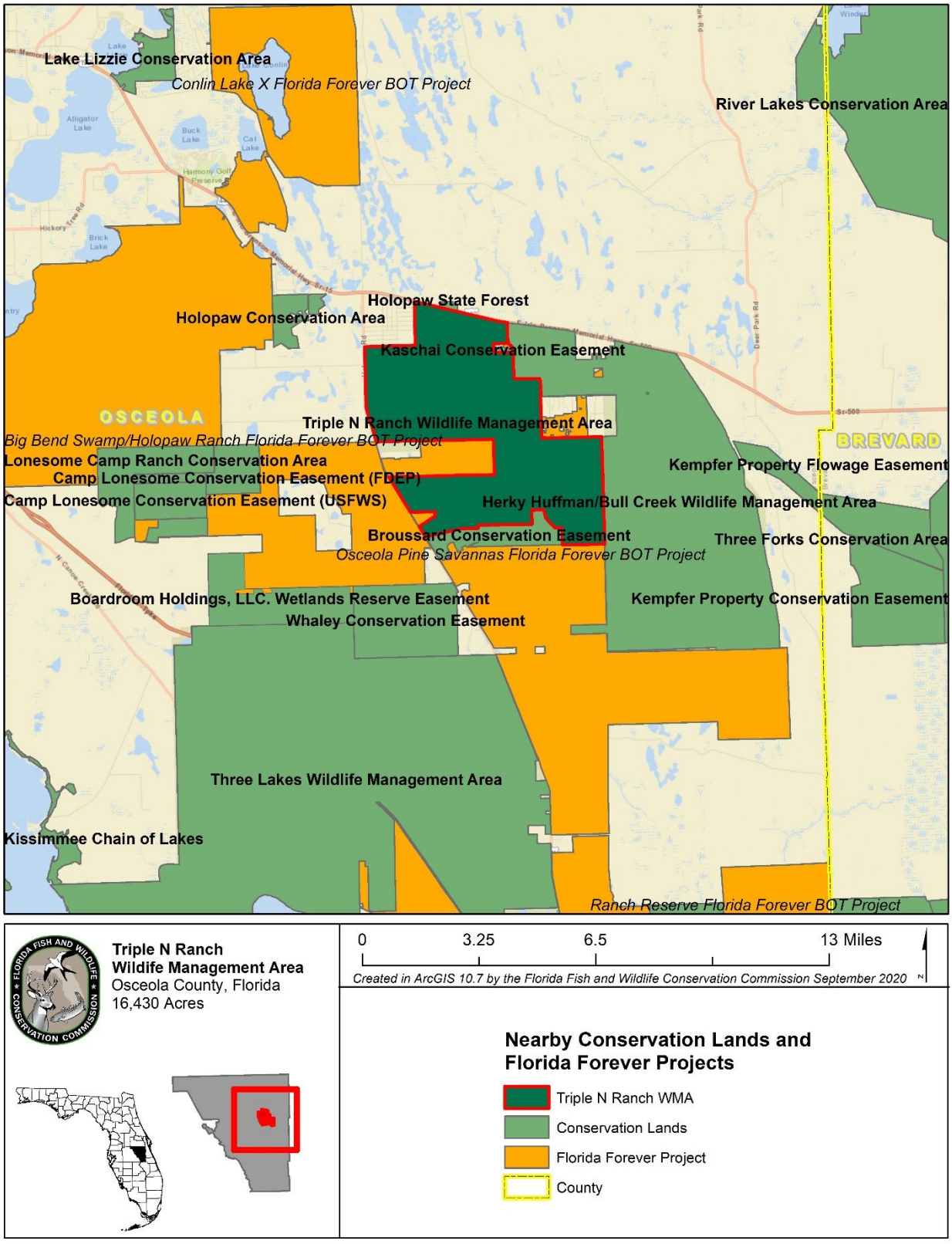


Figure 1. Vicinity Map of TNRWMA

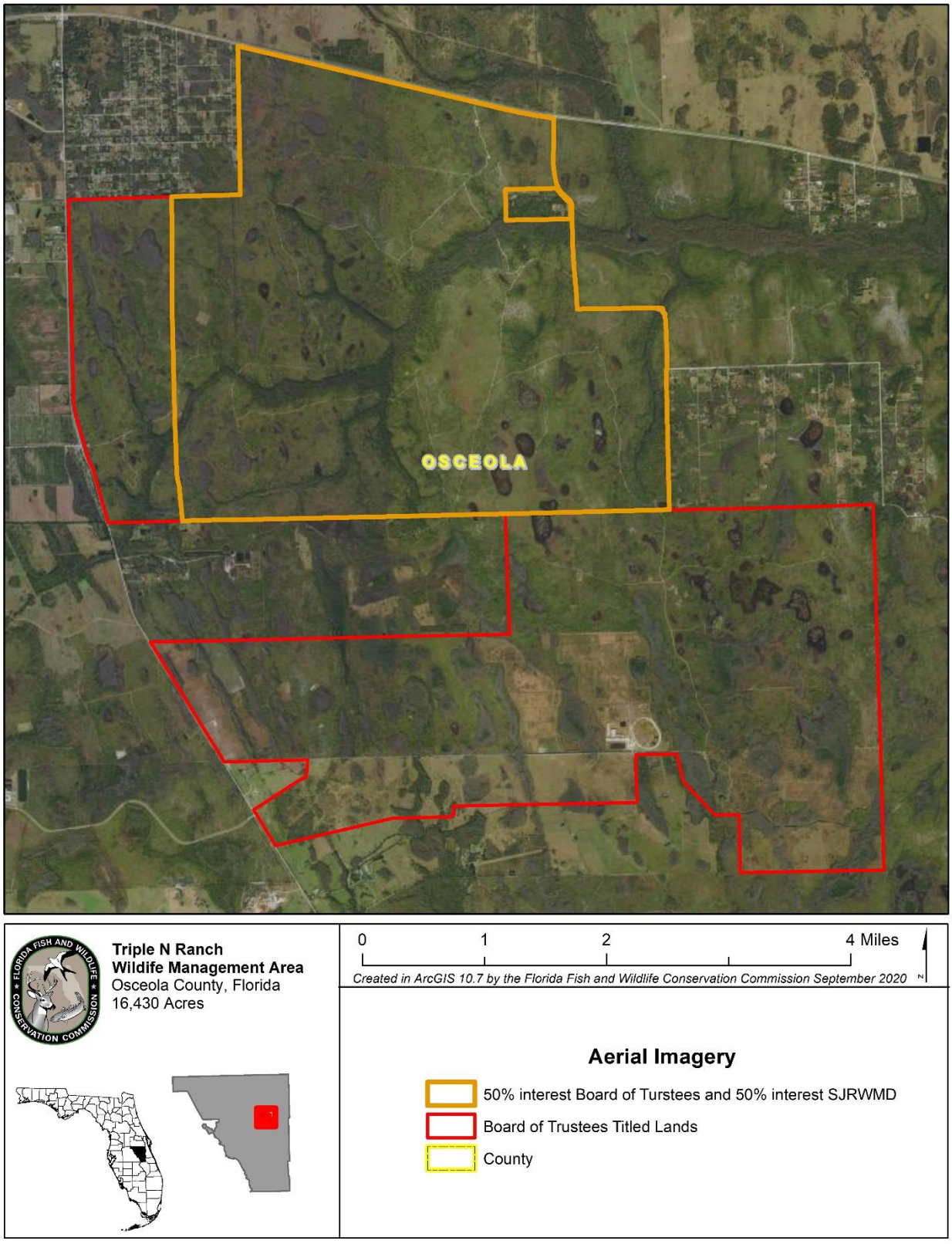


Figure 2. Aerial Imagery

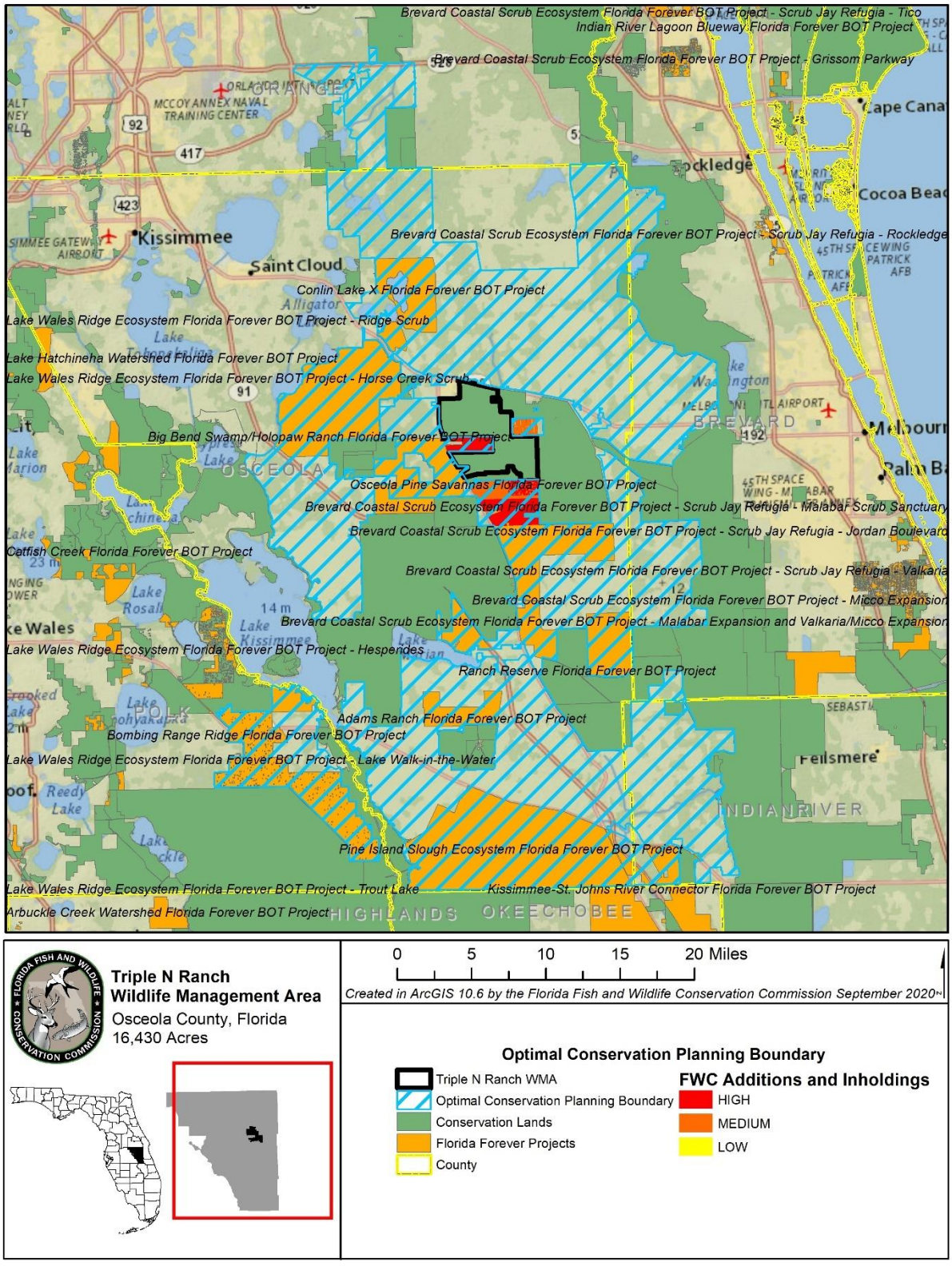


Figure 3. Optimal Conservation Planning Boundary

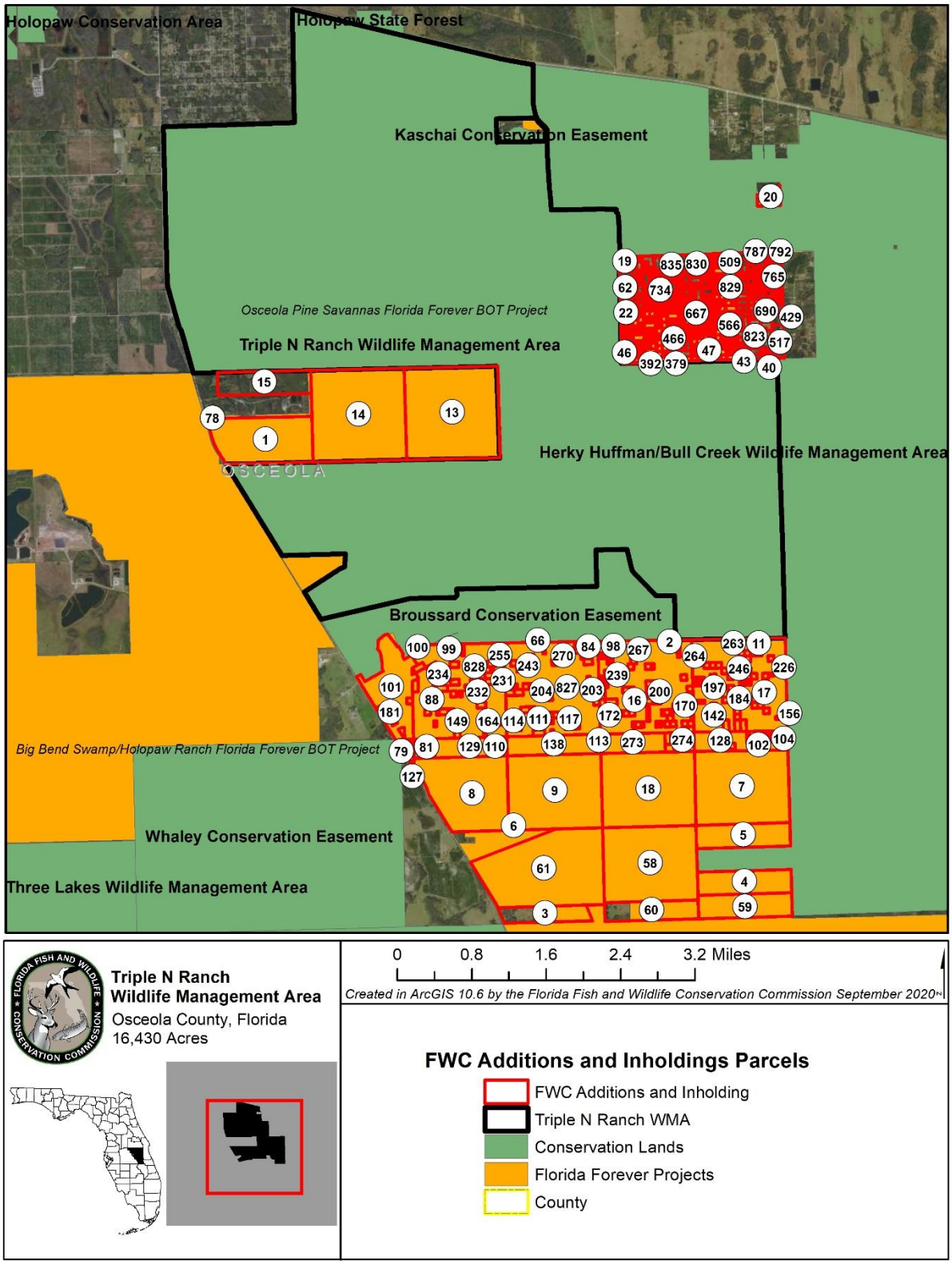


Figure 4. Additions and Inholdings Parcels

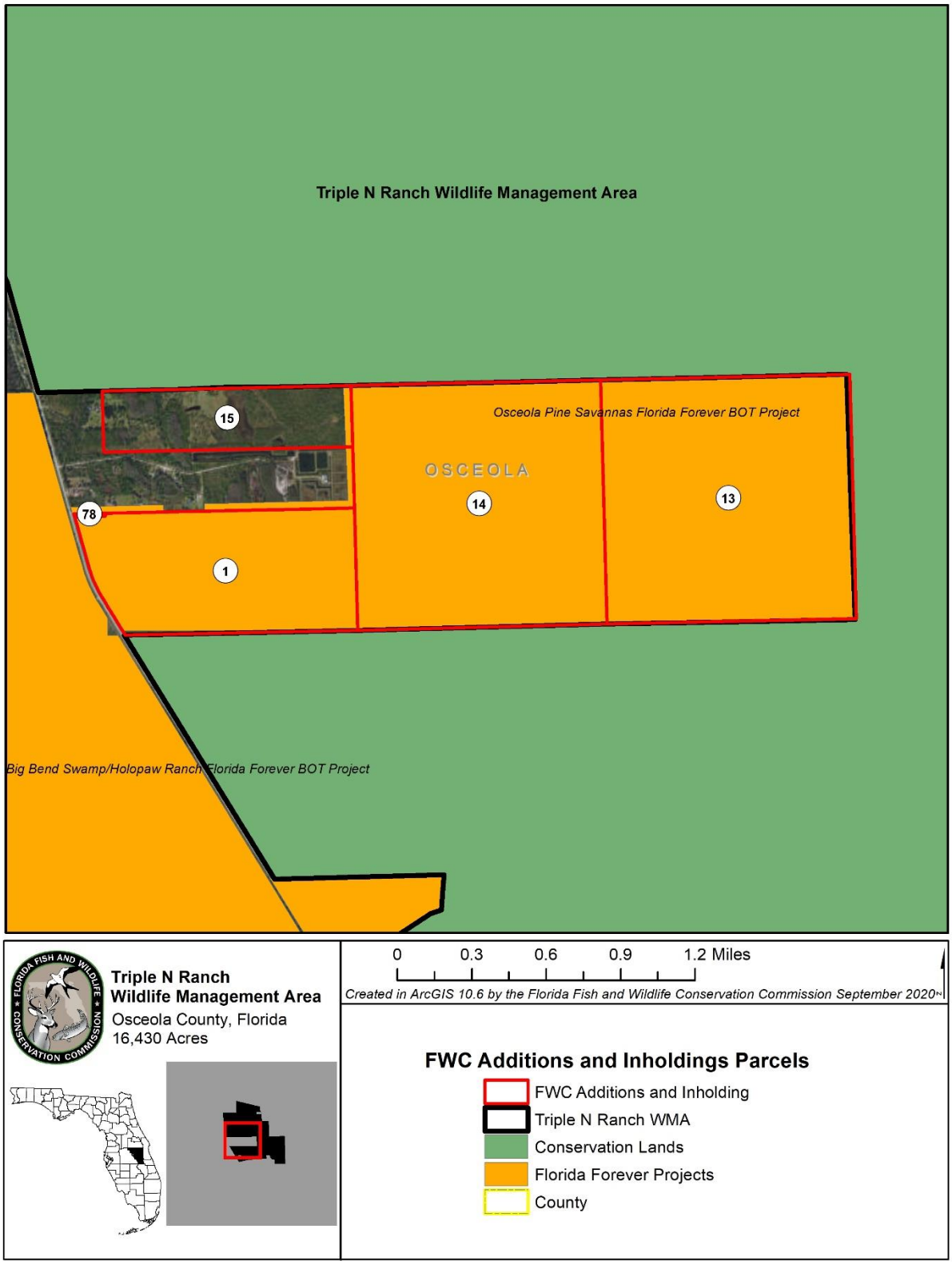


Figure 5. TNRWMA Additions and Inholdings West Tract

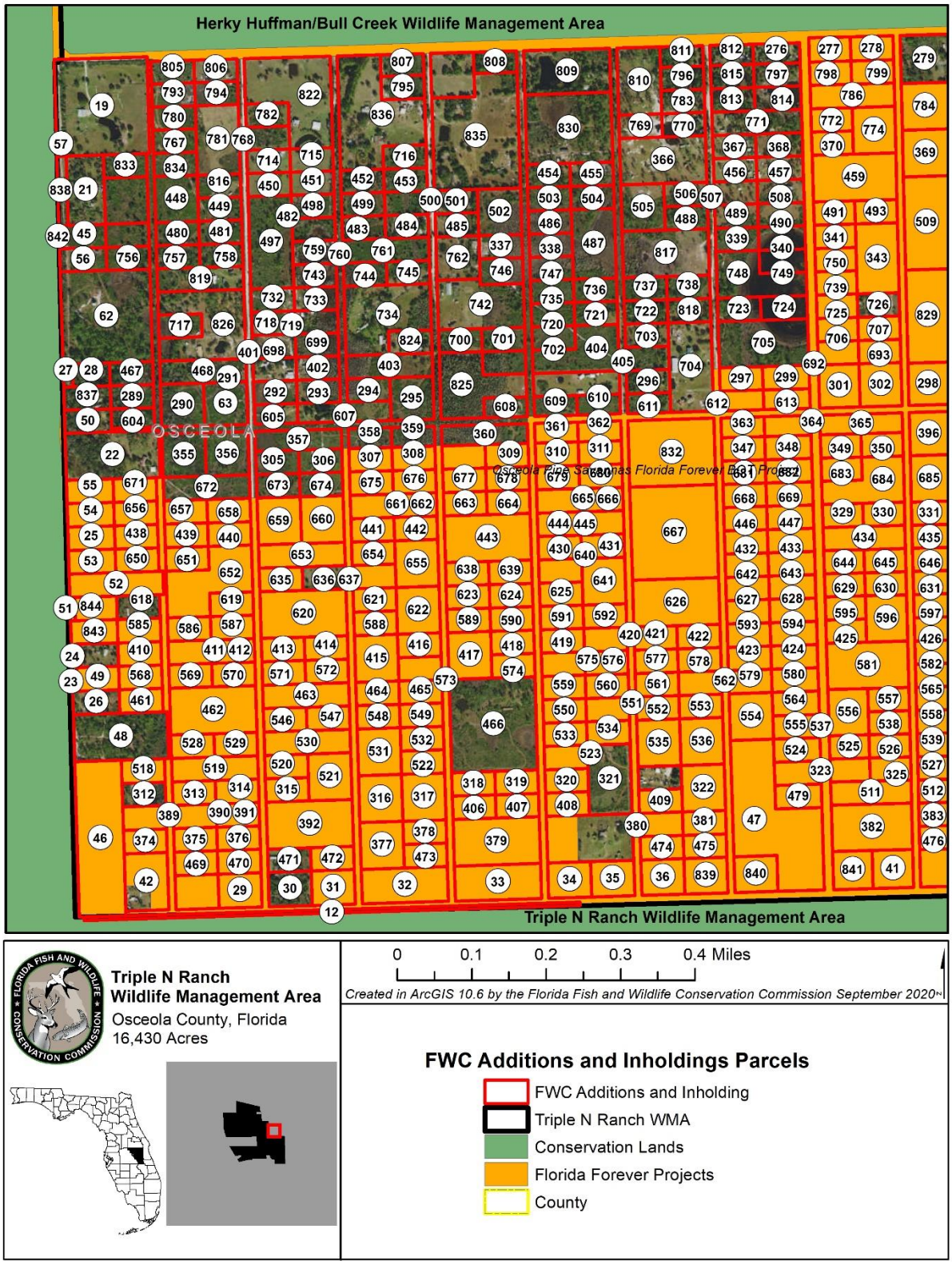


Figure 6. TNRWMA Additions and Inholdings Zoom In East Tract- Section 1

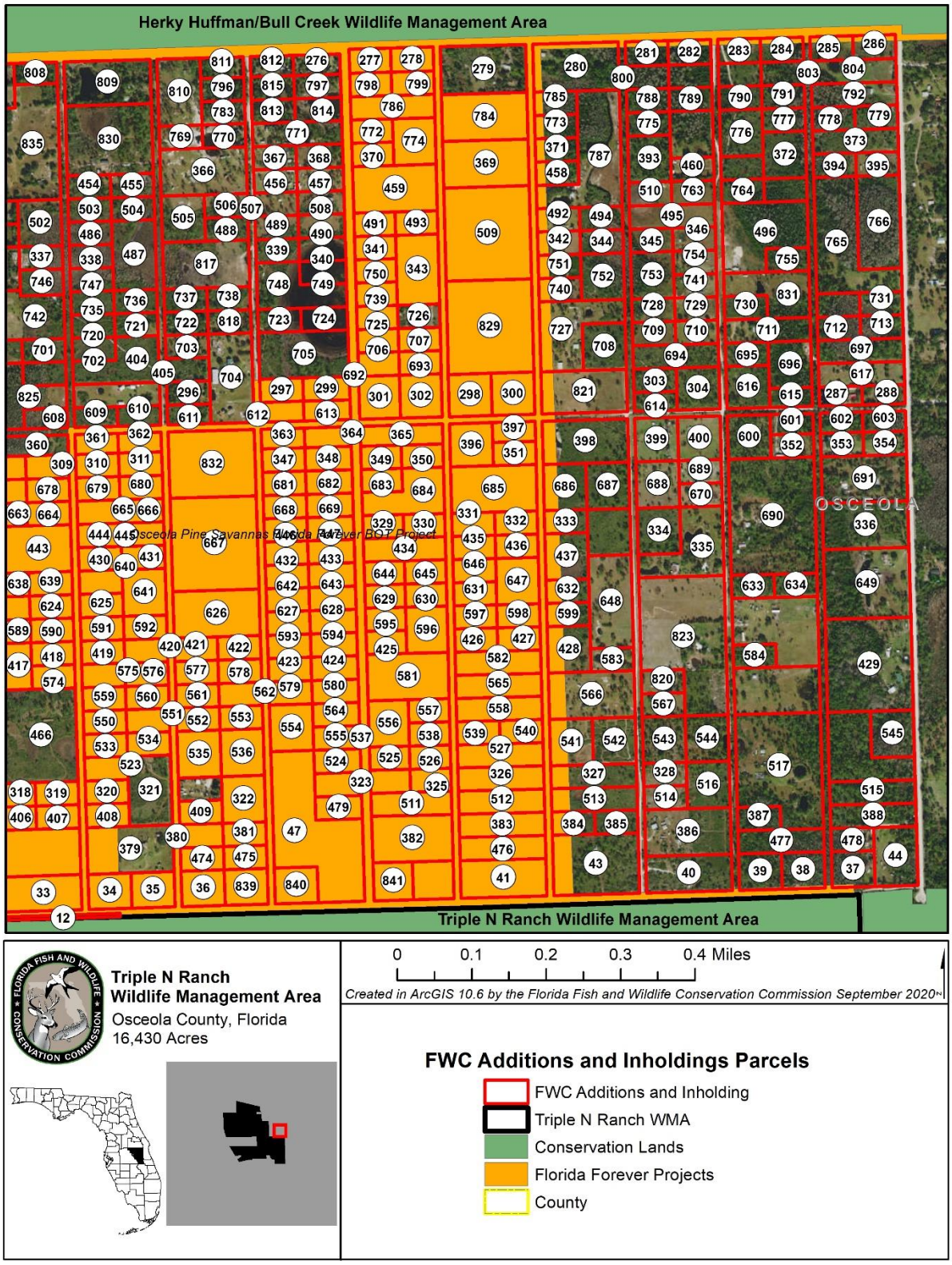


Figure 7. TNRWMA Additions and Inholding Zoom In East Tract- Section 2

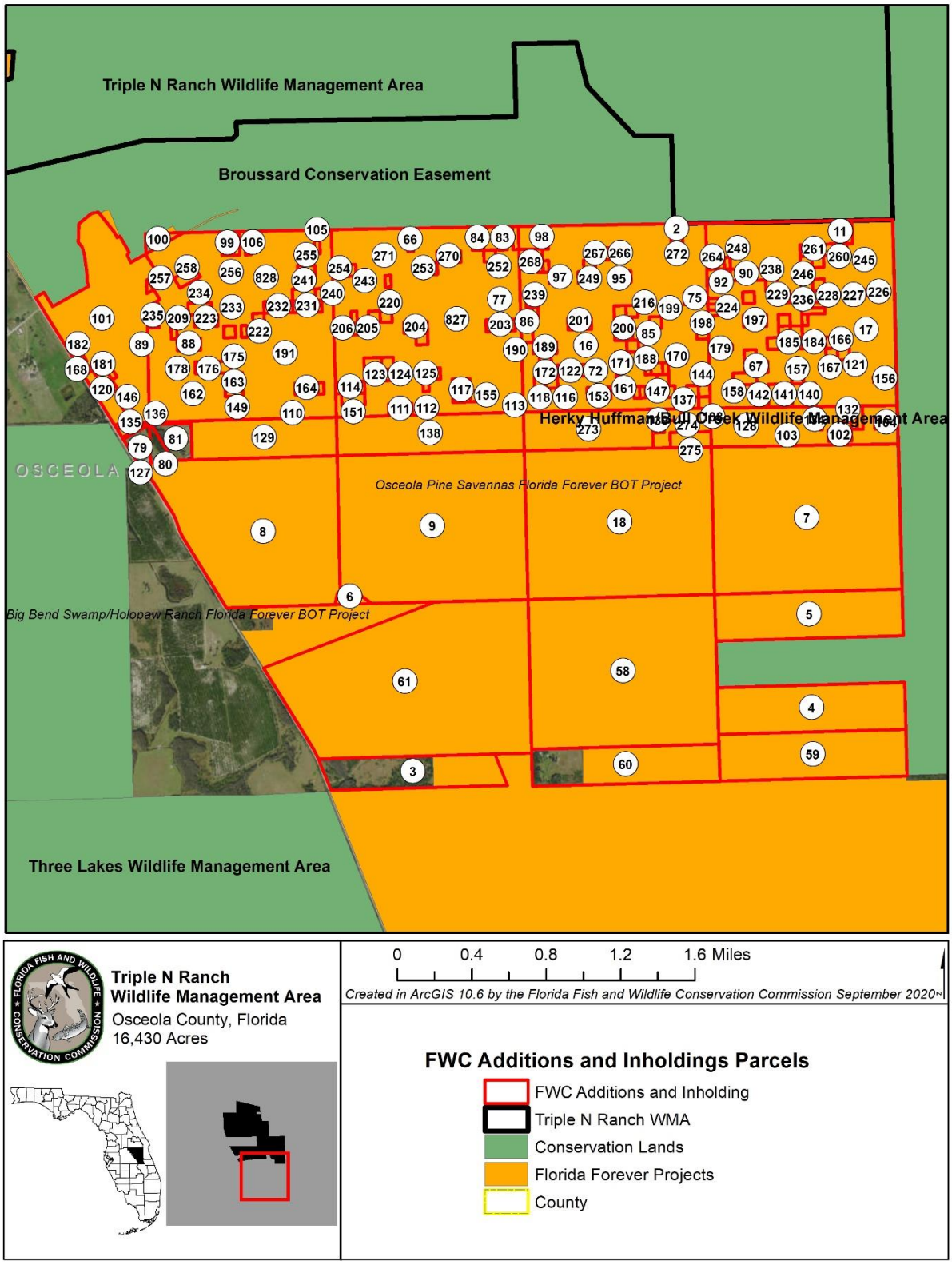


Figure 8. TNRWMA Additions and Inholding South Tract

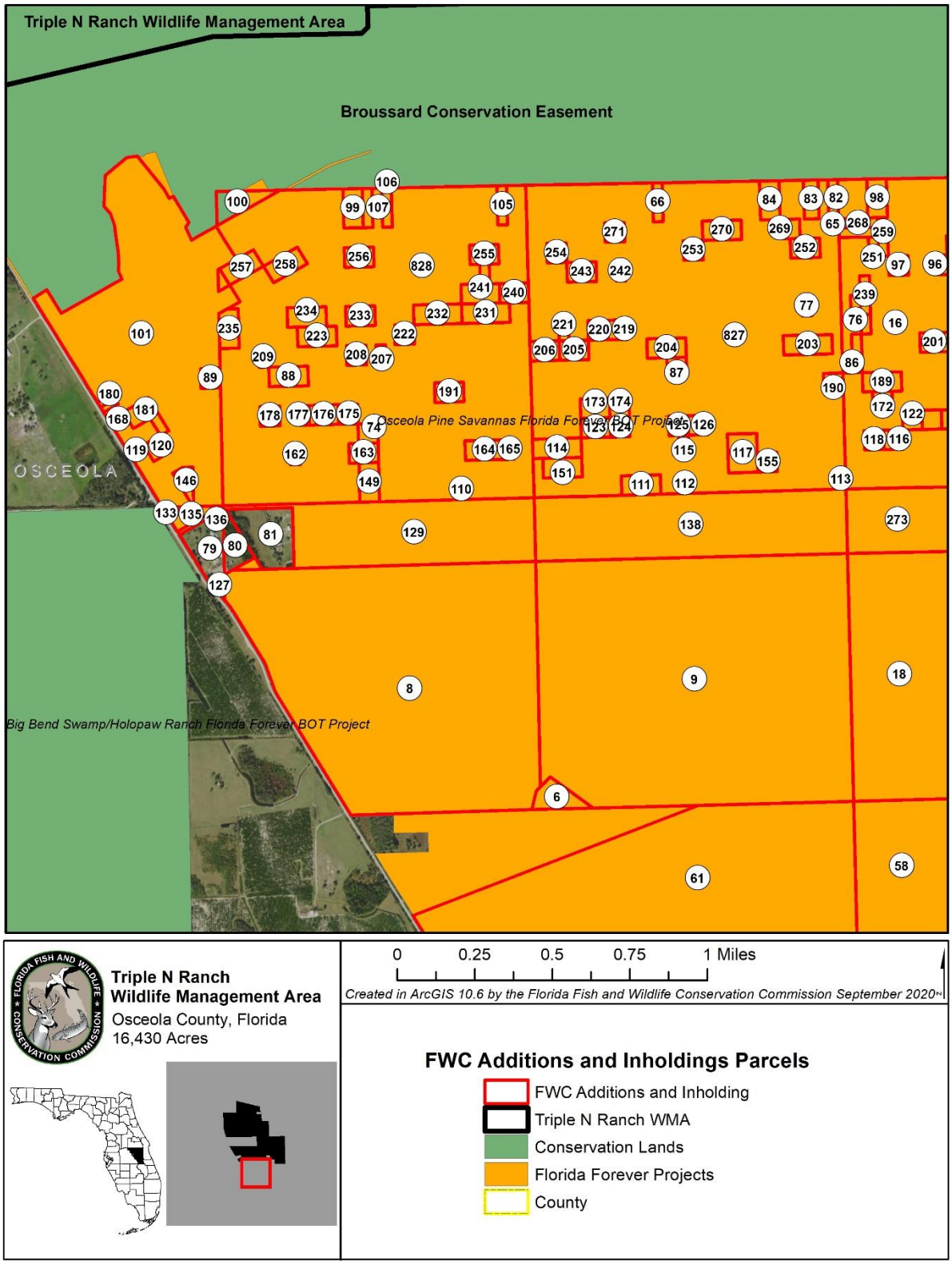


Figure 9. TNRWMA Additions and Inholding Zoom In South Tract- Section 1

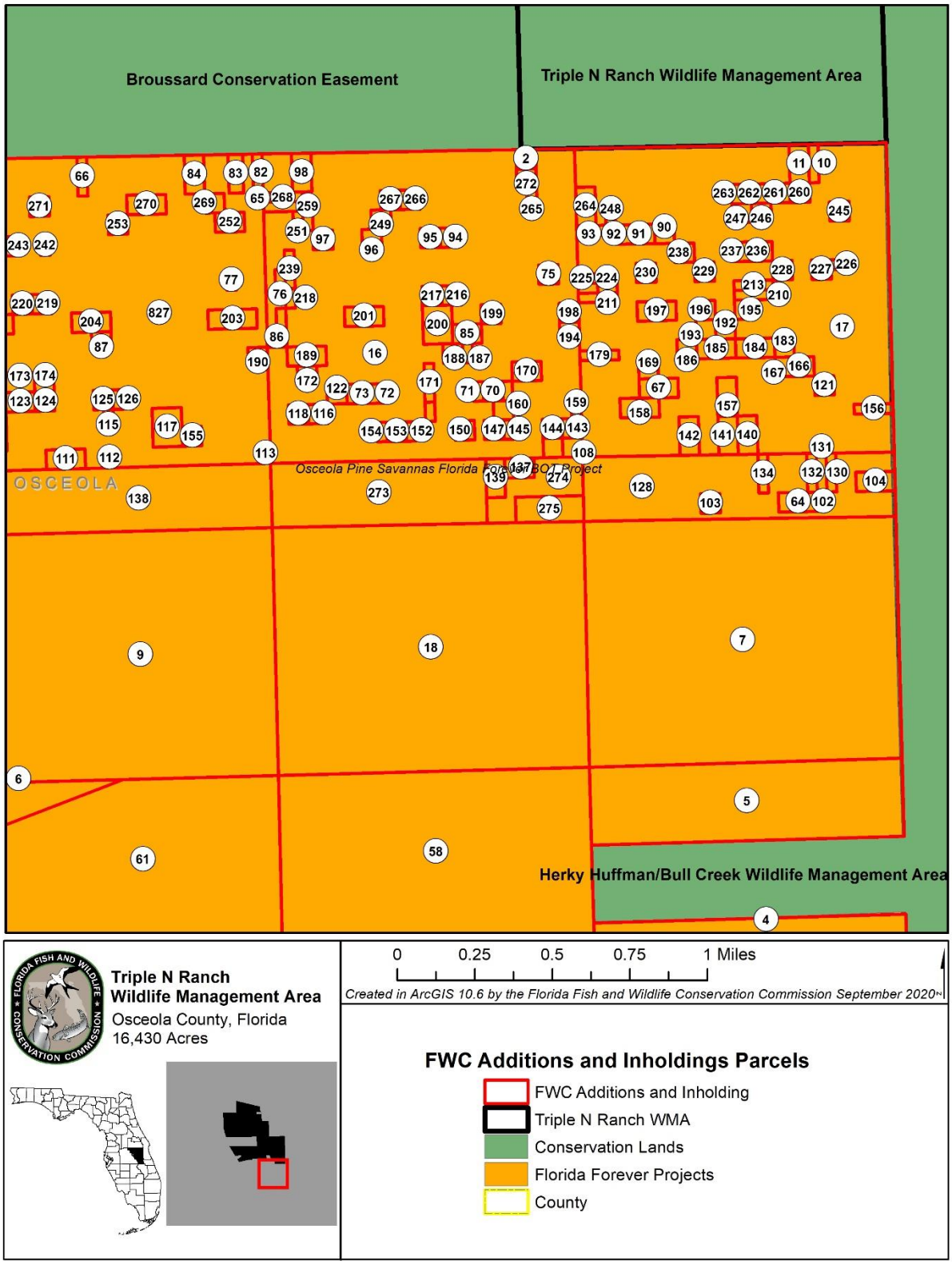


Figure 10. TNRWMA Additions and Inholdings Zoom In South Tract- Section 2

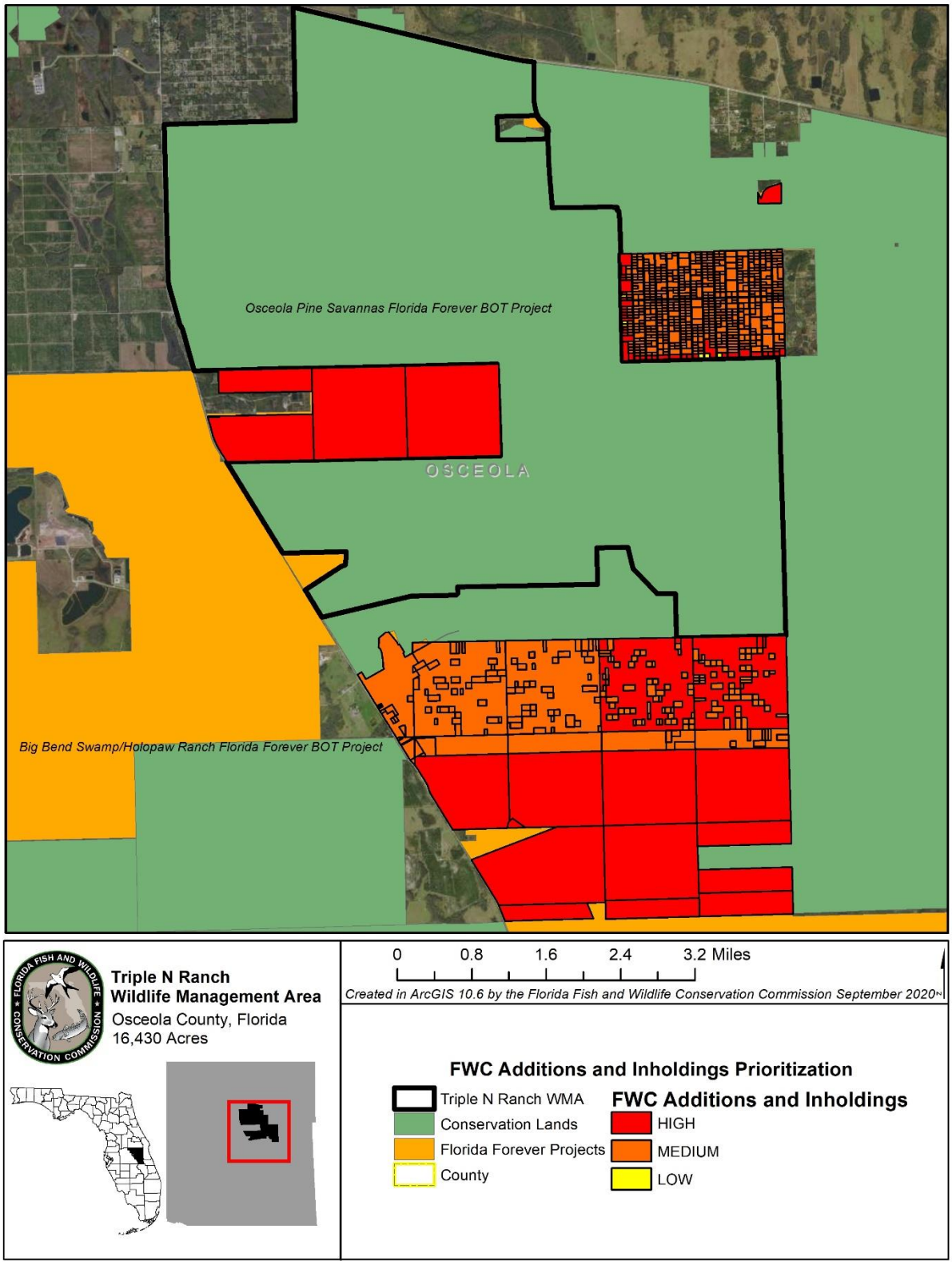


Figure 11. TNRWMA Additions and Inholdings Parcel Prioritization

Table 15. Additions and Inholdings List for the TNRWMA

Label	PARCEL ID	Priority	Acres
1	062833358900010010	HIGH	331.75
2	232833000011210010	HIGH	2.51
3	332833000000300000	HIGH	103.43
4	362833000000300000	HIGH	161.97
5	362833000000100000	HIGH	162.23
6	272833000000150000	HIGH	7.22
7	252833000000100000	HIGH	507.16
8	282833000000100000	HIGH	425.59
9	272833000000100000	HIGH	509.51
10	242833000011220030	HIGH	2.51
11	242833000012110010	HIGH	5.01
12	022833000000100000	HIGH	2.02
13	042833000000100000	HIGH	633.22
14	052833000000100000	HIGH	635.20
15	062833000000300000	HIGH	158.73
16	232833000011110010	HIGH	504.16
17	242833000011110011	HIGH	495.85
18	262833000000100000	HIGH	512.03
19	352733000003300000	HIGH	10.14
20	252733000000500000	HIGH	25.64
21	352733000006500000	HIGH	2.99
22	352733000025700000	HIGH	5.08
23	352733000040150000	HIGH	0.38
24	352733000040100000	HIGH	1.01
25	352733000032100000	HIGH	1.26
26	352733000043300000	HIGH	1.26
27	352733000020950000	HIGH	0.25
28	352733000020900000	HIGH	1.00
29	352733000056400000	HIGH	1.71
30	352733000056500000	HIGH	1.71
31	352733000056600000	HIGH	1.72
32	352733000056700000	HIGH	3.46
33	352733000056900000	HIGH	3.49
34	352733000057100000	HIGH	1.76
35	352733000057200000	HIGH	1.76
36	352733000057300000	HIGH	1.77
37	362733000060600000	HIGH	1.79
38	362733000060500000	HIGH	1.80
39	362733000060400000	HIGH	1.81
40	362733000060200000	HIGH	3.64
41	362733000059700000	HIGH	5.50

42	352733000054600000	HIGH	4.56
43	362733000058300000	HIGH	5.98
44	362733000059000000	HIGH	2.93
45	352733000011300000	HIGH	1.15
46	352733000049700000	HIGH	8.40
47	352733000049500000	HIGH	10.22
48	352733000044900000	HIGH	5.08
49	352733000041700000	HIGH	1.14
50	352733000024100000	HIGH	1.24
51	352733000036950000	HIGH	0.13
52	352733000035300000	HIGH	2.54
53	352733000033700000	HIGH	1.26
54	352733000030500000	HIGH	1.26
55	352733000028900000	HIGH	1.26
56	352733000012900000	HIGH	1.24
57	352733000004950000	HIGH	0.25
58	352833000000200000	HIGH	518.33
59	362833000000400000	HIGH	161.85
60	352833000000100000	HIGH	128.84
61	332833000000400000	HIGH	612.64
62	352733000014500000	HIGH	9.58
63	35273300002280MINR	MEDIUM	2.13
64	25283300000190MINR	MEDIUM	5.04
65	23283300002231M012	MEDIUM	2.51
66	222833000021120010	MEDIUM	2.52
67	242833000034110010	MEDIUM	2.50
68	242833000033110010	MEDIUM	5.00
69	232833000044220020	MEDIUM	1.25
70	232833000043110010	MEDIUM	2.50
71	232833000043120010	MEDIUM	1.25
72	232833000034210010	MEDIUM	2.51
73	232833000034220010	MEDIUM	2.51
74	212833000034110000	MEDIUM	2.55
75	232833000014420010	MEDIUM	2.50
76	232833000023320010	MEDIUM	1.26
77	222833000014420000	MEDIUM	1.26
78	012832000000100000	MEDIUM	0.91
79	292833000000150000	MEDIUM	12.75
80	282833000000150000	MEDIUM	7.05
81	282833000000600000	MEDIUM	20.04
82	222833000011110010	MEDIUM	2.51
83	222833000011120000	MEDIUM	3.77
84	222833000011220000	MEDIUM	5.03

85	232833000042130010	MEDIUM	3.76
86	232833000032230010	MEDIUM	2.51
87	222833000031140010	MEDIUM	2.52
88	212833000031230020	MEDIUM	5.10
89	202833000041140000	MEDIUM	2.56
90	242833000024220010	MEDIUM	2.50
91	242833000023110010	MEDIUM	2.50
