

## **13 Appendices**

### **13.1 Lease Agreement**

5103.65AC

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

LEASE AGREEMENT

CARAVELLE RANCH WILDLIFE MANAGEMENT AREA

Lease Number 4100

This lease is made and entered into this 14<sup>th</sup> day of  
NOVEMBER 1996, between the BOARD OF TRUSTEES OF THE  
INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA,  
hereinafter referred to as "LESSOR", and the FLORIDA GAME AND  
FRESH WATER FISH 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 Putnam, 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 NOVEMBER 20, 1996 and ending on NOVEMBER 19, 2046, 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 Chapters 18-2 and 18-4, 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 adequate fire and extended risk insurance coverage for any improvements or structures located on the leased premises in amounts not less than the full insurable replacement value of such improvements by preparing and delivering to the Division of Risk Management, Department of Insurance, a completed Florida Fire Insurance Trust Fund Coverage Request Form immediately upon erection of any structures as allowed by paragraph 4 of this lease. A copy of said form and immediate notification in writing of any erection or removal of structures or other improvements on the leased premises and any changes affecting the value of the improvements shall be submitted to the following: Bureau of Land Management Services, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399.

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. 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 Land Management Services, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399, 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 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 17 and 20 herein, LESSEE shall pay all costs necessary to meet the prescribed conditions.

15. BEST MANAGEMENT PRACTICES: LESSEE shall implement applicable Best Management Practices for all activities conducted under this lease in compliance with paragraph 18-2.004(1)(d), 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.

16. 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.

17. 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.

18. 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.

19. 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 and removable improvements 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.

20. 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.

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

22. 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.

23. 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.

24. 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.

25. 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.

26. 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

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Lease No. 4100

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.

27. 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.

28. 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.

29. 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.

30. 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.

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

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

33. 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.

34. 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

Kelly Servedio  
Witness

Kelly Servedio  
Print/Type Witness Name

Jenna Ridge  
Witness

Jenna Ridge  
Print/Type Witness Name

By: Daniel T. Crabb (SEAL)

DANIEL T. CRABB, CHIEF,  
BUREAU OF LAND MANAGEMENT  
SERVICES, DIVISION OF STATE  
LANDS, DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

"LESSOR"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 27th day of November 1996, by Daniel T. Crabb, as Chief, Bureau of Land Management Services, 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. He is personally known to me.

Patricia Toloday  
Notary Public, State of Florida

(SEAL)

Print/Type Notary

Commission Number

Commission Expires



Approved as to Form and Legality

By: Sayre H. Hain  
DEP Attorney

FLORIDA GAME AND FRESH WATER  
FISH COMMISSION

Rosemary Mara  
Witness  
Rosemary Mara  
Print/Type Witness Name  
Kim Wright  
Witness  
Kim Wright  
Print/Type Witness Name

By: Victor J. Heller (SEAL)  
Victor J. Heller  
Print/Type Name  
Title: Assist. Exec. Director  
"LESSEE"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
22nd day of October, 1996, by Victor J. Heller  
as Assistant Executive Director, Florida Game and Fresh  
Water Fish Commission. He/~~she~~ is personally known to me or  
produced \_\_\_\_\_ as identification.

(SEAL)

Jimmie C. Bevis  
Notary Public, State of Florida  
Jimmie C. Bevis  
Print/Type Notary Name  
Commission Number:  
Commission Expires:



Victor J. Heller  
Assistant Executive Director

**THIS INSTRUMENT PREPARED BY:** :  
 :  
 :  
**W. Ted Conner** :  
**FEDERAL DEPOSIT INSURANCE CORP.** :  
**Post Office Box 725003** :  
**Orlando, Florida 32872-5003** :  
 :  
**RETURN TO:** :  
**GUARDIAN TITLE** :  
**Horizon Building** :  
**4511 N. Himes Ave.** :  
**Suite 165** :  
**Tampa, FL 33614** :  
 :  
**Parcel ID #** :  
**Grantee's Tax ID #** :

FL 216700 B 631 P 1570  
 CO:PUTNAM ST:FL

**FLORIDA SPECIAL WARRANTY DEED**

THIS INDENTURE made this 12th day of August, 1993, between FEDERAL DEPOSIT INSURANCE CORPORATION, in its corporate capacity as successor in interest to Park Bank of Florida ("Grantor"), and Board of Trustee of the Internal Improvement Trust Fund of the State of Florida ("Grantee"), whose address is c/o Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, Florida 32399, of the County of Leon, State of Florida (the words "Grantor" and "Grantee" include their respective heirs, successors and assigns).

WITNESSETH: That Grantor, for and in consideration of the sum of Ten Dollars and other good and valuable consideration in hand paid by the said Grantee, the receipt of which is hereby acknowledged, has granted, bargained and sold unto the Grantee the following described land, to wit:

SEE ATTACHED LEGAL DESCRIPTION - EXHIBIT "A"  
 SEE ATTACHED TAX PARCEL NUMBERS - EXHIBIT "B"

**SUBJECT TO**

1. That certain CLAY ELECTRIC CO-OPERATIVE, INC., Right of Way Easement as recorded in O.R. Book 211, Page 99 of the Public Records of Putnam County, Florida. (As to lands in Section 25, Township 11 South, Range 26 East; Sections 19, 20, 29 and 30, Township 11 South, Range 26 East, and J.H. Hernandez Grant on the West side of the St. Johns River.)

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 07/15/93

Documentary Tax PD. 8.00  
 Certificate # 64-0000000-00-01  
 EDW 07/15/93  
 By Rebecca Okuma

NO. 4100  
 EXHIBIT A  
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2. That certain 60 foot Non-Exclusive Easement for ingress and egress in favor of ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, as recorded in Quit-Claim Deed filed 6/31/89 in O.R. Book 0545, Page 0754, of the Public records of Putnam County, Florida. (As to lands in Sections 25, 26 and 27, Township 11 South, Range 25 East, Putnam County, Florida.)
3. That certain easement described as Parcel 4 in warranty Deed recorded in O.R. Book 228, Page 320, of the Public records of Putnam County, Florida. (As to lands in Section 27, Township 11 South, Range 25 East, Putnam County, Florida.)
4. That certain 66.0 feet road and utility easement in favor of Big A Auto Parts, Inc., and recorded in Warranty Deed filed in O.R. Book 408, Page 394, of the Public Records of Putnam County, Florida. (As to lands in Sections 29 and 30, Township 11 South, Range 26 East, Putnam County, Florida.)
5. Rights of the United States Government and/or the State of Florida arising under the United States Government control over Navigable waters and the Inalienable rights of the State of Florida in the Lands or Waters of similar character as to any part of the premises herein described in Schedule A which may be artificially filled in lands in what was formerly Navigable Waters and any accretions thereto.

Together with all the tenements, hereditaments and appurtenances thereto belonging or in any way otherwise appertaining.

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

And the Grantor does hereby covenant with the said Grantee that, except as above noted, that at the time of the delivery of this deed the premises were free from all encumbrances made by Grantor and that Grantor will warrant and defend the same against the lawful claims and demands of all persons claiming by, through or under Grantor but against none other.

Other than as specifically enumerated hereunder, no other covenants or warranties, express or implied, are entered into or given by this Special Warranty Deed.

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07/15/93

FL 216700 B 631 P 1571  
CO:PUTNAM ST:FL

NO. 4100  
EXHIBIT A  
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IN WITNESS WHEREOF, the Grantor has hereunto set its hand and seal the day and year first above written.

Signed in the presence of:

[Signature]  
Name: FRANK BLUM  
[Signature]  
Name: Marita Hernandez

FEDERAL DEPOSIT INSURANCE CORPORATION, in its corporate capacity as successor in interest to Park Bank of Florida  
By: [Signature]  
Name: John A. O'Donnell  
Its: Attorney-In-Fact  
Pursuant to Power of Attorney recorded in Official Records Book 0587, Page 1638, Public Records of Putnam County, Florida 5950 Hazeltine National Dr. Suite 150 Orlando, Florida 32822

FL 216700 B 631 P 1572  
CO: PUTNAM ST: FL

STATE OF FLORIDA  
COUNTY OF ORANGE

The foregoing instrument was acknowledged before me this 12<sup>th</sup> day of AUGUST, 1993 by JOHN A. O'DONNELL, as attorney-in-fact who is personally known to me or who has produced POWER OF ATTORNEY KNOWN as identification, on behalf of Federal Deposit Insurance Corporation, in its corporate capacity as successor in interest to Park Bank of Florida.



R. S. GRUPINSKI  
My Comm Exp. 6/07/96  
Bonded By Service hrs  
No. CC206659  
||Florida.com ||Doc. L.A.

[Signature]  
Notary Public  
Name: \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

WITNESS my signature and official seal at Orlando, Florida in the County of Orange.



R. S. GRUPINSKI  
My Comm Exp. 6/07/96  
Bonded By Service hrs  
No. CC206659  
||Florida.com ||Doc. L.A.

[Signature]  
Print Name: \_\_\_\_\_  
Notary Public  
My Commission Expires: \_\_\_\_\_  
[Notarial Seal]

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07/15/93

NO. 4100  
EXHIBIT A  
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E X H I B I T A

THE W 1/2 OF THE SW 1/4 OF THE NE 1/4 OF THE SW 1/4; AND THE SE 1/4 OF THE NE 1/4 OF THE SW 1/4; AND THE S 1/2 OF THE NW 1/4 OF THE SW 1/4; AND THE SW 1/4 OF THE SW 1/4; AND THE E 1/2 OF THE SE 1/4 OF THE SW 1/4; AND THE S 1/2 OF THE NE 1/4 OF THE SE 1/4; AND THE SE 1/4 OF THE NW 1/4 OF THE SE 1/4; AND THE S 1/2 OF THE SE 1/4, ALL IN SECTION 22.

AND

THE S 1/2 OF THE SE 1/4 OF THE NE 1/4; AND THE SW 1/4; AND THE N 1/2 OF THE SE 1/4; AND THE NW 1/4 OF THE SW 1/4 OF THE SE 1/4; AND THE E 1/2 OF THE SW 1/4 OF THE SE 1/4; AND THE SE 1/4 OF THE SE 1/4; ALL IN SECTION 23.

AND

ALL OF THE S 1/2 OF THE SE 1/4 OF THE NW 1/4 LYING WESTERLY OF THE RIGHT-OF-WAY LINE OF STATE HIGHWAY NO. 19; AND THE S 1/2 OF THE SW 1/4 OF THE NW 1/4; AND ALL OF THE S 1/2 OF SECTION LYING WESTERLY OF THE RIGHT-OF-WAY LINE OF STATE HIGHWAY NO. 19, ALL IN SECTION 24.

AND

ALL OF SECTION LYING WESTERLY OF THE RIGHT-OF-WAY LINE OF STATE HIGHWAY NO. 19, EXCEPT THE S 1/2 OF THE SW 1/4; AND EXCEPT THE S 1/2 OF THE SE 1/4 LYING WESTERLY OF THE RIGHT-OF-WAY LINE OF STATE HIGHWAY NO. 19, ALL IN SECTION 25.

AND

THE N 3/4 OF SECTION, EXCEPT THE SW 1/4 OF THE NW 1/4 OF THE NE 1/4, ALL IN SECTION 26.

AND

THE N 3/4 OF SECTION 27.

AND

THE S 1/2 OF THE NE 1/4 OF THE NE 1/4, AND THE S 1/2 OF THE NE 1/4, AND ALL OF THE S 1/2 OF THE SE 1/4 OF THE NW 1/4 LYING EASTERLY OF THE RIGHT-OF-WAY LINE OF STATE HIGHWAY NO. 19; AND ALL OF THE S 1/2 OF SECTION LYING EASTERLY OF THE RIGHT-OF-WAY LINE OF STATE HIGHWAY NO. 19, EXCEPT THE E 1/2 OF THE SW 1/4 OF THE SE 1/4, ALL IN SECTION 24.

AND

ALL OF SECTION LYING EASTERLY OF THE RIGHT-OF-WAY LINE OF STATE HIGHWAY NO. 19, EXCEPT THE NE 1/4 OF THE SE 1/4 OF THE NE 1/4, ALL IN SECTION 25.

ALL BEING IN TOWNSHIP 11 SOUTH, RANGE 25 EAST, PUTNAM COUNTY, FLORIDA.

AND

THE S 1/2 OF THE SE 1/4 OF THE SW 1/4.

AND

GOVERNMENT LOT 5 LESS THE NORTH 10 CHAINS, AND GOVERNMENT LOTS 8 and 7, ALL IN SECTION 18.

AND

ALL OF SECTION, EXCEPT THE E 1/2 OF THE SE 1/4 OF THE NE 1/4, ALL IN SECTION 19.

AND

ALL OF FRACTIONAL SECTION 20.

AND

ALL OF FRACTIONAL SECTION 28, WEST OF RIVER.

AND

ALL OF FRACTIONAL SECTION 29.

AND

ALL OF SECTION, EXCEPT THE E 1/2 OF THE SW 1/4 OF THE NE 1/4, AND EXCEPT THE W 1/2 OF THE W 1/2 OF THE SE 1/4 OF THE NE 1/4, AND EXCEPT THE SW 1/4 OF THE SW 1/4 OF THE NW 1/4; AND EXCEPT THE NE 1/4 OF THE SE 1/4 OF THE SW 1/4, ALL IN SECTION 30.

ALL BEING IN TOWNSHIP 11 SOUTH, RANGE 26 EAST, PUTNAM COUNTY, FLORIDA.

AND

ALL OF THE JOSEPH M. HERNANDEZ GRANT ON THE WEST SIDE OF THE ST. JOHNS RIVER, EXCEPT A TRACT AS DESCRIBED IN DEEDS RECORDED IN DEED BOOK 197, PAGE 317, AND DEED BOOK 219, PAGE 63, PUBLIC RECORDS OF PUTNAM COUNTY, FLORIDA; ALSO EXCEPT ALL THAT PART OF SAID GRANT LYING NORTHERLY OF THE SOUTHERLY LINE OF THE LANDS OF THE SHIP CANAL AUTHORITY OF THE STATE OF FLORIDA, AS CONVEYED BY DEED RECORDED IN DEED BOOK 129, PAGE 324, SAID PUBLIC RECORDS.

AND

SO MUCH AND SUCH PART OF THOSE LANDS DESCRIBED IN THAT DEED GIVEN BY HOMER RODEHEAVER TO RODEHEAVER BOYS' RANCH DATED 05/20/54, AND RECORDED AT DEED BOOK 219, PAGE 61, THAT LIES EASTERLY OF THE THREAD OF CAMP BRANCH, ALL IN JOSEPH M. HERNANDEZ GRANT ALSO KNOWN AS SECTION 37, TOWNSHIP 11 SOUTH, RANGE 26 EAST, PUTNAM COUNTY, FLORIDA.

(Continued)

NO. 4100  
EXHIBIT A  
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FL 216700 B 631 P 1574  
CO:PUTNAM ST:FL

E X H I B I T A

\* The Sections 22, 23, 24, 25, 26, and 27 referred to are as shown on the plat of the New South Farm and Home Company's Subdivision of record in Map Book 2, on Pages 15 and 16 thereof, Public Records of Putnam County, Florida, AND said Sections 25, 26 and 27 are also the same areas which are correctly described as Fractional Sections 25, 26 and 27, respectively, according to Official Government Township Plat.

\* The Sections 18, 19 and 30 referred to are as shown on the plat of the New South Farm and Home Company's Subdivision of record in Map Book 2, on Pages 15 and 16 thereof of the Public Records of Putnam County, Florida. AND said Sections 18, 19 and 30 are also the same areas which are correctly described as Fractional Sections 18, 19 and 30 respectively, according to Official Government Township plats.

The Sections 20, 28, 29, 36 are as shown on Official Government Township plats.

The remainder of the above lands are as shown on the Official Government Township Plats, Putnam County, Florida.

NO. 4100  
EXHIBIT A  
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EXHIBIT "B"

FL 216700 B 631 P 1575  
CO:PUTNAM ST:FL

<u>Tax Parcel No.</u>	<u>Parcel</u>
24-11-25-0000-0030-0000	1
25-11-25-0000-0010-0000	2
18-11-26-0000-0020-0000	4 & 5
19-11-26-0000-0010-0000	6
20-11-26-0000-0010-0000	7
28-11-26-0000-0040-0000	8
29-11-26-0000-0010-0000	9
30-11-26-0000-0040-0000	10
37-11-26-0000-0090-0000	13 & 14
22-11-25-0000-0050-0000	Part in Sec. 22
23-11-25-0000-0020-0000	Part in Sec. 23
24-11-25-0000-0040-0000	Part in Sec. 24
25-11-25-0000-0040-0000	Part in Sec. 25
26-11-25-0000-0010-0000	Part in Sec. 26
27-11-25-0000-0010-0000	Part in Sec. 27

Homestead exemptions: NONE;

FILED AND RECORDED  
DATE 08/20/93 TIME 12:45

ED BROOKS  
CO:PUTNAM

CLERK  
ST:FL



NO. 4100  
EXHIBIT A  
PAGE 18 OF 18

ATL1

10.0 Acres

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT  
TRUST FUND

AMENDMENT NUMBER 1 TO LEASE NUMBER 4100  
CARAVELLE RANCH WILDLIFE MANAGEMENT AREA

THIS LEASE AMENDMENT is entered into this 17 day of  
Feb, 1998, 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 GAME  
AND FRESH WATER FISH 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 November 14, 1996, LESSOR and LESSEE entered  
into Lease Number 4100; 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 4100 is hereby amended to include  
the real property described in Exhibit "A", attached hereto, and  
by reference made a part hereof.

Page 1 of 5

Amendment No. 1 to Lease No. 4100

2. It is understood and agreed by LESSOR and LESSEE that in each and every respect the terms of the Lease Number 4100 except as amended hereby, 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

Patricia Toloday  
Witness

Patricia Toloday  
Print/Type Witness Name

Cheryl Granger  
Witness

Cheryl Granger  
Print/Type Witness Name

By: Daniel T. Crabb (SEAL)  
DANIEL T. CRABB, CHIEF,  
BUREAU OF LAND  
MANAGEMENT SERVICES, DIVISION  
OF STATE LANDS, DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

"LESSOR"

STATE OF FLORIDA  
COUNTY OF LEON

19th The foregoing instrument was acknowledged before me this day of February, 1998, by Daniel T. Crabb, as Chief, Bureau of Land Management Services, 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. He is personally known to me.

Patricia Toloday  
Notary Public, State of Florida

Print/Type Notary Name

(SEAL)

Commission Number:

Commission Expires:



Approved as to Form and Legality

By: Sam H. Heber  
DEP Attorney

Page 2 of 5

Amendment No. 1 to Lease No. 4100

FLORIDA GAME AND FRESH WATER  
FISH COMMISSION

Kim Wright  
Witness

Kim Wright  
Print/Type Witness Name

\_\_\_\_\_  
Witness  
\_\_\_\_\_  
Print/Type Witness Name

By: Victor J. Heller (SEAL)

Victor J. Heller  
Print/Type Name

Title: Assist. Exec. Director

"LESSEE"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
3rd day of February, 1998, by Victor J. Heller  
as Assistant Executive Director of the Florida Game and Fresh  
Water Fish 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:

(SEAL)



Jimmie C. Bevis  
MY COMMISSION # CC702842 EXPIRES  
December 28, 2001  
BONDED FIDELITY AND SURETY INSURANCE, INC.

APPROVED AS TO FORM  
AND LEGAL SUFFICIENCY  
[Signature]  
Commission Authority

This Instrument Prepared By and  
Please Return To:  
Warren Willkie  
Palatka Abstract & Title Guaranty Co., Inc.  
113 N. 4th Street  
Palatka, FL 32177

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

THIS INDENTURE, made this 12th day of  
December, A.D. 1997, between, W. E. TORODE, III, a  
married man, 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  
Putnam County, Florida, to-wit:

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

Property Appraiser's Parcel Identification Number: 22-11-25-0000-0020-0000

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:

(Signature of First Witness)

John D. Mussoline

(Printed, Typed or Stamped Name  
of First Witness)

(Signature of Second Witness)

Patsy V. Glisson

(Printed, Typed or Stamped Name  
of Second Witness)

W. E. Torode III  
W. E. TORODE, III

Approved for Closing  
By: [Signature]  
DEP Attorney  
Date: 12-16-97

STATE OF FLORIDA  
COUNTY OF PUTNAM

The foregoing instrument was acknowledged before me this 12th day of December, 1997, by  
W. E. TORODE, III. Such person (Notary Public must check applicable box):

- is personally known to me.
- produced a driver license.
- produced \_\_\_\_\_ as identification.

(NOTARY PUBLIC SEAL)

[Signature]  
Notary Public  
Patsy V. Glisson  
(Printed, Typed or Stamped Name of Notary Public)

Commission No.: CC581624

My Commission Expires: 10/18/2000

PAGE 4 OF 5  
EXHIBIT A  
WARRANT NO. 1 TO LEASE NO. 4100

EXHIBIT "A"

The Southwest 1/4 of the Northwest 1/4 of the Southeast 1/4 of Section 22, Township 11 South, Range 25 East, being Tract 8 of Block 4 of New South Farm and Home Company Subdivision according to Plat recorded in Map Book 2, Pages 15A, 15B, 16A and 16B of the public records of Putnam County, Florida.

PAGE 5 OF 5  
EXHIBIT A  
AMENDMENT NO. 1 TO LEASE NO. 4100

ATL1

10.0 Acres

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

AMENDMENT NUMBER TWO TO LEASE NUMBER 4100  
CARAVELLE RANCH WILDLIFE MANAGEMENT AREA

THIS LEASE AMENDMENT is entered into this 27<sup>th</sup> day of August, 2009, 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, successor in interest to the FLORIDA GAME AND FRESH WATER FISH 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 November 20, 1996, LESSOR and LESSEE entered into Lease Number 4100; 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 4100 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 4100, 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 TWO to Lease Number 4100 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

Dave Fewell  
Witness

DAVE FEWELL  
Print/Type Witness Name

Robert Smith  
Witness

Robert J. Smith  
Print/Type Witness Name

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

"LESSOR"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 27<sup>th</sup> day of August, 2009, 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.



David L. Fewell  
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality

By: [Signature]  
DEF Attorney

FLORIDA FISH AND WILDLIFE  
CONSERVATION COMMISSION

[Signature]  
Witness

Richard C. Mosperis  
Print/Type Witness Name

[Signature]  
Witness

Webster D. Jennings  
Print/Type Witness Name

By: Timothy A. Gracutt (SEAL)

Timothy A. Gracutt  
Print/Type Name

Title: Director DFSC

"LESSEE"

APPROVED AS TO FORM  
AND LEGAL SUFFICIENCY  
[Signature]  
Commission Attorney

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 21<sup>st</sup> day of August, 2009, by Timothy A. Gracutt as Director DFSC, on behalf of the FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION. He/she is personally known to me.

[Signature]  
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

 P. S. McChesney  
Commission # DD524434  
Expires April 28, 2010  
Notary Public, State of Florida

This Instrument Prepared By and  
Please Return To:  
Elaine Vergara  
American Government Services Corporation  
3812 W. Linebaugh Avenue  
Tampa, Florida 33618  
AGS # 19243

DS ST DEED .70 : 126.00 BK 1059 PG 802

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

THIS INDENTURE, made this 21 day of September, A.D. 2005, between Edith M. Hancock, Individually and as Trustee of the Edith M. Hancock Revocable Living Trust dated April 8, 1997, whose address is 380 Cedar Creek Road, Palatka, FL 32177, 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 Putnam County, Florida, to-wit:

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

Property Appraiser's Parcel Identification Number: 23-11-25-0000-0030-0000

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 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 M. Armento  
(Signature of First Witness)

Edith M. Hancock  
Edith M. Hancock, Individually and as Trustee of the Edith  
M. Hancock Revocable Living Trust dated April 8, 1997

Debra M. Armento  
(Printed, Typed or Stamped Name  
of First Witness)

APPROVED AS TO FORM AND LEGALITY

By: William C. Robinson

DEP Attorney

Date: 2-9-09

Laurie Demetropoulos  
(Signature of Second Witness)

Note: This is a copy of the recorded  
deed. The original was sent to the  
Title and Land Records Section

Laurie Demetropoulos  
(Printed, Typed or Stamped Name  
of Second Witness)

FILE #: 0000556481

Page 1 of 3

0000556481



Exhibit "A"  
Page 4 of 6 Pages  
Amendment Number 2 to Lease No. 4100

STATE OF Florida  
COUNTY OF Putnam

The foregoing instrument was acknowledged before me this 21 day of Sept, 2005, by Edith M. Hancock, Individually and as Trustee of the Edith M. Hancock Revocable Living Trust dated April 8, 1997. Such person (Notary Public must check applicable box):

- is personally known to me.
- produced a driver license.
- produced FDH # 592 213-30-635-0 as identification.

(NOTARY PUBLIC SEAL)



Jenny Lynn Moore  
Notary Public  
Jenny Lynn Moore  
(Printed, Typed or Stamped Name of Notary Public)  
Commission No.: DD440804  
My Commission Expires: Aug 28, 2009

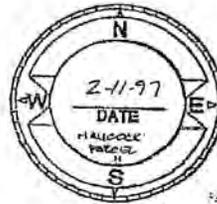
FILE #: 0000556481  
Page 2 of 3

Exhibit "A"  
Page 5 of 6 Pages  
Amendment Number 2 to Lease No. 4100

Exhibit "A"

The Southwest 1/4 of the Southwest 1/4 of the Southeast 1/4 of Section 23, Township 11 South, Range 25 East, Putnam County, Florida.

FILE #: 0000556481  
Page 3 of 3



TIM SMITH, PUTNAM CO. CLERK OF COURT  
RCD: 10/03/2005 @ 11:36

Exhibit "A"  
Page 6 of 6 Pages  
Amendment Number 2 to Lease No. 4100

LEASE AGREEMENT  
FOR  
CARAVELLE RANCH  
WILDLIFE MANAGEMENT AREA

THIS LEASE AGREEMENT, made and entered into the 13<sup>th</sup> day of November, 1991, by and between ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, a Water Management District organized under the provisions of Chapter 373, Florida Statutes, with its office in Palatka, Florida, whose post office address is P.O. Box 1429, hereinafter referred to as the DISTRICT; and the FLORIDA GAME AND FRESH WATER FISH COMMISSION of the State of Florida, with its primary office in Tallahassee, Florida, whose address is 620 South Meridian Street, hereinafter referred to as the COMMISSION:

WITNESSETH

WHEREAS, the DISTRICT owns certain lands located in Putnam County, known as Caravelle Ranch, for water management purposes; and

WHEREAS, it has been determined that additional public benefits from these lands can be derived from the management of such lands for public outdoor recreational purposes, including but not limited to hunting, fishing, hiking, horseback riding, bird watching and nature study, pursuant to Section 373.139 (4), Florida Statutes, to the extent these uses are consistent with the water management purposes of the DISTRICT as provided in Chapter 373, Florida Statutes and that all uses for public recreation are subordinate to DISTRICT responsibility under Section 373, F.S. to manage the water resources; and

WHEREAS, DISTRICT lands as described hereinafter serve a vital function to Caravelle Ranch by providing water storage for flood and low flow periods and diverse wetland and upland habitats for maintenance of wildlife populations; and

WHEREAS, management of these lands for outdoor recreational purposes may properly be served by their operation as a Type I Wildlife Management Area under the jurisdiction of the COMMISSION.

NOW THEREFORE, the parties hereto, for and in consideration of the mutual covenants, terms, and conditions hereinafter contained, and in the interest of the public served by both parties hereto, the DISTRICT and COMMISSION do hereby covenant and agree as follows:

1. The DISTRICT does hereby give, transfer and lease to the COMMISSION those lands described in Appendix A (attached hereto and by reference made a part hereof) for use as a Type I Wildlife Management Area. Therefore, the COMMISSION is granted subject to the maintenance of the hydrologic regime, the right to provide for public recreational use of these lands including:
  - (a) the right to establish bag limits which limit the taking of legal game and fish in reasonable quantities consistent with habitat maintenance, and preservation of wildlife and fish populations;
  - (b) the management of the lands and the creation of facilities as needed to support public recreational use of the area such as hunting, fishing, hiking, horseback riding, camping.
  - (c) access by COMMISSION agents and employees as necessary for such management of public recreational uses;
  - (d) the right to conduct public recreational uses compatible with the DISTRICT'S primary water management function, the DISTRICT'S property covenants, and limitations on development requiring these lands to be managed and maintained in an environmentally acceptable manner, so as to restore and protect its natural state and condition. Natural condition shall be interpreted to mean that only those minimum structural alterations to terrain, and impervious areas essential to public access and recreational use of these lands shall be constructed. DISTRICT approval shall be obtained for any construction beyond routine maintenance of existing improvements.
2. The DISTRICT hereby specifically reserves for its own use and exempts from this lease agreement:
  - (a) All other existing uses of the property. (Existing leases or licenses are described in Appendix B attached hereto and by reference made a part hereof).

- (b) All water management uses including periodic inundation, construction of works and appurtenant works, access roads and supporting structures. Water management uses shall take priority over all other uses including those general public recreational uses herein granted to the COMMISSION.
  - (c) All uses not compatible with water management uses or with DISTRICT property covenants or limitations requiring the land to be managed and maintained in an environmentally acceptable manner, so as to restore and protect their natural state and condition.
3. Other terms of this lease are:
- (a) The DISTRICT or the COMMISSION shall have the right to unilaterally terminate this lease. Either party may terminate this Agreement upon (60) days written notice to the other party. 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.
  - (b) This lease shall expire five years from the effective date hereof but shall be renewable by mutual agreement of both parties.
  - (c) DISTRICT policy is to own and manage only those lands necessary for conduct of its water management responsibilities. As these responsibilities change due to project redesign, planning changes, or other reasons the DISTRICT may need to acquire additional lands through property exchange, dispose of part or all of its existing ownership included under this lease or transfer management authority to another agency. The DISTRICT therefore reserves the right to terminate this lease, or a portion thereof, at any time with advance notice of 45 days in order to release, exchange, or convey ownership.
  - (d) Specific COMMISSION responsibilities undertaken as term of this agreement are:
    - 1. To provide insofar as funds are available all suitable wildlife oriented public recreational opportunities on each major parcel described in this lease for this which a public demand is known. The DISTRICT shall have the final decision regarding resolution of conflicts between different

recreational activities on its lands covered by this lease. Any decisions relating to the regulation of wildlife or fresh water aquatic life shall fall within Commission guidelines.

2. To manage and maintain the lands and any facilities supporting general public recreational use in an environmentally acceptable manner and in accordance with good management practices. These duties include:
    - (a) Assist with fire protection.
    - (b) Notify District and COUNTY of current burn plans in accordance with management plan.
    - (c) Enforcement of applicable laws.
    - (d) Provide manpower, if available, and signs for boundary posting
    - (e) Repair of structures placed on the property by the COMMISSION.
    - (f) Public information on recreation.
    - (g) Maintenance of natural conditions.
    - (h) Periodic inspection and surveillance of lands.
    - (i) Necessary assistance to recreational users.
  3. To seek federal and state funds for construction and maintenance of roads, campsites and hiking trails on those lands and management of lands.
- (e) Specific DISTRICT responsibilities undertaken as terms of this agreement are:
1. The operation of all water management facilities and structures so as not to unnecessarily interfere with recreational uses.
  2. The District Land Management Coordinator, or his designee, shall provide assistance as necessary to COMMISSION personnel and public recreational users, shall assist in patrolling of the property and shall serve as the primary DISTRICT contact and agent on the property.