92	242833000023120010	MEDIUM	2.50
93	242833000023210010	MEDIUM	1.25
94	232833000013210020	MEDIUM	1.25
95	232833000013220010	MEDIUM	2.51
96	232833000024210010	MEDIUM	2.51
97	232833000023110020	MEDIUM	2.51
98	232833000022120030	MEDIUM	5.03
99	212833000021110000	MEDIUM	5.09
100	212833000000200000	MEDIUM	7.28
101	202833000000140000	MEDIUM	233.49
102	252833000001900000	MEDIUM	5.04
103	252833000001610000	MEDIUM	2.52
104	252833000000400000	MEDIUM	5.04
105	212833000011120010	MEDIUM	2.50
106	212833000012220010	MEDIUM	2.50
107	212833000021110010	MEDIUM	2.54
108	232833000044440010	MEDIUM	2.50
109	232833000044430010	MEDIUM	2.50
110	212833000044330020	MEDIUM	1.26
111	222833000034340000	MEDIUM	5.05
112	222833000034440010	MEDIUM	1.26
113	222833000044440010	MEDIUM	1.26
114	222833000033230000	MEDIUM	6.33
115	222833000034140010	MEDIUM	1.26
116	232833000033130010	MEDIUM	2.51
117	222833000043130000	MEDIUM	7.56
118	232833000033240010	MEDIUM	2.51
119	202833000002700000	MEDIUM	1.25
120	202833000004600000	MEDIUM	1.25
121	242833000044220010	MEDIUM	2.51
122	232833000033110010	MEDIUM	2.51
123	222833000033110000	MEDIUM	3.80
124	222833000034220000	MEDIUM	2.53
125	222833000034110000	MEDIUM	2.52
126	222833000043220000	MEDIUM	2.52
127	292833000000100000	MEDIUM	1.32

128	252833000000200000	MEDIUM	111.13
129	282833000000400000	MEDIUM	106.27
130	252833000000900000	MEDIUM	2.52
131	252833000001000000	MEDIUM	2.52
132	252833000001100000	MEDIUM	2.52
133	292833000001200000	MEDIUM	0.33
134	252833000000500000	MEDIUM	2.52
135	292833000000600000	MEDIUM	4.43
136	292833000000500000	MEDIUM	1.29
137	262833000011220000	MEDIUM	3.78
138	272833000000200000	MEDIUM	133.16
139	262833000000500000	MEDIUM	4.86
140	242833000043320010	MEDIUM	5.01
141	242833000034410010	MEDIUM	5.01
142	242833000034310010	MEDIUM	5.01
143	232833000044410010	MEDIUM	2.50
144	232833000044420010	MEDIUM	2.50
145	232833000044320010	MEDIUM	2.50
146	202833000005100000	MEDIUM	2.95
147	232833000043410010	MEDIUM	2.50
148	232833000043420020	MEDIUM	1.25
149	212833000034410000	MEDIUM	5.10
150	232833000043310010	MEDIUM	1.25
151	222833000033310000	MEDIUM	5.07
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153	232833000034420010	MEDIUM	2.51
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156	242833000044140014	MEDIUM	2.51
157	242833000034140010	MEDIUM	2.50
158	242833000033130010	MEDIUM	5.00
159	232833000044140010	MEDIUM	1.25
160	232833000043140010	MEDIUM	2.50
161	232833000043230020	MEDIUM	1.25
162	212833000033140010	MEDIUM	1.28
163	212833000034140000	MEDIUM	3.83
164	212833000044230000	MEDIUM	5.03
165	212833000044130001	MEDIUM	1.26
166	242833000042440010	MEDIUM	2.51
167	242833000042430010	MEDIUM	2.51
168	202833000008600000	MEDIUM	1.01
169	242833000032440010	MEDIUM	2.50
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172	232833000032340010	MEDIUM	2.51
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174	222833000031330000	MEDIUM	2.53
175	212833000031430000	MEDIUM	2.55
176	212833000031340000	MEDIUM	3.83
177	212833000031330000	MEDIUM	1.28
178	212833000032430000	MEDIUM	2.55
179	242833000032310020	MEDIUM	2.50
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182	202833000003200000	MEDIUM	0.65
183	242833000042420010	MEDIUM	2.51
184	242833000042310010	MEDIUM	5.01
185	242833000031410010	MEDIUM	5.01
186	242833000031310010	MEDIUM	2.50
187	232833000042420020	MEDIUM	1.25
188	232833000042310010	MEDIUM	2.51
189	232833000032310010	MEDIUM	5.02
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191	212833000042410000	MEDIUM	3.77
192	242833000031140010	MEDIUM	2.50
193	242833000031130010	MEDIUM	2.50
194	232833000041140010	MEDIUM	2.50
195	242833000042220020	MEDIUM	1.25
196	242833000031120010	MEDIUM	2.50
197	242833000032110010	MEDIUM	5.00
198	232833000041110010	MEDIUM	2.50
199	232833000042110010	MEDIUM	2.51
200	232833000042210020	MEDIUM	7.52
201	232833000031210010	MEDIUM	5.02
202	232833000032220010	MEDIUM	1.26
203	222833000041120000	MEDIUM	6.28
204	222833000031110000	MEDIUM	5.05
205	222833000032120000	MEDIUM	3.80
206	222833000032220000	MEDIUM	3.80
207	212833000042220020	MEDIUM	1.26
208	212833000031110020	MEDIUM	2.55
209	212833000032120000	MEDIUM	1.28
210	242833000013330014	MEDIUM	2.50