- (f) The COMMISSION shall submit an annual summary report by major land parcel to the DISTRICT on:
1. Public use figures.
  2. COMMISSION maintenance activities.
  3. Problem areas.
  4. Law enforcement summary.
  5. Status of land and wildlife conditions.
  6. The COMMISSION will submit annual activity reports to the DISTRICT, which will include, but not be limited to, recreational use and harvest data, management activities, and results of any wildlife population survey. These reports will be due on August 15 of each year.
- (g) The COMMISSION shall submit to the DISTRICT a Bi-Annual Recreational Use Plan, to be agreed upon by the DISTRICT, subject to annual review. The submission of the plan will coincide with the COMMISSION's bi-annual regulation cycle. Any deviation in the Master Recreational Use Plan will be reviewed by the DISTRICT.
- (h) Proposed deviations in authorized recreational use or in regulations governing such use shall be approved by the DISTRICT and COMMISSION. Comments received on proposed changes and current use shall be considered by the DISTRICT and COMMISSION for the succeeding year.
- (i) The COMMISSION agrees to utilize its best efforts to obtain federal and state funds for maintenance of the property including roads, and preventive fire techniques including the development of fire lanes and controlled burning consistent with the DISTRICT'S Interim Fire Plan. The burn plan shall be reviewed with the management plan on an annual basis.
- (j) By mutual agreement, the DISTRICT and COMMISSION may prohibit access and entrance onto said lands, upon notice to each other forty-eight hours prior to such prohibition, during periods of potential drought, flooding, fire hazard or other harm or disaster to said lands, as determined by the DISTRICT and COMMISSION.

- (k) Because land management activities such as forest management, range management, water management and prescribed burning have great impact on wildlife habitat and populations, such activities shall be coordinated and/or conducted mutually by the Division of Forestry, the DISTRICT, the COMMISSION and any other state agency that might be appropriate.
- (l) The COMMISSION shall neither transfer, nor assign, this lease Agreement, nor sublet the leased premises or any part thereof, nor grant any interest, privileges or license whatsoever in connection with this lease (except for hunting, fishing and access licenses).
- (m) It is clearly understood that nothing under the terms of the Agreement or any usage of the DISTRICT'S lands and waters contemplated by this Agreement will render the DISTRICT liable for property of personal damages resulting from any usage of this area by personnel of the COMMISSION or by persons authorized by the DISTRICT or COMMISSION to enter this area. Further, to the extent provided by and subject to the limitations and conditions specified in Section 768.28, F.S., the COMMISSION shall defend and indemnify the DISTRICT for any and all injuries to or death of any person or damage to any property resulting from the negligent or wrongful acts or omissions of the COMMISSION and those of its agents and employees under the terms of this agreement. Nothing contained herein shall be construed as a waiver of any sovereign immunity to which the COMMISSION or the DISTRICT may be entitled in accordance with Florida law.
- (n) The COMMISSION assures and certifies that it will comply with Title IV of the Civil Rights Act of 1964 (P. L. 88-352) and in accordance with the Act, no person in the United States shall, on the grounds of race, creed, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under the Wildlife Management and Recreation Area Program and will immediately take any measures necessary to effectuate this Agreement.

- (o) There is no conflict of interest or any other prohibited relationship between the DISTRICT and the COMMISSION.
- (p) The public purpose served by the lease is to provide public outdoor recreation.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement this 13<sup>th</sup> day of November, 1991.

Signed, sealed and delivered  
our presence as witnesses:

Debbie Willmington

Stan H. Denmark

Jimmie C. Bevis  
Witness

APPROVED AS TO FORM  
AND LEGAL SUFFICIENCY  
Robert W. Chittick  
Commission Attorney

ST. JOHNS RIVER WATER MANAGEMENT  
DISTRICT

Joe E. Hill  
~~XXXXXXXXXXXX~~, CHAIRMAN  
JOE E. HILL

ATTEST

Lenore N. McCullagh  
~~XXXXXXXXXXXX~~, SECRETARY  
LENORE N. McCULLAGH  
(AFFIX SEAL)

FLORIDA GAME AND FRESH WATER FISH  
COMMISSION

Robert M. Brantly  
COL. ROBERT M. BRANTLY  
Executive Director

(AFFIX SEAL)

APPROVED AS TO FORM AND LEGALITY:

BY: John W. Williams  
JOHN W. WILLIAMS  
Sr. Assistant General Counsel  
Office of General Counsel

## 13.2 Public Involvement

Caravelle Ranch Wildlife Management Area (CRWMA)  
Management Advisory Group (MAG)  
**Consensus Meeting Results**

*Palatka, Florida*

*June 20, 2012*

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 CRWMA consensus meeting was held on the morning of June 20, 2012 at the St. Johns River Water Management District office in Palatka, Putnam County, Florida. The ideas found below were provided by stakeholders for consideration in the 2013 - 2023 Management Plan (MP) for the FWC-lead-managed portions of CRWMA. Consensus results and idea priorities were determined by MAG active participant vote. These ideas represent a valuable source of information to be used by biologists, planners, administrators, and others during the development of the MP. Upon approval by FWC, the Acquisition and Restoration Council (ARC), and the Trustees of the Internal Improvement Trust Fund (Governor and Cabinet), the CRWMA MP will guide the activities of FWC personnel over the ten-year duration of the management plan, and will help meet agency, state, and federal planning requirements.

Numbers to the left of **bold-faced ideas** listed below represent the rank, the total number of votes, and the score of each idea. Rank is first determined by the number of votes (vote cards received for each idea) and then by score. Score is used to break ties when two or more ideas have the same number of votes. A lower score indicates higher importance because each voter's most important idea (recorded on priority card #1) received a score of 1, and their fifth most important idea (recorded on priority card #5) received a score of 5. Ideas not receiving any votes are listed, and were considered during the development of the MP, but carry no judgment with regard to priority.

Statements following the **bold-faced ideas** represent a synopsis of the clarifying discussion of ideas as transcribed and interpreted by the FWC recorder at the meeting. As indicated above, the ideas below are presented in MAG priority order:

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
1.	[8]	[8]	1. <b>Maintain and improve natural communities.</b> Continue comprehensive land management, including natural communities, hydrology and watershed management, invasive species control, and monitoring, etc.
2.	[7]	[24]	12. <b>Control invasive species.</b> Control invasive exotic plant and animal species as appropriate and feasible.
3.	[5]	[12]	7. <b>Maintain habitat for imperiled and game species.</b> Self-explanatory; also, eradicate non-native species detrimental to imperiled species.
4.	[5]	[20]	20. <b>Pursue acquisition of inholdings and additions to provide for an optimal boundary.</b> Self-explanatory.
5.	[4]	[15]	17. <b>Continue to provide current recreation opportunities and evaluate implementing additional opportunities.</b> Self-explanatory.
6.	[3]	[7]	6. <b>Restore natural hydrology, including to the Ocklawaha River system and the St. Johns River floodplain.</b> Self-explanatory; also, Camp Branch hydrological restoration needs to continue; logging roads and trams need restoration as feasible and appropriate.

**Two items of equal rank:**

T7.	[3]	[9]	2. <b>Control illegal use: dumping, unauthorized off-road vehicle use, poaching, etc.</b> Trespassing a problem with the Navy bombing range and could be dangerous to trespassers; poaching on both CRWMA and Navy range can impact species; off-road vehicle use can damage vegetation and species, promotes invasive vegetation.
T7.	[3]	[9]	5. <b>Scale fire return interval to enhance or restore natural upland communities.</b> Fire return interval: needs to be maintained on short interval. Scale: large-scale burns can be detrimental to ground-nesting birds.

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
9.	[3]	[13]	22. <b>Maintain multiple-use concept; e.g., cattle grazing.</b> In addition to recreational uses, revenue-generating uses and other non-recreational uses should be continued.
10.	[2]	[9]	10. <b>Work with the Florida Forest Service to update the timber assessment and develop a timber management plan.</b> Update the current timber assessment and the objectives of the timber management plan if necessary.
11.	[2]	[10]	16. <b>Maintain hedgerows.</b> Quail, turkeys, rabbits, and other small animals benefit from maintaining hedgerows.
12.	[1]	[1]	8. <b>Maintain prescribed fire to improve cattle forage.</b> Self-explanatory.
13.	[1]	[2]	11. <b>Determine appropriate areas for restoration including hydrology, natural communities, and altered areas.</b> Identify areas requiring restoration, begin restoration efforts including ground cover restoration and hydrology.
14.	[1]	[3]	13. <b>Monitor and protect cultural resources.</b> Continue to monitor known cultural resources; conduct surveys to identify new cultural sites.

**Two items of equal rank:**

T15.	[1]	[4]	3. <b>Perform public outreach to promote CRWMA.</b> A better description of trailheads and other recreation opportunities to the public would be helpful.
T15.	[1]	[4]	19. <b>Provide more opportunities, boardwalk and enhance outreach to promote public access to the swamp communities.</b> Self-explanatory.

**The following idea received no votes. All ideas represent valuable input, and are considered in development of the CRWMA MP, but this idea has no rank with regard to the priority perceptions of the MAG.**

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
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			<b>Provide a canoe launch on the Ocklawaha River.</b> There is a need to provide a public canoe launch on the Ocklawaha River.
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**Caravelle Ranch WMA  
MAG Meeting Participants**

**Name**

**Affiliation**

**Active Participants**

Jason Slater	FWC Area Biologist
Lt. Ben Allen	FWC Law Enforcement
David Martin	Florida Native Plant Society
Ricky Lackey	National Wild Turkey Federation
John Marshall	Florida Forest Service
Mickey Thomason	Florida Department of Environmental Protection
Jody Farley	Jim Farley Cattle Company
Christine Bauer	US Navy – Rodman Bombing Range
John Salmons	Putnam County Planning Department
Matthew Corby	St. Johns River Water Management District

**Supportive Participants**

Jimmy Conner	FWC Habitat and Species Conservation (HSC), District Biologist
Rio Throm	FWC HSC Biological Scientist
Richard Noyes	FWC Office of Public Access and Wildlife Viewing Services (OPAWVS)
Tom M. Matthews	FWC OPAWVS
Allison Jones	FWC OPAWVS
Josh Cucinella	FWC OPAWVS
Mark Asleson	FWC HSC, Landowner Assistance Program, Regional Coordinator
Alex Pries	FWC HSC, Region Conservation Biologist
Robin Lewis	Wetland Scientist
Jeff Rowe	Jim Farley Cattle Company
Will Henry	US Navy – Rodman Bombing Range

**Invited but Unable to Attend**

Preston Robertson	Florida Wildlife Federation
Brad Purcell	Putnam County Board of County Commissioners
Mary Glowacki	Division of Historical Resources
Thomas Cheyne	Natural Resources Conservation Service
John Rukuski	Florida Trail Association
Dan Hipes	Florida Natural Areas Inventory
Pete Johnson	Audubon Society
Ken Johnson	Rodeheaver Boys Ranch
John Reid	Northeast Florida Quail Unlimited
Mike and Traci Woodward	Sunshine State Horse Council
Jimmy Cremer	Landowner

**FWC Planning Personnel**

Larame Ferry	Meeting Facilitator
David Alden	Recorder
Gary Cochran	FWC HSC Land Conservation and Planning Administrator

# NOTICE

The Florida Fish and Wildlife Conservation Commission (FWC)  
Announces a

## PUBLIC HEARING

for the

### Caravelle Ranch Wildlife Management Area Management Plan

for the FWC lead-managed areas

Putnam County, Florida

7:00 – 9:00 PM, Tuesday, July 31, 2012

Tax Deeds Building  
Building F  
107 N 6th St.  
Palatka, FL 32177

**PURPOSE:** To receive public comment regarding considerations for the FWC ten-year management plan for the Caravelle Ranch Wildlife Management Area (WMA). This hearing is being held exclusively for discussion of the *DRAFT* Caravelle Ranch WMA Management Plan.

A Management Prospectus for the Caravelle Ranch WMA is available upon request. For a copy, please contact Larame Ferry, Florida Fish and Wildlife Conservation Commission, Land Conservation and Planning, 620 South Meridian Street, Tallahassee, FL 32399. Telephone: (850) 487-9102.

NOTICE:

The Florida Fish and Wildlife Conservation Commission announce a PUBLIC HEARING for the FWC Lead managed portion of Caravelle Ranch Wildlife Management Area located in Putnam County, Florida.

7:00 P.M. Tuesday, July 31, 2012  
Tax Deeds Building  
Building F  
107 N 6th St.  
Palatka, Fl 32177

PURPOSE: To receive public comment regarding considerations for FWC's ten-year Management Plan for the FWC Lead managed portion of Caravelle Ranch Wildlife Management Area (CRWMA).

This hearing is designed exclusively for discussion of the draft management plan. A Management Prospectus for FWC Lead managed portion of Caravelle Ranch WMA is available upon request from the Florida Fish and Wildlife Conservation Commission, Conservation Planning Group, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9982 or (850) 487-9767 or by e-mail at [Rebecca.Shelton@MyFWC.com](mailto:Rebecca.Shelton@MyFWC.com).



Florida Fish and Wildlife  
Conservation Commission  
MyFWC.com

For immediate release: July 16, 2012  
NE Contact: Joy Hill, 352-620-7335

## FWC sets public hearing for lead-managed portion of Caravelle Ranch WMA

The Florida Fish and Wildlife Conservation Commission (FWC) will hold a public hearing on the management plan for the portion of the Caravelle Ranch Wildlife Management Area (WMA) where the FWC is the lead manager. The hearing is Tuesday, July 31, at 7 p.m. in the Tax Deeds Building, Building F, 107 N 6th St. Palatka, FL 32177.

The FWC-lead-managed area covers ~12, 330 acres.

The purpose of this hearing is to receive public comment on a draft of a 10-year management plan the FWC is developing for the portion of the Caravelle Ranch WMA in Putnam County. Components of the draft management plan will be presented to the public, followed by a question-and-answer session and public testimony.

A management prospectus for the Caravelle Ranch WMA is available upon request from the FWC's Conservation Acquisition and Planning group. Call Rebecca Shelton at 850-487-9982, or e-mail [Rebecca.Shelton@MyFWC.com](mailto:Rebecca.Shelton@MyFWC.com) for the prospectus. For [more information](#), go to [MyFWC.com/Conservation](http://MyFWC.com/Conservation) and select "Terrestrial Programs" then "Management Plans."

**PUBLIC HEARING REPORT**  
**FOR THE**  
**CARAVELLE RANCH WILDLIFE MANAGEMENT AREA**  
**MANAGEMENT PLAN**  
**HELD BY THE**  
**CARAVELLE RANCH MANAGEMENT ADVISORY GROUP**  
**AND THE**  
**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION**  
**JULY 31, 2012 – PUTNAM COUNTY, FLORIDA**

The following report documents the public input that was received at the Caravelle Ranch Wildlife Management Area (CRWMA) Management Advisory Group's (MAG) Public Hearing for the update to the Management Plan for CRWMA that was held at 7:00-9:00 PM, on July 31, 2012, at the Putnam County Tax Deeds Building in Palatka, Florida.

**CRWMA Management Advisory Group Introduction:**

The meeting was introduced by Mr. Rickey Lackey, a CRWMA MAG participant, who represented the National Wild Turkey Federation. Mr. Lackey indicated that he was one of nine stakeholders that attended the Florida Fish and Wildlife Conservation Commission (FWC) facilitated MAG meeting held on June 20th. Mr. Lackey stated that the draft Management Plan was being presented tonight by FWC staff, and that hardcopies of the draft plan and the MAG meeting report were available at the front door for the public's review. Mr. Lackey thanked everyone for attending and then introduced FWC staff Gary Cochran, Land Conservation and Planning Administrator, FWC, to facilitate and coordinate the presentation of an overview of CRWMA; FWC's planning process, and the draft components of the Management Plan.

**Presentation on an Overview of CRWMA and the FWC Planning Process:**

Mr. Cochran welcomed everyone and thanked the public for their attendance. Mr. Cochran 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 CRWMA, and not hunting and fishing regulations, indicating there is a separate public input process for FWC rule and regulation development. Mr. Cochran then described the materials that were available at the door for public review, including the draft Management Plan and the CRWMA MAG Meeting Report and Accomplishment Report. Mr. Cochran then presented the agenda for the public hearing and facilitated the introduction of all FWC staff in attendance to the audience. Mr. Cochran then presented an overview and orientation of

CRWMA, including a description of the natural communities, data about park visitors, money generated for the state by the park, wildlife species, recreational opportunities found on the area, surrounding conservation lands, surrounding Florida Forever lands, acquisition history, etc. He also explained FWC's planning process and asked if there were any questions regarding that process.

### **Questions, Answers and Discussion on the CRWMA Overview and FWC's**

**Planning Process:** Mr. Cochran facilitated an informal question and answers session where members of the public in attendance, without necessarily identifying themselves, could ask questions of the FWC staff, and discuss the answers. Mr. Cochran again emphasized that the exclusive purpose for the public hearing was to collect public input regarding the draft Management Plan for CRWMA, and not to discuss area hunting, fishing and use regulations.

### **Presentation of the CRWMA Draft Management Plan:**

At this point, Jason Slater, the CRWMA Area Biologist/Manager began the presentation of the draft management plan. Mr. Slater then completed and concluded the presentation of the CRWMA Draft Management Plan, focusing on the 10 year goals and associated objectives.

### **Questions and Comments on the CRWMA Draft Management Plan Presentation:**

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

An anonymous gentleman asked about the timeline for the proposed hydrology plan and how he and others can provide input to the plan. Mr. Cochran informed him that they will work with the Water Management District to develop a scope of services about the hydrological assessment work that needs to be done which is usually drawn up through a contract and that they will also need to get the funding to accomplish this. Mr. Cochran informed him that there's a strong intent to do this in the future, it's an important baseline accomplishment. He also added that when it's completed, FWC probably would not hold another public hearing but, it would be listed in the management plan and input would be considered at that time. Mr. Cochran informed the gentleman that they will contact him once those documents become available.

An anonymous gentleman made the comment that Camp Branch Creek has been bisected by the Barge Canal which has interrupted the water flow. To regain flow, FWC and CRWMA need to get control of the water structure that is located on the Barge Canal and redirect water flowing across the WMA. The gentleman wanted to add that this would be a major benefit for the area for recreational and other reasons. Mr. Slater agreed that it would be a major undertaking. The key part is getting the assessment done first to determine the feasibility. Mr. Slater said that hopefully the assessment will cover this and they'll be able to do something about the water flow.

Mickey Thomason, manager of the Cross-Florida Greenway, wanted to add to the last question: They started to meet with design firms to design a fix to the flows of the creek and unfortunately, due to budget cuts, they were not able to continue working on it. He would be interested in continuing to restore the natural flow if the funding becomes available.

An anonymous gentleman asked about the seed sources for their groundcover restoration. He wanted to know if FWC/CRWMA had an agreement with the National Forest Service to collect seeds locally. Mr. Slater informed him that there's quite a bit of debate regarding this because of the pine communities that serve as seed sources. He noted that there is an arbitrary distance used for groundcover restoration and the seed sources need to come from within 100 miles of the groundcover restoration site. Many of the issues surrounding this are still under a bit of debate.

An anonymous woman asks about figure 4 (of the prospectus), regarding the number of wildlife observations shown, she said that it doesn't look like they've done a wildlife survey of the area. Mr. Slater informed her that the amounts she was looking at were based upon Florida Natural Areas Inventory (FNAI) information and that FWC and CRWMA still have a lot of work to do with FNAI to update that information. Mr. Cochran added that they're still in the beginning stages and so are only providing information in the data system but, will update that as the plan is developed.

An anonymous gentleman made the comment that about half the people who were in attendance at the public hearing, worked with the Management Program, instead of individuals from the county. He said that St. Johns River Water Management District (SJRWMD) and (Cross) Florida Greenways come in and take over lands. He believes that the people who use the land to hunt or fish are the ones that really own it. He added that Caravelle Ranch used to have people hunting and running their dogs around and it's all gone now because the coyotes have taken over the area. He said that he wished that FWC were giving them better opportunities to hunt. He feels like the citizens keep getting left out of the plans. Mr. Cochran informed the gentleman that FWC does everything they can to make the public hearings dates accessible to the public so that they can receive any and all public input. He informed the gentleman that they send out press releases; make public hearing announcements on the website as well as on Florida Administrative Register, etc. to advertise for the public hearings. An anonymous woman wanted to add to the gentleman's comment by asking if all the private citizens (not employed by FWC) could raise their hands so they could get a count of how many were in attendance at the meeting. She did not verbally report a number. An anonymous gentleman wanted to add to the discussion by saying that it was disappointing that they're being given an opportunity to add input to what's going on in their area, and they cannot get a decent number of citizens to attend and provide input. He said that there were five people in attendance at the meeting and he wishes more had attended.

Mr. Cochran wanted to let everyone know that their input is appreciated and that it will be passed along to the Hunting and Game Management division because they are responsible for the hunting regulations. Mr. Cochran encouraged the gentleman to fill out a written form regarding his concerns so that the comments get to the right place.

An anonymous gentleman wanted to add that Caravelle Ranch WMA is a hunting site. There are few Putnam county residents that draw the hunting quota. Most hunters come from all over the state. He said that he knows of hundreds of people who have put in for permits but half the people he knows don't even try to apply for permits because they never get any because permits are so limited. This is a problem for him because he still has to pay for the management stamp, but he's not given much of an opportunity to take advantage of it and hunt. He made the comment that if you want to work on invasive species, coyotes have taken over the area, so why not open some quotas for coyotes and allow hunters to hunt them which would provide FWC with more public help, assistance, and money. He said that the coyotes are killing the bobwhite quail. He also believes that there are too many doe on the property and that something needs to be done about that. He made the comment that if you want more of the public to be here, they need an incentive such as more access. He also made the comment that he doesn't want to walk miles to go fishing or hunting. He said that this is the reason that no one is at the meeting.

An anonymous gentleman wanted to comment on the previous comment by telling the gentleman hunters are now allowed to hunt at night for coyotes and wild hogs on private lands, it's a new state law.

An anonymous woman wanted to know if they could devote at least a weekend for just Putnam County hunters (who can prove that they have a Putnam County residence on their driver's license in order to hunt). Mr. Cochran told her that they would pass that idea along to Hunting and Game Management.

An anonymous gentleman wanted to make a comment about public access for hunting. He said that CRWMA offers hunting opportunities but it's hard to get access because it seems like the gates are always locked. Mr. Cochran informed the gentleman that they definitely will discuss those access issues and will pass the hunting concerns to Hunting and Game Management.

**Public Testimony on the CRWMA Draft Management Plan:** Five members of the public audience submitted speaker cards indicating their intention to provide formal public testimony. Mr. Cochran again emphasized that the public hearing was for taking input regarding the CRWMA Draft Management Plan, and called the first speaker to the podium.

**Trevor Byrp:** Departed before providing public testimony.

**Aldon Fox:** Did not wish to provide public testimony because he provided comments earlier in the meeting.

**Robin Lewis:** Wanted to let everyone know that he's applied for wildlife management area hunting permits and has been successful. Mr. Lewis said that he's received 6-7 permits over a 12 year period. He informed the public that his comments are related to his position as Science Director for the Putnam County Environmental Council (three members attended the public hearing and the group has over 500 members). He said that they oversee many different things including: monitoring wildlife management programs, hydrologic restoration programs (specifically Silver Springs restoration), etc. He began by referring to page 9 of the Prospectus which lists basin swamp as a natural community on CRWMA and references the disrupted hydrology that causes dryer than normal conditions due to their proximity to Rodman Reservoir and canal. There's a lot of flooding for these areas (basin swamp) and he believes that flooding is a major problem on the entire CRWMA. On page 10, the natural community dome swamp is mentioned and again it mentions that those areas have highly altered hydrology and appear to be drying out. The next line talks about flood plain swamps and it doesn't mention anything about disruptive hydrology. Mr. Lewis stated that he would like to participate in the development of the proposed hydrology study. He informed the public that the Putnam County Environmental Council has professional hydrologists that work as consultants to the Council. The Council has written two reports, one on hydrology and one on fish management which were submitted to FWC. Mr. Lewis stated that he would appreciate it if the results of those studies are included in the discussions because the flood plain swamp in CRWMA is under great stress, especially the area near Kirkpatrick dam. The Putnam County Environmental Council believes hydrological restoration should be included in the management plan, even though it was not listed in the Prospectus. The Draft Plan refers to a hydrology assessment but Mr. Lewis believes that the issues at CRWMA are much larger than the possible solutions listed in the assessment (e.g. pipes, culverts, etc). Mr. Lewis hopes FWC will consider the research that he submitted. He offered support for the Camp Branch restoration program. He said that there's mention of cooperation with the St. Johns Water Management District and DEP and he's got to say that the Putman County Environmental Council takes a dim view of their historic management and believes that they're not doing the job they need to do to take care of the disrupted hydrology, however they'd be glad to work with them in this particular case. Under management challenges, the Camp Branch issue is challenge with reference to offsite water control sites structures. He believes that one of the other challenges is the flood swamp restoration, and that regarding the swamp, it was mentioned that the swamp is an important natural feature but is largely inaccessible. He suggests building a boardwalk with signs that can be driven down to access the swamp because people don't like to walk through swamps. He also wanted to mention that the fire ants are invasive and are a very large problem. He believes they have an impact on the bobwhite quail population, so he recommends doing something about the control of the fire ants be included in the plan.

**Rob Mattson** (no speaker card for): Moved here in 2005, and wanted to mention that he's enjoyed the dove hunting opportunities he's had here. He mentioned that he's found the day permits to be readily available each fall. He did purchase special opportunity one year for all six hunts. He said that he typically hunts dove field 4, he said they'd planted their seed crops and left some very wide rows (the previous fall) that made it very hard to find the birds. He asks that they make sure to thin those rows out so he doesn't leave any birds on the field.

**Sandra Kokernoot:** Informed the public that she supports everything Mr. Lewis said, he's an internationally recognized wetland biologist and wetland restoration specialist. She made the comment that the CRWMA lands were originally purchased to protect rivers. She believes that the floodplain swamp and the hybrid hammock are the most important for that purpose and are also among the most threatened that they have. She said that their policy-related habitat restoration plans relate totally to uplands and hydrologic policies which are directly related to Camp Branch Creek. Artificial manipulations to the water levels of Ocklawaha River are having a tremendous adverse effect on floodplain. She said that she canoes down those rivers all the time on CRWMA and she can see where the soil is oxidizing and the roots are being exposed. She believes they need a policy to support DEP in restoring the natural hydrology of the river. In regards to camping, she thinks the plan should say that they're going to "expand" primitive camping instead of "continue" primitive camping in locations like "outhouse hammock," she said that primitive camping next to a state road is not adequate. She believes that you need a campsite that supports hiking, bicycling, hunting and a quality experience of nature.

An anonymous woman asked about the population of Rafinesque's big-eared bats that were discovered on CRWMA. Mr. Slater told her that they were discovered on the property in the area's wood shop but he was not sure how long they have been on CRWMA. Once they bat species was identified, staff began doing more research on them. Mr. Slater said that he's not entirely sure where else in the state these bats live. The woman made the comment that a lot of the bats in North America have been afflicted with a fungus and asked if there were any problems with the fungus on CRWMA. Mr. Slater informed her that they do not have any problems associated with it that he's aware of. He said they've seen pups this year and a concrete bat house was constructed on the property the Rafinesque's big-eared bat.

### **Additional Questions and Comments Provided by the public hearing**

**Participants:** At this point in the public hearing, time was again provided for additional comments and questions.

An anonymous woman wanted to know why there is an issue with letting people drive on the established roads (not necessarily in trucks or ATVs). She was interested in being able to drive, park and experience the rest of CRWMA, and on being able to access the area year around 24 hours a day since there are so few hunting lands where that is allowed and that

is why hunting is declining. Mr. Connor, the FWC district biologist, told her that FWC wants to offer a different experience than what someone would get from a state park. FWC wants to make CRWMA a place where people can hike and bike without being disturbed by trucks and ATVs. He informed her that there are roads available during hunting seasons and that they could potentially create more access roads. Mr. Cochran informed everyone that FWC will consider all suggestions and will notify the appropriate contacts within FWC for their consideration. Mr. Cochran also stated that there are many reasons why 24 hour access to areas is not ideal. FWC manages many areas like CRWMA, totaling approximately 1.5 million acres, the majority of which are open for hunting and other recreational public access use. However, over time we have documented that general nighttime access often leads to increased poaching, vandalism and other misuse and destruction of the resources on the area. As to the decline in hunting issue, Mr. Cochran continued by saying that there are many potential reasons why private areas open to hunting in state have declined is because many of the many private hunting lands have been leased to hunt clubs (due to economic reasons). However, Mr. Cochran FWC has expanded public hunting in the past 15 years. Mr. Cochran informed the woman that it takes the dedication of substantial staff and resources to have areas patrolled and staffed 24 hours/day and there are areas where FWC does not have the staff or funding to do so. FWC will keep the expansion of public access in mind, but Mr. Cochran noted that providing access 24 hours/day may be very difficult to achieve given current funding limitations.

An anonymous gentleman wanted to know why they cannot have access during the daytime on the off-seasons, between the hours of 8:00am – 5:00pm. He would like to see what kind of hunting they have on the off-season or fishing opportunities or what kind of food plots are being set out but he doesn't want to park and walk in for 2.5 miles. Mr. Cochran informed the gentleman that they will take this public access issue into consideration and let the appropriate parties know about it.

An anonymous woman had a question about the carrying capacity (listed as 500-600 visitors per day). She wanted to know what the carrying capacity was and if it was supposed to represent a capacity goal. Mr. Cochran informed her that FWC is required, by rules and legislation, to establish a carrying capacity on each area to know how much visitor impact an area can sustain while still maintaining the same experience for visitors and not damaging natural resources on the area and that it is not established as a visitation goal. She wanted to know how many people FWC estimates they have on average, per daily use load. She made the comment that some of lands and jobs may go away, due to the economy, so it is in FWC's best interest attract people to WMAs, especially during the off-hunting season. A representative from FWC, Allie Jones, informed her that they saw an increase in visitation, despite the state of the economy. Visitation to FWC lands increased from 2.8 million (fiscal year 2010-2011) to 2.9 million in 2012. She also noted that increasing carrying capacity too much would cause resources to begin to degrade. An anonymous gentleman added that hunter experience can degrade as well if there are too many people accessing the area during hunting season. But, he also believes

FWC need to attract more people to CRWMA during the off-season and allow better access for hunters that are scouting deer.

An anonymous gentleman added that FWC has done a great job managing the property, especially being short-staffed.

An anonymous gentleman wanted to add to the previous comment by informing everyone that sometimes citizen volunteer groups are very helpful when staff is short. They could be extra eyes to make sure nothing is going on that shouldn't be. He also made the comment that FWC needs to eliminate some of the game species now that they have eliminated a lot of the predators. Mr. Cochran informed the public that he appreciated all of the comments received during the public hearing. He reminded the attendees that all their comments would be taken into consideration during development of the CRWMA Management Plan.

**Adjournment:** Mr. Cochran asked if there were any other members of the public that wished to give public testimony. Receiving no additional requests to give public testimony, Mr. Cochran declared the public hearing adjourned.

### 13.3 Land Management Review

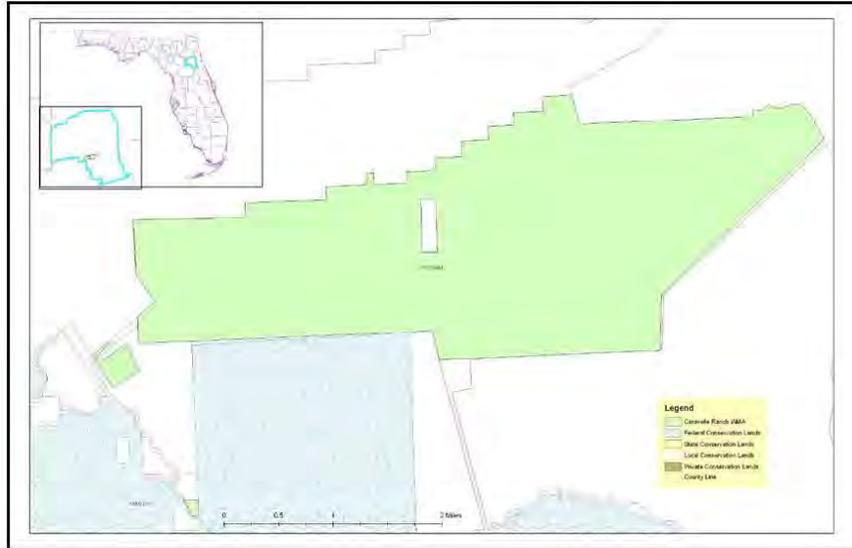
**Name of Site:** Caravelle Ranch WMA

**County:** Putnam County

**Managed by:** Fish and Wildlife Conservation Commission

**Acres:** 10,440 Acres

**Review Date:** 01/25/10



**Review Team Determination**

Managed in accordance with acquisition purpose? Yes =5, No = 0



Management practices, including public access, in compliance with the management plan? Yes =5, No = 0



Categories	Management Plan Review	Field Review
Natural Communities	0.68	4.23
Listed Species	0.25	3.39
Natural Resource Survey	0.72	4.06
Cultural Resources	1.00	3.80
Prescribed Fire	0.80	4.40
Restoration	0.48	3.13
Exotic Species	0.67	3.87
Hydrology	0.70	2.92
Surface Water Monitoring	0.00	3.00
Resource Protection	0.55	3.58
Adjacent Property Concerns	0.73	3.56
Public Access & Education	0.78	3.53
Management Resources	N/A	3.90
Managed Area Uses	1.00	N/A
Buildings, Equipment, Staff & Funding	N/A	4.55

### Consensus Commendations to the Managing Agency

The following commendations resulted from discussion and vote of the review team members.

1. The team commends the FWC for their progress made on the prescribed fire program, especially within the mesic and wet flatwoods communities, which involved the mechanical treatment of heavy fuels. (VOTE: 5+, 0-)



2. The team commends the FWC for their active and expanding disturbed natural community restoration program, i.e., pasture restoration. (VOTE: 5+, 0-)



3. The team commends the FWC for initiating a hydrological assessment that focuses on the Camp Branch restoration. (VOTE: 5+, 0-)



4. The team commends the FWC for their efforts of monitoring nongame species. (VOTE: 5+, 0-)



5. The team commends the FWC for the logistics necessary to create a high quality experience for hunters. (VOTE: 5+, 0-)



6. The team commends the FWC for ensuring their manager receives Archaeological Resource Monitor training in order to identify and protect cultural resources. (VOTE: 5+, 0-)



7. The team commends the FWC for managing efficiently despite inholding challenges. (VOTE: 5+, 0-)



### Consensus Recommendations to the Managing Agency

The following recommendations resulted from a discussion and vote of review team members. The management plan must include responses to the recommendations identified below.

1. The team acknowledges the planned restoration of Camp Branch. The team recommends that efforts continue with regards to hydrological restoration as it relates to the extensive ditching in the Camp Branch watershed. (VOTE: 5+, 0-)



*Managing Agency Response: FWC notes that the land management review team commended FWC for exceeding expectations for initiating a hydrological assessment that focuses on Camp Branch restoration. Upon completion of the planned hydrological assessment, FWC will consult and coordinate with the SJRWMD before implementing any restoration activities. However, restoring natural hydrological function at CRWMA may be affected by budgetary allocations and possible negative impacts on adjacent private landowners.*

2. The team recommends that FWC develop a restoration plan for the cattle lease areas that would establish timeframes and priorities for restoration actions. (VOTE: 5+, 0-)



*Managing Agency Response: FWC notes the land management review team commended FWC in the consensus commendations and checklist findings for their active and expanding disturbed natural community restoration specifically noting pasture restoration. Currently FWC utilizes cattle grazing as a land management tool to help control fuel levels and as an interim management regime prior to*

*development and implementation of restoration. Additionally, FWC has completed a system-wide managed area evaluation of the effects of cattle grazing on native plant communities. The study determined there were no statistically significant measureable impacts on the native ground cover communities where grazing was used as a management tool under FWC grazing criteria calibrated to each specific habitat characteristics where grazing is allowed on FWC managed conservation lands. FWC will continue to evaluate and monitor effects of cattle grazing on native plant communities and make modifications in grazing practices where appropriate.*

3. The team recommends that FWC initiate a monitoring protocol for mapping and monitoring of listed plant species. (VOTE: 5+, 0-)

★★★★★

*Managing Agency Response: FWC has completed updated natural communities mapping and associated natural community descriptions including completion of rare plant and animal species surveys. FWC will explore opportunities to work with native plant experts [e.g., Florida Native Plant Society, universities, Florida Natural Areas Inventory (FNAI)] to conduct botanical surveys to increase the knowledge of native flora on CRWMA as feasible and appropriate and in developing monitoring of any rare or imperiled plant species found to occur on CRWMA. FWC will incorporate this information in the CRWMA management plan update.*

4. The team recommends that FWC initiate the necessary management plan and gain approval to thin their pine stands. (VOTE: 5+, 0-)

★★★★★

*Managing Agency Response: FWC will include an objective in the next management plan to develop a comprehensive Timber Management Plan. In the interim, appropriate thinning operations are being developed and will be implemented as budget allows. Additionally, Objective-based Vegetative Management (OBVM) monitoring protocols have been developed and are being implemented on CRWMA. OBVM desired future conditions, are guiding the restoration and habitat improvement needs on CRWMA. OBVM and information on restoration and habitat improvement needs will be incorporated in the next management plan update.*

5. The team recommends that FWC increase efforts to acquire inholdings. (VOTE: 5+, 0-)

★★★★★

*Managing Agency Response: FWC has developed an optimal planning boundary protocol to analyze natural resource and conservation needs and associated conservation acquisition strategies. This optimal boundary and associated Conservation Action Strategy will be included in the management plan update. Additionally, FWC has recently aggressively pursued acquisition efforts to acquire the inholdings within CRWMA. FWC has expended substantial staff, time, and resources to acquire these inholdings. Unfortunately to date, these land acquisition efforts have been unsuccessful. FWC will continue to evaluate the feasibility of pursuing inholdings and additions to CRWMA.*

6. The team recommends that FWC gain the necessary actions from OGT and regulating agencies to maintain the natural base flow at the barge canal into Camp Branch. (VOTE: 5+, 0-)

★★★★★

*Managing Agency Response: FWC notes that the land management review team commended FWC for exceeding expectations for initiating a hydrological assessment that focuses on Camp Branch restoration and for hydrological/geologic function specifically roads, culverts, ditches, hydro-period alteration, and water level alteration. The Department of Environmental Protection's Office of Greenways and Trails (OGT) maintains operating authority on any water control structures at the barge canal. FWC will continue to cooperate and coordinate with OGT to restore and maintain the base flow as feasible and appropriate for Camp Branch.*

7. The team recommends that FWC increase efforts to identify local sources of seeds and plants for their restoration projects. (VOTE: 5+, 0-)

★★★★★

*Managing Agency Response: FWC notes the land management review team commended FWC in the consensus commendations and checklist findings for exceeding expectations for restoration. FWC has concluded that ongoing ground cover restoration activities seed sources are best obtained from the existing, surrounding management unit. For this reason, outside seed sources are considered a temporary measure in the overall plan for ground cover restoration on CRWMA. FWC's long term goal for harvesting seed for restoration will be to continue to harvest seed from within the management area and on management units in the appropriate growing season restoration and where natural community conditions are appropriate.*

### Checklist Findings

The following items received high scores on the review team checklist, which indicates that management actions exceeded expectations.

- Natural Communities, specifically basin swamp, blackwater stream, depression marsh, dome swamp, floodplain swamp, mesic flatwoods, mesic hammock, and hydric hammock.
- Natural Resources, specifically other non-game species or habitat monitoring, fire effects monitoring, fire effects monitoring, other habitat management effects monitoring, and invasive species survey/monitoring.
- Cultural Resources, specifically cultural resource survey, protection and preservation.
- Resource Management, specifically area being burned, frequency and quality.
- Restoration of Ruderal Areas, specifically pastures.
- Non-Native, Invasive & Problem Species, specifically prevention and control of plants, animals, and pests/pathogens.
- Hydrologic/Geologic Function, specifically roads/culverts, ditches, hydro-period alteration, and water level alteration.
- Resource Protection, specifically boundary survey, gates/fencing, and signage.
- Adjacent Property Concerns, specifically expanding development, issues with inholdings, and inholdings/additions.
- Public Access and Education, specifically roads, parking, wildlife, interpretive facilities and signs, recreational opportunities, and management of visitor impacts.
- Managed Area Uses, specifically hunting, fishing, nature study, hiking, camping, grazing, timber harvest, equestrian use, and bicycling.

The following items received low scores on the review team checklist, which indicates that management actions noted during the Field Review (FR) were not considered sufficient (less than 2.5 score on average), or that the text noted in the Management Plan Review (PR) does not sufficiently address this issue (less than .5 score on average). The management plan must include responses to the checklist items identified below:

#### **1. Discussion in the management plan regarding Natural Communities, specifically Wet Flatwoods, Scrubby Flatwoods, Wet Prairie. (PR)**

*Managing Agency Response:*

*Manager's response: FWC notes that the review team concluded that FWC's management actions for mapping and management of the natural communities at CRWMA exceeded expectations. FWC has completed natural communities mapping and associated natural community descriptions specific to CRWMA. These maps and descriptions are found in the current plan beginning on page 10. Natural community mapping and descriptions were developed by FNAI under contract from FWC, and the community types wet flatwoods, scrubby flatwoods and wet prairie were not found to occur on CRWMA.*

However, FWC will reevaluate the current natural community mapping and associated descriptions and modify them as appropriate for the update of the management plan.

**2. Discussion in the management plan regarding Listed Species, specifically Animal Inventory and Plant Inventory. (PR)**

*Managing Agency Response:* FWC notes that the review team concluded that both management actions and inventory of listed species at CRWMA exceeded expectations. FWC further notes that the current CRWMA management plan describes the known listed wildlife species beginning on page 35. FWC will expand this information in the CRWMA management plan update. Additionally, FWC has completed a rare animal species survey of CRWMA and will incorporate that information into the next management plan update, as well as the Wildlife Conservation Prioritization and Recovery (WCPR) strategy for imperiled and select focal species at CRWMA. FWC will continue to survey and monitor for rare plant and animal species as feasible and appropriate. FWC also will include a plant inventory list in the management plan update.

**3. Discussion in the management plan regarding Natural Resources Survey, specifically Listed Species or Habitat Monitoring. (PR)**

*Managing Agency Response:*

FWC has completed natural communities mapping, surveying, and associated community descriptions. FWC will incorporate this information in the next scheduled management plan update as well as Objective-based Vegetative Management (OBVM) monitoring protocols. Further, FWC will establish a Wildlife Conservation Prioritization and Recovery (WCPR) strategy for management of imperiled and select focal species for CRWMA. FWC will expand each of these plan elements (i.e., surveys, habitat monitoring), and will incorporate OBVM and WCPR results in the plan update for CRWMA.

**4. Discussion in the management plan regarding Restoration of Ruderal Areas, specifically Blackwater Creek Restoration (PR) and Wetlands Restoration (FR, PR)**

*Managing Agency Response:*

FWC notes the land management review team commended FWC in the consensus commendations and checklist findings for exceeding expectations for restoration. Also, FWC notes that pages 48, 52, and 54 of the current plan discuss restoration efforts. FWC has completed a restoration plan for Camp Branch. This restoration plan and other ongoing restoration efforts will be fully discussed in the management plan update.

**5. Discussion in the management plan regarding Resource Protection, specifically Law Enforcement Presence. (PR, FR)**

*Managing Agency Response:* FWC will include a discussion of resource protection and law enforcement activities in the management plan update. FWC management staff will continue to work with law enforcement officers assigned to the region to provide the best possible natural resource protection on CRWMA.

**6. Discussion in the management plan regarding Public Access & Education, specifically Invasive Species and Management Activities. (PR)**

*Managing Agency Response:* FWC notes that the land management review team concluded that management actions regarding public access, education, and recreational opportunities exceeded expectations. FWC will include a more comprehensive discussion of these topics in the management plan update.

**APPENDIX A:**

PLAN REVIEW		1	2	3	4	5	AVERAGE
<b>Natural Communities ( I.A )</b>							
Basin Swamp	I.A.1	1	1	0	1	1	0.80
Blackwater Stream	I.A.3	1	1	0	1	1	0.80
Depression Marsh	I.A.4	1	1	0	1	1	0.80
Dome Swamp	I.A.5	1	1	0	1	1	0.80
Floodplain Swamp	I.A.6	1	1	0	1	1	0.80
Mesic Flatwoods	I.A.7	1	1	0	1	1	0.80
Mesic Hammock	I.A.8	1	1	0	1	1	0.80
Wet Flatwoods	I.A.9	1	0	0	0	1	0.40
Scrubby Flatwoods	I.A.10	1	0	0	0	1	0.40
Wet Prairie	I.A.11	1	0	0	0	1	0.40
Hydrick Hammock	I.A.12	1	0	0	1	1	0.60
<b>Listed species:Protection &amp; Preservation ( I.B )</b>							
Animal Inventory	I.B.1	0	1	0		1	0.50
Gopher Tortoise	I.B.1.a	0	0	0	0	0	0.00
Plant Inventory	I.B.2	0	1	0		0	0.25
Pitcher Plant	I.B.2.a		0	0	0	0	0.00
<b>Natural Resources Survey/Management Resources (I.C)</b>							
Listed species or habitat monitoring	I.C.2	0	1	0	1	0	0.40
Other non-game species or habitat monitoring	I.C.3	1	1	0	1	1	0.80
Fire effects monitoring	I.C.4	1	1	0	1	1	0.80
Other habitat management effects monitoring	I.C.5	1	1	0	1	1	0.80
Invasive species survey / monitoring	I.C.6	1	1	0	1	1	0.80
<b>Cultural Resources (Archeological &amp; Historic sites) (II.A,II.B )</b>							
Cultural Res. Survey	II.A	1	1	1	1	1	1.00
Protection and preservation	II.B	1	1	1	1	1	1.00
<b>Resource Management, Prescribed Fire (III.A)</b>							
Area Being Burned (no. acres)	III.A.1	1	1	0	1	1	0.80
Frequency	III.A.2	1	1	0	1	1	0.80
Quality	III.A.3	1	1	0	1	1	0.80
<b>Restoration of Ruderal Areas (III.B)</b>							
Pastures	III.B.1		0	1	1	1	0.75
Blackwater Creek Restoration	III.B.2	1	0	0	0	0	0.20

Wetlands Restoration (Ditches)	III.B.3		0	0	1	1	0.50
<b>Non-Native, Invasive &amp; Problem Species (III.E)</b>							
<b>Prevention</b>							
prevention - plants	III.E.1.a	1	1	0	1	1	0.80
prevention - animals	III.E.1.b	1	0	0	1	1	0.60
prevention - pests/pathogens	III.E.1.c	1	0	0	1	1	0.60
<b>Control</b>							
control - plants	III.E.2.a	1	1	0	1	1	0.80
control - animals	III.E.2.b	1	0	0	1	1	0.60
control - pest/pathogens	III.E.2.c	1	0	0	1	1	0.60
<b>Hydrologic/Geologic function Hydro-Alteration (III.F.1)</b>							
Roads/culverts	III.F.1.a	1	0	0	1	1	0.60
Ditches	III.F.1.b	1	1	0	1	1	0.80
Hydro-period Alteration	III.F.1.c	1	1	0	1	1	0.80
Water Level Alteration	III.F.1.d	1	0	0	1	1	0.60
<b>Surface Water Monitoring (III.F.3)</b>							
Surface water quantity	III.F.3.b		0	0	0	0	0.00
<b>Resource Protection (III.G)</b>							
Boundary survey	III.G.1	1	1	0	0	1	0.60
Gates & fencing	III.G.2	1	1	0	0	1	0.60
Signage	III.G.3	1	1	0	0	1	0.60
Law enforcement presence	III.G.4	1	0	0	0	1	0.40
<b>Adjacent Property Concerns (III.H)</b>							
<b>Land Use</b>							
Expanding development	III.H.1.a	1	1	0	0	1	0.60
Issues with Inholdings	III.H.1.b	1	1	0	0	1	0.60
Inholdings/additions	III.H.2	1	1	1	1		1.00
<b>Public Access &amp; Education</b>							
<b>Public Access</b>							
Roads	IV.1.a	1	1	1		1	1.00
Parking	IV.1.b	1	1	1		1	1.00
<b>Environmental Education &amp; Outreach</b>							
Wildlife	IV.2.a	1	1	0		1	0.75
Invasive Species	IV.2.b	1	0	0		1	0.50
Habitat Management Activities	IV.2.c	1	0	0		1	0.50
Interpretive facilities and signs	IV.3	1	1	0		1	0.75
Recreational Opportunities	IV.4	1	1	1		1	1.00
Management of Visitor Impacts	IV.5	1	1	0		1	0.75
<b>Managed Area Uses</b>							
<b>Existing Uses</b>							
Hunting	VI.A.1	1	1	1	1	1	1.00
Fishing	VI.A.2	1	1	1	1	1	1.00

Nature Study	VI.A.3	1	1	1	1	1	1.00
Hiking	VI.A.4	1	1	1	1	1	1.00
Camping	VI.A.5	1	1	1	1	1	1.00
Grazing	VI.A.6	1	1	1	1	1	1.00
Timber Harvest	VI.A.7	1	1	1	1	1	1.00
Equestrian Use	VI.A.8	1	1	1	1	1	1.00
Bicycling	VI.A.9	1	1	1	1	1	1.00
<b>FIELD REVIEW</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>AVERAGE</b>
<b>Natural Communities ( I.A )</b>							
Basin Swamp	I.A.1	5	4	4	5	5	4.60
Blackwater Stream	I.A.3	3	4	3	4	4	3.60
Depression Marsh	I.A.4	5	4	4	4	5	4.40
Dome Swamp	I.A.5	5	4	4	4	5	4.40
Floodplain Swamp	I.A.6	5	5	4	5	5	4.80
Mesic Flatwoods	I.A.7	5	4	4	5	5	4.60
Mesic Hammock	I.A.8	5	3	3	5	5	4.20
Wet Flatwoods	I.A.9	4	2	3	4	4	3.40
Scrubby Flatwoods	I.A.10	5	3	4	4	4	4.00
Wet Prairie	I.A.11		4	4	4	5	4.25
Hydrick Hammock	I.A.12	5	4	4	4	4	4.20
<b>Listed species:Protection &amp; Preservation ( I.B )</b>							
Animal Inventory	I.B.1		3	4		4	3.67
Gopher Tortoise	I.B.1.a	X	2	4	4	4	3.50
Plant Inventory	I.B.2	X	3	3		X	3.00
Pitcher Plant	I.B.2.a		2	3	3	X	2.67
<b>Natural Resources Survey/Management Resources (I.C)</b>							
Listed species or habitat monitoring	I.C.2	4	3	4	3	X	3.50
Other non-game species or habitat monitoring	I.C.3	5	4	5	3	4	4.20
Fire effects monitoring	I.C.4	5	5	3	4	5	4.40
Other habitat management effects monitoring	I.C.5	5	4	5	4	4	4.40
Invasive species survey / monitoring	I.C.6	4	4	4	3	4	3.80
<b>Cultural Resources (Archeological &amp; Historic sites) (II.A,II.B )</b>							
Cultural Res. Survey	II.A	5	3	3	3	4	3.60
Protection and preservation	II.B	5	4	4	3	4	4.00
<b>Resource Management, Prescribed Fire (III.A)</b>							
Area Being Burned (no. acres)	III.A1	5	5	5	5	5	5.00
Frequency	III.A.2	4	5	4	4	4	4.20
Quality	III.A.3	5	5	4	3	3	4.00
<b>Restoration of Ruderal Areas (III.B)</b>							
Pastures	III.B.1	3	4	4	4	3	3.60

Blackwater Creek Restoration	III.B.2	3	4	4	4	3	3.60
Wetlands Restoration (Ditches)	III.B.3	2	3	2	2	2	2.20
<b>Non-Native, Invasive &amp; Problem Species (III.E)</b>							
<b>Prevention</b>							
prevention - plants	III.E.1.a	4	3	3	4	4	3.60
prevention - animals	III.E.1.b	5	2	3	4	4	3.60
prevention - pests/pathogens	III.E.1.c	5	2	3	4	4	3.60
<b>Control</b>							
control - plants	III.E.2.a	5	3	5	4	4	4.20
control - animals	III.E.2.b	5	3	5	4	4	4.20
control - pest/pathogens	III.E.2.c	5	3	4	4	4	4.00
<b>Hydrologic/Geologic function Hydro-Alteration (III.E.1)</b>							
Roads/culverts	III.F.1.a	4	3	4		3	3.50
Ditches	III.F.1.b	3	3	2		3	2.75
Hydro-period Alteration	III.F.1.c	2	3	3		3	2.75
Water Level Alteration	III.F.1.d	2	X	3		3	2.67
<b>Surface Water Monitoring (III.E.3)</b>							
Surface water quantity	III.F.3.b		X	3	3	X	3.00
<b>Resource Protection (III.F)</b>							
Boundary survey	III.G.1	X		5	3	4	4.00
Gates & fencing	III.G.2	X	4	5	3	4	4.00
Signage	III.G.3	X	4	5	3	4	4.00
Law enforcement presence	III.G.4	X		3	2	2	2.33
<b>Adjacent Property Concerns (III.G)</b>							
<b>Land Use</b>							
Expanding development	III.H.1.a	5	X	3		3	3.67
Issues with Inholdings	III.H.1.b	5	4	4		3	4.00
Inholdings/additions	III.H.2	5	2	2			3.00
<b>Public Access &amp; Education</b>							
<b>Public Access</b>							
Roads	IV.1.a	5	3	4	3	5	4.00
Parking	IV.1.b	5	3	4	3	5	4.00
<b>Environmental Education &amp; Outreach</b>							
Wildlife	IV.2.a	5	4	3	3	3	3.60
Invasive Species	IV.2.b	5	3	3	3	3	3.40
Habitat Management Activities	IV.2.c	5	3	3	3	3	3.40
Interpretive facilities and signs	IV.3	5	3	3	3	2	3.20
Recreational Opportunities	IV.4	5	3	3	3	2	3.20
Management of Visitor Impacts	IV.5	5	3	3	3	3	3.40
<b>Management Resources</b>							
<b>Maintenance</b>							
Waste disposal	V.1.a	5	4	4	3	4	4.00
Sanitary facilities	V.1.b	5	3	4	3	4	3.80
<b>Infrastructure</b>							
Buildings	V.2.a	5	5	5	3	4	4.40

Equipment	V.2.b	5	5	5		5	5.00
Staff	V.3	5	5	5	3	5	4.60
Funding	V.4	5	5	4	3	4	4.20

## **APPENDIX B:**

### **I.A. Natural Communities**

- Restoration of Camp Branch needed (blackwater stream). Pine in wet flatwoods needs to be thinned.
- Recommend addressing current stand condition in management plan.
- Great strides have been made in reducing fuel loads in mesic and wet flatwoods stands through mechanical mowing or chopping and several rotations of prescribed fire. Most burning is still taking place in the winter, although excellent efforts over last three to four years in introducing growing season fire. Little impact was observed to the natural communities from invasive exotic plants or hogs for that matter were observed during the field tour. There is some significant 15% acreage discrepancy between what FNAI has surveyed (+800 acres) and what FWC believes to be included in their trustee lease. This may be associated with the large hydric hammock near the St. Johns River. Despite all of this however, since the last LMR this site FNAI community mapping is much improved and any discrepancies (planted pine or natural) should continue to be resolved. The management plan needs to provide current information on each natural community, not just generic stuff. What's in the plan now is inadequate. More information is desired. The scrubby flatwoods looked great; however more of a pine component would be desired. Several areas of mesic and wet flatwoods have pine densities much too heavy and thinning is needed.
- Recommend a hydrological study of the park for wet/mesic flatwoods. Look at canal outfall and ditch restoration. Put current conditions of each community in the updated management plan.
- Management plan natural community descriptions are generic, they need to be more specific/detailed. FNAI lists/maps do not show BW creek as community on map, needs to be added.

### **I.B. Listed Species**

- More survey and documentation is needed on pitcher plant population. Excellent monitoring for herps, Bachmann sparrow and gopher tortoise. Management plan needs to provide greater detail on listed plants and monitoring efforts.
- More surveying. Good job on recent efforts.
- Maybe contact FNAI to do more specific/detailed inventory surveys.

### **I.C. Natural Resources Survey/Management Resources**

- Additional surveys needed for listed plant species (gaberia, lintera, sarracenia). Need to monitor whether management activities are decreasing bahia grass cover in ruderal areas.
- Good monitoring on animals and birds. More is needed on listed plants. Excellent effort to monitor long term assessments using photo plots and OBVM.
- OBVM- management method for monitoring vegetation communities. Invasive management nothing formal, everyone out in area keeps an eye out for exotics.

### **II.A.B. Cultural Resources**

- Recommend exploring other areas on deed that may contain archeological sites (i.e. banks of river) as mentioned in management plan.
- The manager is a trained archeological site monitor. One of the three existing sites has been cleaned up nicely to remove garbage and debris remaining from past camping groups.
- Many want to expand interpretive materials and education to the cultural sites.
- Area manager has undergone cultural resource protection training. I commend them on that.

### **III.A. Prescribed Fire**

- Give greater priority to growing season burns.
- Nearly 5,000 acres are estimated to be burnable and acreages burned each year approach 2,000 acres. The extensive burning throughout the property on the west side of highway 19 is greatly improved since the last LMR, with most of the property having now received two burns. Good effort at pushing fire into the domes and depression marshes.
- Add specific goals for fire in the updated burn plan and/or the natural community descriptions.
- Need to do more growing season burns now that most of the area is in maintenance condition. Area managers should be commended on efforts and accomplishments to bring prescribed burning up to maintenance conditions.

### **III.B. Restoration**

- Pay additional consideration to placement of wiregrass seedling areas so that they connect or expand existing strands of native vegetation. Future seed collection sites for restoration should be on-site or within 100 miles. More programs needed on filling/removing ditches.
- Pine plantation areas have mostly been burned to achieve fuel reduction and restore native ground cover. All plantations however are overdue for thinning to reduce densities to improve health of stands and get light on the ground to stimulate grasses. In addition to move to all aged stands some focus needs to start looking at methods to establish recruitment of pine seedlings as the pine matures. Bureaucratic delays have deferred development of a silvicultural plan and timber harvesting. Some initial effort to restore small sections of pasture with herbicide and seeding of native wiregrass.
- Work on restoring ditches. Investigate working with SJRWMD on obtaining mitigation funding.
- Need to add details of restoration plans to management plans. OBVM- pastures restoration efforts. Commend them on grass seed restoration efforts- pastures. Need to make sure the management plan only includes reference to the acreage that FWC is managing (land management), not the whole WMA which includes lands that the SJRWMD OGT are managing.

### **III.E. Non-native, Invasive & Problem Species**

- Need to avoid spread of torpedo grass when maintaining fire roads.
- Cattle lease needs to do better job of quarantining animals prior to grazing as TSA has showed up in leased area. Staff has good handle on exotics, little hog damage was observed.
- Do equipment checks on equipment on site and those that come onsite for exotic plant species. Torpedo grass needs to be controlled and eradicated. Set control boundaries to limit spread. Don't disc arena with torpedo grass unless treated to prevent spreading.
- Cattle lease requires quarantine period before cows come to property. Map known locations. Area staff regularly treats small amounts of exotics on area to prevent spread. No major issues with exotics in this area.

### **III.F. Hydrologic/Geologic Function**

- Need to evaluate and minimize impacts of cattle grazing on water quality.
- Efforts are still needed to address adequate flows from Camp Branch Creek water control structure at the OGT barge canal.
- Need to work with OGT to determine if the control structure for camp branch creeks can be improved or modified.
- The long term restoration plan (hydrology) that FWC is working on is with SJRWMD should be integrated and detailed in current area management plan. SJRWMD does ground water management nearby. As part of the restoration (hydrology) maybe add some kind of water monitoring plan.

### **III.H. Adjacent Property Concerns**

- Commend staff for managing natural communities despite number of inholding issues.
- Inholdings have created a real impediment to management and burning. Tallahassee has supported most of the landowner's demands, which hasn't helped the managers. One inholding has been acquired west of SR19. Staff is doing an excellent job flexing management to the challenge of burning and managing the property around areas of private inholdings to diminish impacts on these properties.
- Local staff commended for managing efficiently despite the challenges of working around inholdings. Concerns that tally are giving to much/impediment to local staff. More efforts needed to acquire inholdings.

### **IV. Public Access and Education**

- The majority of public visitation is associated with hunting and dove shoots.
- Not a lot of demand for non-hunting access/recreation.

### **V.I. Managed Area Uses**

- Grazing use acceptable only as an interim management measure and should be secondary to restoration measures.
- The current grazing contract acreage is largely occurring on improved pasture. Some areas of the existing lease are now desired by the manager to continue restoration of the bahia fields. The lease appears to be a bit of an impediment to initiating these properties.