211	242833000023340020	MEDIUM	1.25
212	242833000023330020	MEDIUM	1.25
213	242833000013330012	MEDIUM	2.50

214	242833000023340010	MEDIUM	1.25
215	242833000023330010	MEDIUM	1.25
216	232833000013340010	MEDIUM	2.51
217	232833000013330010	MEDIUM	2.51
218	232833000023340020	MEDIUM	1.26
219	222833000024330000	MEDIUM	2.53
220	222833000023440000	MEDIUM	2.53
221	222833000023340010	MEDIUM	1.27
222	212833000013340010	MEDIUM	2.51
223	212833000024330000	MEDIUM	5.10
224	242833000023310020	MEDIUM	1.25
225	242833000023320020	MEDIUM	1.25
226	242833000014310012	MEDIUM	1.25
227	242833000014320010	MEDIUM	2.51
228	242833000013420010	MEDIUM	2.51
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684	362733000030800000	MEDIUM	3.31
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722	352733000018900000	MEDIUM	1.16
723	352733000019100000	MEDIUM	1.16
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739	362733000017100000	MEDIUM	1.10
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755	362733000016300000	MEDIUM	1.15
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757	352733000013100000	MEDIUM	1.15
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813		MEDIUM	1.16
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828	212833000000100000	MEDIUM	516.65
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837	352733000022500000	LOW	1.24
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841	362733000059600000	LOW	1.74
842	352733000011350000	LOW	0.09
843	352733000038500000	LOW	1.26
844	352733000036900000	LOW	1.14

12.14 Recreation Master Plan

Recreation Master Plan

for

Triple N Ranch WMA



Florida Fish and Wildlife Conservation Commission

Office of Public Access and Wildlife Viewing Services

April 2012

Triple N Ranch Wildlife Management Area Recreation Master Plan

I. Introduction

Purpose of Plan/Planning Process

This Recreation Master Plan serves as a guide for providing fish and wildlife recreational and educational experiences on Triple N Ranch Wildlife Management Area (Triple N). The RMP contains specific recommendations for recreational enhancements and educational products and programs. It also provides guidelines for monitoring recreation-related use to ensure resource protection and meaningful visitor experiences. The plan was developed by the Florida Fish and Wildlife Conservation Commission (FWC) Office of Public Access and Wildlife Viewing Services (PAWV) in collaboration with Triple N Field Staff with input from other FWC divisions and a Technical Assistance Group of recreational stakeholders (Appendix 1). An online survey (Appendix 2) was conducted to provide additional public input to the planning process.

Location

(Figure 1)

Triple N protects a total of 16,295 acres of flatwoods, swamps, prairies, and hammocks in central Osceola County. The property is a key part of a mosaic of public lands that protects the ecology of the region and helps to provide a linkage between the St. Johns River, the Kissimmee River, and the Lake Wales Ridge. Triple N supports a diversity of wildlife populations that provides opportunities for hunting, fishing and wildlife viewing. A network of roads and trails accommodates bicyclists, hikers, horseback riders, and other recreationists.

II. Resource Inventory

Topography and Hydrology

Triple N is relatively flat with a difference in elevation of approximately 35 feet between the higher areas and the creek bottoms. Crabgrass Creek flows west to east through the northern part of the WMA and is fed by several smaller branches and sloughs. Crabgrass Creek then flows through Herky Huffman/Bull Creek WMA to Jane Green Creek and the St. Johns River basin. The topography is suitable for easy to moderate hiking, but sandy soils and periodic flooding can make the experience more strenuous at times. There are no paddling opportunities due to variable water levels and creek obstructions.

Natural Communities

(Figure 2)
Mesic flatwoods are by far the most prevalent natural community on Triple N, comprising 50% of the WMA. Dome swamps (cypress domes) are the next most common community at 13% and are a common component of the flatwoods and prairie ecosystems of central Florida.