## 13.4 Soil Series Descriptions

## Map Unit Description

Ocala National Forest Area, Florida

[Minor map unit components are excluded from this report]

Map unit: Tc - Terra Ceia muck

Component: Terra Ceia (90%)

*The Terra Ceia component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on flood plains on marine terraces on coastal plains. The parent material consists of 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 78 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: Wa - Water

Component: Water (100%)

*Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.*

## Map Unit Description

Putnam County Area, Florida

[Minor map unit components are excluded from this report]

Map unit: 3 - Myakka fine sand

Component: Myakka, non-hydric (75%)

*The Myakka, non-hydric component makes up 75 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 moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 8 inches during June, July, August, September. Organic matter content in the surface horizon is about 4 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Component: Myakka, hydric (15%)

*The Myakka, hydric component makes up 15 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 moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 2 inches during June, July, August, September. Organic matter content in the surface horizon is about 4 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 8 - Arents, 0 to 2 percent slopes

Component: Arents (100%)

*The Arents component makes up 100 percent of the map unit. Slopes are 0 to 2 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 very high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 1 percent. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 9 - Pomona fine sand

Component: Pomona, non-hydric (75%)

*The Pomona, non-hydric component makes up 75 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 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 4 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Component: Pomona, hydric (10%)

*The Pomona, hydric component makes up 10 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during June, July, August. Organic matter content in the surface horizon is about 4 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Component: Pomona, depressional (5%)

## Map Unit Description

Putnam County Area, Florida

Map unit: 9 - Pomona fine sand

Component: Pomona, depressional (5%)

*The Pomona, depressional component makes up 5 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 February, June, July, August, September, October, November. Organic matter content in the surface horizon is about 4 percent. This component is in the R154XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 11 - Udorthents, excavated

Component: Udorthents, excavated (100%)

*The Udorthents, excavated component makes up 100 percent of the map unit. Slopes are 0 to 4 percent. This component is on fills 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 moderately well drained. 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. There is no zone of water saturation within a depth of 72 inches.*

Map unit: 12 - Electra fine sand

Component: Electra (85%)

*The Electra component makes up 85 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 and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately 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 33 inches during July, August, September, October. Organic matter content in the surface horizon is about 2 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 19 - Pomona fine sand, depressional

Component: Pomona, depressional (80%)

*The Pomona, depressional component makes up 80 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 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 February, June, July, August, September, October, November. Organic matter content in the surface horizon is about 4 percent. This component is in the R154XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 20 - Bluff sandy clay loam, frequently flooded

Component: Bluff (75%)

*The Bluff component makes up 75 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains, flood plains on marine terraces on coastal plains. The parent material consists of loamy and clayey marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is 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 frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, July, August, September, October, November, December. Organic matter content in the surface horizon is about 8 percent. This component is in the R154XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

## Map Unit Description

Putnam County Area, Florida

Map unit: 22 - Tomoka muck

Component: Tomoka (80%)

*The Tomoka component makes up 80 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 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 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, June, July, August, September, October. Organic matter content in the surface horizon is about 60 percent. This component is in the R154XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 23 - Palmetto fine sand

Component: Palmetto, non-hydric (75%)

*The Palmetto, non-hydric component makes up 75 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 10 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 2 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Component: Palmetto, hydric (10%)

*The Palmetto, hydric component makes up 10 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 2 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 2 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 24 - Holopaw fine sand, frequently flooded

Component: Holopaw (80%)

*The Holopaw component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains, flood plains on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is 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 frequently flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 26 - Terra Ceia muck, frequently flooded

Component: Terra Ceia (90%)

*The Terra Ceia component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains 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 frequently flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 80 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

## Map Unit Description

Putnam County Area, Florida

Map unit: 27 - Samsula muck

Component: Samsula (80%)

*The Samsula component makes up 80 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 February, March, June, July, August, September, October, November. Organic matter content in the surface horizon is about 60 percent. This component is in the R154XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 28 - Centenary fine sand

Component: Centenary (80%)

*The Centenary component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on knolls on marine terraces on coastal plains, ridges on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is 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 51 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. This component is in the R154XY008FL Upland Hardwood Hammocks ecological site. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 29 - Riviera fine sand, frequently flooded

Component: Riviera (80%)

*The Riviera component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains, flood plains on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is 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 frequently flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 31 - Myakka fine sand, depressional

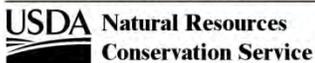
Component: Myakka, depressional (90%)

*The Myakka, 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 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 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 February, June, July, August, September, October. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 33 - Winder fine sand

Component: Winder (80%)

*The Winder component makes up 80 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 6 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 2 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability*



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## Map Unit Description

Putnam County Area, Florida

Map unit: 33 - Winder fine sand

Component: Winder (80%)

*classification is 3w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 34 - Riviera fine sand

Component: Riviera, non-hydric (65%)

*The Riviera, non-hydric component makes up 65 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 low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 9 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Component: Riviera, hydric (15%)

*The Riviera, hydric component makes up 15 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 2 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 35 - Malabar fine sand

Component: Malabar, hydric (45%)

*The Malabar, hydric component makes up 45 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 2 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 2 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Component: Malabar, non-hydric (30%)

*The Malabar, non-hydric component makes up 30 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 low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 10 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 2 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Component: Malabar, depressional (15%)

*The Malabar, depressional component makes up 15 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 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 occasionally ponded. A seasonal zone of water saturation is at 2 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 2 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

## Map Unit Description

Putnam County Area, Florida

Map unit: 36 - Shenks muck, frequently flooded

Component: Shenks (85%)

*The Shenks component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of herbaceous organic material over 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 low. Available water to a depth of 60 inches is very high. Shrink-swell potential is high. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 40 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 37 - Ona fine sand

Component: Ona, non-hydric (80%)

*The Ona, non-hydric component makes up 80 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 10 inches during July, August, September. Organic matter content in the surface horizon is about 3 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Component: Ona, hydric (10%)

*The Ona, hydric component makes up 10 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 2 inches during June, July, August, September. Organic matter content in the surface horizon is about 3 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 38 - Holopaw fine sand

Component: Holopaw, non-hydric (65%)

*The Holopaw, non-hydric component makes up 65 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 10 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 1 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Component: Holopaw, hydric (15%)

*The Holopaw, hydric component makes up 15 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 2 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. This component is in the R154XY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

## Map Unit Description

Putnam County Area, Florida

Map unit: 39 - Holopaw fine sand, depressional

Component: Holopaw, depressional (85%)

*The Holopaw, 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 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 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 February, March, June, July, August, September, October. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 51 - Surrency fine sand, depressional

Component: Surrency, depressional (80%)

*The Surrency, depressional component makes up 80 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 low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 2 inches during January, February, March, April, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 61 - Newnan fine sand

Component: Newnan (75%)

*The Newnan component makes up 75 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains, rises on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately 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 24 inches during August, September. Organic matter content in the surface horizon is about 2 percent. This component is in the R154XY008FL Upland Hardwood Hammocks ecological site. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 62 - Montechoa sand, depressional

Component: Montechoa, depressional (80%)

*The Montechoa, depressional component makes up 80 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 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 February, March, April, May, June, July, August, September, October. Organic matter content in the surface horizon is about 8 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 99 - Water

Component: Water (100%)

*Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.*

## Map Unit Description

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

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

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

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

## 13.5 Timber Assessment

# CARAVELLE RANCH WILDLIFE MANAGEMENT AREA

## Timber Management Assessment

Prepared by:  
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### **I. General Information**

The Caravelle Ranch Wildlife Management Area (CRWMA) is located approximately 10 miles south of Palatka, Florida in Putnam and Marion Counties and consists of 13,383 acres. CRWMA is bounded to the south and west by the Ocklawaha River and to the East by the St. Johns River. This Wildlife Management Area (WMA) is divided into three sections of title ownership. The St. Johns River Water Management District (SJRWMD) purchased the southern 6,503 acres with Save Our Rivers funds and established it as a Type I WMA in 1992. The Florida Fish and Wildlife Conservation Commission (FWC) was designated lead agency on 5,113 acres bordering the northern boundary of SJRWMD's portion. This acreage was purchased by the CARL program under the "Other Lands" category and designated as a type I WMA in 1994. The remaining 1,767 acres on the north border of the CARL portion is leased to the Department of Environmental Protection's (DEP) Office of Greenways and Trails (OGT) and was subleased to the FWC and designated as a Type I WMA in 1995 (CMP 1997). This Timber Assessment will cover only the 5,113 CARL acres on which FWC is the lead management agency. Unless otherwise noted, any future reference to the CRWMA in this document will refer specifically to the FWC's CARL portion of this WMA. This document is not intended to be used as a timber management plan, but instead, serves as a general assessment of the current and potential future timber resources available on CRWMA.

### **II. Natural History**

Prior to purchase by the State of Florida, this property has been managed for a variety of uses including silviculture, cattle grazing and hunting. To improve grazing potential, trees were removed from the area east of SR 19 in the late 1960's and early 1970's to create pastures. This area was also heavily ditched to drain water from the pastures to improve forage production for livestock. Several dove fields have also been successfully established within this area.

Cattle grazed the portion of CRWMA west of SR 19 and south of Rodman Road up until the late 1960's. Most of the area was harvested for timber between 1977 and 1987 in which the smaller unmerchantable timber (slash and loblolly pine) was left. The western portion of this area was managed primarily by a hunt club that leased the property. They developed a network of roads and wildlife openings. In December of 1992 approximately 843 acres in this area burned in a wildfire.

### **III. Current Ecological Conditions and Timber Resources**

The following description of the timber resource on the CRWMA 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, an 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 slash and loblolly pines as well as the pastures having potential for timber management. The only known pine plantations on the area were planted with longleaf pine in the spring of 1999 on approximately 110 acres of pastureland.

#### **West of State Road 19**

The portion of CRWMA west of State Road 19 is approximately 1,986 acres and has had much less human disturbance than the portion east of State Road 19. This area is forested mostly with slash and loblolly pine but is also interspersed with small stands of cypress and bay. The area is generally wet indicating that slash and loblolly pine are the preferred pine species for the sites not occupied with cypress and/or bay. Natural regeneration has been prolific in this area providing well-stocked stands.

The 843 acres that burned in a wildfire in 1992 are generally well stocked with natural slash and loblolly pine regeneration ranging from 4 to 10 feet in height. There are occasional pockets of larger, remnant trees that survived the wildfire. The understory is very dense and composed mostly of gallberry and muscadine grape with a few scattered pockets of saw palmetto. Most of this regeneration is just as tall or slightly taller than the surrounding brush. Currently this regeneration is highly susceptible to fire but should begin overtaking and shading out the understory within the next few years. Once the trees are large enough, prescribed fire can safely be introduced into the system.

The 1,143 acres that did not burn in the 1992 wildfire are stocked with both loblolly and slash pine. These stands are composed of the residual trees left from the logging that took place during the late 1970's and 1980's. These stands are uneven-aged and are extremely variable with small pockets of saplings as well as pockets of densely stocked pulpwood sized timber. Overall, the average basal area is 60 sq. ft/acre with an average DBH ranging from 4 to 7 inches. Understory species are the same as described in the burned area above. Prescribed fire has been successfully introduced into much of this area.

#### **East of State Road 19**

The portion of CRWMA east of State Road 19 is approximately 3,127 acres of which 1,900 acres have been converted to Bahia grass pasture and 203 acres have been converted into dove fields. Approximately 657 acres remains in natural pinelands. The remaining acreage encompasses the bottomland forest type along Camp Branch Creek and the various building and shop sites located on the area.

The converted pastureland occupies the greatest percentage of this area and continues to be grazed through cattle leases. Much of this Bahia grass pastureland has heavy wax myrtle encroachment. Slash and loblolly pine are also slowly becoming established in pockets and along the borders of some of the pastures. Longleaf pine was planted on 110 acres within the pastures. Where cattle grazing occurred, survival was poor (10%) although survival was good (60%) in areas that cattle did not graze. Scalping was the site prep method used to reduce competition for the seedlings. The cattle then used the rows as paths and trampled the seedlings. The dove fields are planted in Japanese and brown top millet and are being maintained in this condition.

The 657 acres remaining as natural pinelands are variable in nature and are scattered throughout the area. Presently, there is a logging contract in place to selectively thin approximately 124 acres of this type for restoration purposes. The prescription is to reduce the basal area to an average of 40 sq.ft. /acre to encourage herbaceous growth for wildlife. The remaining acreage is stocked with younger stands of timber that will continue to increase in density.

#### **IV. Current Management Goals and Objectives**

The following are Goals and Objectives as outlined in the 1997 Conceptual Management Plan (CMP) for the Caravelle Ranch WMA relating directly to timber management. Other objectives found in the CMP relate specifically to hunting and recreational opportunities and are not listed here.

Goal 1 - Manage and restore pastures to provide high quality wildlife habitat.

Objective 1 - Plant longleaf pine within the pastures at moderate stocking densities to increase available mast and provide corridors for wildlife.

Goal 2 - Manage flatwoods communities for multiple uses to yield forest products, maximize floral and faunal diversity, and provide recreational opportunities.

Objective 1 - Supplement the natural regeneration of pines with a partial reforestation of the pastures designed to mimic the surrounding flatwoods ecosystem.

Objective 3 - Harvest trees on a sustained-yield basis utilizing both even-aged and uneven-aged forest management, with the objective of optimizing wildlife diversity and protecting listed species.

#### **V. Timber Management Options**

Approximately 2,642 acres or 52 percent of Caravelle Ranch WMA is currently in a natural pine forest condition. It is possible to manage these stands in such a manner as to retain their 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 approximately 100 acres east of SR 19 exhibiting stocking and density levels high enough (BA of 80-120) to make it feasible to conduct a timber harvest. West of SR 19 there is approximately 32 acres that could be harvested at this time. The remainder of the mesic flatwoods are not yet ready to harvest but will begin to need thinning in about 5 years. As far as timber management is concerned, the managers of Caravelle Ranch WMA have several options:

## **Mesic Flatwoods**

1) Do Nothing. Areas with higher densities of timber will continue to grow but at a much slower rate and become more susceptible to insect, disease and wildfire. Wildlife potential for some species will decrease, as ground vegetation will continue to be shaded out. The less dense stands will continue to grow and increase in basal area and in time will become overstocked increasing potential for insect, disease and wildfire.

2) 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 (Approximately 132 acres can be thinned within the next 1-3 years). 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.

3) 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 forage production for wildlife. This can be accomplished in a variety of ways and 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 the stands 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. It is not recommended that any species be planted off-site.

## **Pasture**

1) Do nothing - Natural regeneration will slowly continue to invade the pastures and it will take many years before the whole area becomes adequately stocked.

2) Restoration Emphasis - Develop a reforestation plan to regenerate the area over a period of time. Presently there are approximately 1,900 acres of Bahia grass pasture that can feasibly be regenerated with pine trees. This plan will need to address the following issues:

A) *Cattle Grazing* – The pastures are currently being grazed. Depending on the site prep method, cattle grazing can be detrimental to seedling survival rates. Seedling mortality occurs mostly through trampling of and not grazing of

the seedlings. Once the seedlings are tall enough, they are usually not bothered by cattle. To successfully regenerate the pastures, a way must be found to mitigate the damage caused by the cattle. Suggestions are to exclude cattle for several years from an area after planting or attempt alternate site prep methods (e.g. sodding or chemicals rather than scalping).

*B) Species to Plant* – Since the pastureland has been drained and was established about 30 years ago, it is not known what species are natural or will do the best on these sites. Since these pastures had to be drained, it can be assumed that slash, loblolly, or a combination of the two, historically occupied these areas. Now that the pastures have been drained, longleaf pine may also do well on these sites. It may be wise to try planting all three species on an initial trial basis to see which does best. Another thing to consider is that longleaf remains in the grass stage for several years and, if planted, cattle may have to be excluded for a longer time period.

*C) Wax myrtle Control* – Areas with an abundance of wax myrtle will need additional site prep treatment(s). Options are to rollerchop, burn, disk, rake or a combination of these four. Another option is to sell some of this material as “crooked wood”. There is a market in the area and this option may help offset some of the initial site prep expense.

## **VI. Access**

Caravelle 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. Revenue from future timber sales could be used to help pay for future road improvements.

## **VII. Prescribed Fire**

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 dependent 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 Caravelle Ranch WMA have been actively prescribed 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 Caravelle Ranch WMA, this document will briefly discuss prescribed fire only as it relates to timber management.

Some of the flatwoods stands west of SR 19 exhibit unnaturally heavy fuel buildups due to lack of fire. Currently, the fuels are such that it would be risky to attempt burning without first implementing some kind of mechanical or chemical treatment. One option would be to thin the area first and then conduct a series of cool backing fires at frequent intervals (every 1-2 years) until it becomes safe to conduct more aggressive growing season burns. Another option may be to control the underbrush through the use of herbicides. This will reduce the competition for

water and nutrients and allow the trees to more quickly grow above the understory. Again, a series of cool backing fires should be implemented until eventually the fuel loads become more natural.

A major objective when prescribed burning in timber is minimal mortality of the trees. Slash and loblolly pine are much more intolerant to fire than longleaf pine, especially during the seedling and sapling stages. Therefore, burning intervals may need to be adjusted after regeneration of these species until the trees are big enough to withstand 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.

## **VIII. Economics**

It is difficult to predict with any certainty the amount of revenue that can be derived through timber harvests on the Caravelle 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. Although economics are hard to predict, they must be analyzed before 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. Caravelle Ranch WMA is located in southern Putnam County and is close to major wood processing facilities in Palatka, Florida. A recent timber sale occurring on the Caravelle Ranch WMA brought a lump sum price of \$31,900.58 on 124 acres which averages \$257.26 per acre. This sale was a thinning for wildlife purposes and the breakdown of products was 55% pulpwood, 32% chip-n-saw and 13% sawtimber. These numbers have been included only to show there is a valid monetary interest in timber in this part of the state.

Before conducting any future timber harvests, it may be a good idea to consult with the managers in charge of the SJRWMD and OGT portions of Caravelle Ranch to explore the possibility of combining timber sales if they plan to sell timber at about the same time. This may provide for a more desirable timber package, which will increase the bids.

## **IX. Summary**

Caravelle Ranch WMA has approximately 2,643 acres of pine flatwoods, of which, roughly 132 acres may be commercially thinned within the next few years. The remaining acreage will continue increasing in density and in approximately five years, should be dense enough to begin supporting commercial timber thinnings on a sustained basis. If thinned, silvicultural prescriptions should follow the general guidelines outlined under Ecosystem Management (Wildlife) Emphasis.

Prescribed burns will be risky in the flatwoods areas that have not been burned in several years. It may be prudent to attempt a chemical or mechanical treatment of the understory prior to introducing fire into some of the areas. It will then take a series of cool backing fires set frequently to eventually bring the fuel loads to a more natural level.

An additional 1,900 acres of pastureland has the potential to produce timber if it is reforested. A comprehensive reforestation plan will be necessary if it is decided to regenerate the area with pine trees. If reforestation occurs, decisions must be made concerning the cattle, wax myrtle and species mix.

## **13.6 Wildlife Conservation Prioritization and Recovery Strategy**

# Caravelle Ranch Wildlife Management Area Species Management Strategy

May 2011

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



## EXECUTIVE SUMMARY

The Florida Fish & Wildlife Conservation Commission's (FWC) Terrestrial Habitat Conservation and Restoration section (THCR) takes a proactive, science-based approach to species management on lands in the Wildlife Management Area (WMA/WEA) system. This approach uses information from statewide models in conjunction with input from species experts and people with knowledge of the area to create site-specific wildlife assessments of a number of focal species. Staff combine these assessments with management considerations to develop a wildlife management strategy for the area. FWC intends for this strategy to: 1) provide land managers with information on actions that should be taken, provided 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 approach to evaluating focal species needs within an ecosystem management approach for the Caravelle Ranch Wildlife Management Area (CRWMA). Natural community management focused on a set of focal species provides benefits to a host of species reliant upon the same natural communities. Monitoring select species provides information that verifies whether natural community management is having the desired effect on wildlife. Throughout the process, the role of the area in regional and statewide conservation initiatives was considered to maximize the potential benefit.

[Section 1](#) informs the reader about the process used to generate this document. [Section 2](#) describes historic and ongoing management actions on the property. [Section 3](#) provides a list of the focal and listed species on the area, and an assessment of each species' level of opportunity/need. This includes species-specific goals and objectives when appropriate. Objectives are identified for 6 species on this area; gopher frog, striped newt, gopher tortoise, Bachman's sparrow, brown-headed nuthatch, and northern bobwhite. [Section 4](#) describes specific land management actions recommended for focal species. This includes Strategic Management Areas (SMA) and Objective-Based Vegetation Management (OBVM) considerations. A SMA is an area in which FWC will apply a specific land or species management action(s) to facilitate conservation of a single or group of species. This section also discusses management necessary to ensure continued persistence of focal species. [Section 5](#) describes species-specific management (e.g. restocking, nest structures, etc.), the species monitoring prescribed for the area, and research that would be necessary to guide future management efforts. Species-specific management actions are recommended for the southeastern American kestrel and for bats. Monitoring efforts are described for 7 species; gopher frog, striped newt, gopher tortoise, Bachman's sparrow, brown-headed nuthatch, northern bobwhite, and Southeastern American kestrel. Opportunistic monitoring is suggested for a number of other focal and imperiled species. The conservation of CRWMA's wildlife requires interaction with other entities beyond local staff. Intra-agency coordination with 7 other units in FWC and inter-agency coordination with 6 other entities are identified in [Section 6](#). [Section 7](#) describes efforts prescribed "beyond the area's boundaries" to help affect conservation of the species on the area.

Continuation of current resource levels would be required to continue to meet all objectives and provide for most of the land management recommended in this document. The FWC will use a combination of private sector contract work and efforts of area staff to accomplish these activities. Some of the monitoring recommendations will require additional resources, while FWC can accomplish others with continuation of existing resources.

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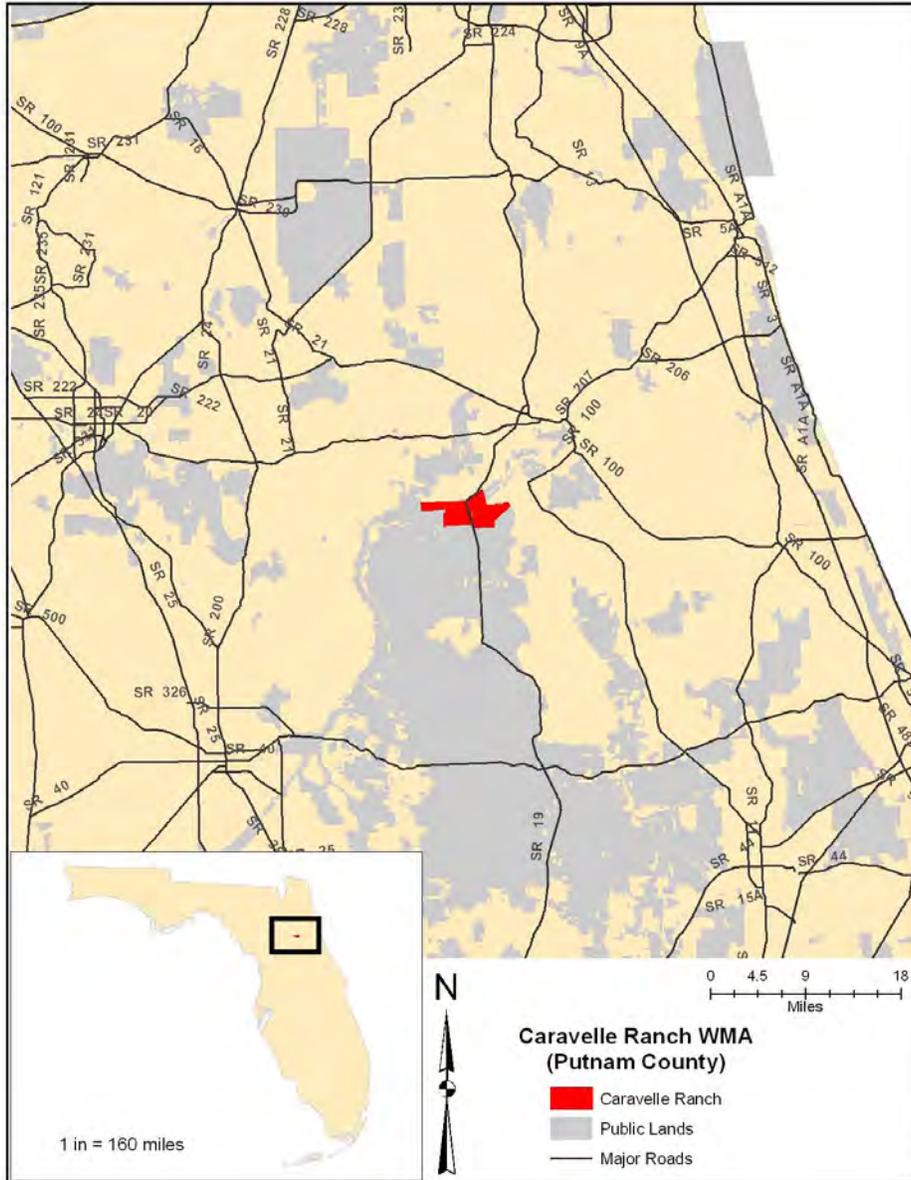
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## Acronym List

ARCI	Avian Research and Conservation Institute
BMP	Best Management Practice
CARL	Conservation and Recreation Lands (program)
CRWMA	Caravelle Ranch Wildlife Management Area
DEP	Florida Department of Environmental Protection
DFC(s)	Desired Future Condition(s)
DOF	Florida Division of Forestry
FNAI	Florida Natural Areas Inventory
FWC	Florida Fish and Wildlife Conservation Commission
FWLI	Florida Wildlife Legacy Initiative
FWRI	Florida Wildlife Research Institute
HCSS	Habitat Conservation Scientific Services (section)
HGM	Hunting and Game Management (section)
IPM	Invasive Plant Management (section)
ISM	Imperiled Species Management (section)
IUA	Important Use Areas
MU	Management Unit
OBVM	Objective Based Vegetation Management
OGT	Office of Greenways and Trails
PLCP	Public Lands Conservation Planning (project)
PVA	Population Viability Assessment
SCP	Species Conservation Planning (section)
SHCA	Strategic Habitat Conservation Area
SJRWMD	Saint Johns River Water Management District
SMA	Strategic Management Area
THCR	Terrestrial Habitat Conservation and Restoration (section)
UERP	Upland Ecosystem Restoration Project
USFWS	United States Fish and Wildlife Service
WCPR	Wildlife Conservation Prioritization and Recovery
WEA	Wildlife and Environmental Area
WMA	Wildlife Management Area

### 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 to help FWC determine where to affect focal species conservation. Staff combines the landscape level assessments with input from species experts and people with knowledge of the area to create site-specific wildlife assessments for a number of focal species. Staff combines these assessments with management considerations to develop a wildlife management strategy for the area or WMA complex.

The FWC intends for this Strategy to: 1) provide land managers with information on actions 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. On FWC lead areas, goals and objectives included in the Management Plan (formerly known as Conceptual Management Plan) are referenced when discussing the species and drafting the Strategy; therefore this Strategy will help guide and support the goals of the Management Plan. The species-specific objectives identified in this Strategy will be incorporated into the Management Plan and this Strategy will be appended to the Management Plan.

In this document, we define goals, objectives and strategies as follows: Goals are broad statements of a condition or accomplishment to be achieved; goals may be unattainable, but provide direction and inspiration. Objectives are a measurable, time-specific statement of results responding to pre-established goals. Strategies are the actions that will be taken to accomplish a goal or objective.

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

The primary focus of this approach is non-game species; however, 2 of the focal species are game birds. Specific game management actions are not included in this Strategy, though game management actions are considered when drafting the Strategy and are compatible with the actions prescribed by this Strategy. While this Strategy focuses on the CRWMA, it considers the role of the area within the larger state or regional context. Similarly, while the Strategy has species-specific objectives and actions, it does not endorse single-species management. The FWC's land management focuses on natural community

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

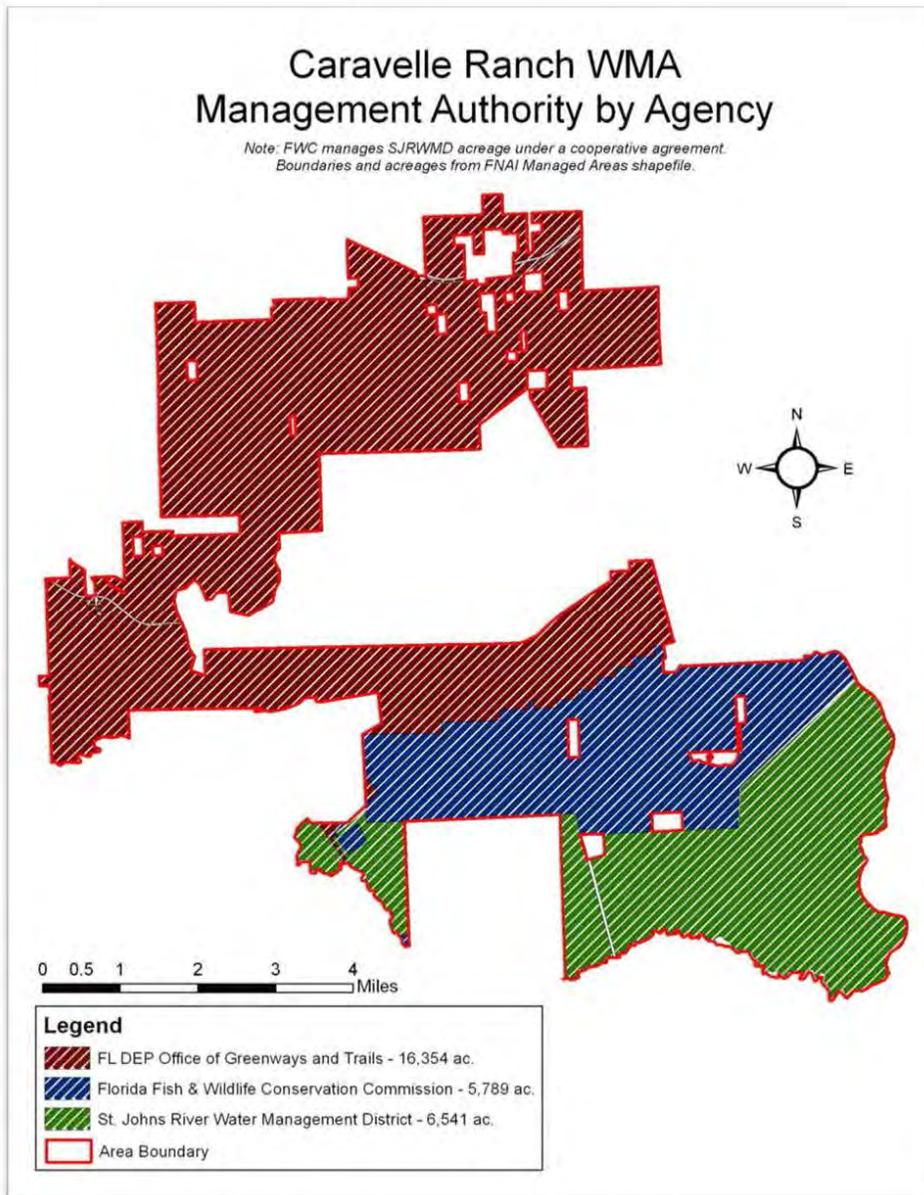
## **Section 2: Current and Historic Management on Caravelle Ranch Wildlife Management Area**

The CRWMA consists of 3 portions (Figure 1), each with a different state agency receiving a lease to manage their portion of the property. The State purchased the 5,170-acre portion on which FWC has lead management authority in 1994 through the Conservation and Recreation Lands (CARL) program. Additions have increased the acres on which FWC is lead to 5,789. The Saint Johns River Water Management District (SJRWMD) purchased the southern 6,541 acres of CRWMA using Save Our Rivers funds in 1992. The State purchased the 11,486 acres north of the FWC managed portion in 1995 and leased the management of these acres to the Department of Environmental Protection's (DEP) Office of Greenways and Trails (OGT). A sublease assigned the FWC as a cooperater and allowed this portion to be part of the CRWMA. Later additions to the DEP portion of CRWMA have brought the total DEP lead acres to 16,354.

Through a cooperative agreement, FWC manages much of the actively managed natural communities under SJRWMD management authority on CRWMA. This document reflects this agreement and focal species assessments on the FWC managed portion of CRWMA (hereafter called FWC lead) will refer to areas under lease to FWC and SJRWMD (12,330 acres). To date, FWC runs hunting activities on the DEP portion of CRWMA, but DEP handles other management activities like timber management and prescribed fire. For this document, we will call portions of the CRWMA under DEP management authority DEP lead, and CRWMA will refer to the entire 28,684-acre parcel.

Prior to 1965, previous owners used the area for commercial timber operations, cattle grazing, and hunting. Trees were removed from portions of the property east of State Highway 19 (SR19) in the late 1960s and early 1970s to create pastures for cattle managed under the Caravelle Ranch Cattle Company of Palatka. Acreage east of SR19 was ditched to remove standing water from pastures to improve forage and crop production. Additional water control structures were installed to retain water for cattle. At this time, the FWC lead acres were used as a hunting preserve. Managers reported high populations of turkey, quail, deer, and dove during this time. At some point, land managers released feral hogs to supplement the existing population. Over time, the feral hogs became a problem due to their competition with cattle for grain.

Previous landowners managed the flatwoods west of SR19 and south of Rodman Road for timber production, hunting, and some cattle grazing during the 1960s. Most of the timber was harvested during the 1970s and 1980s, and replanted as a slash pine (*Pinus elliottii*) plantation. Most timber on the FWC lead is from this reforestation. A subsequent lack of prescribed fire created conditions with extensive shrub cover and little herbaceous groundcover in the years before State ownership. A private hunting club maintained a lease on the western portion of CRWMA and created the extensive network of roads and wildlife openings currently used by area managers.



**Figure 1:** Caravelle Ranch WMA by lead management agency.

During the 1930s, the State of Florida Canal Authority managed the acres that later became the DEP lead acres. The Canal Authority was authorized to create and maintain the Cross Florida Barge Canal in 1933. Ground was broke for the canal in 1935 and again in 1963. This canal currently bisects CRWMA and connects the St. Johns River to the Rodman Reservoir to the west. A structure with a flap gate located on the south bank of the barge canal regulates the flow of water into the Camp Branch Creek. This creek flows south and east through the FWC lead before draining into the St. Johns River. Water levels in the creek are entirely dependent on water levels in the canal.

Landowners harvested bald cypress in the hardwood swamps along the southern portion of CRWMA during the 1930s and 1940s. Additional timber harvest occurred in these areas during the late 1980s when the Federal Deposit Insurance Corporation owned the property. Roads leading into the portion of CRWMA now under SJRWMD management authority were created at this time to facilitate timber removal.

The portion of CRWMA under management by SJRWMD has been open to public hunting and other passive recreational activities since being established as a WMA in 1992. CRWMA provides archery, muzzleloading, general gun, small game, and spring turkey seasons.

Current management actions on the FWC lead focus largely on the restoration and maintenance of natural communities like mesic flatwoods and wet flatwoods (Table 1). Prescribed fire is the most frequently used management action on the FWC lead. Historically, fire helped maintain about 5,804 acres of natural communities on the FWC lead, comprised largely of mesic and wet flatwoods. To meet desired future conditions (DFC) for vegetative parameters, staff uses a 2-3 year fire return interval in flatwoods utilizing a mixture of dormant and growing season fire. Pasture and ruderal areas typically receive fire every 2 years during winter months after the grasses dry out. Most non-actively managed natural communities that are fire maintained (e.g., depressional marshes) are embedded within actively managed portions of the WMA and burned when fire originates in surrounding uplands.

When originally acquired by the State, most of the fire-dependent communities on the FWC lead were not conducive to prescribed fire due to high fuel loads. Staff spent considerable time and labor reducing fuel loads in these areas to improve their suitability for prescribed burns. As of 2010, all acres within fire-maintained natural communities have received at least one application of prescribed fire, with most acreage into a second or third rotation since FWC acquisition. Other management actions used on the FWC lead include timber thinning in flatwoods when basal areas exceed desired conditions, mechanical vegetation treatments (i.e., mowing or roller-chopping) prior to prescribed fire, and the use of herbicide to treat non-native and invasive plant species. Invasive species found on the FWC lead include tropical soda apple (*Solanum viarum*), Chinese tallowtree (*Triadica sebifera*), cogongrass (*Imperata cylindrica*), torpedograss (*Panicum repens*), and camphor tree (*Cinnamomum camphora*).

The FWC has initiated a hydrologic restoration project involving Camp Branch Creek on the FWC lead with a projected completion date of spring 2011. A 5,000 ft portion of the creek currently runs through a ditch created in the late 1960s that lies just north of the historic creek bed. During periods of normal water flows, this ditch holds the entire creek flow as it moves towards the St. Johns River. The restoration project proposes to return water to the historic creek channel through the complete filling of the ditch or through the

installation of a weir/diversion structure at the beginning of the ditch. The use of the weir/diversion structure will shift most water back into the historic creek channel, but would allow some flow into the ditch during high water events.

**Table 1.** Mapped acreage of current and historic plant communities on FWC lead portion of CRWMA including management status and number of focal species that use the community.

Community Type	Estimated Current Acreage	Estimated Historic Acreage	Actively Managed <sup>1</sup>	# of focal species that use the NC
Basin Swamp	21	41		6
Baygall	-	10		2
Depression Marsh	84	91		6
Dome Swamp	90	95		5
Floodplain Swamp	3,356	3,372		4
Hydric Hammock	2,440	2,454		3
Mesic Flatwoods	850	4,719	Yes	12
Mesic Hammock	709	617		4
Open Water	17	-		2
Improved Pasture	0.3	-		7
Pine Plantation	1,149	-		3
Ruderal	2,297	-		4
Scrubby Flatwoods	23	26		12
Upland Mixed Forest	134	-		3
Wet Flatwoods	1,193	950	Yes	8
Wet Prairie	29	18		4
Xeric Hammock	2	-		7
<b>Total Acres</b>	<b>12,394<sup>2</sup></b>	<b>12,394<sup>2</sup></b>		

<sup>1</sup> Communities that are actively managed and monitored via the OBVM process. Other communities are managed, but not monitored via OBVM.

<sup>2</sup> Total acreage includes an additional 64 acres of mesic flatwoods (19.5 acres), floodplain swamp (36.6 acres), and ruderal (7.9 acres; Kirkpatrick Dam spillway) under DEP management according to FNAI's managed areas shapefile. The 19.5 acres of mesic flatwoods actually fall under FWC management.

Wildlife species currently monitored on the FWC lead include spring call surveys for Northern bobwhite, spotlight surveys for white-tailed deer (*Odocoileus virginianus*), quarterly avian biodiversity surveys using local Audubon groups, bluebird (*Sialia sialis*) nest box monitoring, kestrel nest box monitoring, herpetofauna monitoring with drift fences, and opportunistic assessment of Rafinesque's big-eared bat (*Corynorhinus rafinesquii*) use of a constructed bat house. Results of the bobwhite surveys are included in the species assessment (3.2.11). White-tailed deer populations on the FWC lead remain stable and continue to provide good hunting opportunities. Volunteers from local Audubon groups opportunistically document all species of birds they encounter while walking around the property. These surveys do not record total number of individual birds observed during these surveys, but have been successful in documenting several new species for the WMA's bird

list. Bluebirds continue to use nest boxes and fledge young annually. An ephemeral wetland survey was completed for the FWC lead in 2010 and concluded that many wetlands west of State Highway 19 were in good condition as a result of FWC management.

### **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 it is necessary to monitor the impacts of natural communities' management on select wildlife. To ensure a focused, science-informed approach to species management, FWC uses the focal species concept embraced by the [Wildlife Habitat Conservation Needs in Florida](#) project. The focal species approach incorporates a variety of concepts and considerations that, if applied correctly, allow one to identify the needs of wildlife collectively by strategically focusing on a subset of wildlife species. The 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. The base layer for all models was the FWC 2003 landcover data. Staff selected additional data layers such as the species range, soils, land use, etc. based on the natural history of the species. As such, each model is species specific. Once statewide potential habitat maps were available, a PVA was conducted for each focal species.

Using the statewide landcover based habitat maps, models identified 21 of the focal species as having potential habitat on CRWMA ([Section 3.1](#)). Staff added one additional species to the list due to its known use of the area. To create more accurate area-specific potential habitat maps, we used the same statewide model for each focal species on the area but replaced the landcover data with area-specific natural community data. The resulting potential habitat map was then refined using input from local managers and species experts. All potential habitat acres provided in [Section 3.2](#) are the results of this area-specific model and resulting map. Acreages provided are estimates.

The CRWMA Conservation Prioritization and Recovery (WCPR) Workshop held September 14-15, 2010 brought decision makers together to discuss an assessment of the opportunity and needs; identify measurable objectives; determine necessary actions including monitoring; and identify necessary coordination efforts. WCPR staff compiled information on the focal species in a workbook to facilitate informed discussion of the species. Participants at the workshop discussed the "level of opportunity and need" for each species. This included analyzing the long-term security of the species (i.e., examine PVA results), considering if the species occurs in actively managed communities ([Table 1](#)), if the species is management responsive, and any other local overriding considerations (e.g., status of species in the region, local declines/extirpations). A brief summary of this assessment of each species is available in [Section 3.2](#).

### 3.1: CRWMA Focal Species

Species that have a measurable objective are indicated with a <sup>1</sup> and species for which monitoring is recommended are indicated with a <sup>2</sup>. Occasionally, models indicate species have potential habitat on the area when using statewide data; however, the local assessment indicates there is little opportunity to manage for these species on the area and they are not a focus of management on the area. These species are identified with an \*.

Frosted flatwoods salamander (*Ambystoma cingulatum*) \*

Gopher frog (*Lithobates capito*)<sup>1,2</sup>

Striped newt (*Notophthalmus perstriatus*)<sup>1,2</sup>

Florida pinesnake (*Pituophis melanoleucus mugitus*)

Gopher tortoise (*Gopherus polyphemus*)<sup>1,2</sup>

American swallow-tailed kite (*Elanoides forficatus*)

Bachman's sparrow (*Aimophila aestivalis*)<sup>1,2</sup>

Brown-headed nuthatch (*Sitta pusilla*)<sup>1,2</sup>

Cooper's hawk (*Accipiter cooperii*)

Florida sandhill crane (*Grus canadensis pratensis*)

Florida scrub-jay (*Aphelocoma coerulescens*) \*

Florida mottled duck (*Anas fulvigula*) \*

Limpkin (*Aramus guarana*)

Northern bobwhite (*Colinus virginianus*)<sup>1,2</sup>

Red-cockaded woodpecker (*Picoides borealis*)

Short-tailed hawk (*Buteo brachyurus*)

Southeastern American kestrel (*Falco sparverius paulus*)<sup>2</sup>

Southern bald eagle (*Haliaeetus leucocephalus*)

Wading birds

Florida black bear (*Ursus americanus floridanus*)

Florida mouse (*Podomys floridanus*) \*

Sherman's fox squirrel (*Sciurus niger shermani*)

### 3.2: Focal Species Opportunity/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 State listed, for species listed at the federal level, we will provide the federal listing. When a species is not federally listed but is listed by the FWC, we will provide the FWC listing category. Unless otherwise noted, all acres of potential habitat are the result of using the area-specific natural community data in the species potential habitat model. We presume that by doing the actions called for in this strategy, we will ensure the area fulfills its role in the conservation of wildlife.

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

### 3.2.1: Gopher Frog

Gopher frogs have never been documented on CRWMA, but one was documented on the bombing range adjacent to the FWC lead. Staff recently began dip-netting depressional wetlands on the FWC lead to look for larval specimens of a number of focal amphibians, including gopher frog. FWC initiated these surveys in 2008 and have focused on wetlands west of State Road 19 and within 1,640 ft (500m) of xeric uplands (e.g., Management Units (MU) 13, 19, 28, 31, 38, 46 and 48). Staff selected this area because it has some of the best potential breeding ponds, the most functionally intact uplands, and is close to where the gopher frog was documented on the bombing range.

Gopher frogs breed in seasonally flooded ponds that lack predatory fish and have intact groundcover. After breeding, frogs move into uplands and often occupy gopher tortoise burrows. However, they will use rodent and crayfish burrows, stump holes, and hollow logs.

This state-listed species of special concern is responsive to management actions, suggesting that management on CRWMA will have a benefit, if the species is present. The gopher frog triggers 2 of 6 statewide prioritization parameters (a decreasing population trend and a low proportion of populations on state lands modeled to persist). From a regional perspective, CRWMA exists in a part of the State with a high historic amount of the xeric communities preferred by this species. Many of these communities are now impacted by development, agricultural production or pasture, or are subject to incompatible silviculture. A gopher frog was documented in 1996 on the bombing range located immediately south of CRWMA. The nearest known population of gopher frogs occurs on Ocala National Forest. The Ocklawaha River, which is believed to be an effective barrier to gopher frog movement, is located between CRWMA and the Ocala National Forest. The Cross Florida Barge Canal to the north, Rodman Reservoir to the west, and the Saint Johns River to the east also border the FWC lead, all of which limits the potential for gopher frog movement into or out of the FWC lead.

The FWC lead has a limited amount of the xeric communities favored by gopher frogs, but the area retains a good amount of depressional wetlands embedded in the flatwoods communities, with some scrubby flatwoods occupied by gopher tortoises. On the FWC lead, models identified 846 acres of potential habitat using current natural community data with 2,484 acres possible if management could restore all natural communities. These potential habitat estimates are likely too high: gopher frogs are closely associated with xeric communities with seasonal movements into mesic and wetlands for breeding. Only 28 acres (26 acres of scrubby flatwoods, 2 acres of xeric hammock) of this are considered xeric uplands. FWC should continue to maintain the xeric habitat on the FWC lead with prescribed fire. These fires should continue to be allowed to burn through suitable wetlands whenever possible. Due to the isolation of the FWC lead and the actual amount of xeric habitat on-site, the level of opportunity for this species is low.

More xeric communities (e.g., scrubby flatwoods, sandhill, and scrub) occur on the DEP lead; restoration of these areas through mechanical vegetation control and the return of prescribed fire could greatly improve habitat conditions for this species.

In their current condition, these areas are overgrown and transitioning into xeric hammock, and are not optimal for the gopher frog. On the DEP lead, models identified 7,354 acres of potential habitat using current natural community data with 7,540 acres if management could restore all natural communities. While there does not appear to be a significant difference in acres of “potential” habitat between current and following restoration, in actuality, much of the modeled current potential habitat is pine plantation. While gopher frogs may persist in plantation under good conditions, natural community restoration would significantly enhance conditions for this species. On the DEP lead, the amount of potential habitat and its connectivity with other xeric habitats in the larger regional landscape provide a moderate level of opportunity for gopher frog provided natural community restoration is implemented.

Periodic monitoring of potential breeding wetlands using call surveys is recommended with the purpose of documenting the presence of this species on the FWC lead and to track use of breeding wetlands over time ([Section 5.2.1](#)). Gopher frogs have been successfully reintroduced in Mississippi; there may be a need to explore the possibility of restocking this species on CRWMA, should this be deemed necessary.

Because existing natural community management and other management actions on CRWMA will benefit this species, no SMA is recommended. See [Section 4.3.1](#) for additional land management recommendations to benefit this species. The area goal is to maintain habitat in suitable conditions to provide for the potential for a viable population of gopher frogs on CRWMA. The measurable objectives are to:

1. Conduct a baseline survey to determine presence and extent of distribution and the number of breeding ponds on FWC lead by 2015.
2. Use standard call count monitoring protocol to monitor distribution on the area.

### *3.2.2: Striped Newt*

The striped newt has never been documented on CRWMA, but staff have begun to periodically dip-net depressional wetlands on the FWC lead to look for them and the gopher frog. FWC initiated these surveys in 2008 and have focused on wetlands west of SR19 and within 1,640 ft (500m) of xeric uplands (MUs 13, 19, 28, 31, 38, 46 and 48) to maximize the likelihood of detecting this species. Staff selected this area because it has some of the best potential breeding ponds, the most functionally intact uplands, and the only xeric uplands on the FWC lead.

Striped newts breed in seasonally flooded ponds that lack predatory fish and have intact groundcover. After breeding, newts move into xeric uplands where much of their natural history remains unknown. Striped newts are a moderate to high statewide priority and trigger 4 of 6 prioritization parameters (Millsap biological and supplemental scores, Legacy population trend and population status). This species is responsive to management actions making it possible that management on CRWMA will have a benefit, if the species is present. From a regional perspective, CRWMA exists in a part of the state with a high historic amount of the xeric communities preferred by this species. Many of these communities are now impacted by development, agricultural production or pasture, or are subject to incompatible

silviculture. The nearest known population of striped newt occurs on the Ocala National Forest. Several records from the 1970s mention collection of museum specimens from the Riverside Island area of the forest located immediately south of CRWMA. However, the Ocklawaha River, which is an effective barrier to striped newt movement, is located between CRWMA and the Ocala National Forest. The Cross Florida Barge Canal to the north, Rodman Reservoir to the west, and the Saint Johns River to the east also border the FWC lead, all of which limit the potential for striped newt movement into or out of the FWC lead.

The FWC lead of CRWMA has a limited amount of the xeric communities favored by striped newts, which limits the potential of the WMA to have a significant influence on the conservation of this species. On the FWC lead, models identified 636 acres of potential habitat using current natural community data with 4,869 acres possible if management could restore all natural communities. While this appears to be a large amount of acreage, only 28 acres (26 acres of scrubby flatwoods, 2 acres of xeric hammock) of this are considered xeric uplands, and none is sandhill, the preferred upland. The vast majority of this potential habitat occurs in mesic flatwoods and depressional wetlands that are seasonally important for breeding. FWC should continue to maintain the xeric habitat on the FWC lead with prescribed fire. These fires should continue to be allowed to burn through suitable wetlands whenever possible. Due to small amount of xeric habitat on the FWC lead and its isolation from other conservation lands with known populations of striped newts, the level of opportunity for this species on this portion of CRWMA is low.

On the DEP lead, models identified 2,271 acres of potential habitat using current natural community data with 7,278 acres if management could restore all natural communities. As with gopher frog, more xeric communities (e.g., scrubby flatwoods, sandhill, and scrub) occur on the DEP lead; restoration of these areas through mechanical vegetation control and the return of prescribed fire could greatly improve habitat conditions for this species. In their current condition, these areas are overgrown, pine plantations, or transitioning into xeric hammock, and are not optimal for the striped newt. On the DEP lead, the amount of potential habitat and its connectivity with the larger regional landscape of xeric habitat provides a moderate level of opportunity for this species.

The continued dip-netting of potential breeding wetlands is recommended with the purpose of documenting the presence of this species on the FWC lead and to track use of breeding wetlands over time should newts be detected ([Section 5.2.2](#)). If surveys fail to detect this species on the FWC lead by 2020, staff can discontinue the surveys.

Because existing natural community management and other management actions on CRWMA will benefit this species, no SMA is recommended. See [Section 4.3.1](#) for additional land management recommendations to benefit this species. The area goal is to maintain habitat in suitable conditions to promote occupancy of CRWMA by striped newts. The measurable objective is to:

1. Determine presence or absence of striped newt on the FWC lead through dipnet surveys by 2020.

### 3.2.3: Florida Pine Snake

Pine snakes have never been documented on CRWMA. Pine snakes are commonly associated with upland pine and sandhill communities and prefer areas with sandy soil for burrowing. Snakes can use mesic sites if upland communities nearby can be used for refuge during heavy rain events. From a regional perspective, CRWMA exists in a part of the state that historically had a high amount of the xeric communities preferred by this species. Many of these communities are now impacted by development, agricultural production or pasture, or are subject to incompatible silviculture. Occurrence records note a large amount of pine snakes were collected for museum records during the 1970s and 1980s in areas immediately around CRWMA. Pine snakes currently occupy the Ocala National Forest.

This species is state-listed as a species of special concern and triggers 3 of the 6 prioritization parameters (proportion of populations modeled to persist on public lands, high Millsap supplemental score, and declining Legacy population trend), making the pine snake a moderate statewide priority.

The FWC lead lacks the upland pine and sandhill communities favored by pine snakes, which reduces the potential of CRWMA to have a significant impact on the conservation of this species. On the FWC lead, models identified 3,212 acres of potential habitat using current natural community data with 3,813 acres possible if management could restore all natural communities. While this appears to be a large amount of acreage, the model overestimates the amount of potential habitat. Most of the identified potential habitat is comprised of mesic flatwoods with sandy soils that are seasonally inundated with water and not preferred by this species. As such, there is a limited amount of suitable habitat on the FWC lead to support an independent population. However, the FWC lead's proximity to the Ocala National Forest indicates some potential to influence the persistence of this species at the larger regional level. Fox squirrels, which require similar habitat to pine snakes, occur on the FWC lead and biologists believe they move between the two conservation lands. This suggests some potential for pine snakes to move between the Ocala National Forest and the FWC lead. As such, the FWC lead may have a limited role in supporting the regional population.

On the DEP lead, models identified 6,122 acres of potential habitat using current natural community data with 6,348 acres possible if management could restore all natural communities. As with the FWC lead, much of this acreage includes historic mesic flatwoods that could be used by pine snakes if suitable xeric habitat persists nearby. These flatwoods are currently in pine plantations that are not suitable for this species. The eventual thinning and the frequent use of prescribed fire to promote native groundcover in these stands could create conditions suitable for this species. Additionally, the restoration of sandhill and other xeric communities on the DEP lead through a combination of vegetation control and prescribed fire will improve conditions for pine snakes. While it is unlikely the DEP lead can independently support a local population, it has good connectivity with the larger sandhill landscape and has a role to play in supporting the regional population of this species. Due to these factors, the level of opportunity for this species is moderate on the DEP lead.

Ongoing land management that emphasizes prescribed fire and efforts to restore and maintain a mature pine forest with healthy groundcover will provide good quality habitat for Florida pine snakes; therefore, no SMA is necessary. Retain stumps and other coarse woody debris during land management activities as potential refuge sites ([Section 4.3.2](#)). Opportunistic observation of pine snakes is recommended ([Section 5.2.6](#)). The area goal is to maintain suitable habitat for this species in order to contribute to the sustainability of the regional population. However, the presence of pine snakes on the area is likely dependent on conditions that influence the regional population.

#### 3.2.4: Gopher Tortoise

Gopher tortoises are commonly observed in small patches of suitable habitat on the FWC lead and there is evidence of reproduction. Tortoises are commonly seen within scrubby flatwoods and the berms of the barge canal on the DEP lead. Staff have mapped and recorded into a GIS shapefile the distribution of tortoise burrows on the FWC lead. No other population assessments have been conducted. Burrows on the FWC lead are distributed in a patchy manner and these patches are isolated from one another. Burrows can be found in the scrubby and mesic flatwoods within MUs 13 and 19, the xeric hammock within MU 38, the mesic flatwoods and hammock of MU 7, and berms and pasture of MUs 62, 63, and 69. Staff have observed sub-adult tortoises in the larger pine island in MU 50.

The gopher tortoise is a management-responsive species that can serve as an indicator of properly managed upland pine or grassland communities. Ecologists consider this species a keystone species because many other species use their burrows, including focal species such as the Florida mouse and gopher frog.

This state-listed threatened species triggers 4 of 6 prioritization parameters (PLCP PVA proportion of populations modeled to persist on public lands, Millsap biological score, Millsap supplemental score and Legacy population trend), making it a high priority species statewide. The FWC recently approved a management plan that places emphasis on increasing the number of tortoises on public lands. From a regional perspective, the occurrence of gopher tortoises around CRWMA is well documented. Tortoise burrows are commonly found along the berms of the Cross Florida Barge Canal, and there are numerous historical records of tortoises on areas immediately around CRWMA. Tortoises have been documented on the bombing range located immediately south of CRWMA and are present in the managed uplands of the Riverside Island area of the Ocala National Forest.

The presence of gopher tortoises on the FWC lead is interesting because much of the area is dominated by soils that are seasonally inundated with water, which reduces their suitability to this species. Additionally, the FWC lead is surrounded by water on all sides and is therefore isolated from other areas known to contain tortoises. Evidence of reproduction and the amount of potential habitat, however, lead to the conclusion that the FWC lead can support a small population. On the FWC lead, models identified 334 acres of potential habitat using current natural community data with 331 acres possible if management could restore all natural communities. Based on information in the literature, this would be an adequate

amount of potential habitat to support a population if the habitat were contiguous. On the FWC lead, tortoises are scattered in several small patches of habitat. The largest patch occurs in scrubby and mesic flatwoods in MUs 13 and 19. Management activities on the FWC lead have improved habitat conditions for gopher tortoise since State acquisition and the continued use of prescribed fire, timber thinning, and other actions to increase herbaceous diversity will maintain these conditions. In addition, the presence of berms along the numerous ditches should continue to provide adequate sites for burrow construction. Current plans to restore Camp Branch Creek by removing ditches should have a minimal impact on this species as no burrows have been documented in this portion of the FWC lead. Given these factors, the level of opportunity for management to have a significant impact on this species here is moderate.

On the DEP lead, models identified 524 acres of potential habitat using current natural community data with 491 acres if management could restore all natural communities. Most of this potential habitat is in the xeric communities off Deep Creek Road. The models likely underestimated the potential habitat for this species on the DEP lead. Slightly drier mesic flatwoods that provide habitat for species like Bachman's sparrow likely provide habitat for tortoises. Restoration of scrubby flatwoods, xeric hammock, and scrub in the area around Deep Creek Road through a combination of mechanical and/or chemical vegetation control treatments in concert with prescribed fire will greatly improve habitat conditions for this species. Gopher tortoises are known to occupy this area and DEP staff should consider initiating a monitoring effort for tortoises to document their current or future occupancy of restored natural communities. Given these factors, the level of opportunity for management to have an impact on this species is high.

Because existing natural community management and other management actions on CRWMA will benefit this species, no SMA is recommended. See [Section 4.3.3](#) for additional land management recommendations to benefit this species. A standardized burrow survey should be initiated with the purpose of establishing a baseline and to track burrow densities on the WMA over time ([Section 5.2.3](#)). The area goal is to maintain a viable population of gopher tortoise on CRWMA. The measurable objectives are:

1. To implement a baseline survey of gopher tortoise on FWC lead by 2014.
2. To repeat these surveys on a 5-year interval, pending resources.

### *3.2.5: American Swallow-Tailed Kite*

The American swallow-tailed kite is commonly seen on CRWMA. Nesting has not been documented on CRWMA, although staff report frequently seeing large aggregations of swallow-tailed kites flying above the WMA during this species' breeding season. Swallow-tailed kites have been documented roosting along portions of Camp Branch Creek located immediately to the west of the field office on the FWC lead.

A habitat generalist, swallow-tailed kites utilize a variety of natural communities on CRWMA. Tall trees are an important component of nesting habitat, and open areas are used for foraging. 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. Thinning of pine plantations can help improve the forest structure and increase the use of these areas by swallow-tailed kites.

Swallow-tailed kites are a moderate statewide priority and trigger 4 of 6 statewide prioritization parameters (PLCP PVA proportion of populations modeled to persist on public lands and probability of a 50% decline on public lands, Legacy population status and population trend). From a regional perspective, CRWMA is located within a portion of the State frequently used by this species. Nesting of swallow-tailed kites has been documented on Fort McCoy WMA, located roughly 20 miles west of CRWMA and along the Saint Johns River immediately south of CRWMA. Adult and juvenile kites have been documented together on the bombing range located immediately south of CRWMA.

On the FWC lead, models identified 5,140 acres of potential habitat using current natural community data with 8,810 acres possible if management could restore all natural communities. On the DEP lead, models identified 5,130 acres of potential habitat using current natural community data with 12,460 acres possible if management could restore all natural communities. While CRWMA plays an important role in the conservation of this species, American swallow-tailed kites are not typically considered management-dependent and the opportunity to influence this species at the management-unit level on CRWMA is low. However, ongoing efforts to maintain CRWMA's natural community structure and function will benefit 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 well as the thinning of dense pine plantations. If nests are located on the area, management considerations around these sites will be used ([Section 4.3.4](#)) and the nest will be reported to the Avian Research and Conservation Institute (ARCI; [Section 6.4](#)).

Because this species naturally occurs in relatively low densities and nests are difficult to detect, local monitoring would be inefficient, and area-specific objectives for this species are not needed. There is no need to establish a SMA as there is no specific management action that could be applied specifically for the benefit of this species. If staff observe swallow-tailed kite activity indicative of nesting, this information should be documented ([Section 5.2.6](#)).

The area goal is to promote suitable foraging and nesting habitat for the American swallow-tailed kite that will allow kites using CRWMA to function as part of a regional population. While the continued presence of this species on CRWMA is dependent on conditions that influence the regional population of American swallow-tailed kites, the proximity of CRWMA to other conservation lands enhances the potential for this species to persist on the area.

### *3.2.6: Bachman's Sparrow*

Bachman's sparrows were observed on the FWC lead in July 2009 during an opportunistic bird survey with members of the local Audubon Society. Several

individuals were seen and heard utilizing the scrubby and mesic flatwoods within MUs 13 and 19. Follow-up monitoring by area staff have noted Bachman's sparrows in these areas and in the mesic flatwoods within MUs 18, 28, 31, and 38. Flatwoods within MUs 13, 18, 19, 28, and 38 have all received mechanical treatments to reduce vegetation heights and experienced repeated application of prescribed fire in the last several years. This species has not been documented on the DEP lead, although efforts to locate them have not been attempted. This species prefers mature pine forests or old fields with a healthy herbaceous groundcover maintained with frequent prescribed fire.

The Bachman's sparrow triggers 2 of 6 prioritization parameters (PLCP PVA proportion of populations modeled to persist on public lands and Legacy population trend) and is currently experiencing range-wide population declines. From a regional perspective, CRWMA is located close to the Ocala National Forest, which supports a healthy Bachman's sparrow population. Conversations with Forest Service staff indicate the common occurrence of this species in the Riverside Island area and the Little Lake George Wilderness area of the forest. Despite no occurrence records, it is probable that this species occurs in fragmented patches of suitable habitat to the north, west, and east of CRWMA.

On the FWC lead, models identified 1,731 acres of potential habitat using current natural community data with 4,683 acres possible if management could restore all natural communities. Based on information in the literature, this is enough potential habitat to support a population. Historic management of CRWMA was not compatible with the needs of this species; pine plantations with high basal areas and fire suppression created a dense shrub layer and reduced herbaceous diversity. Since State acquisition, the habitat conditions have improved and flatwoods on the FWC lead in the MUs mentioned above are currently in the best condition to support Bachman's sparrows. Flatwoods within MUs 21, 72, 65, and 72 could provide additional habitat with ongoing management focused on frequent prescribed fire (e.g., a 2-year interval) and timber management that strives for mature open pine stands. The combination of timber thinning when appropriate in conjunction with continued use of frequent fire will allow pine plantations on CRWMA to have the potential to support this species. Given its presence on the FWC lead, the high amount of potential and currently suitable habitat and the fact that Bachman's sparrows are highly responsive to management, there is a high level of opportunity to positively influence this species on CRWMA.

On the DEP lead, models identified 2,122 acres of potential habitat using current natural community data with 7,889 acres possible if management could restore all natural communities. As with the FWC lead, this is enough potential habitat to support a population that would be part of the Bachman's sparrow population occurring on the FWC lead. Much of this potential habitat currently is in flatwoods or pine plantations with basal areas and groundcover conditions that are not appropriate for this species; timber thinning when appropriate would create more desired structure. In addition, the introduction and continued use of prescribed fire on a short return interval in these areas would increase herbaceous diversity and further enhance habitat suitability for Bachman's sparrow. Given the amount of potential

habitat and the known proximity to individuals occurring on the FWC lead, the level of opportunity for Bachman's sparrow on the DEP lead is high.

The DFC for mesic flatwoods and wet flatwoods on the FWC lead should be altered to better suit the habitat preferences of this species as well as other focal species ([Section 4.2.1](#)). Additional land management considerations for this species are found in [Section 4.3.5](#). We propose monitoring this species through a spring bird survey with the purpose of tracking relative abundance over time ([Section 5.2.4](#)).

The area goal is to maintain a viable population of Bachman's sparrows on CRWMA. Actions taken to achieve this goal will be to continue to manage potential habitat with the assumption that individuals will remain on-site or disperse onto the area naturally from Ocala National Forest or other neighboring conservation lands. By providing suitable foraging and nesting sites that maintain the presence of Bachman's sparrows on the area, CWMA will fulfill its role in reversing the ongoing decline of this focal species. Measurable objectives for this species include:

1. Conduct a baseline survey to track distribution and relative abundance of Bachman's sparrow on the FWC lead by 2012.
2. Repeat these surveys on an annual basis.

### *3.2.7; Brown-Headed Nuthatch*

Brown-headed nuthatches are commonly seen and heard throughout the FWC lead and along Rodman Dam Road within the DEP lead. They are most commonly seen and heard in the mesic and wet flatwoods within MUs 5, 15, 18, 22, 24, 46, 48, 51, and 58. Individuals have been heard in MUs 65 and 70. Breeding has not been documented; however, based on the regularity with which this species is encountered, staff believe breeding is occurring on the area. This species is dependent on open stands of mature pine that contain the snags in which this species excavates nesting cavities. Nuthatches prefer communities that experience frequent, low-intensity fires that create a limited midstory with low shrub cover and high herbaceous diversity.

The brown-headed nuthatch triggers 2 of 6 prioritization parameters (PLCP PVA proportion of populations modeled to persist on public lands and Legacy population trend) and is currently experiencing range-wide declines due to habitat loss and degradation. From a regional perspective, CRWMA is located close to the Ocala National Forest, which supports a population of brown-headed nuthatches. Forest Service staff report the historic common occurrence of brown-headed nuthatches around the Riverside Island area; their current occurrence in this portion of the forest is now more variable. Nuthatches probably persist elsewhere in the fragmented patches of suitable habitat around CRWMA.

On the FWC lead, models identified 2,980 acres of potential habitat using current natural community data with 4,725 acres possible if management could restore all natural communities. Based on information in the literature, this is enough potential habitat to support a population. Historic management of CRWMA was not compatible with the needs of this species; dense pine plantations with high basal areas and fire suppression created a thick shrub structure and reduced herbaceous diversity. Much like the Bachman's sparrow, flatwoods within MUs 21, 72, 65, and 72 could provide habitat for this species with ongoing management focused on frequent

prescribed fire (e.g., a 2-year interval) and timber management that strives for mature open pine stands. The combination of timber thinning when appropriate in conjunction with continued use of frequent fire will allow pine plantations on CRWMA to have the potential to support this species. The maintenance of snags within these natural communities will be important for the long-term persistence of this species on CRWMA. Given these factors and the fact that the brown-headed nuthatch is highly responsive to management actions, it has a high level of opportunity on CRWMA.

On the DEP lead, models identified 2,110 acres of potential habitat using current natural community data with 7,877 acres possible if management could restore all natural communities. As with the FWC lead, this is enough potential habitat to support a population that would be considered a single population with the brown-headed nuthatches occurring on FWC lead. Much of this potential habitat currently is in flatwoods or pine plantations with basal areas and shrub layers that are not appropriate for this species; timber thinning when appropriate would create more desired structure. In addition, the introduction and continued use of prescribed fire on a short return interval in these areas would increase herbaceous diversity and further enhance habitat suitability for brown-headed nuthatches. Given the amount of potential habitat and the known proximity to individuals occurring on the FWC lead, the level of opportunity for brown-headed nuthatches the DEP lead is high.

Ongoing efforts to maintain CRWMA's natural community structure and function through mechanical treatments and timber thinning when combined with a short fire return interval will maintain and improve the suitability of habitat for brown-headed nuthatch; therefore, no SMA is required. The DFCs for mesic flatwoods and wet flatwoods on the FWC lead should be altered to better suit the habitat preferences of this species as well as other focal species ([Section 4.2.1](#)). [Section 4.3.6](#) describes additional land management considerations. We propose monitoring this species through a spring bird survey with the purpose of tracking relative abundance over time ([Section 5.2.4](#)).