Pasture (a remnant of cattle ranching) is 8% and each of the remaining 10 natural communities on the WMA represent 5% or less of the WMA. Six represent 1% or less of the area. Despite

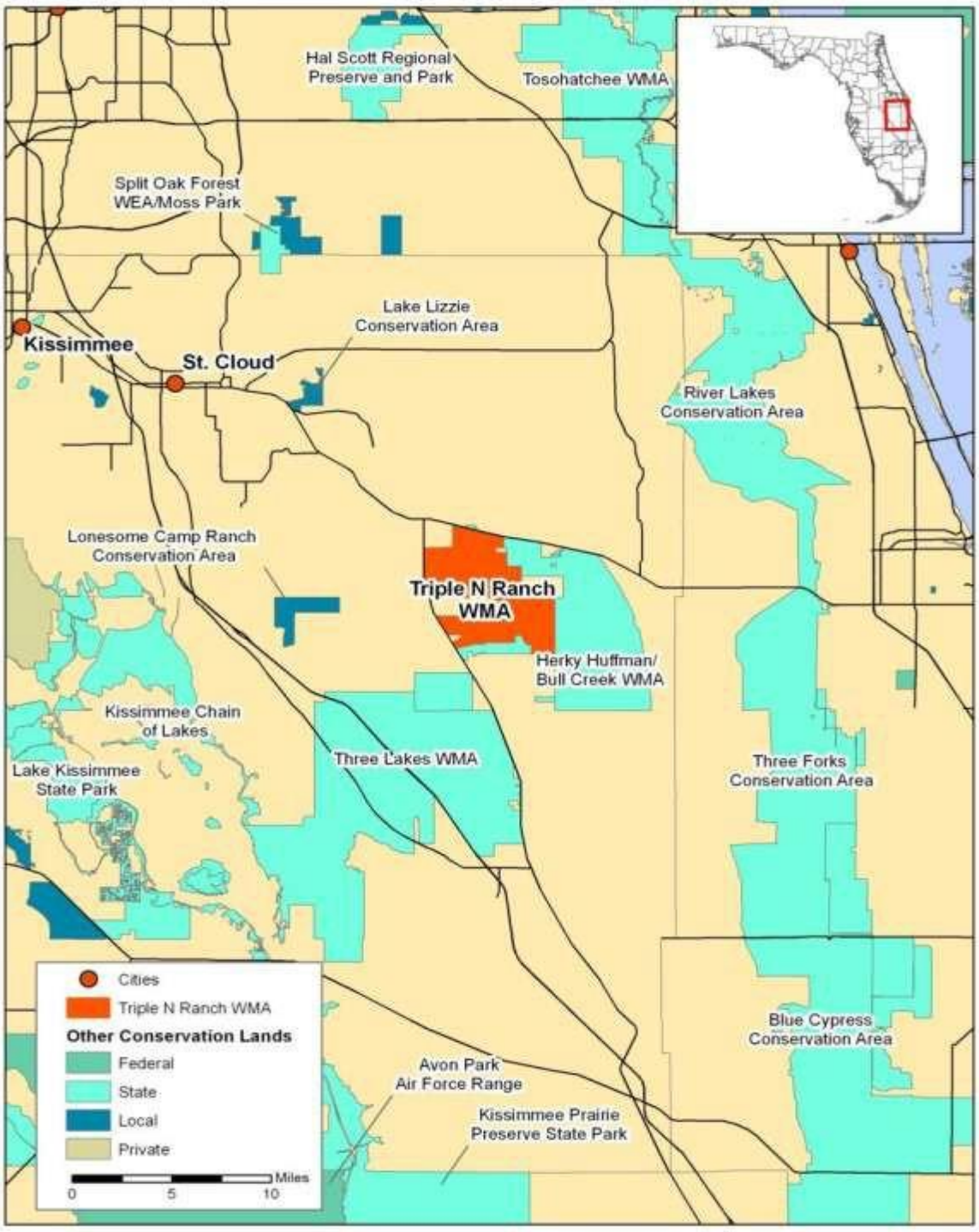


Figure 1: Triple N Location Map

Despite their small size, several are ecologically and recreationally significant. For example, mesic hammock has a sparse understory and shady canopy, making it an ideal location for low-impact recreation facilities such as picnic areas. Dry and wet prairie on the WMA are in excellent condition and contribute several unobstructed vistas over the Triple N landscape. Hydric hammocks along the creeks and drainages provide scenic settings and welcome shade immediately adjacent to the more open flatwoods and prairie areas.

Most of the natural communities on Triple N are in excellent condition and represent benchmark examples of native central Florida landscapes. They would be appropriate for interpretation of land management practices.

Sensitive Areas

Wetlands on Triple N are particularly sensitive to physical disturbance, which may churn up organic soils and displace wetland plants. Access to these areas should be controlled and monitored to avoid damage.

Wildlife

Wildlife viewing can be good at almost any spot on the WMA. Bird species, including the federally endangered red-cockaded woodpecker, can be seen in the flatwoods along with white-tailed deer, Sherman's fox squirrel and wild turkey. Sandhill cranes and wood storks are common in the open wetlands and prairies. More than 130 bird species are documented to occur on or near the area and several are among the "top 40 most sought-after birds" compiled by PAWV Wildlife Viewing Section: Bachman's sparrow, bald eagle, black-bellied whistling duck, crested caracara, limpkin, mottled duck, red-cockaded woodpecker, roseate spoonbill, sandhill crane, short-tailed hawk, swallow-tailed kite, and wood stork. Over 60 species of

butterflies have been identified in the area including the Arogos skipper, Florida dusted skipper, Berry's skipper, Aaron's skipper, Black swallowtail, Cloudless sulphur, Eastern tiger swallowtail, , Meske's skipper, Palatka skipper, Palmetto skipper, Silver-spotted skipper, and Zebra heliconian. The WMA is within a designated Critical Butterfly Diversity Area.

Cultural Resources

The Florida Master Site File contains 1 historic site within the boundary of Triple N. This is the old Holopaw Sawmill Logging Railroad dating from the 19th and early 20th centuries.

Scenic Resources

Triple N offers a wide variety of scenic vistas including prairies and well-maintained flatwoods typical of the WMA. These habitats provide an interesting contrast with the forested cypress domes and hydric hammocks. The flatwoods and prairies are home to a wide variety of wildflowers

including *Liatris* sp., *Carphephorus* sp., pine lily (*Lilium catesbaei*), and tickseed (*Coreopsis* sp.) with peak blooms in the fall.

Resource Management

The FWC's resource management goals for the area include enhancing and maintaining the native upland and wetland communities on the WMA. To accomplish this objective, the FWC is restoring disturbed sites, has instituted a program of prescribed burning and is eliminating or controlling nonnative invasive plants through mechanical and chemical treatments. Plants such as old-world climbing fern (*Lygodium microphyllum*), cogongrass (*Imperata cylindrica*), tropical soda apple (*Solanum viarum*), and Brazilian pepper (*Schinus terebinthifolius*) are problematic on the area. Other management activities include re-establishing hydrologic regimes to benefit fish and wildlife habitats.

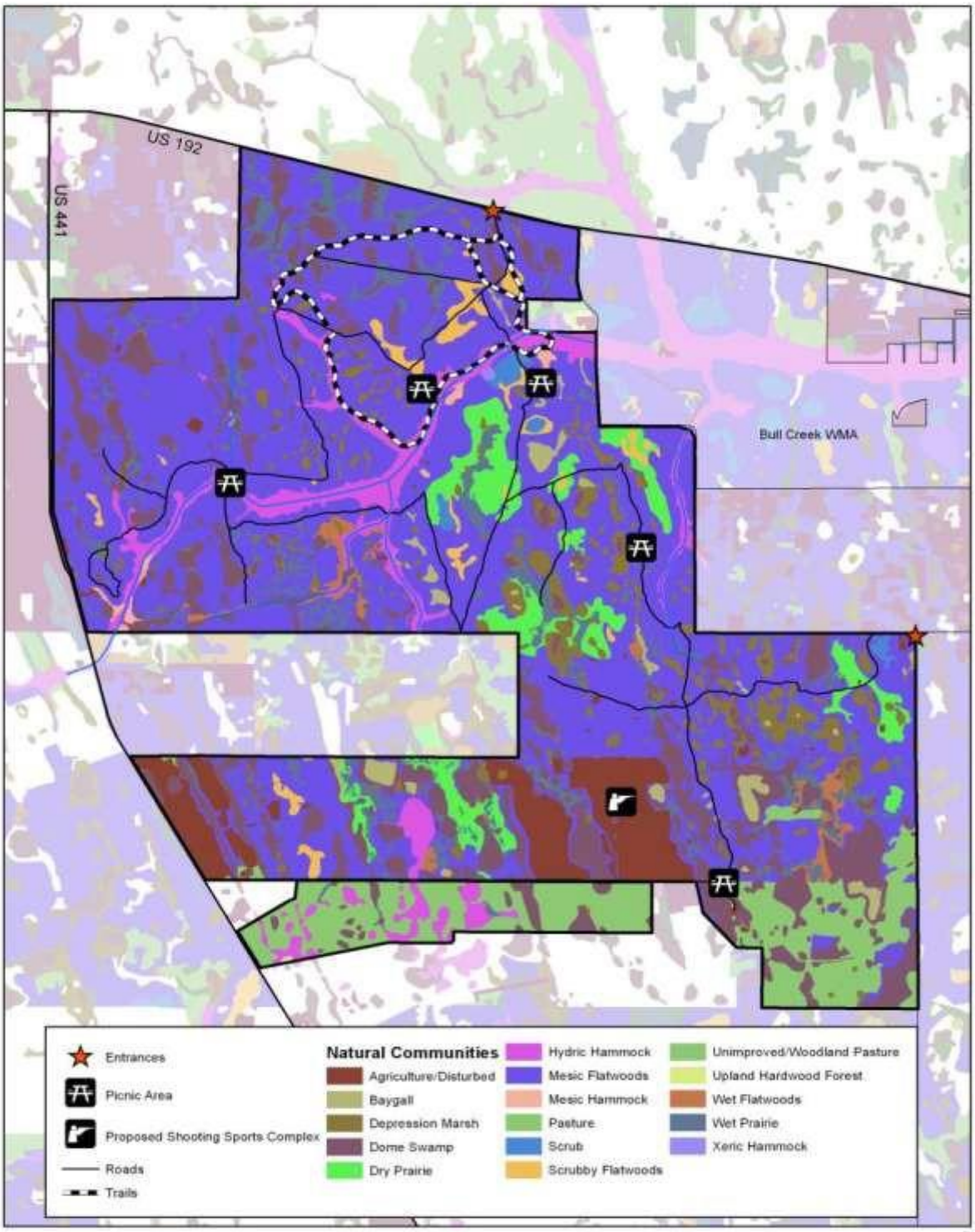


Figure 2: Triple N Natural Communities

III.Recreation Planning Context

The 2010 population estimate for Osceola County was 268,685 people with a projected growth to 357,800 (33% increase) in 2020 and 527,500 (96% increase) by 2040 (Enterprise Florida 2011). Hispanic or Latino groups comprise 45% of the county's population (US Census 2010). As with much of Florida, the Hispanic population of Osceola County is projected to grow at a higher rate than other demographic groups. Twenty-nine percent of the county's population identifies itself as non-white, with the largest groups being African American (11%), Other (10%) and multi-racial (4%). These demographic data will influence the design of infrastructure and interpretive materials in order to accommodate the full spectrum of potential visitors to the WMA.

	Osceola County		**Florida**		
Race/Ethnicity	**#**	**%**	**#**	**%**	**Differen**
Hispanic or Latino	122146	45.5%	4223806	22.5	23.0%
Non-Hispanic or Latino	146539	54.5%	1457750	77.5	-23.0%
White	190641	71.0%	1410916	75.0	-4.1%
African American	30369	11.3%	2999862	16.0	-4.7%
Asian	7406	2.8%	454821	2.4	0.3%
American Indian/Alaskan	1452	0.5%	71458	0.4	0.2%
Native Hawaiian/Pacific	294	0.1%	12286	0.1	0.0%
Other	27623	10.3%	681144	3.6	6.7%
2 or more	10900	4.1%	472577	2.5	1.5%

Population age distribution is slightly younger than the state distribution with a larger percentage under 18 and a larger percentage of people between the ages of 20 and 49.

	Osceola County		**Florida**		
Age/Gender	**#**	**%**	**#**	**%**	**Differen**
Male	131634	49.0%	9189355	48.9	0.1%
Female	137051	51.0%	9611955	51.1	-0.1%
<18	70416	26.2%	4002091	21.3	4.9%
18+	198269	73.8%	1479921	78.7	-4.9%
20-24	18007	6.7%	1228758	6.5	0.2%
25-34	35301	13.1%	2289545	12.2%	1.0%
35-49	60070	22.4%	3832456	20.4%	2.0%
50-64	47026	17.5%	3677959	19.6%	-2.1%
65+	29656	11.0%	3259602	17.3%	-6.3%

As the regional population increases, the public use pressures on the WMA will likely increase. Recreational user groups can be expected to urge connections to trails on lands outside the WMA. Triple N is within 15 miles of several other public recreation areas that offer a variety of recreation opportunities. The recreational experiences proposed for Triple N are planned in consideration of this larger recreational context.

Area	**Hiking**	**Biking**	**Camping**	**Paddling**	**Fishing**	**Horseback Riding**	**Hunting**	**Wildlife Viewing**
Blue Cypress Conservation Area (SJRWMD)	✓	✓	✓	✓	✓	×	✓	✓
Bull Creek WMA (FWC)	✓	✓	✓	✓	✓	✓	✓	✓
Kissimmee Chain of	✓	✓	✓	✓	✓	✓	✓	✓
Lake Lizzie Conservation Area (Osceola	✓	✓	×	×	×	✓	×	✓
Lake Runnymede	✓	×	×	×	×	×	×	✓
Lonesome Camp Ranch Conservation Area (Osceola	✓	✓	✓	×	×	✓	×	✓
River Lakes Conservation	✓	✓	✓	✓	✓	×	✓	✓
Three Forks Conservation Area	✓	✓	✓	✓	✓	×	✓	✓
Three Lakes WMA (FWC)	✓	✓	✓	✓	✓	✓	✓	✓

The Florida Statewide Comprehensive Outdoor Recreation Plan (SCORP) collects data on participation levels in various outdoor recreation activities for different regions of Florida. The results for the East Central Region are summarized below.

Activity	Resident Participation (%)	Tourist Participation (%)
Paddling	14.7	0.9
Picnicking	47.7	9.3

Hiking	24.3	4.7
Unpaved Bicycle Trails	23.4	0.9
Nature Study	42.1	21.9
Equestrian Activities	6.6	0.9

The East Central Region is at approximately 50% of the statewide average level of service for hiking. At current participation levels, it is projected that over 130 additional miles of trail will be required over the next 10 years to maintain the current level of service; yet trail miles per 1,000 participants is projected to decline slightly over the the same time period. Levels of service for the other listed activities are very close to the statewide mean. While the level of service measures are just a general indicator of recreation availability they are useful in determining change in availability over time.

The FWC Division of Hunting and Game Management Hunter Safety and Ranges Section ranks Osceola County in the top 20 counties in terms of need for shooting sports facilities based on population and distribution of available public ranges.

The MPO (Metropolitan Planning Organization) established for Osceola County is Metroplan Orlando which includes Orange, Osceola, and Seminole counties. There are no planned improvements for any of the roadways near Triple N. There is a proposed toll road, the Southport Connector, which would be several miles to the northwest, but there are no anticipated impacts to Triple N. The Florida Department of Transportation does not have any of the roads near Triple N slated for improvement on their work plans through 2015.

Osceola County has adopted an Urban Growth Boundary (UGB) in its Comprehensive Plan. This boundary limits the expansion of development in the county and preserves the rural character outside of the UGB. Triple N is located outside of the UGB and is classified as “Conservation” on the current and future land use maps.

There are two Developments of Regional Impact (DRI) near Triple N that have the potential to impact the area and its natural and recreation resources. The first is Green Island DRI, located south of St. Cloud. This is a mixed use development with a maximum of 8,500 single family units and 4,500 multi-family units. A shopping mall, office park, research and industrial areas, school sites, and a golf course are also planned. The Green Island DRI has a buildout date of 2030.

The second is the Harmony DRI on US192 between Triple N and St. Cloud. This DRI was originally approved in 1992 and has a current buildout date of 2025. The Harmony DRI is a mixed use development with a maximum of 7,200 single and multi-family residential units, commercial space, office space, and light industrial space. Harmony also has an elementary school and a high school.

With an average county household size of 2.93 as of the 2010 census, by the buildout dates, the two DRIs combined could mean an additional 59,186 residents seeking recreation opportunities. This could

potentially provide an additional 14,382 hikers or 24,917 birdwatchers/nature enthusiasts seeking recreation resources like those provided at Triple N.

IV. Interpretation

In this plan, emphasis is placed on integrating recreation and interpretive planning. Using this approach, the type of recreational experience offered and the location of recreation amenities provided, is strongly influenced by the interpretive goals for the area. Recreation opportunities thus become a means to an end - reaching visitors with important themes and concepts about an area's natural resources, plant communities, wildlife and wildlife management.

Visitor Experience Goals

Triple N has the potential to provide visitors with opportunities to see and learn about a variety of natural communities while engaging in recreational activities focused on fish and wildlife resources. Visitor experience goals are those concepts and experiences we want visitors to take away from their time at Triple N. These goals guide both interpretive and recreation planning.

At Triple N, the FWC will provide opportunities for visitors to:

1. Become oriented to and participate in a range of recreational activities on Triple N and adjoining natural areas while:
    - Becoming acquainted with wildlife and natural plant communities.
    - Understanding Triple N's natural, cultural and commercial history within the context of the state's prehistory and modern history.
    - Appreciating Triple N as an oasis providing a retreat from the pressures of urban life and an opportunity to connect with the natural world
2. Learn information and stories associated with major interpretive themes, and other related information, through interpretive materials at welcome kiosks, trails and wildlife viewing sites.
3. Have an enjoyable recreational experience without impairing the natural and cultural values of the site. In terms of wildlife viewing, FWC's goal will be to facilitate positive, memorable experiences that keep wildlife disturbances to a minimum.
4. Safely participate in shooting sports and enhance skills required to responsibly harvest game animals.
5. Understand the management goals and activities of the FWC on Triple N.

Interpretive Themes

Interpretive concepts are categorized into themes and subthemes. All interpretive materials revolve around one or two primary themes, which allow visitors to understand and remember important messages. Primary themes also help set visitor experience goals and priorities and are considered in the design of amenities offered to nature-based recreationists. Subthemes expand upon and support the primary themes. These guide the development of all interpretive products, which may include sign panels, printed materials, electronic media and educational programming. This detailed media prescription will be developed at a later date.

Central Theme: Well-managed, high quality habitats at Triple N Ranch WMA provide a key link in a regional wildlife corridor.

Subtheme 1: Diverse plant and animal communities at Triple N Ranch WMA require a variety of management tools.

A. Science-based management allows managers to fine-tune their methods to fit the needs of individual species and ecosystems.

B. Prescribed fire is one of the most visible and effective management tools.

C. The control of nonnative invasive vegetation requires both chemical and mechanical treatments.

D. Management that benefits one species or habitat type often benefits many others.

Subtheme 2: Restoration benefits wildlife populations, gives visitors a glimpse of the original wild Florida and increases ecosystem resilience.

A. Restoration takes place on both uplands and wetlands, improving the quality of habitats, water resources and wildlife populations.

B. Restoration is a long-term solution that may appear destructive in the short-term.

C. As wildlife populations increase as a result of restoration, recreational opportunities such as hunting, fishing and wildlife viewing will improve.

D. Restored habitat improves species survival and may increase species' resilience to environmental changes.

Subtheme 3: Triple N Ranch WMA and its adjacent neighbors - Herky Huffman/Bull Creek WMA and Three Lakes WMA - create a large regional network of conservation lands in central Florida.

A. Linkages of wetlands and uplands across WMA boundaries create wildlife corridors and increased opportunities for connected recreation.

B. The three properties bridge the divide between the Kissimmee River and St. Johns River watersheds.

C. The WMA preserves evidence of the historical significance of the region, which included subsistence hunting and fishing, rangeland cattle grazing and timber harvesting.

D. The value of these conservation lands to recreationists and wildlife will increase as urban boundaries expand.

V. Recreation Assessment

Existing Recreational Use and Facilities

The purpose of this section is to identify and describe the existing recreational uses and facilities on Triple N and note their status and condition (Figure 3). This informs recommendations for achieving visitor experience goals and meeting future recreation demands and needs.

Triple N offers opportunities for a variety of high quality, wildlife-focused recreation activities. Based on the approved uses and activities as stated in the 2011-2021 Management Plan (MP), the analysis of existing resources and uses, and the interpretive themes developed for the area, the following activities will be continued and enhanced as described in this section:

- Astronomy
- Bicycling
- Camping (Conditional)
- Ecotourism (Conditional)
- Environmental Education
- Fishing (Conditional)
- Geocaching
- Hiking
- Horseback riding
- Hunting
- Shooting Sports Complex
- Wildlife observation

Visitation, as recorded by 2 separate vehicle and pedestrian counters installed and monitored by FWC, has averaged 19 visitors/day for July 2010 to July 2011.