The area goal is to maintain a viable population of brown-headed nuthatches on CRWMA. Actions taken to achieve this goal will include continuing to manage potential habitat with the assumption that individuals will remain on-site or disperse onto the area naturally from Ocala National Forest or other neighboring conservation lands. By providing suitable foraging and nesting sites that maintain the presence of nuthatches on the area, CRWMA will fulfill its role in reversing the ongoing decline of this focal species. Measurable objectives for this species include:

1. Conduct a baseline survey to track distribution and relative abundance of Brown-headed nuthatches on the FWC lead by 2012.
2. Repeat these surveys on an annual basis.

### 3.2.8: *Cooper's Hawk*

The Cooper's hawk is rarely observed on CRWMA although it is not often searched for. Commonly associated with woodlands, this species will nest in a variety of habitats including swamps, floodplain and bottomland forests, sand pine scrub and baygalls. Nests are usually placed near the crown of a tree close to an edge

in dense stands of oaks. Cooper's hawks primarily feed on other birds, so nests are located in proximity to suitable hunting areas. While nesting has not been documented on CRWMA, staff believe nesting is occurring on CRWMA.

The Cooper's hawk triggers 1 of 6 prioritization parameters (PLCP PVA probability of a 50% decline on public lands). From a regional perspective, CRWMA occurs within a landscape that retains a lot of potential habitat for this species. Pine plantations and hammocks adjacent to open fields or pastures, communities well distributed in the area immediately around CRWMA, provide appropriate foraging or nesting habitat for this species.

On the FWC lead, models identified 8,787 acres of potential habitat using current natural community data with 7,814 acres possible if management could restore all natural communities. On the DEP lead, models identified 4,890 acres of potential habitat using current natural community data with 10,148 acres possible if management could restore all natural communities. Cooper's hawks typically are not considered management-dependent and the opportunity to influence this species at the management-unit level on CRWMA is low. However, ongoing efforts to maintain CRWMA's natural community structure and function will benefit the Cooper's hawk. Management actions that maintain or enhance habitat for this species include prescribed fire and mechanical actions that aid in restoring natural community structure.

Because this species naturally occurs in relatively low densities and nests are difficult to locate, local monitoring would be inefficient. It would be impractical to establish measurable objectives for this species given these conditions. It would be inappropriate to establish a SMA as there is no specific management that could be applied specifically for the benefit of 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 ([Section 4.3.7](#)).

The area goal is to promote suitable foraging and nesting habitat for the Cooper's hawk that will allow individuals using CRWMA to function as part of the regional population. While the continued presence of Cooper's hawks on CRWMA is dependent on conditions that influence the regional population, the proximity of CRWMA to other conservation lands enhances the potential for this species to persist on the area.

### *3.2.9: Florida Sandhill Crane*

The Florida sandhill crane is commonly seen and reproduction has been documented on the FWC lead. Cranes also have been documented along Hunter Road on the northern part of the DEP lead. 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.

For adult pairs home range varies from approximately 300 to 600 acres per pair. Habitat used includes a mosaic of emergent palustrine wetlands and open uplands such as pasture, prairie, and open pinelands.

The Florida sandhill crane is state listed as threatened. This species triggers 4 of the 6 statewide prioritization parameters (Millsap biological and supplemental scores, declining trend, and a low proportion of populations on state lands modeled to persist) and is a moderate to high statewide priority. From a regional perspective, CRWMA occurs in a portion of the state where sandhill cranes are known to occur, even appearing in peoples yards.

On the FWC lead, models identified 3,624 acres of potential habitat using current natural community data with 1,061 acres possible if management could restore all natural communities. These acreages are too small to support a viable local population on the area, and much of the current potential habitat is in the form of pasture or ruderal habitats that are not natural. CRWMA plays a limited role in supporting the regional population of Florida sandhill cranes through ongoing efforts to maintain natural community structure and function. Management actions that maintain or enhance habitat for this species include prescribed fire and mechanical actions that aid in restoring and maintaining an open natural community structure near suitable wetlands. In addition, the continued grazing of pasture and other ruderal sites promote the short, open conditions cranes prefer for foraging. Over the long-term, the restoration of all CRWMA's pastures to more natural conditions will reduce the amount of habitat available to sandhill cranes. Removal of cattle and any planting of pine trees will alter the vegetative structure of these areas, making them less than suitable for this species. CRWMA, however, is not a critical area for cranes when considered in the regional context, and changes in the amount of potential habitat on CRWMA over time will not significantly impact the regional crane population. Given these factors, the level of opportunity for this species on the FWC lead is low.

On the DEP lead, models identified 1,245 acres of potential habitat using current natural community data with 629 acres possible if management could restore all natural communities. As with the FWC lead, this is not enough acreage to support a population. Most of this potential habitat is wet flatwoods located near Rodman Dam Road and the Cross Florida Barge Canal, or several wetlands located near the xeric communities off Deep Creek Road. Management actions that could benefit cranes in these areas include mechanical vegetation treatments to reduce shrub cover and the frequent application of prescribed fire through wetlands or flatwoods to create the short, open conditions preferred by this species. The level of opportunity for this species on the DEP lead is low.

Because of the limited number of sandhill cranes using the area and the low level of opportunity, monitoring and area-specific objectives are not recommended. There is no need to establish a SMA as there is no specific management action we plan to implement specifically for the benefit of this species. If nests are located on the area, management considerations around these sites will be used ([Section 4.3.8](#)) and nesting should be documented ([Section 5.2.6](#)). The area goal is to provide suitable foraging and nesting habitat for Florida sandhill crane that will allow individuals using CRWMA to function as part of a regional population. While the continued presence of sandhill cranes on CRWMA is dependent on conditions that

influence the regional population, the proximity of CRWMA to other conservation lands enhances the potential for this species to persist on the area.

### 3.2.10: Limpkin

The limpkin has been documented once on the FWC lead along Camp Branch Creek near the main entrance road; area staff completed a single survey down the Ocklawaha River in 2009 to try to determine their presence along the river. This survey did not detect any limpkins and noted few masses of apple snail eggs. Apple snails are a preferred food item of this species. Limpkins have been documented on the DEP portion near the Rodman Reservoir. This species typically inhabits freshwater marshes, swamps, springs and spring runs. Limpkins are highly mobile and influenced by regional water levels and the availability of prey items, primarily apple snails.

Limpkins are a state listed species of special concern and trigger 1 of 6 prioritization parameters (Legacy population trend). The FWC Breeding Bird Atlas suggests the possibility of this species breeding Putnam County based on observations of individuals in appropriate habitat during the breeding season. However, there are no direct observations of limpkins breeding in the areas immediately around CRWMA. Limpkins occur on Ocala National Forest, utilizing the various rivers, streams and spring runs distributed throughout the forest.

On the FWC lead, models identified 3,407 acres of potential habitat using current natural community data with 3,427 acres possible if management could restore all natural communities. On the DEP lead, models identified 2,241 acres of potential habitat using current natural community data with 3,210 acres possible if management could restore all natural communities. It is not known if this is enough to support an independent population of limpkins, but any limpkins using CRWMA are part of a larger regional population and affected by conditions at this larger regional level.

While limpkins live in wetland habitats that typically are not actively managed, the use of prescribed fire through depression wetlands within flatwoods and marsh habitats will improve the quality of these habitats by enhancing foraging opportunities and preventing the encroachment of shrubby species. Additional land management considerations for this species are found in [Section 4.3.9](#). The level of opportunity to affect the local population of this species at the management unit level on CRWMA is low and ongoing efforts to maintain natural community structure and function should meet the needs of this species; therefore, no SMA is recommended.

While local monitoring could detect a change in the area's local population, the potential for management to influence the larger population is low so this monitoring would be inefficient. The area goal is to promote suitable habitat for limpkins that will allow individuals using CRWMA to function as part of a regional population. While the long-term persistence of limpkins on CRWMA will be influenced by factors affecting the regional population, the proximity of CRWMA to other conservation lands and the series of rivers and canals enhances the potential for this species to persist on the area.

### 3.2.11: Northern Bobwhite

Northern bobwhites (quail) are commonly heard on CRWMA with nesting confirmed on the FWC lead portion and suspected on DEP lead. Staff monitors this species on the FWC lead through spring whistle counts and fall covey counts. The purpose of these monitoring events is to track relative abundance and distribution over time. Monitoring has shown a variable, but generally increasing trend of singing males during the spring. 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 (UERP). Quail are typically associated with open canopy forests and grassland communities dominated by warm-season grasses, legumes, and patchy bare ground. Areas with dense herbaceous cover are used for brooding and foraging; shrubs or other thickets are useful as roosting habitat or escape cover.

Quail trigger 2 of 6 prioritization parameters (Legacy population trend and population status). From a regional perspective, historically this species was well distributed in the landscape around CRWMA. Open canopy sandhill and drier mesic flatwoods maintained with frequent fire created the appropriate matrix of habitat for bobwhites. Many of these communities are now developed, in agricultural production or pasture, or subject to incompatible silviculture. Ocala National Forest currently holds a viable population of quail; individuals have been heard calling in the Riverside Island area immediately south of CRWMA. There are no occurrence records for this species on areas to the north, west, or east of CRWMA although biologists presume that quail do persist in small, isolated fragments of suitable habitat.

On the FWC lead, models identified 5,647 acres of potential habitat using current natural community data with 5,702 acres possible if management could restore all natural communities. Historic management activities on CRWMA were not compatible with the needs of quail; conversion to high basal area pine plantations and the absence of frequent fire created an extensive midstory and shrub layer with very little herbaceous groundcover. Since State acquisition, the use of mechanical vegetation control, timber thinning, and frequent low-intensity fire has improved habitat conditions for this species. Currently, the best potential habitat for quail on CRWMA occurs in the scrubby flatwoods and drier mesic flatwoods in MUs 13, 18, and 10. Much of the potential habitat includes improved pasture, or ruderal habitat, on the east side of CRWMA that quail currently use. Quail also utilize the wet flatwoods located between SR19 and the drier mesic flatwoods mentioned above. The removal of cattle and restoration of ruderal sites to their appropriate flatwoods ground cover will further enhance habitat suitability for quail and other focal species. Restoration of these areas, however, is a long-term and expensive process. In the mean time, disking and other chemical or mechanical disturbance of linear strips in these ruderal sites has the potential to stimulate the native seedbed and create more habitat diversity for quail. While these communities do not have the potential to create optimal quail habitat like sandhill, the FWC lead has the potential to hold a small, but viable population. Given the amount of potential habitat and the fact that

quail respond well to management actions, it has a medium level of opportunity on the FWC lead.

On the DEP lead, models identified 10,140 acres of potential habitat using current natural community data with 10,073 acres possible if management could restore all natural communities. Most of this potential habitat occurs within flatwoods communities or pine plantations that are not currently suitable for quail. Timber thinning and the reintroduction of frequent prescribed fire will be needed in much of this acreage to improve habitat conditions for quail. Portions where vegetation is very overgrown may require chemical or mechanical vegetation treatments prior to the use of fire. When these actions occur, the level of opportunity for the DEP lead to have a significant impact on quail is moderate. See [Section 4.3.10](#) for additional land management considerations.

Ongoing efforts to maintain CRWMA's natural community structure and function in the FWC lead combined with a shorter fire return interval (e.g., 2-year interval) will improve the suitability of habitat for this species; therefore, no SMA is required. DFCs for mesic flatwoods and wet flatwoods on the FWC lead should be altered to better suit the habitat preferences of this species as well as other focal species ([Section 4.2.1](#)).

The area goal is to promote suitable foraging, brooding and nesting habitat to increase the current quail population on CRWMA. The continued use of spring whistle counts is recommended with the purpose of tracking relative abundance and distribution of quail as portions of CRWMA become more suitable ([Section 5.2.4](#)). Measureable objectives for this species include:

1. Continue to track distribution and relative abundance of quail on the FWC lead using annual spring whistle counts.

### *3.2.12: Red-Cockaded Woodpecker*

The red-cockaded woodpecker has never been documented on CRWMA. Red-cockaded woodpeckers inhabit open, mature pine woodlands with a diversity of grass, forbs and shrub species. A basal area of 40-80 ft<sup>2</sup>/acre is preferred, but the species uses stands with a larger range of basal area. Important aspects are forest structure and age. As cavity nesters, individuals excavate cavities in the heartwood of older (typically > 60 years) living pine trees. Suitable cavities and potential cavity trees are often the limiting factor for this species, as is the case on CRWMA. In other locations, use of artificial cavities has been effective in increasing populations when combined with appropriate habitat management.

The red-cockaded woodpecker is a federally endangered species. It triggers 4 of 6 prioritization parameters (PLCP PVA proportion of populations modeled to persist on public lands, Millsap biological score, Legacy population trend and population status). A FWC Management Plan and a U.S Fish and Wildlife Service (USFWS) Recovery Plan have been developed for this species, making it a high priority. From a regional perspective, the nearest known population of red-cockaded woodpeckers occurs in the Riverside Island area of Ocala National Forest, approximately 2.5 miles southwest of CRWMA. Conversations with Forest Service staff indicate they are looking to expand their red-cockaded woodpecker population

in the Riverside Island area. Forest Service staff also plan to establish red-cockaded woodpeckers into the Norwalk restoration area, which is located south of CRWMA along State Road 19. Occurrence records do not document any red-cockaded woodpeckers in the areas immediately to the north, west, and east of CRWMA. The prevalence of sandhill to the north and west of CRWMA, however, suggest that red-cockaded woodpeckers probably were well distributed in the landscape around CRWMA historically. Much of this sandhill is now developed, in agricultural production or pasture, or subject to incompatible silviculture.

On the FWC lead, models identified 3,094 acres of potential habitat using current natural community data with 5,702 acres possible if management could restore all natural communities. With a home range of 100-400 acres per territory, a population of 7.5 to 30 territories on the FWC lead could be possible with the current estimates. Using the post restoration estimate of 5,702 acres of potential habitat, the FWC lead could support a population of 14 to 57 territories. The literature suggests that a population of 30 potential breeding groups can be moderately secure in the short-term, depending on the arrangement of suitable habitat. Additionally, CRWMA's proximity to the Ocala National Forest would enhance the potential for long-term persistence. It also would interact with any population established on the DEP lead. However, translocation would be required to establish occupancy on both the FWC lead and the DEP lead.

Most of the potential habitat for red-cockaded woodpecker on the FWC lead is in mesic flatwoods, wet flatwoods, ruderal areas, or pine plantations that are currently in an inappropriate habitat structure. Pine trees are too young, pine basal areas in the flatwoods and pine plantations are currently too high, and tree diameters are too small to promote the creation of natural or artificial cavities. Additionally, it is not realistic to believe that all ruderal areas on the FWC lead will be restored to a condition suitable for use by this species. While it will be greater than 20 years before CRWMA could have appropriate habitat structure, ongoing efforts to maintain and enhance natural community structure and function will improve the potential for red-cockaded woodpeckers in the future. Management actions that maintain or enhance habitat for this species include prescribed fire and mechanical actions that aid in restoring natural community structure. Timber management that strives for mature open pine stands and uses thinning to reduce pine basal areas, the planting of longleaf pine when possible (as was completed in MUs 13 and 18) and regular application of fire will create conditions that could benefit red-cockaded woodpeckers. Given these factors, the FWC lead has a moderate level of opportunity for management to have an influence on red-cockaded woodpeckers in the long-term, but a low opportunity currently. In the next 10 years (the time-span of this document), area staff can continue to work towards creating the open mature pine forest conditions suitable for this species.

On the DEP lead, models identified 2,628 acres of potential habitat using current natural community data with 8,396 acres possible if management could restore all natural communities. With a home range of 100-400 acres per territory, a population of 6 to 26 territories could be possible with the current estimates on the DEP lead. Using the post restoration estimate of 8,396 acres of potential habitat, the DEP lead could support a population of 21 to 83 territories. As mentioned

previously, if red-cockaded woodpeckers were established on FWC lead and DEP lead, they could eventually function as one population that also interacts with the Ocala National Forest population. However, the DEP lead has the same issues as the FWC lead. Pine trees are too young; pine plantations have basal areas that are too high and an extensive midstory component. Thinning these plantations and reducing the midstory through mechanical/chemical treatments and using frequent fire will improve habitat conditions for red-cockaded woodpeckers. As with FWC lead, the DEP lead has a moderate level of opportunity for management to have a significant impact on red-cockaded woodpeckers in the long-term.

CRWMA has the potential to support between 35 and 140 territories depending on habitat arrangement. A population of 30 potential breeding groups is moderately secure, while a population of > 100 potential breeding groups is reasonably secure. CRWMA's proximity to Ocala National Forest would further enhance the survival potential of this species on the area.

At this time, no SMA is required for the red-cockaded woodpecker, but this species will be considered during land management activities to ensure protection of potential cavity trees ([Section 4.3.11](#)). The area goal is to enhance the suitability of habitat for red-cockaded woodpeckers on CRWMA to provide the opportunity for future occupation by this species. Future establishment of a population of red-cockaded woodpeckers on CRWMA would enhance the long-term persistence of the population currently occurring on the Ocala National forest. Species management or monitoring needs are not proposed at this time, but future needs could include translocation and associated monitoring and management according to the red-cockaded Woodpecker Management Plan if a population is established. This is a long-term need. However, part of ensuring future potential is achieved includes applying appropriate management actions and engaging in coordination with Ocala National Forest staff to ensure connectivity between areas are established ([Section 6.7](#)).

### 3.2.13: Short-Tailed Hawk

While not modeled to have any potential habitat on CRWMA, the short-tailed hawk has been documented foraging over the area. In addition, a historic record of nesting is documented just off-site near where US Highway 19 and County Road 310 come together. 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 nesting areas. Transitional zones and ecotones may be important components of foraging habitat for this species. The short-tailed hawk triggers 6 of 6 prioritization parameters, making it a high statewide priority.

This species typically is not considered management-dependent and the opportunity to affect this species at the management-unit level on CRWMA is low. However, ongoing efforts to restore and maintain CRWMA's natural community structure and function will benefit short-tailed hawks by improving the suitability of

foraging habitat. Management actions that maintain or enhance foraging habitat for this species include prescribed fire and mechanical actions that aid in restoring natural community structure. See [Section 4.3.12](#) for additional land management recommendations.

Because this species naturally occurs in relatively low densities, local monitoring would be unlikely to detect a change in the area's population. There is no need for an SMA or area objective. Monitoring for this species will be opportunistic, and should include season and color phase ([Section 5.2.6](#)). Observations of this species should be shared with ARCI ([Section 6.4](#)).

The area goal is to promote suitable foraging and nesting habitat for the short-tailed hawk that will allow individuals using CRWMA to function as part of a regional population. However, the continued presence of short-tailed hawks on the WMA is dependent on conditions that influence the statewide population.

#### *3.2.14: Southeastern American Kestrel*

Southeastern American kestrels have not been documented on CRWMA; however, the migratory American kestrel is commonly seen during the fall and winter months. Staff erected several nest boxes in portions of the FWC lead; however, no nesting has been documented. Only kestrels remaining in Florida during the spring and summer months to breed are the southeastern American subspecies. Southeastern American kestrels utilize upland habitats, including sandhills and longleaf savannas, pastures, sand pine scrub and prairies. Birds also cue into habitat structure; open pastures like those found on the FWC lead can provide these conditions. As a secondary cavity nesting species, southeastern American kestrels use cavities previously excavated in large snags. They will utilize artificial cavities when placed in areas of suitable habitat. They require adequate perch sites within foraging areas for hunting, and low ground cover (< 1 ft) and an open canopy (< 20%) are ideal for this species. Average breeding territory size is 125 acres, though more area may be necessary if the habitat quality is marginal.

Southeastern American kestrels are a state threatened species and trigger 4 of 6 prioritization parameters (PLCP PVA proportion of populations modeled to persist on public lands, Millsap updated biological score, Legacy population trend and population status). From a regional perspective, the landscape around CRWMA has the potential to support this species. While much of the former sandhill has been altered or degraded, open pasture on lands in proximity to CRWMA could be potentially suitable for kestrels. Southeastern American kestrels are common on the Ocala National Forest around recent clearcuts and in open prairie communities. Forest Service staff believe the population on the forest is in a healthy condition although their use of any particular site is dependent on forest activities that create a shifting mosaic of recent clearcuts.

On the FWC lead, models identified 2,297 acres of potential habitat using current natural community data with 26 acres possible if management could restore all natural communities. Most of the current potential habitat is in the form of ruderal or pasture areas that could provide open habitat for hunting by kestrels. It is unclear why the Southeastern American kestrel does not occur on CRWMA, but the

migratory kestrel is commonly seen during the winter months. It is possible that open pastures, which provide the appropriate open structure, do not have an adequate amount of prey base to support nesting individuals. Other suitable habitat includes the open-canopy scrubby flatwoods along the western edge of CRWMA. Management actions to benefit kestrels in these flatwoods include prescribed fire and other mechanical vegetation actions to maintain the open structure. Over time, restoration of ruderal sites will reduce potential habitat for this species. However, as the subspecies does not currently use the FWC lead and that these ruderal sites are historic mesic flatwoods, it appears the area is not critical to the regional stability of this species. Mesic flatwoods are not optimal habitat for kestrels. Given this, the level of opportunity is low. This assessment may need to be revisited if management is successful in attracting southeastern American kestrels to the area.

On the DEP lead, models identified 2,243 acres of potential habitat using current natural community data with 8,080 acres possible if management could restore all natural communities. This is an overestimate of potential habitat; the DEP lead has few ruderal areas and a limited amount of sandhill that could be suitable for kestrels. Models for the DEP lead include historic mesic flatwoods, which are not optimal habitat for kestrels. Restoration of small sandhill areas through midstory control and the reintroduction of fire could benefit this species although the acreage (~57 acres) involved is small and fragmented. Given this, the level of opportunity for the DEP lead is low. Additional land management considerations including the protection and creation of snags can be found in [Section 4.3.13](#).

Ongoing efforts to maintain CRWMA's natural community structure and function combined with a shorter fire return interval will improve the suitability of habitat for kestrels; therefore, no SMA is required. As the existing nest boxes have not been used by kestrels, staff should work with FWRI staff to determine if the location and placement of the nest boxes are optimal for the species ([Section 6.1.3](#)).

Monitoring of nest boxes on the FWC lead will follow a protocol developed by FWRI as part of a statewide kestrel nest box monitoring program ([Section 5.2.5](#)). The results of this monitoring will be shared with FWRI. The area goal is to provide habitat for southeastern American kestrels that provide conditions to encourage occupancy. However, the future occupancy of CRWMA by this species is dependent on conditions that influence the regional population, and whether or not habitat conditions in ruderal sites are suitable.

### *3.2.15: Southern Bald Eagle*

Bald eagles are commonly observed on CRWMA. There are 30 records of historic or currently active bald eagle nests within 3 miles of CRWMA, with 6 nests occurring within the boundary (including portions managed by DEP). Two of these nests were last active in 2009, 1 in 2008, 1 in 2007, and the remaining 2 last known to be active before 2004.

The bald eagle does not trigger any of the prioritization parameters, but is protected by specific 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. From a regional perspective, CRWMA

occurs in one of the Important Use Areas (IUAs) identified for Bald Eagles. This IUA is located along the Ocklawaha River and includes portions of the Cross Florida Barge Canal and conservation lands north and south of CRWMA to Etoniah Creek State Forest. An additional foraging IUA occurs just west of the Rodman Reservoir, which is located immediately to the northwest of CRWMA.

On the FWC lead, models identified 4,261 acres of potential habitat using current natural community data with 4,082 acres possible if management could restore all natural communities. The potential reduction in habitat is an artifact of the modeling process and restoration is not expected to cause a reduction in habitat for this species. On the DEP lead, models identified 1,929 acres of potential habitat using current natural community data with 3,228 acres possible if management could restore all natural communities. Bald eagles typically are not considered management-dependent and the opportunity to affect them at the management-unit level on CRWMA is low. However, ongoing efforts to maintain CRWMA's natural community structure and function will benefit this species. Management actions that maintain or enhance habitat for this species include managing for mature stands that include potential nest trees, prescribed fire and mechanical actions that aid in restoring natural community structure.

While local monitoring could detect a change in this species' use of CRWMA, nests on CRWMA are already monitored as part of a larger statewide monitoring effort. Additional monitoring would be inefficient as information from the statewide effort can provide meaningful results to area staff. As there are no specific management activities recommended for this species there is no need to establish a SMA and no need to establish measurable objectives. Any activity around nest sites will be conducted according to the guidance in the management plan ([Section 4.3.14](#)). Documentation and reporting of nesting sites is recommended ([Sections 5.2.6](#) and [6.1.3](#)).

The area goal is to promote suitable foraging and nesting habitat for the bald eagle that will allow individuals using CRWMA to function as part of a regional population. While the continued presence of bald eagles on CRWMA is dependent on conditions that influence the regional population, the proximity of CRWMA to IUA and a series of rivers and canals enhances the potential for this species to persist on the area.

### 3.2.16: Wading Birds

Two of the 8 focal species of wading birds [great egret (*Ardea alba*) and white ibis (*Eudocimus albus*)] are occasionally seen on the FWC lead portion of CRWMA. Four others [snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), little blue heron (*Egretta caerulea*), and wood stork (*Mycteria Americana*)] are rarely observed on the FWC lead portion of CRWMA. The roseate spoonbill (*Platalea ajaja*) and the reddish egret (*Egretta rufescens*) have not been documented. A colony of tricolored herons occurs along Deep Creek within the DEP lead.

Statewide, this group of species is a moderate priority. Several species are state listed species of special concern and the wood stork is federally listed as endangered. The Millsap biological scores for the reddish egret, little blue heron and

wood stork are high. The snowy egret, little blue heron, and roseate spoonbill are believed to have declining population trends while the tricolored heron and white ibis have unknown trends. From a regional perspective, there are several historic occurrence records of these species using portions of the Ocala National Forest and many individuals pass over CRWMA. Wading birds use riparian edges of the Ocklawaha River, Saint Johns River, and the various depressional wetlands on the FWC lead. There are historical records indicating large aggregations of wood stork using portions of the Ordway-Swisher Biological Station, located ~16 miles northwest of CRWMA.

On the FWC lead, models identified 9,541 acres of potential habitat using current natural community data with 7,206 acres possible if management could restore all natural communities. Perceived decreases in the amount of potential habitat with restoration are likely an artifact of the model. On the DEP lead, models identified 4,275 acres of potential habitat using current natural community data with 6,738 acres possible if management could restore all natural communities. Wading birds tend to use natural communities that are not actively managed and may travel great distances between foraging and roosting habitat. Therefore, the opportunity to influence the regional populations of these species at the management unit level on CRWMA is low. The area does have a role in supporting the regional population by maintaining water quality and promoting foraging habitat and potential nesting sites.

Specific management activities to benefit wading birds are inappropriate on the FWC lead, therefore no SMA or measurable objectives are recommended. No specific monitoring actions are recommended at this time. Managers should protect breeding colonies by providing a 330 ft buffer around the colony ([Section 4.3.15](#)). New wading bird colonies should be documented and reported ([Section 5.2.6](#)).

The area goal is to promote suitable habitat for wading birds that will allow individuals using CRWMA to function as part of the regional populations. While the continued presence of these species on CRWMA is dependent on conditions that influence the regional population, the proximity of CRWMA to a series of rivers and canals enhances the potential for these species to persist on the area.

### *3.2.17: Florida Black Bear*

Florida black bear or its sign is commonly seen on the FWC lead and occasionally seen on the DEP lead. While no den sites have been documented on CRWMA, it is likely occurring. The Florida black bear is a wide-ranging species capable of significant dispersal. Home range size varies according to resource availability and the level of habitat fragmentation on the landscape. Suitable habitat contains a mosaic of natural communities that provide a diversity of foraging opportunities, cover when traveling between these habitat types, and adequate den sites.

This state listed threatened species triggers 2 of 6 prioritization parameters (PLCP PVA probability of a 50% decline on public lands and Millsap biological score). From a regional perspective, CRWMA occurs within the primary range of the Ocala population as identified by the 2008 FWC Bear Management Plan. The Ocala population of Florida Black Bear is one of the state's largest populations. CRWMA

plays an important role as a movement corridor within a network of conservation lands connecting the Ocala black bear population with the Osceola population to the north and the Saint Johns population to the northeast. The literature suggests at least 40,000 acres is needed to support a population.

On the FWC lead, models identified 12,007 acres of potential habitat using current natural community data with 12,303 acres possible if management could restore all natural communities. On the DEP lead, models identified 12,397 acres of potential habitat using current natural community data with 14,302 acres possible if management could restore all natural communities. While CRWMA itself cannot support a local population, it exists within a network of conservation lands where the likelihood of long-term persistence of black bears is very high. In this context, CRWMA has a role in conserving this species at the larger regional level.

Employing land management practices that keep the needs of bears in mind will continue to support the area's primary role as a regional corridor while also providing suitable foraging habitat for bears ([Section 4.3.16](#)). Ongoing efforts to maintain CRWMA's natural community structure and function in actively managed natural communities could result in a change in the amount of denning cover for bears (i.e., reducing desired saw palmetto cover in mesic flatwoods per [Section 4.2.1](#)). However, the non-actively managed natural communities and the number and interspersed wetland habitats associated with managed natural communities on CRWMA will ensure this area always provides suitable bear denning habitat. Because suitable bear habitat occurs across the area and there are no specific management actions that could be applied specifically to benefit this species, no SMA is recommended.

Because this species naturally occurs in relatively low densities and is difficult to detect, no specific monitoring or measurable objectives are recommended. However, documenting opportunistic observations ([Section 5.2.6](#)) of bears or bear sign will assist in identifying potential travel corridors between natural communities on CRWMA. Because management actions affecting bears on the Ocala National Forest will directly affect bear use of CRWMA, ongoing coordination with the Forest Service is recommended ([Section 6.7](#)). Area staff should continue to communicate with FWC's imperiled species management section on black bear management issues ([Section 6.1.6](#)).

The area goal is to provide suitable habitat for Florida black bears on CRWMA that will allow the area to continue to serve as an important regional corridor. While the long-term persistence of bears on CRWMA is dependent on what happens to the larger Ocala population, the proximity of CRWMA to a number of other conservation lands increases the chance of this species persisting on the area.

### *3.2.18: Sherman's Fox Squirrel*

Sherman's fox squirrels are rarely seen on CRWMA. Fox squirrels have been documented in the mesic flatwoods along the western edge of the FWC lead, along the southern boundary with the bombing range, and in a pine plantation located east of the equipment area. On the DEP lead, fox squirrels have been noted along Highway 310, the west side of Highway 19 near the barge canal, and near the office

in the northeastern portion of the parcel. Suitable habitat for Sherman's fox squirrel includes longleaf pine sandhills or flatwoods with a mixture of pines and oaks, such as along the edges of longleaf pine savannas and live oak forests. Fox squirrels have a large home range size, and large oaks and pines are often used for nest sites. Biologists believe fox squirrels need a mosaic of habitat conditions to ensure a year-round supply of food that consists of a variety of seasonally abundant items.

This state species of special concern triggers 4 of 6 prioritization parameters (PLCP PVA proportion of populations modeled to persist on public lands, Millsap supplemental score, Legacy population trend and population status). From a regional perspective, the landscape around CRWMA historically supported a good population of this species. Much of the sandhill and open-canopied flatwoods desired by fox squirrels has now been developed or converted to incompatible silviculture. Open pastures may continue to provide some habitat for this species, particularly when located adjacent to remaining small, isolated patches of open forests. The nearest population of Sherman's fox squirrel occurs on the Ocala National Forest. Conversations with Forest Service staff suggest a healthy population occurs on the national forest, and the species is commonly found in the Riverside Island area of the forest.

On the FWC lead, models identified 4,405 acres of potential habitat using current natural community data with 5,734 acres possible if management could restore all natural communities. The fox squirrel is a wide-ranging species and it is not known if the potential habitat on FWC lead could support an independent population of this species. Literature suggests fox squirrels require 2,000 – 9,000 acres of habitat to support a population. It is likely, however, that fox squirrels using the FWC lead also are using habitat and interacting with squirrels found on the Ocala National Forest and on the DEP lead. In this context, CRWMA has a role in supporting the regional population of fox squirrels. Cooperation with the Forest Service ([Section 6.7](#)) is recommended to ensure corridors between the two properties are maintained for this species.