Visitor Contact Points and Roads/Vehicle Access- The main entrance for Triple N is on US192. The camping area, toilet, check station, and entrance kiosk are all located along a limerock road (Road 1) approximately 0.25 miles from US192. A walk-in entrance on the east side of the WMA is adjacent to Herky Huffman/Bull Creek WMA at the end of Crabgrass Road. Improvements to parking, trail access and visibility will be made at the main entrance. This would also be a good location for a wildlife viewing structure such as a small platform or blind located a short way down the hiking trail that originates at this point. The walk-in entrance has a grass surface, several large pine trees, and a small borrow pond. Designated parking and covered picnic tables will be installed at this location along with wayfinding signage for Triple N and Herky Huffman/Bull Creek WMA.

Vehicles are allowed on named and numbered roads during periods open to hunting and are prohibited at all other times. Tracked vehicles, all-terrain vehicles, airboats, and unlicensed/unregistered motorcycles are prohibited.

Loop Road and most other named and numbered roads are well-maintained limerock roads. Other roads vary in surface and condition and can be difficult to traverse in two-wheel drive vehicles due to loose sand or wet conditions.

Wayfinding signage on interior roads is to FWC standards and there are approach signs for Triple N on US192, all of which are in good condition.

Hunting - Hunting is an approved use on Triple N with seasons for special-opportunity deer, small game, wild hog, special-opportunity spring turkey, and migratory birds. There are 105 days of hunting each year excluding migratory birds; 58 of which are small game only. From 1 October to 30 April there are hunts on 18 out of 30 weekends and 9 of these weekends are small game hunts. There are 9 days of hunting each month in November and February, 8 days of hunting in March, and 13 days in April. During special-opportunity hunts, only those people with special-opportunity hunt permits may access the WMA. The WMA is open to all visitors during all other times. Quotas/special-opportunity permits limit the number of hunters accessing the area during most hunting seasons to provide a safe, high-quality-hunting experience.

Fishing/Boating/Paddling – Though fishing is available at all water bodies within the WMA, there is very little demand or opportunity for this activity. There are no notable paddling or boating opportunities on the area.

Trail Use – Hiking and bicycling are permitted on all areas of Triple N. Horseback riding is permitted only on named or numbered roads. These restrictions do not apply during small game season.

Trail infrastructure - There are 7.9 miles of recreational trails on Triple N that were developed in cooperation with the Florida Trail Association. The Flatwoods Loop is 2 miles, the Crabgrass Creek Loop is

2.5 miles, and the Triple N Loop is 7.9 miles. Note that due to shared trail segments the distance of the two loops differs from the total mileage on the ground. The trails traverse the mesic flatwoods and hydric hammocks of the northern part of the WMA. A trail connection will be evaluated from the east side of the loops, across Crabgrass Road, to a proposed trail on Herky Huffman/Bull Creek WMA. This connection would depend on fencing and other manmade and natural obstructions. A trail will also be marked connecting the loop trails to the walk-in entrance on the east side of the WMA.

Wildlife Viewing and Nature Study – Wildlife viewing opportunities are available throughout Triple N, with some of the best, most accessible, wildlife viewing opportunities located along the loop trails and along the creeks. There are no viewing structures at these sites to enhance the viewing experience although the trailhead at the entrance could accommodate a viewing structure.

Picnicking - There are currently no picnic shelters on the WMA. Picnic tables are located at several spots on Loop Road and other areas and these tables will be replaced with covered picnic tables due to the exposed nature of most of these sites. A pavilion-style picnic shelter would be appropriate for the old hunt camp site. Covered picnic tables will also be installed at the walk-in entrance.

Camping – Camping is available at the main entrance camping area during periods open to hunting. There is 1 toilet located at this camping area.

Geocaching – is allowed on the area. There are currently no permitted geocaches on Triple N although there have been permitted geocaches on the WMA in the past. Approval of new geocaches and disposition of existing geocaches is at the discretion of the site manager and coordinated by FWC's Office of Public Access and Wildlife Viewing Services.

Special Events/Tours – There no regular events at Triple N. The unique natural features of the WMA and well-managed natural communities would make it a suitable location for school and university field trips and conference/wildlife festival trips.

Shooting Sports Complex – There is no public shooting range available in Osceola County. The County has agreed to partner with FWC to develop a facility on Triple N. A disturbed area previously planted to citrus has been selected as a site to accommodate a shooting sports complex. This 355-acre complex will accommodate a variety of shooting sports opportunities. The complex will be designed and managed by FWC in compliance with all best management practices developed by the Department of Environmental Protection. The complex is described in Appendix 3.

Staff/Volunteers- A Biological Scientist III, a Biological Scientist II, and a Wildlife Technician are assigned to Triple N. Volunteers are occasionally used to help treat exotic plants and volunteers from the Florida Trail Association maintain the loop trails.

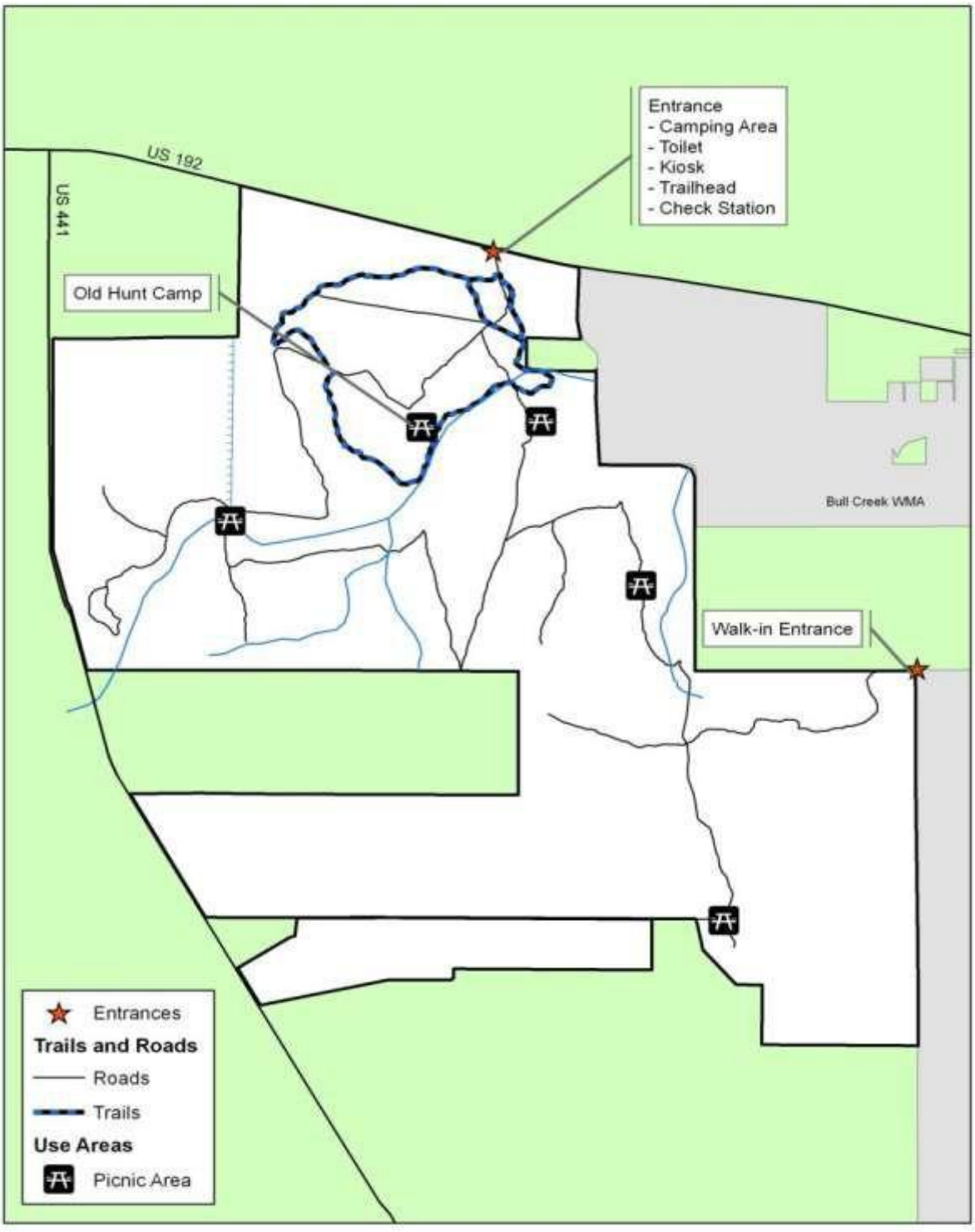


Figure 3: Triple N Existing Facilities

Recreation Sensitivity Analysis

(Figure 4)

While there are existing facilities at Triple N, it is useful to analyze the WMA in its entirety to determine optimum locations for recreation opportunities. To this end, a Recreation Sensitivity Analysis is developed (Appendix 4) that looks at the entire WMA, independent of existing infrastructure and opportunities, to look for the potential to relocate or improve facilities, and to determine locations for new infrastructure.

Recreation Zoning

Research of recreational use demonstrates that visitors come to recreate on public lands with many different expectations (NPS, 1997). Providing a variety of settings allows visitors to select the type of experience they desire, simplifies management and reduces conflicts between visitors who are seeking different types of experiences. The zones delineated by the planning team are provided in Figure 5. Each zone is described below in terms of the type of experience it offers, the natural resources related to the experience and the level of management required.

Primitive Zone

This zone offers an experience of solitude deep in a natural landscape with no evidence of human development. This zone can encompass sensitive natural resources. Access is difficult and the number of people should be limited. Only limited recreation and interpretation opportunities should be developed in this zone. A minimal level of management is necessary for resource protection and safety.

Semi-Primitive Non-motorized Zone

The semi-primitive zone provides a sense of being immersed in a natural landscape with opportunities for solitude. Observation structures, boardwalks, interpretative signs, and unpaved trails are the types of recreational facilities that are appropriate in this zone. A moderate level of management is provided for resource protection and safety.

Semi-Primitive Motorized Zone

The semi-primitive motorized zone provides a sense of being in a natural landscape with minimal human modification and moderate opportunities for solitude. Interpretative signs, wayfinding signs, vehicle pull-offs, unimproved parking locations, and unpaved roads are the types of recreational facilities that are appropriate in this zone. Roads are passable by two- wheel drive vehicle. A moderate level of management is provided for resource protection and safety.



Figure 4: Triple N Recreation Sensitivity Index

Developed Zone

Developed zones are areas with visitor facilities such as parking, picnicking and toilets. The visitor's experience in this zone is highly social. Trails may be paved or hardened for access by people with disabilities. Visitors and facilities are intensively managed in this zone for resource protection and safety purposes. Staff should frequently monitor visitor behavior and attend to maintenance needs. The most intensive interpretation is provided in the developed zone. This is the most appropriate zone for building construction.

Carrying Capacity

In order to minimize disturbance of wildlife and other natural resources and to provide an enjoyable experience for visitors, FWC calculates a carrying capacity for its managed areas (Appendix 4). This carrying capacity takes into consideration natural community sensitivity, known locations of sensitive natural communities, known archaeological and historic sites, existing recreation facilities and wildlife disturbance distances with a turnover rate that varies with the activity or facility. This capacity is not a visitation goal but rather is a level at which the natural and recreation resources of the area can sustain use without damage. Current capacity for distributed recreational use on Triple N is 350 people per day (including hunting capacity). If all planned facilities are constructed, this capacity increases to 506 people per day. The daily capacity for the shooting sports complex after all phases of construction is 640 per day.

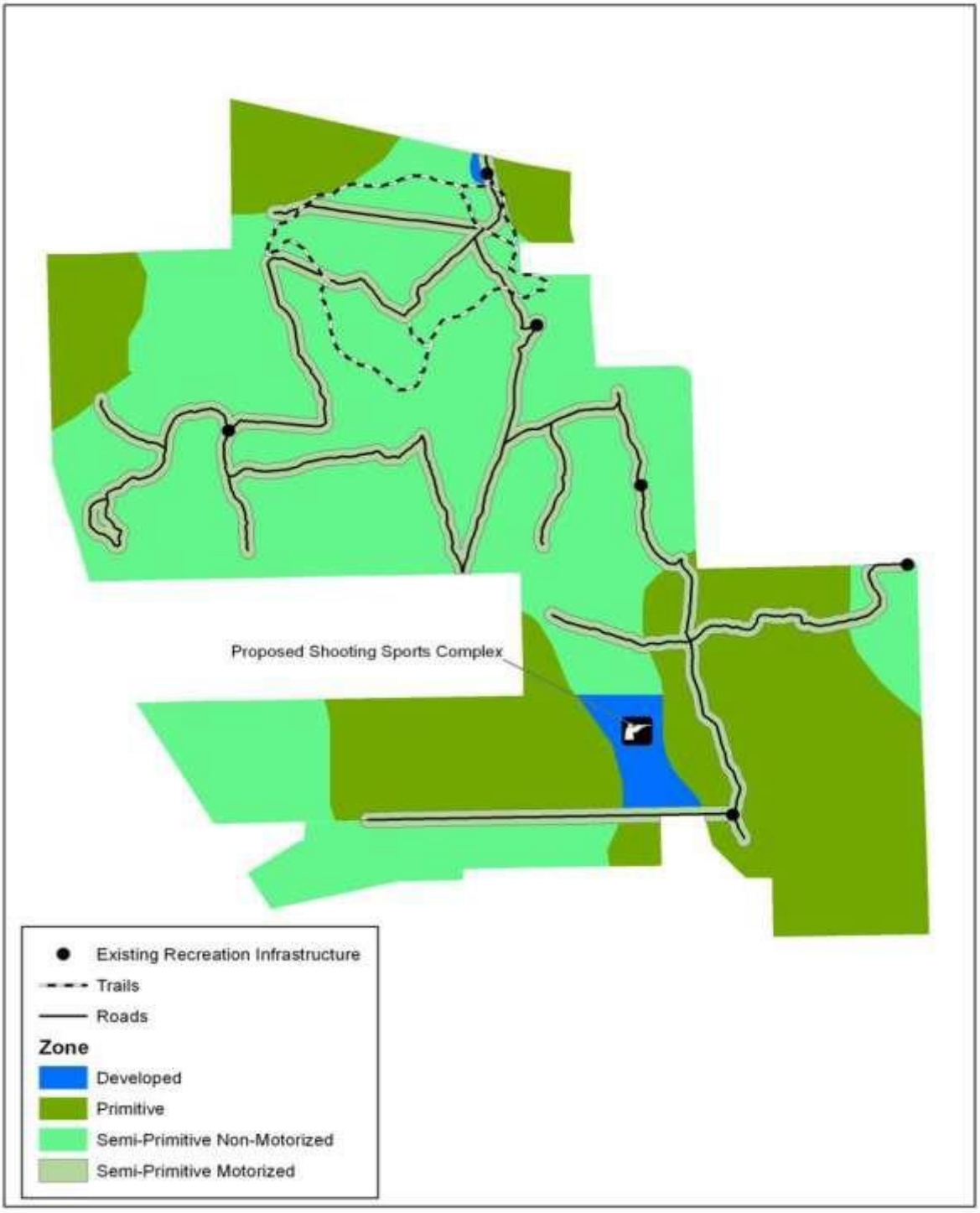


Figure 5: Triple N Recreation Zones

VI. Recreation Enhancements

Triple N Ranch WMA Recreation Use Potential

Triple N provides an opportunity for visitors to learn about and see examples of natural communities that are rapidly being converted to other uses in central Florida. The following sections of the plan provide for comprehensive interpretation of these communities, common and listed species of interest to visitors and FWC's management. Recommended recreation enhancements are those that provide a range of enjoyable opportunities to view wildlife without negatively impacting resources.

Goals and Objectives

Careful design and placement of recreational facilities can provide desirable visitor experiences and minimize impacts to the natural and cultural resources of the area. Construction and improvements will not harm wildlife, fragile habitats or historic and cultural sites. All planning and implementation should be done in accordance with guidelines in Appendix 5. A conceptual site plan for proposed recreation facilities is provided in Figure 6.

Goal A. Orient visitors to the area and its recreation opportunities and interpret WMA resources

1. Develop recreation guide.
2. Stock recreation guide, regulation summaries and bird list in brochure boxes at the main entrance.
3. Cross-promote Triple N with Herky Huffman/Bull Creek WMA and Three Lakes WMA. Explore the three WMAs from a regional perspective and an individual perspective (highlight the unique features of each WMA).
4. Develop a Spanish-language rack card for distribution within Osceola County covering Triple N Ranch WMA, Herky Huffman/Bull Creek WMA and Three Lakes WMA.
5. Maintain up-to-date information about the area on the FWC website.

Goal B. Enhance existing trail opportunities

1. Install standard wayfinding signs where needed; replace existing wayfinding signs with FWC-standard signage as they need to be replaced.
2. Monitor trail use and demand to determine the need for expanded trail opportunities.

Goal C. Create new trail opportunities

1. Construct and mark a new trail route from the loop trails to the walk-in entrance.
2. Explore the possibility of a connection across Crabgrass Road to a proposed trail at one of the walk-in entrances at Herky Huffman/Bull Creek WMA.

Goal D. Enhance existing facilities and develop new wildlife viewing opportunities

1. Install covered picnic tables at existing picnic sites, the main entrance, and the walk-in entrance.
2. Construct a pavilion-style shelter at the old hunt camp.

3. Upgrade the efficiency, effectiveness and appearance of the campground and entrance. Improve the functionality of the main entrance as a trailhead.
4. Explore the possibility of a viewing structure near the main entrance on one of the loop trails.
5. Improve the efficiency, effectiveness and appearance of the walk-in entrance.
6. Consider the diversity of potential users in facility design and improvements.
7. Develop a shooting sports complex as described in Appendix 3

Goal E. Direct and manage recreational use to minimize negative resource impacts and maximize visitor satisfaction

1. Implement a monitoring strategy to assess resource impacts and institute corrective management actions if indicators begin to approach standards.
2. Provide a location in partnership with Osceola County for a Shooting Sports Complex where the public can receive hunter safety training and safely participate in shooting sports.
3. Collect and evaluate information about visitor use and satisfaction:
    - Number of visitors to the area and patterns of visitation
    - User group conflicts
    - Origin and length of stay
    - Motivations for visiting and preferred experiences
4. What visitors already know about the area and primary interpretive themes.

Goal F. Coordinate with local, state and federal agencies and organizations when planning and implementing nature-based recreation opportunities and enhancements

1. Cross-promote Triple N with other regional public lands (i.e. Blue Cypress, Three Forks, River Lakes, etc.).
2. Work with the US Forest Service and Florida Trail Association to determine if Triple N would be an appropriate location for a FNST connection to Herky Huffman/Bull Creek WMA.

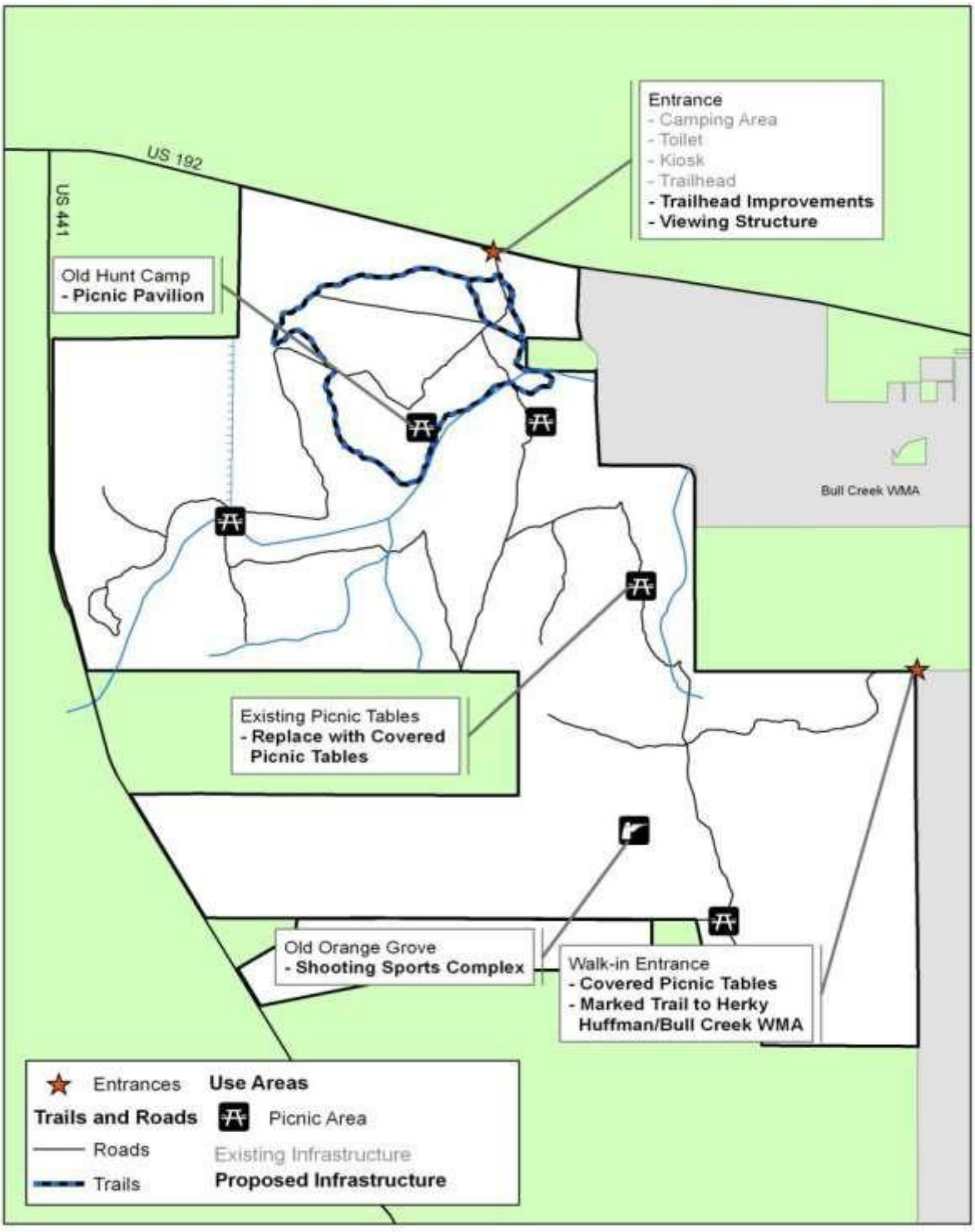


Figure 6: Triple N Proposed Recreation Facilities

Challenges and Strategies

There are several challenges facing the effective implementation and management of nature-based recreation opportunities on Triple N. Challenges and proposed strategies to address them are discussed in this section.

- Challenge: Triple N is not a well-known recreation destination.

  Strategies:

  - Cross-promote Triple N with Herky Huffman/Bull Creek WMA, Three Lakes WMA, and other regional public lands.
  - Provide rack cards or similar publication at sources in St. Cloud and Kissimmee.
  - Work with Osceola County, St. Cloud, and Kissimmee tourism boards for promotion.

- Challenge: As the population density around Triple N continues to increase, recreational use of the area will increase, potentially resulting in resource damage and wildlife disturbance.

  Strategies:

  - Periodically monitor all public use sites for environmental impacts and implement corrective actions when and where necessary.
  - Recreational use will be directed away from sensitive environments to the greatest degree possible.
  - Environmental protection information will be provided in all interpretive materials.

- Challenge: As recreational use increases, conflicts among user groups may occur.

  Strategies:

  - Provide a range of recreational opportunities in a variety of settings to avoid user conflicts as much as possible.
  - Involve stakeholders and user groups during planning.
  - Ensure that user groups understand how to contact local staff to resolve problems.
  - Provide opportunities for different user groups to volunteer together to maintain public access amenities.
  - Display hunting information (dates, times and types) at all entrances to help all users make choices as to when to visit.

- Challenge: 45% of Osceola County's population identifies itself as Hispanic.

  Strategies:

- Consider the unique needs and characteristics of the Hispanic population when designing and improving facilities.
- Produce Spanish language materials, web products, and signage where possible and appropriate.

Summary of Proposed Infrastructure Enhancements

(Appendix 7)

- Shooting Sports Complex (Partnership with Osceola County)
- Trail connection to walk-in entrance.
- Trail connection to new Herky Huffman/Bull Creek WMA hiking trail across Crabgrass Road.
- Covered picnic tables at existing picnic spots.
- Picnic pavilion at Old Hunt Camp.
- Campground/Entrance improvements.
- Viewing structure near entrance.

Work Plans

PAWV will work with local staff to prepare annual work plans and budgets to implement the RMP for Triple N. PAWV will be responsible for 1) developing cost estimates for recreation- related facilities; 2) coordinating design and permitting; and 3) obtaining construction bids and the work of contractors during the construction phase. This includes pre-construction meetings, site visits at construction milestones and final reviews. Generally, the area manager and staff monitor construction sites frequently during the construction process to make sure contractor is not doing damage to the surrounding area.

PAWV will design interpretive materials for the areas in consultation with management area staff. Generally, the cost of producing maps and interpretive products and maps comes out of the PAWV budget.

Monitoring and Management of Recreation Facilities

PAWV will monitor recreation infrastructure on the WMA biannually including trail and structure photopoints. PAWV will also create an annual monitoring report at the end of each fiscal year. Any impacts encountered during each monitoring will be brought to the attention of PAWV and WMA staff to determine the best course of action for correction and prevention.

Measurable indicators for monitoring key aspects of the visitor experience and resources at Triple N are described in Appendix 6. Indicators should be monitored for each zone, and when necessary, management actions taken to ensure that visitor use and resource impacts remain within the established standards.

References

2030 Long Range Transportation Plan. MetroPlan Orlando (2010).

A Management Plan for Triple N Ranch Wildlife Management Area 2011 – 2021. Florida Fish and Wildlife Conservation Commission (2011).

Florida Office of Economic and Demographic Research. http://www.edr.state.fl.us (2011)

Florida Statewide Comprehensive Outdoor Recreation Plan 2008. Florida Department of Environmental Protection (2008).

National Park Service. The Visitor Experience and Resource Protection (VERP) Framework: A Handbook for Planners and Managers (1997).

Osceola County Comprehensive Plan. Osceola County (2007) US Census 2010. US Census Bureau (2010)

Appendices

Appendix 1: Triple N Stakeholder Meeting Notes

24 August, 2011 Kissimmee IFAS Office

List of stakeholders in attendance:

Sherry Burroughs, Osceola TDC/Equestrian Mick Karolick, Florida Trail Association

Bob Mindick, Osceola County Land Manager Steve Monroe, Hunter

Larry Rosen, Florida Audubon Society Dave Sibley, Florida Trail Association

Doug Voltolina, St. Johns River Water Management District

FWC staff in attendance:

Jerrie Lindsey, Director, Office of Public Access and Wildlife Viewing Services Rich Noyes, Section Leader, Planning and Design

Tom M. Matthews, Recreation Planner Ann Morrow, Interpretive Writer Steve Glass, District Biologist

Tina Hannon, Three Lakes WMA Manager Jeremy Olson, Triple N Ranch WMA Manager

Brett Walker, Herky Huffman/Bull Creek WMA Manager Allison Jones, Trail Specialist

Josh Cucinella, Trail Specialist

Meeting Agenda:

Introduction and Overview of Recreation Planning - Jerrie Lindsey Overview and History of Triple N – Jeremy Olson

Survey Results - Rich Noyes

Proposed Interpretive Themes - Ann Morrow

Overview of Proposed Recreation Improvements - Tom M. Matthews Stakeholder Input

Review of Stakeholder Suggestions - Jerrie Lindsey

Responses to stakeholder comments and suggestions:

There were no suggestions specific to Triple N, although the following general comments were made:

- Designate equestrian trails
    - *All trails and roads are currently available to horseback riders. There are no plans to designate equestrian-only trails.*
- Opportunities for horse camping
    - *Camping is available at the main entrance during hunting periods. There are no plans to designate additional camping.*
- Designate trailer parking
    - *Large parking areas are available at the main entrance and walk-in entrance.*
    - *FWC intends to revise the entrances to improve their function as trailheads.*
- Potable Water at entrance
    - *Due to budgetary restrictions and monitoring requirements there are no plans to provide potable water.*
- Educate the public on management activities
    - *This will be part of FWC's interpretation and outreach strategy.*

Appendix 2: Public Survey Results

Herky Huffman/Bull Creek WMA, Three Lakes WMA, Triple N Ranch WMA

Survey Participants

- 146 individuals completed the survey 68 individuals had visited Triple N.
- Many of the respondents visited more than one of the three WMA's (Bull Creek, Triple N Ranch, and Three Lakes).
- 6 individuals had never visited any of the three WMA's.

Top activities

- Hunting/Scouting 54%
- Wildlife Viewing/Photography 46%
- Hiking 42%
- Biking 8%

Visitor Satisfaction

All activities were over 80% in the neutral to very satisfied ranges Significant dissatisfaction in:

- Hunting, Scouting 12.12%
- Wildlife Viewing, Photography 3.7%
- Hiking 4.35%

Proposed improvements

- More hunting opportunities 38%
- Native plant checklists 15%
- Wildlife viewing blinds, structures 15%
- Interpretive trails with educational signs 15%
- Additional bathrooms 13%
- Bird checklists 12%
- Potable water 12%
- Improvements in comments
- Electricity for campground
- Post hunting calendar at entrance for horseback riders.

Other Areas Visited

- Three Lakes: 6
- KICCO: 4
- Lake Tohopekaliga: 3
- Kissimmee PUA: 3
- Deseret Ranch: 2
- Ft. Drum: 2
- 1 each: Shingle Creek, Disney Wilderness Preserve, Forever Florida, Lake Lizzie.

Appendix 3: Shooting Sports Complex

It is the mission of FWC to continue the heritage of hunting by developing safe, responsible, and knowledgeable hunters. FWC must also fulfill the requirements of Section 372.5717 FS, regarding hunter safety courses and education to the public. This statute requires FWC to institute and coordinate hunter safety courses. The establishment of an adequate number of public shooting ranges is necessary to provide the facilities needed to teach these and related courses. Hunter education is essential to the success of many of FWC's responsibilities.

Education of the hunting community about the proper use of firearms, protection afforded endangered species, and the importance of protection of wildlife habitat are significant aspects of FWC's duties.

The FWC currently operates eight public shooting ranges throughout the state. These facilities are used for hunter safety training purposes and as a place for sportsmen and women to enhance their skills so they can responsibly harvest game animals. Currently there are no public shooting ranges in Osceola County where Florida's hunter safety program can offer the public a place to take a course and participate in the firing of the firearms used in hunting. The area surrounding Osceola County has some of the highest demand for hunter safety courses in the state. The hunter safety program has great cooperation, but limited use, of the privately owned shooting facilities in neighboring counties.

There was a series of site analyses of prospective lands within the vicinity to determine potential areas where a shooting sports complex might be most appropriate. It was determined that TNRWMA had the highest level of feasibility due to its isolated location, facility requirements, and to have the least impact on the TNRWMA natural communities; the proposed shooting complex on TNRWMA is on ~350 acres of a previous orange grove.

FWC has provided conceptual designs for the shooting complex and has allocated $1.4 million of federal aid funds towards the Osceola County site. The conceptual design for the shooting complex is laid out so that it can be built in phases based on public use and acquired funding.

Elements of the conceptual design include the following: 50 foot pistol range – 20 positions

15/25 yard pistol range – 35 positions

50/100 yard rifle range – 28 positions 200 yard rifle range – 20 positions

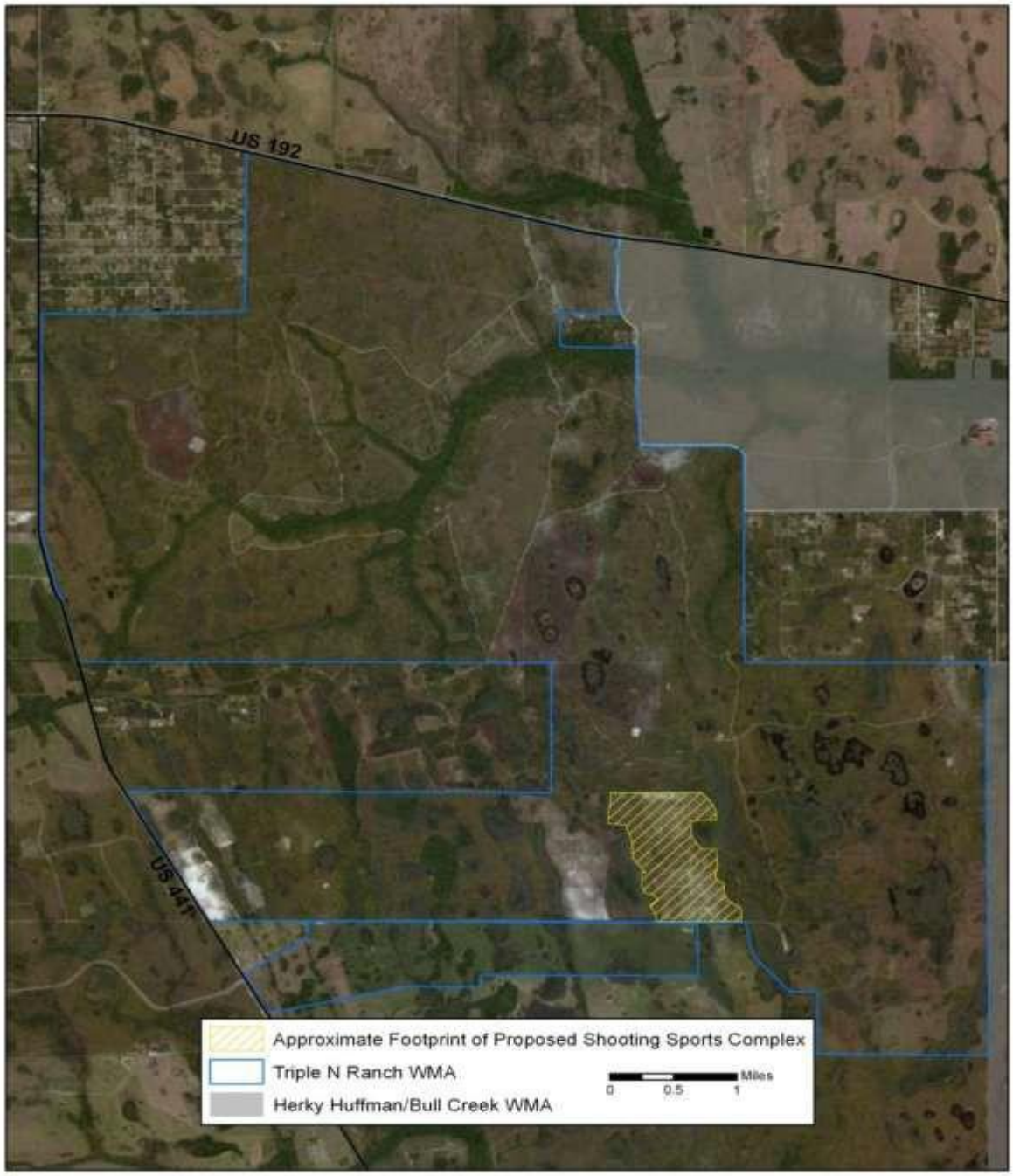
10 Bay Action Pistol Range

5-Stand Sporting Clays Range 15 station sporting clays range

1,000 yard high-power rifle range – 12 positions

Clubhouse, restrooms, classroom, and maintenance facilities

FWC will identify and coordinate with partners in order to develop, operate, and manage the shooting sports complex. This facility could provide a training site for hunter education students, volunteers, and law enforcement personnel and an opportunity for the public to practice their firearms proficiency so they can ethically harvest game.



Public Shooting Sports Complex

Appendix 4: Carrying Capacity Methodology

FWC Recreation Carrying Capacity

Carrying capacities for recreational users on FWC lands are developed using a methodology employing existing spatial data and models, recommended guidelines for spatial and temporal carrying capacity, recommended guidelines for minimizing wildlife disturbance by outdoor recreation, and site-specific characteristics. The intent of this methodology is to provide a realistic carrying capacity which is based on the best science and data available with a focus on minimizing wildlife and habitat disturbance and providing the type of recreation our visitors desire and FWC's managed areas can support. This methodology also provides a means of monitoring visitor impacts and allows for flexibility in responding to these impacts and adjusting the carrying capacity as necessary. The carrying capacities generated though this process are not a visitation goal but are a guideline included in the overall area Management Plan and used as a tool to help plan and develop recreation opportunities.

Sensitivity Analysis

An initial analysis of site sensitivity to recreation impacts is conducted using:

- Integrated Wildlife Habitat Ranking System model results for the site
- Natural community values based on threat rankings developed for the Florida Wildlife Legacy Initiative using the rankings for Roads, Incompatible Recreation Activities, and Conversion to Recreation Areas
- Natural community values based on the sensitivity guidelines published by the Florida Park Service
- Wetlands
- Slope
- Soils
- Known point locations of species-of-interest
- Known locations of sensitive resources
- Division of Historic Resources Master Site File sites
- Density of existing roads, trails and facilities
- Other datasets as available and appropriate

These data layers are converted to grids as necessary and normalized to a scale of 1-100. Then a weighted sum is calculated for all data resulting in a "Sensitivity Index" for the area with higher values being more sensitive to disturbance from recreation.

Recreation Zoning

Once the results of the Site Sensitivity model are obtained, a Recreation Zone Map is developed incorporating these results and any statutory or rule constraints for recreation activities. These Recreation Zone Maps will show the different types of recreation experiences appropriate for each zone of the area.

This guides potential trail lengths, trail types, types of facilities and other parameters related to recreation infrastructure.

Carrying Capacity Development

For linear recreation facilities (i.e. trails), a physical carrying capacity is developed based on trail length using a 100-meter buffer on either side of the trails. This buffer distance is consistent with the estimated area of wildlife disturbance along the trail. In addition, an additional 100- meter buffer is used between potential trail users to provide an undisturbed 100-meter area between users. This results in an estimate of 1 user or group every 300 meters along the trail.

This estimate is generated using GIS and is adjusted to minimize disturbance "hot spots" such as overlapping disturbance buffers. Point facilities (i.e. observation structures) have a single 100-meter radius buffer. The temporal component of carrying capacity is developed based on the Florida Park Service turnover estimate of two per day on primitive hiking trails or four per day on shorter, improved nature trails. In addition, existing and planned parking and other trailhead limitations are factored into the estimate. If the site already has a Recreation Master Plan (RMP) developed, these estimates will be based on existing and planned facilities as detailed in the RMP. If the area does not have an RMP these estimates are based on potential

trail corridors and potential point facility sites derived from the Recreation Zoning and site visits by PAWV and area staff. Another product of this estimate is a "Wildlife Habitat Disturbance Index" based on the ratio of potentially impacted habitat to impact-free habitat expressed as a percentage of the area potentially impacted by recreation.