While specific habitat conditions desired by fox squirrels are not well understood, management believed to maintain habitat for fox squirrels include prescribed fire, timber management that strives for open mature stands of longleaf pine, and mechanical actions that aid in restoring natural community structure and function. Given the connection with Ocala National Forest and the amount of potential habitat in managed communities, the level of opportunity for this species on the FWC lead is moderate.

On the DEP lead, models identified 2,852 acres of potential habitat using current natural community data with 7,958 acres possible if management could restore all natural communities. Most of the current potential habitat on the DEP lead occurs within mesic flatwoods along Rodman Dam Road. Management actions here to benefit fox squirrels would include the frequent use of prescribed fire to create a more open structure. Historically, portions of the DEP lead now in pine plantation would have been mesic flatwoods. Thinning of these plantations and the reintroduction of prescribed fire would benefit this species. Small pockets of sandhill found on the DEP lead could be managed for fox squirrels through midstory control and frequent use of fire. Given the amount of potential habitat and connection with

the larger regional landscape, the level of opportunity for fox squirrels on the DEP lead is moderate. Section [4.3.17](#) describes additional land management considerations.

As ongoing efforts to maintain CRWMA's natural community structure and function will benefit this species, no SMA is recommended. Because this species naturally occurs in relatively low densities and is difficult to detect, no specific monitoring action other than opportunistic documentation is recommended ([Section 5.2.6](#)). No measurable objective for this species is recommended at this time.

The area goal is to promote suitable habitat for Sherman's fox squirrels on CRWMA that allow the fox squirrels to function as part of a regional population. While the continued presence of this species on CRWMA may be dependent on conditions that influence the regional population, the area is part of a larger landscape of conservation lands that increases the chance of persistence.

### *3.2.19: Limited Opportunity Species*

Four focal species (Frosted Flatwoods Salamander, Florida mottled duck, Florida scrub-jay, and Florida mouse) modeled (using statewide data) to have potential habitat on the FWC lead lack reasonable opportunity for management on the area. Opportunistic observations of these species should be documented ([Section 5.2.6](#)). If any of these species are documented with increasing regularity, the FWC lead's role in their conservation and recovery should be re-visited. Level of opportunity for these species on the DEP lead may also be limited. When different, level of opportunity for this species on the DEP lead will be stated.

Frosted flatwoods salamander- The flatwoods salamander (*Ambystoma cingulatum*) was recently recognized to be 2 distinct species by the USFWS; the frosted flatwoods salamander (*A. cingulatum*), which occurs to the east of the Apalachicola River and the reticulated flatwoods salamander (*A. bishopi*) which occurs to the west of the Apalachicola River. The USFWS lists the frosted flatwoods salamander as threatened, and the reticulated flatwoods salamander as endangered. Flatwoods salamanders have never been documented on CRWMA or within Putnam County. The nearest known occurrence is one record from 1954 near Burbank in Marion County (about 20 miles from CRWMA). Flatwoods salamanders have been documented in Duval, Alachua and Bradford counties to the north and west of CRWMA. However, there have been no records of this species in northeast Florida since 1990. Conversations with FWC herpetologists suggest, despite model results, that CRWMA falls outside the known range of this species and this species should not be considered a focal species for the area. Prior to the installation of the Cross Florida Barge Canal, flatwoods on the FWC lead were connected to the larger flatwoods landscape in Putnam County and Northeast Florida. Under these conditions, it is possible that salamanders could have occurred on CRWMA. Disruption of this connectivity by the barge canal, however, severely reduced the likelihood of long-term persistence of this species on the FWC lead.

On the FWC lead, models identified 2,153 acres of potential habitat using current natural community data with 5,790 acres possible if management could

restore all natural communities. On the DEP lead, models identified 2,387 acres of potential habitat using current natural community data with 8,473 acres if management could restore all natural communities. Theoretically, this is enough potential habitat to support a population. However, a loss of connectivity to the larger landscape from the barge canal and the lack of documentation in Northeast Florida since 1990 make the opportunity for flatwoods salamander on CRWMA very limited. On the DEP lead, flatwoods and pine plantations occurring within mesic communities still maintain some potential connectivity, but habitat conditions in these areas are not compatible with the needs of flatwoods salamanders.

While the opportunity to manage for flatwoods salamanders on CRWMA is very limited, monitoring of other focal herpetofauna species (e.g., striped newt) can verify presence of flatwoods salamanders from CRWMA ([Section 5.2.2](#)) should they occur on CRWMA. If the species is not detected during other herpetofauna surveys over a 10-year period, flatwoods salamander should be removed from consideration in future strategies for CRWMA. If this species is detected on the WMA, the need for area goals and management opportunities should be revisited.

Florida mottled duck- Mottled ducks have never been observed on CRWMA. Elsewhere, mottled ducks nest in dry marshes, pine flatwoods, citrus groves and even urban areas. Habitats that mottled ducks avoid include wet prairies, shrub and forested wetlands, and open water.

From a regional perspective, CRWMA is on the northern perimeter of the known range of the species. There may be some small, isolated patches of potential habitat scattered throughout the immediate area, but most of the wetlands and rivers immediately surrounding CRWMA represent unsuitable habitat for this species. On the FWC lead, models identified 29 acres of potential habitat using current natural community data with 18 acres possible if management could restore all natural communities. On the DEP lead, models identified 0 acres of potential habitat using current natural community data with 0 acres possible if management could restore all natural communities. This is not enough to support an independent population. Given the small amount of potential habitat on CRWMA, we believe the level of opportunity to manage for the mottled duck on CRWMA is limited. However, ongoing efforts to maintain CRWMA's natural community structure and function may provide some limited benefit to this species.

Florida scrub-jay- The Florida scrub-jay has never been documented on CRWMA. Ideal habitat for Florida scrub-jays is oak-dominated scrub predominantly 3 to 6 feet tall with an average of < 1 pine per acre. Increased pine densities and decreased distance to forest edge will decrease habitat suitability for scrub-jays by providing cover and perches for predators. Scrub-jays will occupy and use scrubby flatwoods and mesic flatwoods or ruderal sites that have suitable vegetative structure when these occur adjacent to scrub communities.

From a regional perspective, CRWMA occurs in an area that marks a transition from scrub to sandhill and flatwoods communities. Historically, small, isolated pockets of scrub or scrubby flatwoods occurred within the larger landscape of sandhill and flatwoods. Most of this habitat is now altered via development, in

agricultural production or pasture, or subject to incompatible silviculture. Occurrence records document the presence of scrub-jays south of CRWMA throughout the Ocala National Forest. The only records of scrub-jays to the north, west, and east of CRWMA are roughly 14 miles to the north in Etoniah Creek State Forest. Ocala National Forest retains the largest population of scrub-jays in Florida, but it is currently isolated from CRWMA by an extensive barrier of unsuitable riparian communities along the Ocklawaha River and the Rodman Reservoir.

On the FWC lead, models identified 23 acres of potential habitat using current natural community data with 26 acres possible if management could restore all natural communities. This is not enough habitat to support a population of scrub-jays based on the literature, which suggests a minimum population size of 10 family groups each of which require a minimum of 25 acres (a total of 250 acres). Given the limited amount of habitat and the isolation of the FWC lead from other areas known to hold scrub-jays, we believe the level of opportunity to manage this species is limited on the FWC lead.

On the DEP lead, models identified 391 acres of potential habitat using current natural community data with 300 acres possible if management could restore all natural communities. Most of this identified habitat is scrubby flatwoods with some small pockets of scrub located along Deep Creek Road, which is currently overgrown and not suitable for scrub-jays. Restoration of these areas with mechanical vegetation reduction and the re-introduction of fire could create more appropriate habitat conditions for this species. Even though scrub-jay occupancy of these acres is unlikely, habitat management for scrub-jays would create conditions suitable to a number of xeric dependent wildlife species, including the gopher tortoise and Florida mouse. While there is theoretically enough potential habitat to support a population of > 10 family groups on the DEP lead, conversations with FWC's statewide scrub-jay coordinator suggest acreages of > 500 acres are preferred, and the potential for this areas to be important for scrub-jays is limited.

Jay habitat on the DEP lead is isolated from other jay habitat. Jays may have historically moved from the Ocala National Forest northwards into CRWMA through fire-maintained open-canopied mesic flatwoods and small, isolated patches of scrubby flatwoods. However, establishment of the Rodman Reservoir and an extensive floodplain community around the Ocklawaha River and Deep Creek likely reduce any jay movement in and/or out of the potential habitat on the DEP lead. Etoniah Creek State Forest is located further than the accepted 7.5 mile (12 km) dispersal distance used to identify the state's jay metapopulation groups. While it is possible that the occasional jay might disperse into restored habitat on the DEP lead, the frequency of these events would probably be too low to support a local population. Translocation of jays into restored habitat on the DEP lead also is unlikely, and would do little to support a connection between the Ocala and Etoniah Creek populations due to the geographic distance and reduced amount of potential habitat north of CRWMA. Given these factors, the level of opportunity on the DEP lead for scrub-jays is currently limited with a low potential after habitat restoration.

Florida mouse- The Florida mouse has never been documented on CRWMA, although staff have never attempted to verify its occurrence on the FWC lead.

Florida Natural Areas Inventory (FNAI) looked for the Florida mouse on the DEP lead and found none. The Florida mouse inhabits sandhill and scrub habitats and relies almost exclusively on gopher tortoise burrows for refuge. Acorns and a diversity of seed producing groundcover plants are important food sources for this species.

From a regional perspective, CRWMA exists in a part of the state with a high historic amount of the xeric communities preferred by this species. Many of these communities are now impacted by development, agricultural production or pasture, or are subject to incompatible silviculture. The nearest known population of Florida mice occurs on the Ocala National Forest. The Ordway-Swisher Biological Station, located ~16 miles northwest of CRWMA, also maintains a healthy population of Florida mice. Historic occurrence records document Florida mice being captured in the Welaka State Forest, across the Saint Johns River from CRWMA, and from a site located 4-5 miles directly north of CRWMA. The FWC lead, however, is isolated from these sites by water on all four sides.

On the FWC lead, models identified 41 acres of potential habitat using current natural community data with 46 acres possible if management could restore all natural communities. This is not enough acreage to support a population based on literature estimates of 75 - 200 acres being required to maintain a viable population. Despite being management responsive, the lack of appropriate habitat on the FWC lead makes the level of opportunity for this species limited.

On the DEP lead, models identified 524 acres of potential habitat using current natural community data with 492 acres possible if management could restore all natural communities. This is enough habitat to support a viable population although the potential habitat is distributed in a patchy manner across the DEP lead. Most of this potential habitat occurs in xeric communities off Deep Creek Road. A combination of mechanical vegetation reduction and the reintroduction of fire would improve habitat conditions in these areas for Florida mice. Several small, isolated pockets of sandhill distributed throughout the DEP lead also could provide suitable habitat if restored through a combination of midstory reduction and the frequent use of prescribed fire. Given these factors and the fact that FNAI did not document Florida mice, the level of opportunity for this species on the DEP lead is currently low. DEP staff may consider another opportunistic survey for Florida mice in the xeric communities off Deep Creek Road once this area is restored. Following restoration, the DEP lead may have a more significant role in the conservation of this species.

### 3.2.20: Other Focal and Imperiled Species

The American alligator (*Alligator mississippiensis*) is the only other listed wildlife species documented on CRWMA. Ongoing management to maintain healthy wetland habitats should ensure the continued existence of the alligator on CRWMA.

One rare but unlisted species, the Rafinesque's big-eared bat (*Corynorhinus rafinesquii*) occurs on CRWMA; several individuals roost in the sign shop on the FWC lead and in a newly constructed bat house. Continued maintenance of this bat house and protection of riparian areas where this species forages should encourage

the continued existence of big-eared bats and southeastern myotis (*Myotis austroriparius*) on CRMWA. While the southeastern myotis is not modeled to occur on CRWMA, the FWC mammal taxa coordinator believes they are likely to occur on the area.

Three imperiled plant species have been documented on the FWC lead; hooded pitcher plant (*Sarracenia minor*; state threatened), and two species of butterworts (*Pinguicula lutea* & *P. caerulea*; both state threatened). On CRWMA, the continued use of prescribed fire in appropriate natural communities should benefit the hooded pitcher plant; periodic fires reduce the encroachment of competing plants. Pitcher plants survive fire by resprouting from rhizomes. Like the pitcher plant, the butterworts are carnivorous and will be benefited by the continued use of prescribed fire in appropriate natural communities. Degradation of water quality and drainage of wetlands also threatened these species; thus, the protection of wetlands on CRWMA will provide opportunities for their continued presence.

It is possible other imperiled species occur on CRWMA. Imperiled species on CRWMA 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.

#### **Section 4: Land Management Actions and Considerations**

Models identified potential habitat for 21 focal species on the area ([Section 3.1](#)); however, not all of these species have the same level of management opportunity or need ([Section 3.2](#)). The FWC's natural community-based management, which emphasizes frequent growing season prescribed fire, will promote the habitat conditions necessary for most of these species, without the need for further strategic management actions.

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

- Identify the area in which to apply specific land or species management that creates the highest probability for persistence/conservation of a species/suite of species. These specific actions may aid in restoring, enhancing or maintaining the habitat or population.
- Identify an area in which to focus specific management actions (land management or species management) for the best chance of success on large areas with more restoration/enhancement than can be accomplished in short order. This might be the first or next step in a sequential series of management actions that will increase the likelihood of occupation and/or persistence of a specific species.
- Identify an area that is so critical to the persistence of a species on the area that it warrants identification to ensure protection against negative alteration.

- Focus efforts on restoration/enhancement of a natural community that will benefit a priority species or a group of focal species. The SMA should identify the area in which these actions have the greatest positive impact for the species of interest.
- Identify areas that are critical for research or monitoring.
- Recommend specific OBVM DFCs in a specific area to benefit a specific species when we would not want to change the DFCs in the natural community area-wide.

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

While the intent on CRWMA is to restore all restorable natural communities to a more natural condition that will better suit these species, SMAs allow focus on areas with the highest possibility of success and/or areas most critical for the conservation of a species on the area. The workshop participants concluded that ongoing and planned natural community management will meet the needs of these species, and there was no need to identify specific actions in an SMA.

#### 4.2: Objective-Based Vegetation Management Considerations

Staff will use Objective-Based Vegetation Management (OBVM) to monitor progress towards Desired Future Conditions (DFCs) of various natural community parameters ([Table 2](#)). As such, OBVM will be effective in monitoring progress towards land management strategies.

The OBVM DFCs target a range in values for various habitat parameters within actively managed communities. However, some focal species may require a more restricted range in habitat parameters than is reflected in the DFCs. Therefore, we suggest which parameters should be added if habitat parameters important to a particular species are not currently monitored as part of OBVM ([Section 4.2.1](#)). [Section 4.2.1](#) also identifies cases in which the needs of the species require a change in the DFC area-wide.

**Table 2.** Desired Future Conditions for specific vegetative parameters in actively managed natural communities at CRWMA as identified via the OBVM workshop process.

<b>Mesic Flatwoods</b>	
Pine basal area	20-60 ft <sup>2</sup> /ac.
Average maximum shrub height	≤ 5 ft
Shrub cover	≤ 60%
Saw palmetto cover	≤ 40%
Herbaceous cover	≥ 25%
Wiry graminoid cover	≥ 5%
Weedy species cover	≤ 5%
Exotics cover	0%
<b>Wet Flatwoods</b>	
Pine basal area	20-60 ft <sup>2</sup> /ac.
Average maximum shrub height	≤ 5 ft
Shrub cover	≤ 60%
Herbaceous cover	≥ 25%
Wiry graminoid cover	≥ 5%
Weedy species cover	≤ 5%
Exotics cover	0%

4.2.1: *Modifications to Desired Future Conditions*

**Mesic Flatwoods**

Average maximum shrub height (ft):

All management units: change from ≤ 5 ft to ≤ 4 ft.

Justification: Shrub height is a parameter that greatly influences the amount and type of herbaceous diversity within flatwoods communities. Higher shrub heights typically indicate reduced herbaceous cover and diversity, which reduces habitat suitability for focal species like gopher frog, Bachman’s sparrow, northern bobwhite, and gopher tortoise. Modifying the DFC for this parameter will ensure management is successfully maintaining the habitat in a condition that will provide the greatest chance for successfully meeting species objectives.

Shrub cover:

All management units: change from ≤ 60% to ≤ 30%

Justification: Shrub cover is a parameter that greatly influences the amount and type of herbaceous diversity within flatwoods communities. Higher amounts of shrub cover typically indicate reduced herbaceous cover and diversity, which reduces habitat suitability for focal species like gopher frog, Bachman’s sparrow, northern bobwhite, and gopher tortoise. Modifying the DFC for this parameter will ensure management is successfully maintaining the habitat in a condition that will provide the greatest chance for successfully meeting species objectives.

Saw palmetto cover:

All management units: change from  $\leq 40\%$  to  $\leq 30\%$

Justification: Saw palmetto cover is a parameter that greatly influences the amount and type of herbaceous diversity within flatwoods communities. Higher amounts of saw palmetto cover typically indicate reduced herbaceous cover and diversity, which reduces habitat suitability for focal species like gopher frog, Bachman's sparrow, northern bobwhite, and gopher tortoise. Modifying the DFC for this parameter will ensure management is successfully maintaining the habitat in a condition that will provide the greatest chance for successfully meeting species objectives.

**Wet Flatwoods**

Average maximum shrub height (ft):

All management units: change from  $\leq 5$  ft to  $\leq 4$  ft.

Justification: Shrub height is a parameter that greatly influences the amount and type of herbaceous diversity within flatwoods communities. Higher shrub heights typically indicate reduced herbaceous cover and diversity, which reduces habitat suitability for focal species like striped newts, and gopher frogs. Modifying the DFC for this parameter will ensure management is successfully maintaining the habitat in a condition that will provide the greatest chance for successfully meeting species objectives.

Shrub cover:

All management units: change from  $\leq 60\%$  to  $\leq 30\%$

Justification: Shrub cover is a parameter that greatly influences the amount and type of herbaceous diversity within flatwoods communities. Higher amounts of shrub cover typically indicate reduced herbaceous cover and diversity, which reduces habitat suitability for focal species like striped newts, and gopher frogs. Modifying the DFC for this parameter will ensure management is successfully maintaining the habitat in a condition that will provide the greatest chance for successfully meeting species objectives.

**4.3: Further Land Management Considerations**

Most generalist or wide-ranging species benefit from management that restores the natural structure and function of natural communities they use. However, for some species, specific management recommendations and precautions are necessary to ensure the continued suitability of the area for the species. The following recommendations should help ensure CRWMA continues to fulfill its role in the conservation of these species.

*4.3.1: Gopher Frog/Striped Newt*

Gopher frogs and striped newts frequently move between wetland breeding ponds and adjacent uplands. Do not place ground disturbing firebreaks along wetland ecotones because they can alter/destroy the herbaceous component of pond margins

preferred by these species and other amphibians. Wet-lining can be an alternative to mineral firebreaks around wetlands if necessary; however, it is preferred to allow fire to burn through the wetland. Managers will use prescribed fire as the primary tool to remove shrubs and other thick vegetation from pond margins; mechanical treatments may be needed initially, but prescribed fire should be the main management tool in suitable wetlands.

Growing season (April–September) burns, preferably after April, are more beneficial to the gopher frogs and striped newts than dormant season (October–March) burns. This is because they are more effective at reducing shrub cover and litter in the wetland basin, stimulating the growth of herbaceous emergent vegetation, enhancing the wetland/upland ecotone, and stimulating the reproduction of wiregrass in the surrounding uplands. The most beneficial time to burn is when the wetland is dry. While growing season fires are preferred, it is better to burn during the dormant season than to avoid burning.

#### *4.3.2: Florida Pine Snake*

Large upland snakes such as the Florida pine snake are relatively wide-ranging and elusive. Ongoing land management activities will enhance the suitability of habitat for this species, but could also be directly detrimental. When using heavy equipment during land management activities, it is important to avoid direct mortality. When practical, keep heavy equipment at least 25 feet from areas with a high density of pocket gophers or gopher tortoise burrows, as pine snakes regularly use their burrows. Coarse woody debris and residual stumps should be left intact when possible to provide cover for these species. In general, avoid removing stumps. While it is acceptable to pile and burn excess logging slash if necessary to reduce smoke management issues, ensure some debris remain in the stand to provide cover for these species. Creating brush piles can provide cover for these species if natural cover is sparse or absent.

#### *4.3.3: Gopher Tortoise*

In areas where gopher tortoises occur, the timing of roller-chopping will, whenever appropriate, occur during the dormant season to minimize negative impacts to gopher tortoises. Gopher tortoises are generally less active and remain in burrows during the winter months. Therefore, roller-chopping at this time will be less likely to crush or otherwise harm foraging tortoises. Regardless of timing, make an effort to minimize impacts to known burrows, whether active or inactive/abandoned.

#### *4.3.4: American Swallow-Tailed Kite*

Because swallow-tailed kites exhibit high nest site fidelity, protect known nest sites from disturbance and alteration, and retain all of the tallest pines in the area of nest sites. Maintaining a 330-foot protective buffer around active nests during nest season should minimize the chance of disturbance. When possible, kite nesting areas should be allowed to have a higher shrub height and density than surrounding areas as

this may reduce the likelihood of nest predation. If kite activity is observed during nesting season, particularly if kites are observed carrying nesting material, mobbing, or congregating in groups of 3 or more, 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, FL. 137 pp.

While no swallow-tailed kites have been documented nesting on CRWMA, it is still important to preserve future potential nest trees. Staff can accomplish this by retaining the largest, oldest trees on the landscape during land management activities.

#### 4.3.5: *Bachman's Sparrow*

Prescribed fire improves the quality of habitat for Bachman's sparrows, and is the primary land management tool recommended to promote habitat for Bachman's sparrow on CRWMA. Suitable habitat can be created/maintained through frequent (<3 year rotation) use of prescribed fire. The occurrence of fire is critical to sustaining this species as use of an area by Bachman's sparrows declines rapidly around 18 months post-fire. Bachman's sparrows may abandon habitat if fire is excluded for more than 3 years. When using mechanical treatments to reduce understory, make an effort to retain some small patches of shrubs, which are used by singing males as singing perches during the breeding season. Follow mechanical treatment with a prescribed burn.

#### 4.3.6: *Brown-Headed Nuthatch*

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

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

#### 4.3.7: *Cooper's Hawk*

During the nesting season (April-July), Cooper's hawks are secretive and intolerant of human disturbance near the nest site. Males show a strong fidelity to traditional territories. For this reason, whenever possible, protect known nesting sites from disturbance during land management activities by maintaining a 50-foot buffer around the nest during the nesting season, and avoiding 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 protect the nest.

#### 4.3.8: *Florida Sandhill Crane*

Prescribed fire improves the quality of upland habitat for this species. In known nesting areas, fires should occur outside of the nesting season (December - June) and after the young are able to fly. A 400-foot buffer around known nests should reduce the likelihood of disturbance. Reducing disturbance to nest areas decreases chances of abandonment or other negative impacts. Consider seasonality of wetland management activities to avoid flooding of nests or reductions in foraging habitat. To ensure management is 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.

#### 4.3.9: *Limpkin*

Any timber harvest should observe Best Management Practices for protecting streams and spring runs and avoid soil disturbance if there is a risk of impacting streams or spring runs. As exotic invasive aquatic plants can have a negative impact on apple snails, document any occurrence of these species on the area and reported them to the Invasive Plant Management Section or Saint Johns River Water Management District ([Section 6.1.6](#) and [Section 6.2](#)). If detected early enough it may be possible to eradicate invasive exotic plants before a population becomes established.

#### 4.3.10: *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 habitat requirements for northern bobwhite. Growing season fires are generally preferred. Growing season fires are required to trigger flowering and viable seed production in many native plants. 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 to retain the fire return interval. On CRWMA, the fire return interval should be enhanced to allow for more frequent fire in actively managed natural communities utilized by northern bobwhite. This is an overall goal of the prescribed fire program on the area that will benefit a number of other species.

Pine stands with basal areas > 80 ft<sup>2</sup>/acre should be thinned to trigger herbaceous growth and improve habitat conditions for this species. Staff can manage ruderal areas for northern bobwhite through mechanical actions like mowing and/or disking strips during the summer months to promote herbaceous growth.

#### *4.3.11: Red-Cockaded Woodpecker*

Following habitat restoration, red-cockaded woodpecker colonization of CRWMA is unlikely to occur without active assistance. Existing pines are likely >30 years away from becoming suitable for use as cavity trees, and much of the forest structure is not in a condition preferred by this species. As such, there are no current plans for red-cockaded woodpecker specific management. However, it is essential to protect future potential cavity trees on CRWMA during ongoing land management activities. Restoration of natural community structure and function will enhance the suitability of habitat for this species over time. Replanting of sites with longleaf pine at low basal areas may be necessary, particularly in mesic flatwoods on the west side of CRWMA. After management has restored the habitat to suitable conditions, a reintroduction plan should be developed to guide reintroduction of this focal species to the area. Actions for this species should be consistent with the [state management plan](#) and the [federal recovery plan](#).

#### *4.3.12: 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 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 during land management activities by maintaining a 330-foot buffer around the nest during the nesting season, and avoiding heavy alteration of the nesting location. 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. Report new nests to ARCI ([Section 6.4](#)).

#### *4.3.13: Southeastern American Kestrel*

Southeastern American kestrels are dependent on the occurrence of open upland habitats that contain a number of snags for nest sites. While ongoing management will encourage the open foraging condition this species requires, make an effort to retain large snags during land management activities. The practice of snag management (i.e. protecting snags when safe and practical, promoting the

creation of new snags in areas currently lacking) will benefit southeastern American kestrels. If nesting is documented, the amount of mechanical activity within 500 feet of the nest will be minimized during the nesting season and the snag will be protected during prescribed fire activities. For more information on management for kestrels, see:

Stys, B. 1993. [Ecology and habitat protection needs of the southeastern American kestrel \(\*Falco sparverius paulus\*\)](#) on large-scale development sites in Florida. Florida Game and Fresh Water Fish Commission, Nongame Wildlife Program Technical Report No. 13. Tallahassee, Fl. 35 pp.

#### 4.3.14: 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](#) when planning activities within 660 feet of known eagle nests. Any new nests that are located will be documented. As this species is surveyed on a statewide basis, the bald eagle [nest locator](#) will be checked annually to check status of current nests and 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 with proper planning to avoid negative impacts to the eagles, per the guidance of the management plan. During management activities, retain large, mature pines as potential 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. Providing a 330-foot buffer around nesting colonies during nesting season will ensure adequate protection of these resources. Additionally, plan any mechanical and/or chemical control of aquatic vegetation at a time that avoids disturbance to the colony, and using methods that do not damage the plants in which wading birds construct their nests.

#### 4.3.16: Florida Black Bear

Bears require large areas of dense vegetation for escape and denning cover. Efforts to restore natural communities in pine plantations will result in a more open-landscape with reduced tree density and lower shrub height. Efforts to restore natural communities in pasture and ruderal areas will increase cover. Non-actively managed natural communities and the number and interspersions of wetland habitats associated with managed natural communities on CRMWA will ensure this area always provides suitable bear habitat. During the planning of land management activities on CRWMA, consideration should be given to promoting and protecting travel corridors for bears within the WMA and across boundaries to other managed areas. While denning on CRWMA has not been documented, mechanical treatments or prescribed

fire in areas with dense cover should be avoided during denning season (December – April). Burning to achieve a mosaic habitat structure within a given management unit will provide multi-aged palmetto patches and other cover habitat used by bears.

#### *4.3.17: Sherman's Fox Squirrel*

As habitat restoration occurs on CRWMA, it is likely the area will become more suitable for fox squirrels. To ensure the area reaches its potential for fox squirrels, prescribed fire and thinning should continue to create an open, mature forest structure. Restoration of open mature pine stand, especially restoring the longleaf pine component, will benefit this species. Efforts to reduce the dense shrub layer will benefit this species by providing the open conditions the species prefers, as well as promoting food producing species such as runner oak (*Quercus pumila*). As fox squirrels require an oak component, some oaks should be retained 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 and have limited dispersal capabilities are unlikely to occupy a site without reintroduction once habitat restoration is complete. Additionally, species that are currently present but occur at low densities, have low reproduction potential, or have other limitations that inhibit recovery, may require species-specific management. This section provides species management recommendations ([Section 5.1](#)) as well as monitoring recommendations ([Section 5.2](#)) to assess species response to land management and to determine the need for additional species management. [Section 5.3](#) identifies research necessary to guide future management.

### **5.1: Species Management**

Species management as used here refers to non-monitoring actions taken for a specific species. It can include actions such as translocation, restocking, installing artificial cavities, etc. [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. On the FWC lead, staff will be involved in species management for southeastern American Kestrels and bats.

#### *5.1.1: Southeastern American Kestrel Nest Box Program*

Staff originally placed 8 nest boxes on the eastern side of FWC lead in the early 2000s. To date, kestrels have not occupied these boxes. After further

examination, staff determined that these original boxes were not placed in the correct location for kestrels and therefore removed the boxes. Staff will place 3 new boxes in suitable locations (e.g., open pastures and open canopied scrubby flatwoods). These new boxes will be maintained and monitored by area staff according to protocol developed by FWRI as part of a statewide effort to erect and monitor southeastern American kestrel nest boxes. This effort will collect data on habitat structure around these boxes to gain a greater understanding of preferred nesting habitat. The purpose of monitoring southeastern American kestrel nest boxes on CRWMA is to document presence of the species on the area and to promote nesting opportunities.

#### *5.1.2: Rafinesque's Big-Eared Bat House Maintenance*

Area staff completed construction of a cinder block bat house for big-eared bats in 2010. Within several months, several individuals left a nearby structure (where they were originally observed) and took occupancy of the bat house. Staff will continue to maintain the structure and monitor use of this bat house on a weekly basis. Each week, staff will document the number of individuals using the bat house, ambient temperature inside the house, and other pertinent data. Over time, this information should provide insight into factors that affect use of bat houses by Rafinesque's big-eared bats.

### **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 CRWMA, the recommended monitoring will assess species in all actively managed communities, select wetland dependant species, and includes opportunistic monitoring for uncommon or hard to monitor species. Data collected will be reported to the regional conservation biologist for inclusion in the appropriate database developed for the WCPR program. We will make monitoring data available to cooperating agencies and organizations such as FNAI ([Section 6.5](#)).

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 the [WCPR SharePoint site](#). When protocols are finalized, they will be implemented in accordance with the timeframe described in this Strategy.

#### *5.2.1: Gopher Frog Monitoring*

The purpose of gopher frog monitoring is to determine the distribution of breeding ponds of this species on the area and to track changes in the distribution of this species in suitable wetlands over time. Call surveys will be completed following an approved protocol. The survey should be repeated on average every 3 years. However, as this species is dependent on specific weather events, the cycle of repetition may not be every 3 years and will need to follow the guidance of the protocol. As an opportunistic breeder that responds quickly to heavy rains, surveys

should occur around potential wetlands after major rain events during winter/early spring months.

#### *5.2.2: Striped Newt / Flatwoods Salamander Monitoring*

The purpose for monitoring these pond breeding obligates is to document presence of the species, which wetlands are breeding ponds and to monitor use of these ponds over time. Surveys following the approved standardized protocol should determine presence/absence and will not be of sufficient intensity to detect changes in relative abundance.

For striped newt, conduct surveys in years with sufficient rainfall to ensure water remains in ponds during late winter through early spring. Using the methodology and data sheets developed by the FWRI Amphibian and Reptile Research Scientist, conduct timed dip net searches of ponds to determine if the species is present. Document other captured species. Report data to the FWRI Amphibian and Reptile Research Scientist for inclusion in the database he has developed for the statewide monitoring effort ([Section 6.1.3](#)).

For flatwoods salamander, the standardized monitoring protocol currently in development specifies dip-netting potential breeding ponds a total of 3 times per year during 3 good years. If these surveys are unsuccessful in  $\geq 3$  good sampling years, the wetlands are presumed to not be breeding sites. Surveys should occur during late winter through early spring and when weather results in appropriate water levels.

For both of these species, if the surveys fail to detect any individuals after 10 years, the monitoring may be discontinued.

#### *5.2.3: Gopher Tortoise Monitoring*

The purpose of gopher tortoise monitoring will be to track the distribution and relative abundance of the species to determine the impact of management on the population trend. 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 tortoise density would require determining the actual occupancy rate of burrows on the area during the survey. While this is worthwhile information, it requires additional resources and is not necessary for basic trend evaluation. The surveys will follow the established FWC gopher tortoise protocol and will be conducted on a 5-year interval. Data will be reported to the gopher tortoise plan coordinator.