Camping Facility Carrying Capacities

- Primitive tent camping with no facilities or limited facilities (fire ring, picnic table): 4 people/site with a turnover of once per day.
- Standard camping site (fire ring, picnic table, improved or paved pad, toilet facilities): 8 people/site with a turnover of once per day.
- Generally group camping will be 30 people per 5 acres of camping area.

Picnic Areas

- 8 tables/acre and 4 people/table with a turnover twice a day.

Structures

- Structures dependent on trails for access will be included in the calculated trail capacity.
- Structures that can be accessed independently of trails will have a carrying capacity determined on a case-by-case basis based on the type and size of the structure.

Shoreline Fishing Areas

- Shoreline fishing areas will have a capacity of 1 angler per 25 linear feet.

Seasonal Hunting

- For those areas with seasonal hunting use, carrying capacities range from one hunter per 75 acres to one hunter per 150 acres. The exact density chosen depends on a variety of factors with game management most paramount, but is also influenced by the layout of the area and the chosen hunting framework. Areas with dove fields will have a dove field capacity of one hunter to 1.75 acres of dove fields. This capacity is in addition to the calculated capacity for non-hunting recreation uses. Areas with quota permits will have the hunting capacity established as double the maximum number of permits for any one season to account for guest permits.
- As needed, capacities for other uses not listed above will use the carrying capacity guidelines published by the Florida Park Service as a baseline.

Recreation Impact Monitoring

To provide a quantitative measure of recreation impacts, limits will be established as "No impact ranks greater than 1," as observed during each biannual monitoring conducted by PAWV field staff. If any ranking values are greater than 1, the site will be assessed to determine the source of the impact. If impacts are the result of recreation activities (as opposed to facility design or other sources), the carrying capacity will be revisited and corrective measures will be developed by PAWV and area staff.

Appendix 5: Recreation and Wildlife Viewing Facilities Design Guidelines

Entrances

- Should welcome visitors to the area, identify the Commission, describe the range of potential experiences on the area, and describe the wildlife viewing experiences by season, time of day or wildlife event.

Viewing structures

- Structures should include wildlife identification or other interpretive information.
- The structure should be surrounded by and focused on wildlife and habitat, rather than being the focus itself.
- For towers, each level should focus visitor attention to a different habitat or feature.

Trails

- Trails should be described at the trailhead with length or time required.
- If the focus is wildlife viewing, include best seasons.
- Interpretive panels or brochure stops should be well-spaced and focused by season.
- General considerations in developing facilities:
- Locate viewing facilities on previously disturbed properties wherever possible.
- Preserve a sense of solitude and limit impact on natural resources by concentrating recreation uses in small “developed” zones and along existing road/trail corridors.
- Site facilities and design trails to minimize user conflicts.
- Avoid sensitive areas such as wetlands and route trails to avoid fragmenting habitat.
- Consider physical characteristics and the historical and natural character of the location.
- Adapt parking lots, buildings and other physical developments to existing topography.
- Retain on-site surface water run-off generated by development.
- Use porous pavements where surface hardening is required.
- Consider sewage disposal needs.
- Use native plants representative of the area for all landscaping.
- Design and build trails and observation structures to avoid disturbing wildlife and to minimize negative impacts such as erosion.
- Use elevated boardwalks in wet areas and swamps and walkovers to protect other sensitive areas.
- Incorporate wildlife viewing ethics into all interpretive materials.
- Incorporate interpretive themes into all brochures, trail guides and other materials produced to support recreation opportunities.
- Install interpretive signs and panels as appropriate at all recreation facilities.
- Route trails to interpret restoration and wildlife management activities.
- Insure interpretation of highly desired species viewable on the area.

Universal Access

Nature-based recreation facilities and programs must be developed and implemented in compliance with the Americans with Disabilities Act.

All facilities in developed zones should be universally accessible.

Recreation facilities in semi-primitive or primitive zones should be planned to be accessible to the degree possible except where:

- compliance will cause harm to cultural, historic or religious sites or significant natural features or characteristics.
- compliance will substantially alter the nature of the setting or purpose of the facility (or a portion of the facility).
- compliance would require construction methods or materials prohibited by federal, state or local regulations or statutes, or compliance would not be feasible due to terrain or prevailing construction practices.

Appendix 6: Management and Monitoring

Recreation Facility Monitoring Protocol

Florida Fish and Wildlife Conservation Commission Office of Public Access and Wildlife Viewing Services

Introduction

In order to better plan and manage recreation opportunities on lands managed by the Florida Fish and Wildlife Conservation Commission (FWC), FWC's Office of Recreation Services has developed a monitoring program for recreation-related facilities and infrastructure. Using both qualitative and semi- quantitative methods this program will encompass trails, signs, wildlife viewing structures and other facilities. Data obtained through this program will help FWC better plan, construct, and maintain facilities to provide the recreation experiences that are meaningful, enjoyable, and safe.

Materials

Digital camera Tripod

Kaidan panoramic photo mount

VRWorx, or other software for creating panoramic photos Monitoring forms

Tape measure Compass

GPS (loaded with waypoints for monitoring points) Hand tools for checking structure hardware

Monitoring Procedures

Photopoints

Photopoints should be recorded with GPS, which can also be used to navigate back to the photopoint location on future monitoring visits. A description of the location should be recorded to ensure maximum accuracy in relocating the photopoint.

Trails

Trails are monitored with a panoramic photopoint at the trailhead and a parallel photopoint (forward and backward along the trail) every mile for trails over 2 miles and every ½ mile for trails 2 miles and less. Additional photopoints may be needed for problem areas encountered on the trail. Photopoints are centered at the trail tread.

Assemble the panoramic photo gear and set the tripod over the photopoint, making sure the panoramic head is level. Standard photopoint height is 60" to the center of the camera lens while mounted on the panoramic mount. This may be modified for some photopoints depending on surrounding vegetation or other considerations, but the new height should be recorded and used each time that photopoint is taken.

The easiest way to set the height is to assemble the tripod, panoramic mount, and camera on level ground, adjust the legs to their full length and adjust the center column to achieve the proper lens height. The center column can be marked with a permanent marker, tape, or scored with a small file or engraver and each mark should be labeled with the height and camera model. This will have to be done for each different camera that will be used for photopoints, although it is preferable that the same camera be used for all photopoints.

Cameras should be set to full wide zoom, landscape mode if available, with flash off. All photopoints begin with the detent closest to due north and continue in a clockwise direction. A log should be kept to record the photo numbers and their corresponding photopoint.

After downloading the images they should be processed into a flat panorama (a digital image composed of all of the photos for a particular photopoint). These panoramas along with the component images should be kept in a central location organized by WMA, Photopoint Number, and photopoint date.

Parallel photopoints will not need to be processed but should be organized as above.

Use areas

Use areas have 2 photopoints. One is a panoramic photo taken at the center of the use area which follows the procedure for trailhead photopoints. The other is a single photo taken from the perimeter of the area. The compass bearing of the photo should be recorded and used for all subsequent photos taken at that photopoint.

Structures

Structures have a single photopoint. This is a single photo and the compass bearing of the photo should be recorded and used for all subsequent photos taken at that photopoint. If desired, a panoramic photo can be taken to represent the view from the structure (such as the top of a tower).

Physical inspections

- Check for presence or absence (smaller amenities such as fire rings and benches)
- Check for proper location (smaller amenities such as fire rings and benches) Inspect for damage (signs and structures)
- Check hardware and tighten or replace if necessary (signs and structures)

Trails should be traversed in their entirety, either on foot for shorter trails or by vehicle for longer trails. Trouble spots (erosion, trail braiding, shortcuts, litter, excess vegetation encroachment, etc.) should be recorded by GPS and noted on the monitoring form.

Monitoring Forms and Record Keeping

Monitoring forms are completed in the field. This can be done electronically using the Recon field computer or manually. If done manually they should be transferred to an electronic version by filling out the form on computer. Completed electronic forms are then placed in the appropriate location on the Project Management Site for that WMA along with any relevant GPS data (converted to Shapefile), photographs, photopoints, and other notes.

Any issues that need attention should be sent to the appropriate Recreation Planner via email. The Recreation Planner is responsible for ensuring the issue is brought to the attention of the appropriate personnel both internally and external to FWC and tracking the issue through resolution.

Trail Monitoring Form

Observers:_____ **Date:**_____ **Site:**_____

LITTER IMPACTS:

1	None	
2	Very Little	small isolated pieces of litter
3	Some	frequent small pieces or isolated large pieces of litter
4	Extensive	small areas used for trash dumping or multiple areas of high litter
5	Very Extensive	large areas used for trash dumping

Problem area locations/comments:

EROSION PROBLEMS:

1	Very little	mostly natural ground cover distribution, or man-made materials (concrete, aggregate, mulch, etc.)
2	Some	localized patches of bare soil from use or runoff from structures or impervious surfaces; vehicle tracks noticeable; standing water; minor hog damage.
3^2	Moderate	large areas of bare soil created by use; ruts from vehicles; areas muddied by use; roots partially exposed; heavy hog damage.
4	Extensive	channelization, washout, and/or undercutting banks; roots mostly exposed; deep ruts; trail widening.

Problem area locations/comments:

CORRIDOR CONDITION:

1	Within Standards	minimal vegetation encroachment
2	Exceeds Standards	trail needs some mowing/lopping/ chain-sawing; minor tree fall
3	Unacceptable	trail is generally overgrown and difficult to find. tree fall that impedes passage

If there were problem areas, please describe condition and exact location:

PHOTOPOINT INFORMATION

All photopoints should be taken with a lens height of 60", the flash set to "off", and no zoom. All panoramic photopoints start with a photo taken towards north, then continue in a clockwise direction.

New photopoints taken (photopoint type, coordinates, location description, lens azimuth, image numbers)

Existing photopoints taken (Photopoint Number, image numbers)

Use Area Monitoring Form

Observers:_____ **Date:**_____ **Site:**_____

LITTER IMPACTS:

Rating	Category	Description
1	None	
2	Very Little	small isolated pieces of litter
3[2]	Some	frequent small pieces or isolated large pieces of litter
4	Extensive	small areas used for trash dumping or multiple areas of high litter
5	Very Extensive	large areas used for trash dumping

Comments:

STRUCTURE DAMAGE (shelters, picnic tables, kiosks, trash cans, grills, benches, etc.):

Rating	Category	Description
1	None	none/ loose bolts on new structures.
2	Very Little	minor graffiti or scratches, dirty, light crazing or oxidation, crooked, minor cracks.
3	Some	minor wood repair; extensive graffiti; cuts or gouges; bullet holes; major cracks, extensive crazing or fading.
4	Extensive	hazardous damage; rotten supports; severe rust; illegible signs; burnt.
5	Very Extensive	structure is missing or rendered completely ruined/ useless.

List of use-area structures with rankings:

EROSION PROBLEMS:

1	Very little	mostly natural ground cover distribution, or man-made materials (concrete, aggregate, mulch, etc.)
2	Some	localized patches of bare soil from use or runoff from structures or impervious surfaces; vehicle tracks noticeable; standing water; minor hog damage.
3	Moderate	large areas of bare soil created by use; ruts from vehicles; areas muddied by use; roots partially exposed; heavy hog damage.
4	Extensive	channelization, washout, and/or undercutting banks; roots mostly exposed; deep ruts; trail widening.

Problem area locations/Comments:

PHOTOPOINT INFORMATION

All photopoints should be taken with a lens height of 60", the flash set to "off", and no zoom.. All panoramic photopoints start with a photo taken towards north, then continue in a clockwise direction.

New photopoints taken (photopoint type, coordinates, location description, lens azimuth, image numbers)

Existing photopoints taken (Photopoint Number, image numbers)

PHOTOPOINT INFORMATION

All photopoints should be taken with a lens height of 60", the flash set to "off", and no zoom.. All panoramic photopoints start with a photo taken towards north, then continue in a clockwise direction.

New photopoints taken (photopoint type, coordinates, location description, lens azimuth, image numbers) Existing photopoints taken (Photopoint Number, image numbers)

Structure Damage Reporting Form

Observer: _____ Date:_____

Site: _____

Structure name/type:_____

Structure location (written description, coordinates):_____

Please rate and explain the extent of the damage in the following areas, where…

1=Minimal (no maintenance needed)
2=Moderate (maintenance recommended)
3=Severe (maintenance imperative)

TAKE CLOSE-UP PHOTOS OF ALL REPORTED DAMAGE

Cleanliness (graffiti, mildew, debris build-up, odor, etc.)

Structural Integrity (crooked, wobbly, or leaning)

Wood condition (rotten, vandalized)

Hardware (rusted, loose, missing)

Other (please describe)

WMA Visit Checklist

- ○ Trail maintenance needs
- ○ Sign maintenance needs
- ○ Structure maintenance needs

- ○ Day-use area condition/maintenance needs
- ○ Sufficient publications in field office
- ○ Brochure boxes adequately stocked
- ○ Hunting calendar posted and up-to-date
- ○ Users encountered on area (number, activity, address for future surveys)
- ○ Geocaches inspected
- ○ Manager concerns
- ○ New ideas for area enhancement

Appendix 7: Work Plan for Recreation Enhancements

Based on the prioritization of the goals and objectives listed in the RMP, the following list of projects and tasks has been ordered in terms of short and long term completion timeframes.

Tasks 2011-12

- Evaluate potential trail routes to walk-in entrance.
- Evaluate potential trail routes across Crabgrass Road to proposed HHBCWMA trail.

Tasks 2012-13

- Mark route to walk-in entrance.
  Mark route to HHBCWMA trail.
- Plan campground/entrance improvements.

Tasks 2013-14

- Install covered picnic tables at picnic areas.

Long Term Completion and Ongoing Tasks

- Viewing structure near entrance.
- Campground/entrance improvements.

12.15 Timber Assessment

TRIPLE N RANCH WILDLIFE MANAGEMENT AREA

TIMBER MANAGEMENT ASSESSMENT

Prepared by:

Michael M. Penn

Senior Forester

Florida Division of Forestry

I. General Information

Triple N Ranch Wildlife Management Area (WMA) is located in the northeast portion of Osceola County, FL and consists of 10,894 acres. Of this acreage, 8,512 acres are classified as mesic flatwoods and dry prairie, 2,226 acres as wetlands (ponds, cypress domes and floodplain swamps), and 156 acres as oak scrub. This property is situated between the Bull Creek WMA and the Three Lakes/Prairie Lakes WMA. Bull Creek WMA is located to the east of Triple N Ranch and shares a common boundary. Bull Creek WMA is being managed by the St. Johns River Water Management District (SJWMD). Three Lakes/Prairie Lakes WMA is located to the southwest of Triple N Ranch and is being managed by the Florida Fish and Wildlife Conservation Commission (FFWCC). Three Lakes/Prairie Lakes WMA and Triple N Ranch WMA do not adjoin but are within 10 miles of each other. The land between these two WMA's is within the boundary of the Osceola Pine Savannas CARL Project.

The first parcel of land making up Triple N Ranch was purchased by the State of Florida in 1994. Of the total acreage, 8,972 acres fall within the jurisdictional boundaries of the SJRWMD. This portion was acquired from a combination of Save Our Rivers funds allocated to the SJRWMD and Preservation 2000 funds allocated to the FFWCC. The remaining 1,922 acres were purchased solely for the FFWCC since the original acquisition and is located within the South Florida Water Management District (SFWMD). This portion was acquired with Preservation 2000 funds allocated to the FFWCC. Triple N Ranch in its entirety is currently being managed by the FFWCC.

II. Natural History

The land in and around Triple N Ranch has been utilized for generations for a variety of uses. Much of the area was logged heavily during the 1920's and 1930's providing timber to a mill located in Holopaw, Florida. It can be assumed that Triple N Ranch was logged during this same time.

Cattle ranching was and continues to be a prominent use occurring in and around the area. The previous owners of this land used the ranch primarily for cattle operations and hunting. The WMA continues cattle grazing through a permit system that monitors and regulates timing and stocking levels of the cattle operations.

It is unknown how often the area was prescribed burned by previous owners but it can be assumed fire has been an integral part in this ecosystem. Wiregrass is prolific within the WMA indicating the area was burned on a regular basis. Most ranchers understand the benefits derived from burning and have used fire extensively as a management tool. Since the purchase of this WMA, the FFWCC has developed a burn plan and has been actively prescribe burning the area.

III. Current Ecological Conditions and Trends

Most of the Triple N Ranch WMA is lightly stocked with longleaf pine. The overall general appearance of the area is scattered mature longleaf pine with pockets of young regeneration. At the present time, the intermediate age classes seem to be, for the most part, missing. The majority of the regeneration is lightly stocked, although there are areas where the seedling/sapling densities exceed 500 trees per acre. The scattered mature longleaf pine trees are most likely remnants from past logging operations or catastrophic wildfires. If low intensity fire remains in the system it can be anticipated that much of the area will succeed into a typical uneven-aged mosaic.

IV. Current Management Goals and Objectives

The current Conceptual Management Plan (CMP) for the Triple N Ranch WMA lists the following five goals:

(1) Maintain the integrity of native ecosystems.

(2) Develop Triple N Ranch WMA as a quality-oriented special opportunity hunting area.

(3) Ensure long-term viability for listed species.

(4) Develop selected recreational uses on the area.

(5) Manage and protect cultural resources on the WMA.

Since Triple N Ranch WMA is a relatively new property for the State, most of the specific objectives falling under the above mentioned goals in the CMP concern assessing

and developing management strategies for the various resources (e.g. compiling species lists, developing road systems, establishing recreational trails, etc…).

The Triple N Ranch was not purchased as part of the Osceola Pine Savannas CARL Project but does fall partially within its boundaries. The CMP adopts the following guidance concerning multiple use management from the CARL Annual Report:

"The project should be managed under the multiple-use concept: Management activities should be directed first toward preservation of resources and second toward integrating carefully controlled consumptive uses such as hunting and logging."

V. Current Timber Resources

The following description of the timber resource on the Triple N Ranch WMA has been generalized due to time and manpower constraints. The reader should be aware that all acreage figures are "best estimates" using aerial photos and GIS software. Density estimates are based on a very small number of sample points and do not hold up under statistical scrutiny. In the future, a more intensive survey is needed to more accurately portray the timber resource for long range planning purposes. The emphasis of this assessment will be on the mesic flatwoods composed of natural longleaf and South Florida slash pines as well as portions of the dry prairie that may have potential for timber management. There are no known pine plantations located on this property.

Oak Scrub, Cypress, Bay and Hardwood Swamps

This timber assessment omits discussion concerning the management of the cypress, bay, and hardwood swamp ecosystems except only to mention that any management activity in these types will be cursory in nature and limited to other activities that may encroach into these ecotypes. An example might be a prescribed fire burning into the fringes of a swamp.

The oak scrub ecotype also will not be discussed in this document as prescribed fire will be the primary management tool in these areas.

Natural Pine Stands and Prairie

Approximately 8,512 acres of land currently classified as natural pinelands (mesic flatwoods) and prairie could potentially be considered for timber production. This analysis includes only this portion of Triple N Ranch WMA and excludes all wetlands and scrub habitat. Estimates using aerial photos are 6,810 acres or 80% of the natural pinelands/prairie exhibit some level of pine stocking. It is unknown exactly how much of the area is forested and how much is prairie as the two blend together inconspicuously.

Longleaf pine occupies the vast majority of the natural stands. Basal Areas (BA) range from less than 10 sq. ft per acre to 110 sq. ft per acre with the preponderance being less than 40 sq. ft. per acre. The ecological trend is toward greater stocking levels as the mature trees are naturally seeding in openings and slowly invading non-stocked areas. The intermediate age classes appear to be absent from the overall mix. Generally, the younger seedling/sapling stands appear healthy but there are areas where overcrowding is beginning to occur. The older trees average 40 to 50 years old and average only 45 feet in total height. They are generally widely spaced except in a few small pockets. It has been hypothesized that the relative shortness of the trees is caused by a combination of a shallow hardpan which occurs throughout the area and because most of these trees were open grown. Trees that are open grown tend to be shorter because they do not have to compete for sunlight and thus put their energy into producing branches instead of height growth.

There are several stands of natural South Florida slash pine growing in and around Triple N Ranch WMA. One of the larger stands (8 acres) has a basal area of 100 sq. ft. per acre and an average Diameter at Breast Height (DBH) of 9 inches. These stands can be found on the fringes of some of the wetlands and constitute a very small component of the WMA.

VI. Current Timber Management Options

Natural Longleaf Pine Stands

Approximately 6,810 acres or 63 percent of Triple N Ranch WMA is currently in a natural pine forest condition. This acreage appears to be expanding. It is possible to manage these stands in such a manner as to retain the natural appearance, meet objectives

stated in the CMP, and produce future revenue through timber harvests. Timber production will most likely be a residual benefit to managing for other objectives.

Presently, there are very few areas exhibiting stocking levels high enough to make it feasible to conduct any kind of timber harvest. The areas that do have higher densities, are very small in size (mostly less than 5 acres) and widely spaced, although there are one or two larger areas (approximately 40 acres) that may be large enough to log economically. As far as timber management is concerned, the managers of Triple N Ranch WMA have several options:

1) Do nothing at this time and let natural succession progress until tree densities become such that it is feasible to harvest timber in any one of a variety of methods. As time passes, and if fire is kept in the system, the potential for timber management will increase. There are areas where the natural regeneration exceeds 500 trees per acre. In 5 – 15 years they will need thinning and can be harvested for pulpwood. At the same time, it may be possible to selectively thin some of the more heavily stocked mature stands. Options will increase as time passes.

2) Increase stocking levels by carefully choosing a few, strategic locations to plant seedlings. A well thought out reforestation plan would speed up succession and reduce the time necessary to achieve a true uneven-aged longleaf pine ecosystem (intermediate age classes are absent from the overall mix). Advantages to planting over relying on natural regeneration are: a) Longleaf pine is undependable as a natural seed source with good seed crops occurring only once every seven years on the average. b) Seedlings can come from a superior seed source and may possibly do better than the trees currently stocking the Triple N Ranch WMA especially if the area has been high-graded in the past. The major disadvantage to planting is the cost. Depending on the site prep methods, costs range anywhere from $120.00 to over $200.00 per acre to regenerate a stand of timber.

3) It may be possible to do some light thinning in select mature pine pockets. As stated earlier, there are very few areas where this may be practical. The type of thinning recommended would be a sanitation type cut. The trees to be marked for removal would be the suppressed, diseased or poorly formed trees to help improve the overall genetics and

health of the stand. If this option is considered, more on-the-ground reconnaissance will be required to determine the best areas to treat.

Natural South Florida Slash Pine Stands

South Florida Slash Pine constitutes a very small portion of the timber resource on Triple N Ranch WMA and occurs only in small pockets along the fringes of wetlands. At the present time, it would not be feasible to conduct any kind of timber harvesting activity in these stands due to their size and location. Current options are the same as for the longleaf pine as described above. A thought to keep in mind when considering the South Florida slash pine is, historically, it may have been more abundant than it is today in the area. Fire discriminates against slash pine regeneration and this area was most likely burned frequently as it was being managed heavily for cattle operations (possibly more frequently than the natural fire regime). An option to consider might be planting some South Florida slash pine in some of the non-stocked wetter areas. If this option is implemented, then the burning interval must be interrupted until the seedlings are tall enough to resist fire.

VII. Future Timber Management Options

As time passes management options will increase for the timber component on the Triple N Ranch WMA. Some of the possible options available to the resource manager in the future will now be discussed.

Planted Stands

The following options will apply to future plantations if it is ever decided to plant seedlings on the Triple N Ranch WMA.

Timber Management Emphasis – This option will maximize revenue by managing the stand for valuable renewable wood fiber products. These stands will need to be thinned when the live crowns in the majority of the dominant and co-dominant trees have been reduced to approximately 1/3 of their total height. This will help ensure a healthy stand of trees. These stands should be thinned back to 60 – 80 sq. ft. BA each time they reach 100 sq. ft. BA or more. An added benefit of opening up the canopy is to allow sunlight to reach

the forest floor increasing forage production for wildlife. Once the planted stand has reached maturity, it can be naturally regenerated.

Ecosystem Management (Wildlife) Emphasis – This option is similar to the Timber Management Emphasis above, however, this strategy thins the stand back even further to 40-50 sq. ft. BA per acre. This will allow even more sunlight to reach the forest floor increasing the forage production for wildlife.

Restoration Emphasis – Once a plantation is established and reaches a merchantable size it may be desirable to slowly begin moving the stand to an uneven-aged condition. It is recommended that uneven-aged management be attempted only with longleaf pine, as there is little research in the uneven-aged management of South Florida slash pine. This management method is good for combining timber production with sound wildlife management. The recommendation of this assessment is to gradually convert over time by employing a "group selection" type of cut. This process involves cutting small openings (usually two acres or less in size) in the stand. These areas can then be managed to catch the next good crop of pine seed. Pine seedlings are intolerant to shade and must have direct sunlight to regenerate and grow vigorously. In longleaf plantations, natural regeneration can be used. In this `can readily seed the area. It must be recognized that natural regeneration is more uncertain as good seed crops occur irregularly. Timing seed crops with prescribed fire (fall burns) is essential for preparing the seedbed for regeneration. Again, there are variations of this method and the exact technique utilized should be determined prior to harvest and should take into account individual stand conditions, economics and management objectives.

Natural Longleaf Pine Stands

Approximately 6,934 acres or 63 percent of Triple N Ranch WMA is currently in a natural forest condition. This acreage appears to be increasing as unstocked areas are slowly being regenerated. It is possible to manage these stands in such a manner as to retain the natural appearance, meet objectives stated in the CMP and produce revenue through timber harvests. In these areas timber production will most likely be a residual

benefit to managing for other objectives. The following options are possible strategies for future management of the natural longleaf pine stands.

Timber Management Emphasis – There are areas within the natural stand communities that could be managed for timber production. This option will be discussed very briefly as managing this vegetation type strictly for timber would compromise the objectives found in the Triple N Ranch WMA CMP. It is included here only to make the reader aware of the various alternatives available for managing the area. It is not expected or recommended that the natural pine communities be managed in this manner unless on a very small scale.

This option is very similar to the timber management option as described under "Planted Stands" above. The primary objective in this option would be management for wood fiber products. This would be accomplished through scheduled thinnings, harvests and plantings. Natural regeneration can be used as well but is not as predictable.

Ecosystem Management (Wildlife) Emphasis – This method of management is intended to simulate natural occurrences through the removal of wood fiber products. With careful planning, it is possible to actually restore or improve habitat for various wildlife species while providing wood products to the public. The goal for the natural longleaf pine community would be to retain and increase the uneven-aged character of the stand. This could be accomplished by employing a "group selection" system of harvesting as described previously under Restoration Emphasis (Planted Stands). It must be noted that prescribed burning is an important tool for managing this ecosystem and to ensure successful regeneration. Prescribed burning will be discussed later in this document. This is the recommended coarse of action in natural longleaf pine stands.

Natural South Florida Slash Pine Stands

Although natural South Florida Slash pine stands constitute a minor portion of the Triple N Ranch WMA, they add to the diversity of the area and can be managed by a variety of options. It must be decided what the long range goals for these stands are and proceed with management prescriptions accordingly. The current recommendation is to thin them periodically for wildlife management purposes and grow the residual trees to a

larger size. Converting these stands to longleaf pine is not recommended as the soils where they occur are wetter, and it is not recommended that any species be planted off-site.

VIII. Access

Triple N Ranch WMA is accessible for a customary logging operation during dry periods of the year. The existing road system is in good shape and provides good overall access. WMA staff have been improving the road system and thus far have hardened all the water crossings and applied shell to approximately 25% of the road system. Revenue from future timber sales could be used to help pay for future road improvements.

IX. Prescribed Fire

As discussed previously, prescribed fire is an important tool for ecosystem management in Florida. Before European settlement, natural fires occurred at regular intervals on an average of two to five years. These fires reduced the fuel load, produced a seedbed for pine regeneration and released nutrients back into the soil. Prescribed fire is now used extensively as a method of restoring natural, fire dependant plant species. Prescribed fire, coupled with a well planned timber harvest, is often the most economical and responsible method for conducting ecosystem management. Managers at Triple N Ranch WMA have been actively prescribe burning the area since it was purchased by the State. Currently the goal is to burn every acre once every three years. Since there is already an active burn program in place on Triple N Ranch WMA, this document will briefly discuss prescribed fire only as it relates to timber management.

A major objective when prescribed burning in timber is to not kill the trees. There will often be some mortality from burning but this should be kept to a minimum. Longleaf pine can be burned more aggressively than South Florida slash pine especially during the seedling/sapling stages, but can still suffer mortality if the burn is too hot. Longleaf pine is also susceptible to fire for a short time after it comes out of the grass stage. South Florida slash pine is much more intolerant to fire and burning intervals may need to be adjusted until the trees are big enough to resist a burn. It must be kept in mind that not all fire is good. A hot fire may not kill the trees but it does stress them and increase their susceptibility to insect and disease attack. This is especially true when combined with

other stresses, such as drought or flood. Cool backing fires are a good choice when burning in timber.

X. Economics

It is difficult to predict with any certainty the amount of revenue that can be derived through timber harvests on the Triple N Ranch WMA. Market conditions, harvest prescriptions, product mix, logging conditions and distance to manufacturing facilities all play a factor in what a timber purchaser will pay for stumpage. It becomes even more difficult when trying to predict what future timber markets will be. Even though economics are hard to predict, they must be analyzed prior to making any management decision.

Transportation costs are a significant portion of the overall expense associated with logging and therefore play a major factor in stumpage rates. Triple N Ranch WMA is located in northeastern Osceola County and is a good distance from any of the major wood processing facilities in Florida, the closest being Georgia-Pacific in Palatka. There are, however, smaller manufacturers located closer to the Triple N Ranch area that may be interested in the WMA's timber and the future demand for wood fiber products is predicted to increase.

A recent timber sale occurring on the Tosohatchee State Reserve in Orange County brought a composite price of $24.70/ton for all products. Tosohatchee and Triple N Ranch are very different areas and trying to make a valid correlation between these two would be nearly impossible. These numbers have been included only to show there is a valid monetary interest in timber in this part of the state.

XI. Summary

The timber resource on the Triple N Ranch WMA is limited due to the overall tree density of the longleaf pine stands. The area consists of scattered older longleaf pine (both singularly and in small pockets) with younger regeneration occurring at varying stocking levels. There is no immediate need to perform any kind of thinning or harvesting operation but as time goes on, this need will develop. Managers have the option to let the area regenerate itself naturally or to speed up the process of succession by initiating a planting program. In both scenarios, more silvicultural options will become available as time passes.

The Triple N Ranch WMA has approximately 6,810 acres of natural pine timberland. This constitutes a significant amount of land having the potential to produce timber. Silvicultural treatments, prescribed burning or a combination of both are the most useful tools for implementing ecosystem management objectives such as habitat maintenance or restoration. These tools are also useful for maintaining and creating diversity and have the added benefit of generating revenue for the FFWCC while providing a renewable resource to the public.

12.16 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:

Robin Jackson
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) 245-6496
Toll Free: (800) 847-7278
Fax: (850) 245-6439
Robin.Jackson@DOS.MyFlorida.com

12.17 Land Management Uniform Accounting Council Categories

Land Management Uniform Cost 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

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

Other

- 185 GIS
- 200 RESOURCE MANAGEMENT
- 203 Tree and shrub planting
- 213 Wildlife management
- 214 Listed Species management
- 219 Upland restoration
- 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
- 275 Permits and authorizations
- 276 Commission rule development and review
- 281 Technical assistance
- 282 Herbaceous seeding

283 Clearings
284 Feeding/watering
285 Nest structures
286 Population control
287 Stocking enhancements/population augmentation
288 Nuisance animal complaints 282 Herbaceous seeding
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
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

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

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
226 Human dimensions surveys
721 Geospatial analysis techniques

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
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

12.18 Operation Plan Fiscal Year 2020-2021

Activity	Description	Man Days	Salary	Fuel Cost	Other	Total
103	Meetings	15.00	$3269.70	$127.50	$1000.00	$4397.20
104	Budget/purchasing/accounting	5.00	$1089.90	$42.50	$0.00	$1132.40
128	New Vehicle and Equipment Purchases	0.00	$0.00	$0.00	$8000.00	$8000.00
140	Report writing/editing/manuscript preparation	5.00	$1089.90	$42.50	$0.00	$1132.40
150	Personnel management	50.00	$10899.00	$425.00	$61312.95	$72636.95
185	GIS	10.00	$2179.80	$85.00	$0.00	$2264.80
200	Resource Management	50.00	$10899.00	$425.00	$2000.00	$13324.00
204	Resource planning	5.00	$1089.90	$42.50	$0.00	$1132.40
206	Prescribed burning - growing season	55.00	$11988.90	$467.50	$1500.00	$13956.40
207	Prescribed burning - dormant season	40.00	$8719.20	$340.00	$1500.00	$10559.20
208	Firebreaks	15.00	$3269.70	$127.50	$0.00	$3397.20
212	Exotic plant control (chemical)	30.00	$6539.40	$255.00	$145000.00	$151794.40
216	Dams, dikes, levees	5.00	$1089.90	$42.50	$0.00	$1132.40

218	Water level management	5.00	$1089.90	$42.50	$350000.00	$351132.40
219	Upland restoration	5.00	$1089.90	$42.50	$0.00	$1132.40
221	Animal surveys	30.00	$6539.40	$255.00	$0.00	$6794.40
235	Vegetation and plant surveys	4.00	$871.92	$34.00	$0.00	$905.92
250	Monitoring and assessments	6.00	$1307.88	$51.00	$0.00	$1358.88
282	Herbaceous seeding	25.00	$5449.50	$212.50	$7500.00	$13162.00
289	Native vegetation management (mechanical)	15.00	$3269.70	$127.50	$0.00	$3397.20
294	Program coordination and implementation	5.00	$1089.90	$42.50	$0.00	$1132.40
295	Biological data collection, analysis, and reporting	22.00	$4795.56	$187.00	$0.00	$4982.56
311	Boundary signs	1.00	$217.98	$8.50	$0.00	$226.48
312	Informational signs	1.00	$217.98	$8.50	$0.00	$226.48
320	Outreach and education	1.00	$217.98	$8.50	$0.00	$226.48
341	Public use administration (hunting)	5.00	$1089.90	$42.50	$0.00	$1132.40
342	Public use administration (non-hunting)	1.00	$217.98	$8.50	$0.00	$226.48
350	Customer service support	2.00	$435.96	$17.00	$0.00	$452.96
920	FEM -- buildings/structures	15.00	$3269.70	$127.50	$20000.00	$23397.20
921	FEM -- utilities	0.00	$0.00	$0.00	$3000.00	$3000.00

922	FEM -- custodial functions	2.00	$435.96	$17.00	$1000.00	$1452.96
923	FEM -- vehicles/equipment	50.00	$10899.00	$425.00	$20500.00	$31824.00
926	FEM -- roads/bridges	15.00	$3269.70	$127.50	$0.00	$3397.20
928	FEM -- fences	5.00	$1089.90	$42.50	$0.00	$1132.40
Total:		500.00	$108,990.00	$4,250.00	$622,312.95	$735,552.95

12.19 Arthropod Control Plan

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

Nicole 'Nikki' Fried
COMMISSIONER

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

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

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

Name of Designated Land: Triple N Ranch Wildlife Management Area

Is Control Work Necessary: ❑ Yes ☒ No

Location: Osceola County

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:

❑ 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:

Proposed Larval Control:

Proposed larval monitoring procedure:

Are post treatment counts being obtained: ❑Yes ☒ No

Biological Control of Larvae:

Might predacious fish be stocked: ❑ Yes ☒ No

Other biological controls that might be used:

Material to be Used for Larvaciding Applications:

(Please Check All That Apply:)

❑ Bti

❑ Bs

❑ Methoprene

❑ Non-Petroleum Surface Film

❑ Other, please specify:

Please specify the following for each larvacide: N / A

Chemical or Common name: N/A

❑ Ground ❑ Aerial

Rate of application:

Method of application:

Proposed Adult Mosquito Control:

Aerial adulticiding	❑Yes	☒No
Ground adulticiding	❑ Yes	☒No

Please specify the following for each adulticide:

Chemical or common name:

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 performed by the arthropod control agency, as part of a larger treatment plan to safeguard public health. Land managers of the area will be notified prior to treatment.

Proposed Notification Procedure for Control Activities:

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

Records:

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

XYes ❑No

Records Location:

1 Courthouse Square,
Suite 3100
Kissimmee, Fl 34741

How long are records maintained:
10 years

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:

James C Conner III Digitally signed by James C Conner III Date: 2021.05.07 14:34:52 -04'00'

Signature of Lands Manager or Representative Date

4/28/21

Signature of Mosquito Control Director / Manager Date

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12.20 Osceola County Letter of Compliance with Local Government Comprehensive Plan

DEPARTMENT OF COMMUNITY DEVELOPMENT

Dave Tomek
Administrator

Brian K. Brown
Deputy Administrator

Susan E. Caswell, AICP
Assistant Administrator

William Grimes
Building Official

Kelly Haddock
Current Planning Director

Jose A. Gomez, P.E.
Development Review Director

Joseph S. Strickland
Extension Services Director

Robert Mindick
Parks and Public Lands Director

Kerry Godwin
Planning & Design Director

Kevin Ostrowski
Sports & Event Facilities Manager

Osceola County

1 Courthouse Square
Suite 1100
Kissimmee, FL 34741
PH: (407) 742-0200
Fax: (407) 742-0206
www.osceola.org

Sent via E-mail: Hannah.Klein@MyFWC.com

May 14, 2021

Hannah Klein
Land Conservation Planner
Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
620 S. Meridian Street
Tallahassee, Florida 32399-1600

RE: Triple N Ranch Wildlife Management Area (TNRWMA) Management Plan

Dear Ms. Klein:

Osceola County is pleased to provide a review of the Florida Fish and Wildlife Conservation Commission's Triple N Ranch Wildlife Management Area (TNRWMA) Management Plan. Planning Department staff finds that the TNRWMA Management Plan is in compliance with the Osceola County 2040 Comprehensive Plan.

Thank you for the opportunity to contribute and to review the proposed management plan. If I can be of further assistance, please contact me at (407) 742-0294 or at Harry.Fix@osceola.org.

Respectfully,

Harry Fix

Harry Fix, AICP, Senior Planner
Planning and Design Office