If time and resources permit, area staff may continue to maintain the area shapefile containing information on known burrow locations and status. This activity, however, should be considered secondary to the primary action of using the standardized burrow protocol mentioned above.

#### *5.2.4: Spring Grassland Bird Monitoring*

The purpose of monitoring northern bobwhite, Bachman's sparrows, and brown-headed nuthatches is to establish a baseline (for Bachman's sparrows and nuthatches) and track relative abundance (all 3 species) over time. Surveys for

Bachman's sparrow and brown-headed nuthatch will use standardized point counts using a protocol currently under development. If necessary to achieve results, it may be appropriate to incorporate the use of callback tapes in the call station protocol for Bachman's sparrow and brown-headed nuthatch. On CRWMA, these avian surveys will occur on an annual basis. Spring surveys for Northern bobwhite will continue to use the established protocol already in use on the WMA. Bobwhite data should be shared upon request with FWC's Hunting and Game Management section ([Section 6.1.2](#)).

#### *5.2.5: Southeastern American Kestrel Nest Box Monitoring*

The purpose of monitoring kestrel nest boxes is to determine the extent of nesting by southeastern American kestrels on CRWMA, and to track nesting in boxes over time. Staff will conduct southeastern American kestrel monitoring according to protocol developed by FWRI. Data will be reported to the conservation biologist for submission to FWRI for consideration as part of the statewide study ([Section 6.1.3](#)).

#### *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. Documentation of opportunistic sightings including species, date of the observation, observer, approximate lat/long or appropriate MU, number of individuals, behavior, and habitat type should be forwarded to the regional conservation biologist. Monitoring data will be made available to cooperating agencies and organizations such as FNAI ([Section 6.5](#)). Record encounters 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)
- Cooper's hawk (nesting activity only)
- Flatwoods salamander
- Florida black bear
- Florida pine snake
- Florida scrub-jay
- Red-cockaded woodpecker
- Short-tailed hawk (also record season and color phase)
- Sherman's fox squirrel
- Bald eagle (only document nesting activity)
- Rafinesque's big eared bat (document arrival/departure dates in bat house and shop for seasonal use information)
- 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 regarding management strategies for a given species.

However, cases arise when little or no information is available to guide management. This section outlines research needs identified through the WCPR process. At the WCPR workshop for CRWMA, there were no research needs identified. However, a number of the focal species that have not been documented on CRWMA may not be able to colonize the area if they are not present. Therefore, methodology for successful reintroduction of these species may be needed in the future if we desire to restore these species to CRWMA.

## **Section 6: Intra/Inter Agency Coordination**

Throughout the WCPR process, many recommendations were made regarding possible management strategies for focal species. THCR staff can handle most proposed management actions; however, cases may arise when coordination with other sections in FWC or other agencies is necessary or increases efficiency. This section identifies cases in which coordination is necessary outside of THCR, identifies the entity to coordinate with, and provides position contacts for these entities.

We attempt to provide the name, position and contact information for the people holding the position when this Strategy is drafted. As positions experience turnover, when in doubt, contact the current Section Leader /supervisor to determine the appropriate individual.

### **6.1: Florida Fish & Wildlife Conservation Commission**

#### *6.1.1: Species Conservation Planning Section (SCP)*

Monitoring animal populations on a WMA/WEA gives managers a way to gauge animal response to management. If this information is not shared with others, valuable data that can be used to assess statewide conservation efforts often is lost. Therefore, share monitoring data with the appropriate taxa coordinator and program coordinator for species in which conservation initiatives or other management programs have been developed. The regional SCP biologist is a good source of information on the regional status of non-game species. Additionally, FWC staff is authorized to handle federally listed species if it is done consistent with the requirements of the agency's Endangered Species Act Section 6 Cooperative Agreement. To meet these requirements, staff will provide reporting as outlined in the Agreement to the agency's Endangered Species Coordinator. Please note some contacts will also be covered under [Section 6.1.3](#); FWRI, and [Section 6.1.5](#); Florida's Wildlife Legacy Initiative.

#### Contacts:

Elsa Haubold, Species Conservation Planning Section Leader: (850) 488-3831

Robin Boughton, Avian Taxa Coordinator: (352) 732-1225

Melissa Tucker, Mammalian Taxa Coordinator: (386) 758-0525 ext 114

Bill Turner, Herpetofauna Taxa Coordinator: (850) 410-0656 ext 17331

Brad Gruver, Endangered Species Coordinator: (850) 488-3831

Alex Kropp, Regional Biologist: (352) 732-1225

#### *6.1.2: Hunting & Game Management (HGM)*

As the FWC has a statewide quail strategy, information collected on northern bobwhite should be shared with the small game coordinator.

##### Contacts:

Paul Schulz, Section Leader: (850) 488-3831

Chuck McKelvy, FWC Small Game Program Coordinator: (850) 342-0256

#### *6.1.3: Fish and Wildlife Research Institute (FWRI)*

Area staff will cooperate with FWRI staff conducting monitoring and research for bald eagle by reporting new eagle nests through the FWC bald eagle database. Area staff will cooperate with Kevin Enge on herpetofauna monitoring and report documentation of these species to FWRI. Staff will communicate with Karl Miller on an assessment of the current location of kestrel nest boxes and whether more suitable sites can be identified. Jim Rodgers administers the FWC's migratory bird scientific collection permit. Report handling of migratory birds covered by the permit to Mr. Rodgers in January of each year.

##### Contacts:

Tim O'Meara, Section Leader: (850) 488-3831

Jim Rodgers, Research Administrator (wading birds): (352) 955-2081

Janel Brush, Avian Research Biologist (bald eagle): (352) 955-2081

Kevin Enge, Associate Research Scientist (herpetofauna): (352) 955-2081

Karl Miller, FWRI Biological Administrator (SE American kestrel): (352) 955-2081

#### *6.1.4: Habitat Conservation Scientific Services (HCSS)*

HCSS works with many private landowners and may be able to assist in making contacts or providing incentives for management activities on neighboring private lands. Maintaining communication regarding current and future projects will be critical.

##### Contacts:

Scott Sanders, HCSS Section Leader: (850) 488-3831

Mark Asleson, Northeast Region Coordinator: (352) 732-1225

#### *6.1.5: Florida's Wildlife Legacy Initiative (FWLI)*

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

Contacts:

Katherine Haley, Florida's Wildlife Legacy Initiative: (850) 410-0656 x17297  
Adam Kent, Northeast Region Legacy Biologist: (352) 955-2081

*6.1.6: Imperiled Species Management Section (ISM)*

The Imperiled Species Management section is responsible for the implementation and evaluation of imperiled species management and recovery plans including the Florida black bear. Area staff should maintain contacts with the ISM section to ensure CRWMA remains an important regional corridor for black bear.

Contacts:

Kipp Frohlich, Section Leader: (850) 922-4330  
Dave Telesco, Black bear administrator: (850) 922-4330

*6.1.7: Invasive Plant Management Section (IPM)*

The Invasive Plant Management Section provides technical and financial assistance to assist in the control of upland invasive exotic plants. The Invasive Plant Management Section may serve as a critical resource in determining appropriate solutions to and identifying funding for solutions for exotic plant issues.

Contacts:

Ed Harris, Biological Administrator: (407) 858-6170

**6.2: Saint Johns River Water Management District (SJRWMD)**

The SJRWMD currently owns parcels that occur in the southeast portion of CRWMA. Opportunities to coordinate management actions or initiate monitoring/research efforts for focal species should be shared with SJRWMD staff. Area staff also can coordinate with SJRWMD on prescribed burning and treatment and control of exotic invasive plant species.

Contacts:

Steve Miller, SJRWMD Director of Land Management: (386) 329-4399  
Matt Corby, SJRWMD Land Manager: (904) 626-8572

**6.3: Florida Department of Environmental Protection Office of Greenways and Trails (OGT)**

The OGT has lead management authority over portions of CRWMA near and north of the Cross Florida Barge Canal. Because wildlife species are not concerned with political boundaries and will use appropriate habitat throughout the WMA, staff should continue to communicate with and look for opportunities to coordinate with OGT staff. See [Section 3.2](#) for a more complete assessment of wildlife opportunities on the OGT managed portion of CRWMA.

Contacts:

Mickey Thomason, OGT Manager: (352) 236-7143  
Adele Mills, OGT Biologist: (352) 236-7143

**6.4: Avian Research and Conservation Institute (ARCI)**

The Avian Research and Conservation Institute (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:

Ken Meyer, Avian researcher: (352) 335-415: [meyer@arcinst.org](mailto:meyer@arcinst.org)

**6.5: Florida Natural Areas Inventory (FNAI)**

The FNAI collects, interprets, and disseminates ecological information critical to the conservation of Florida's biological diversity. The FNAI's database and expertise facilitate environmentally sound planning and natural resource management to protect the plants, animals, and communities that represent Florida's natural heritage. The FNAI maintains a database of rare and listed species that is often used for planning purposes. As such, staff should share information about element occurrences on CRWMA with FNAI to ensure this information is included in their database. FWC also has a contract with FNAI for plant and animal surveys if the need exists and resources are available.

Contacts:

Dan Hipes, Chief Scientist: (850) 224-8207

**6.6: Florida Division of Forestry (DOF)**

The DOF can assist with timber management on state lands. They also issue authorizations for prescribed burning and will assist on escaped fires. Staff should continue to coordinate with DOF on these issues.

Contacts:

DOF Dispatch: (352) 955-2010  
Billy Anderson, Forestry Area Supervisor: (386) 467-2388

**6.7: United States Forest Service (Ocala National Forest)**

The Ocala National Forest contains a healthy population of many wildlife species identified in this document. Area staff should continue to communicate with Forest Service staff regarding their plans to manage for species like red-cockaded woodpecker, Florida black bear, and others.

Contacts:

Carrie Sekerak, Forest Service Wildlife Biologist: (352) 669-3153

## **Section 7: Beyond the Boundaries Considerations**

There is enough potential habitat (with restoration and appropriate management) to support many of CRWMA's focal species such as Bachman's sparrow, brown-headed nuthatch, northern bobwhite, and gopher tortoise. There also is the potential to maintain a population of gopher frog, and striped newt if these species can be successfully documented on the area. A number of CRWMA's focal species, however, cannot be supported in isolation (e.g., Florida black bear, Sherman's fox squirrel, American swallow-tailed kite, and bald eagle). While many of CRWMA focal species are highly mobile (e.g. Cooper's hawk, limpkin, bald eagle, American swallow-tailed kite, southeastern American kestrel, and short-tailed hawk) and will likely continue to occur on the area, their long-term persistence on CRWMA is dependent on regional conditions. As an example, FWC does not control water manipulation within the Ocklawaha River and Rodman Reservoir. However, these manipulations could have impacts on species like bald eagle, limpkin, and wading birds. FWC should continue to communicate with staff from DEP and SJRWMD on their water management activities so wildlife impacts are considered, and mitigated when possible.

Many of CRWMA's focal species benefit from the proximity of CRWMA to other conservation lands, such as the Ocala National Forest and Welaka State Forest. From a larger regional perspective, CRWMA is located at the northern end of a series of conservation lands that follow the Saint Johns River. To enhance persistence of CRWMA's focal species, opportunities to develop additional conservation areas northward to Camp Blanding and ultimately the Osceola National Forest through acquisition or conservation easements should be encouraged.

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; available at [Closing the Gaps Report, 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 on private lands. 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" (available at [Wildlife Habitat Conservation Needs in Florida Web Information](#)). The striped newt, black bear, American swallow-tailed kite, Cooper's hawk, Florida mouse and scrub-jay are species for which SHCA was identified within 3 miles of CRWMA. Although it is unlikely Florida will acquire all property identified in SHCAs, property acquisition and encouraging land use and management that is compatible with the needs of CRWMA's focal species should be a priority in the area.

Because most of the FWC lead's immediate boundary is in public ownership (e.g., Ocala National Forest and the DEP lead), increases in human population growth are unlikely to directly affect the area surrounding FWC lead. However, by the year 2060, significant development could occur along CRWMA's northern boundary. Impacts from regional development can affect species that require large home ranges or are dependent on dispersal for maintaining their population. Roadways further fragment available habitat, impede

species' movement between areas of suitable habitat and increase mortality. Consumptive water use from a growing human population may reduce water levels in historically wet areas and affect water manipulation decisions related to the Rodman Reservoir. Increases in water levels along the Saint Johns River from sea level rise could shift natural community structure and location along CRWMA's eastern boundary with potential impacts to focal species.

Habitat suitability on CRWMA will increase with planned land management. Restoration will increase the amount of habitat available for use by species, but will be a long-term and expensive process. Several private inholdings within CRWMA complicate management activities like prescribed burning; acquisition of these parcels would provide habitat continuity for many focal species. When opportunities to purchase these inholdings exist, state acquisition staff should be encouraged to examine these parcels. Coordination with OGT on scrubby flatwoods and scrub restoration would potentially increase the amount of suitable potential habitat available for species dependent on xeric communities ([Section 6.3](#)). Many of CRWMA's species are dependent on the availability of adjacent suitable habitat on private and public lands. As such, the actions of adjacent landowners will determine if some of these focal species will persist on CRWMA. Area staff should make every effort to cooperate in the conservation of focal species by coordinating with HCSS to ensure willing private landowners get the proper technical assistance and are informed of incentive programs to encourage conservation-based management ([Section 6.1.4](#)). Conservation partnerships are critical to the long-term persistence of many species and should be encouraged.

**Document Map**

Species	Species assessment	Land management actions	Species management actions	Species monitoring	Research needs	Intra/inter agency coordination
Frosted flatwoods salamander	<a href="#">3.2.19</a>			<a href="#">5.2.2</a>		<a href="#">6.1.3</a>
Gopher frog	<a href="#">3.2.1</a>	<a href="#">4.3.1</a>		<a href="#">5.2.1</a>		
Striped newt	<a href="#">3.2.2</a>	<a href="#">4.3.1</a>		<a href="#">5.2.2</a>		<a href="#">6.1.3</a>
Florida pine snake	<a href="#">3.2.3</a>	<a href="#">4.3.2</a>		<a href="#">5.2.6</a>		
Gopher tortoise	<a href="#">3.2.4</a>	<a href="#">4.3.3</a>		<a href="#">5.2.3</a>		
American swallow-tailed kite	<a href="#">3.2.5</a>	<a href="#">4.3.4</a>		<a href="#">5.2.6</a>		<a href="#">6.4</a>
Bachman's sparrow	<a href="#">3.2.6</a>	<a href="#">4.3.5</a>		<a href="#">5.2.4</a>		
Brown-headed nuthatch	<a href="#">3.2.7</a>	<a href="#">4.3.6</a>		<a href="#">5.2.4</a>		
Cooper's hawk	<a href="#">3.2.8</a>	<a href="#">4.3.7</a>		<a href="#">5.2.6</a>		
Florida sandhill crane	<a href="#">3.2.9</a>	<a href="#">4.3.8</a>		<a href="#">5.2.6</a>		
Florida scrub-jay	<a href="#">3.2.19</a>			<a href="#">5.2.6</a>		
Florida mottled duck	<a href="#">3.2.19</a>			<a href="#">5.2.6</a>		
Limpkin	<a href="#">3.2.10</a>	<a href="#">4.3.9</a>		<a href="#">5.2.6</a>		
Northern bobwhite	<a href="#">3.2.11</a>	<a href="#">4.3.10</a>		<a href="#">5.2.4</a>		<a href="#">6.1.2</a>
Red-cockaded woodpecker	<a href="#">3.2.12</a>	<a href="#">4.3.11</a>		<a href="#">5.2.6</a>		<a href="#">6.7</a>
Short-tailed hawk	<a href="#">3.2.13</a>	<a href="#">4.3.12</a>		<a href="#">5.2.6</a>		<a href="#">6.4</a>
Southeastern American kestrel	<a href="#">3.2.14</a>	<a href="#">4.3.13</a>	<a href="#">5.1.1</a>	<a href="#">5.2.5</a>		<a href="#">6.1.3</a>
Southern bald eagle	<a href="#">3.2.15</a>	<a href="#">4.3.14</a>		<a href="#">5.2.6</a>		<a href="#">6.1.3</a>
Wading birds	<a href="#">3.2.16</a>	<a href="#">4.3.15</a>		<a href="#">5.2.6</a>		
Florida black bear	<a href="#">3.2.17</a>	<a href="#">4.3.16</a>		<a href="#">5.2.6</a>		<a href="#">6.1.6; 6.7</a>
Florida mouse	<a href="#">3.2.19</a>			<a href="#">5.2.6</a>		
Sherman's fox squirrel	<a href="#">3.2.18</a>	<a href="#">4.3.17</a>		<a href="#">5.2.6</a>		<a href="#">6.7</a>

## 13.7 FNAI Letter



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*

## 13.8 Prescribed Burn Plan

# PRESCRIBED FIRE PLAN CARAVELLE RANCH WMA

## Supplement to the Caravelle Ranch WMA Management Plan

### INTRODUCTION

The vegetative communities on Caravelle Ranch Wildlife Management Area (CRWMA), with the exception of the river swamp, are fire climax communities. Prescribed fire is the primary habitat management tool on CRWMA. This plan outlines objectives, burn techniques, smoke management and personnel and equipment needs for the use of prescribed fires on CRWMA.

### DESCRIPTION OF AREA

The 27,241 acre CRWMA is located 12 miles south-southwest of Palatka in Putnam County, Florida. The area is split between three managing agencies:

1. The St. Johns River Water Management District (SJRWMD)
2. The Department of Environmental Protection's Office of Greenways and Trails (OGT)
3. The Florida Fish and Wildlife Conservation Commission (FWC).

FWC has lead management authority over 12,330 acres, including the acreage owned by SJRWMD, pursuant to a lease agreement with that agency. FWC has no fire management involvement with the OGT acreage.

Approximately 44% of the area is comprised of pine flatwoods, 17% is improved pasture and 39% is hardwood swamp. Slash pine (*Pinus elliottii*) and loblolly pine (*P. taeda*) with a gallberry (*Ilex glabra*) and saw palmetto (*Serenoa repens*) understory are the dominant plant assemblages within the flatwoods community. The improved pasture sites are dominated by bahia grass (*Paspalum sp.*) and bluestem (*Andropogon spp.*). Numerous slash pines occur sporadically on the improved pasture sites.

Eighty-eight depressional wetlands (usually < 1 acre) occur throughout the area managed by FWC. Pond-cypress (*Taxodium ascendens*), red maple (*Acer rubrum*), sweet gum (*Liquidambar styraciflua*), loblolly-bay (*Gordonia lasianthus*), and cabbage palm (*Sabal sp.*) are the dominant tree species that occur in and around depressional areas. Cypress, cabbage palm, live oak (*Quercus virginiana*) and water oak (*Q. nigra*) are the dominant species within the hardwood river swamp. Live oak is the dominant species in the hardwood hammocks with saw palmetto and gallberry dominating the understory.

### PRESCRIBED FIRE OBJECTIVES

The primary objectives of prescribed burning at CRWMA are:

1. Reduce fuel accumulation and minimize fire hazards, especially around buildings.

2. Improve wildlife habitat.
3. Maintain fire-dependent plant communities.
4. Improve recreational access.
5. Enhance aesthetics.
6. Control exotic vegetation.

## **PRESCRIBED FIRE IMPLEMENTATION**

### **Burn Units and Firelines**

CRWMA is divided into 72 management units (Table 1). The natural communities of these units are shown in (Fig 1). There are 5,089 FWC and 1,200 SJRWMD fire-maintained acres. The boundaries between these units are shown in (Fig 2).

Approximately 30 miles of firelines are used to separate the burn units. These lines are to be disked annually. In addition, numerous naturally occurring firebreaks are utilized such as the Ocklawaha and St. John's River swamps and Camp Branch Creek. Since most of the roads on CRWMA are well traveled and contain little vegetation, they are also used as fire breaks. By their nature, soft lines such as two-track roads require more attention and often need to be extinguished by the burn crew as the fire progresses.

### **Return Intervals / Rotations**

The burn rotation for CRWMA is generally 18 months to three years depending on habitat type. Pasture not burned within two years or flatwoods not burned within four years will be considered out of rotation. Modification to the return interval may be necessary in some cases to achieve specific goals for a unit. For example, units with major overstory mortality from a wildfire may be intentionally allowed to exceed the stated return intervals in order to allow establishment of viable tree regeneration.

### **Firing Technique**

Ground ignition by drip torch or ATV-mounted torch will be the primary form of ignition. The burn unit, weather conditions, fuel load, burning objectives and smoke management guidelines at the time of fire will dictate the firing technique that is used. In general, fires are started on the downwind side of units and allowed to back until the manager determines that there is sufficient distance from the fireline to allow further ignition with low risk of spot-over. The remainder of the unit is spot- or strip-headed while keeping the flanks even with or ahead of the main fire. In case where the downwind boundary is a natural barrier such a creek or swamp, the initial backing fire is omitted.

### **Season and Time of Day**

Prescribed burning will primarily be conducted during daylight hours. Although night burns are viable options on some other areas, the risk of smoke management issues on CRWMA is too great due to the low-lying nature of the flatwoods, nearby drainages that funnel and collect residual smoke, and frequent fog events. The standard operational period is to begin firing operations no earlier than 0900 and to

have all spreading fire out by 1700. Both dormant and growing season burns are utilized. When conditions are favorable, growing season burns are preferred on the native communities to mimic the historical timing of fires and promote flowering and regeneration of some fire dependent species. Pasture and old field typically require dormant burning when the grasses are cured enough to carry fire, which normally occurs after the first frost.

### **Optimal Weather Conditions**

Because the best winter weather conditions exist for several days after the passage of a cold front, most dormant season burns will be conducted during this time frame. Burns at CRWMA will be conducted under weather conditions considered optimal for the area. In general, burn managers will be looking for the following parameters:

1. Relative Humidity  $\geq 35\%$
2. Temperature  $\leq 85^{\circ}$  F
3. Mixing height  $\geq 1700$
4. 20 ft winds 5-15 mph
5. Transport winds 9-25 mph
6. Dispersion index  $\geq 35$ .

Growing season burns follow the same general guidelines, with the exception of generally higher relative humidity and temperature due to season.

Burns will also be conducted outside of these parameters at certain times to meet objectives. For example, pasture units may be safely burned on higher windspeeds and/or lower relative humidities than flatwoods. At these times, the burns will still be conducted within the accepted conditions set by the Florida Forest Service (FFS) for that particular day.

### **Smoke Management**

Smoke direction, volume and dissipation from prescribed burning of CRWMA will be a primary concern because of nearby smoke sensitive areas. These areas include: SR 19, Welaka (2 miles SE), Palatka (12 miles NNE), Rodeheaver Boy's Ranch (adjacent), Tyler, Zahn, Munch, and Talkington inholdings, and the United States Navy bombing range.

To minimize smoke problems, burning will be conducted when:

1. Mixing height > 1700 feet
2. Transport winds > 9 mph
3. Dispersion index > 35

Units will be burned when surface/transport winds will disperse smoke favorably over sparsely populated areas and not affect roads. Smoke screening using FFS software and/or manual smoke plotter is included in the burn plan to ensure minimal impact to sensitive areas. Signage shall be posted along roadways when the manager believes there to be a risk of low visibility during the burn or at any

point during the mop-up and monitoring phases. The Florida Highway Patrol will be notified whenever there is significant risk of smoke impacting a public roadway during or after the operational firing period.

### **Personnel and Equipment**

All personnel and equipment participating in any prescribed burning activity on CRWMA will adhere to the Division of Habitat and Species Conservation’s internal policy, “Prescribed Burning and Wildfire Suppression Standards.” This policy covers training and Personal Protective Equipment (PPE) requirements.

The number of personnel to be used on each burn will be determined by the burn manager. The burn manager will be a certified burn boss as required by the FFS and FWC. In general, all personnel will be assigned an ATV equipped with a mounted water tank and fire extinguisher. Additionally, a Type-VI brush truck and dozer/plow unit will be on the area and assigned to burns on an as-needed basis to be determined by the burn boss. Personnel assigned to engines and dozers will meet the minimum training requirements outlined in the policy.

### **Permits and Notification**

An open burning permit will be obtained from the FFS prior to any ignition and recorded on the burn plan. When appropriate, notification of burning will be given to adjacent landowners that may be impacted by smoke.

Table # 1. List of management units and lead managing agency of each unit on Caravelle Ranch WMA.

Unit name	Community type	Acres	Hectares	Lead Agency
1	mesic hammock	234.2	94.8	FWC
2	mesic flatwoods	171.0	69.2	FWC
3A	mesic flatwoods	111.0	44.9	FWC
3B	mesic flatwoods	61.3	24.8	FWC
4	mesic flatwoods	62.7	25.4	FWC/SJWMD
5	mesic flatwoods	41.8	16.9	FWC/SJWMD
6	mesic flatwoods	189.2	76.5	FWC
7	ruderal	132.6	53.7	FWC
8	ruderal	98.1	39.7	FWC
9	ruderal	77.4	31.3	FWC
10	mesic flatwoods	95.5	38.6	FWC/SJWMD
11	ruderal	111.4	45.1	FWC
12	ruderal	158.2	64.0	FWC
13	ruderal	86.4	35.0	FWC
14	ruderal	39.9	16.2	FWC
15	ruderal	84.2	34.1	FWC
16	ruderal	115.2	46.6	FWC
17	ruderal	79.2	32.0	FWC
18	ruderal	43.2	17.5	FWC
19	ruderal	29.2	11.8	FWC
20	ruderal	63.0	25.5	FWC
21	mesic flatwoods	102.4	41.5	FWC/SJWMD
22	mesic flatwoods	43.9	17.8	FWC/SJWMD
23	ruderal	95.1	38.5	FWC
24	ruderal	153.6	62.2	FWC
25	ruderal	71.7	29.0	FWC
26	ruderal	99.7	40.3	FWC
27	mesic flatwoods	42.1	17.0	FWC
28	ruderal	49.6	20.1	FWC
29	ruderal	127.4	51.5	FWC
30	ruderal	112.9	45.7	FWC
31	mesic flatwoods	73.3	29.6	FWC/SJWMD
32	mesic hammock	238.4	96.5	FWC/SJWMD
33	ruderal	49.4	20.0	FWC
34	ruderal	115.6	46.8	FWC
35	ruderal	68.8	27.9	FWC
36	ruderal	163.5	66.2	FWC

37	mesic flatwoods	109.6	44.4	FWC/SJWMD
38	ruderal	141.8	57.4	FWC/SJWMD
39	mesic flatwoods	108.3	43.8	FWC/SJWMD
40	mesic flatwoods	120.5	48.8	FWC/SJWMD
41	mesic hammock	159.8	64.7	FWC/SJWMD
51	wet flatwoods	68.5	27.7	FWC
52	wet flatwoods	88.1	35.6	FWC
53	wet flatwoods	81.6	33.0	FWC
54	wet flatwoods	83.9	33.9	FWC
55	wet flatwoods	58.5	23.7	FWC/SJWMD
56	mesic flatwoods	142.1	57.5	FWC/SJWMD
57	mesic flatwoods	67.9	27.5	FWC/SJWMD
58	wet flatwoods	63.1	25.5	FWC
59	wet flatwoods	59.3	24.0	FWC
60	wet flatwoods	43.8	17.7	FWC
61	wet flatwoods	50.6	20.5	FWC
62	wet flatwoods	70.2	28.4	FWC
63	wet flatwoods	51.4	20.8	FWC
64	wet flatwoods	146.7	59.4	FWC
65	wet flatwoods	95.2	38.5	FWC
66	wet flatwoods	72.5	29.4	FWC
68	wet flatwoods	103.1	41.7	FWC
69	wet flatwoods	57.7	23.3	FWC
70	mesic flatwoods	107.9	43.7	FWC
71	mesic flatwoods	74.8	30.3	FWC
72	mesic flatwoods	33.8	13.7	FWC
73	mesic flatwoods	127.7	51.7	FWC
74	mesic flatwoods	81.1	32.8	FWC
75	mesic flatwoods	62.2	25.2	FWC
76	mesic flatwoods	73.0	29.6	FWC
77	mesic flatwoods	87.9	35.6	FWC
78	mesic flatwoods	82.8	33.5	FWC/SJWMD
79	mesic flatwoods	106.5	43.1	FWC/SJWMD
80	mesic flatwoods	91.4	37.0	FWC
81	wet flatwoods	25.5	10.3	FWC

Figure 1. Caravelle Ranch WMA Community Types

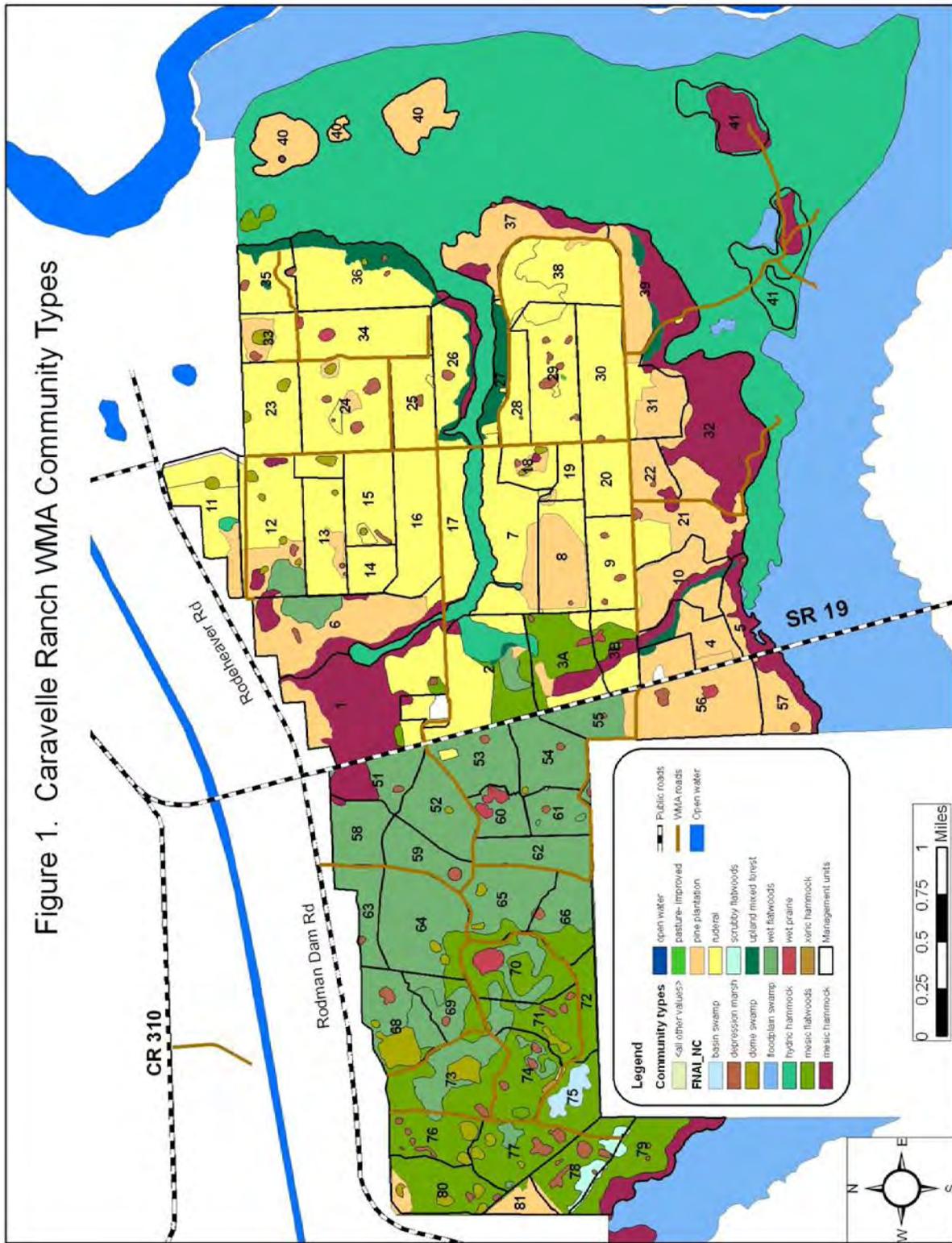
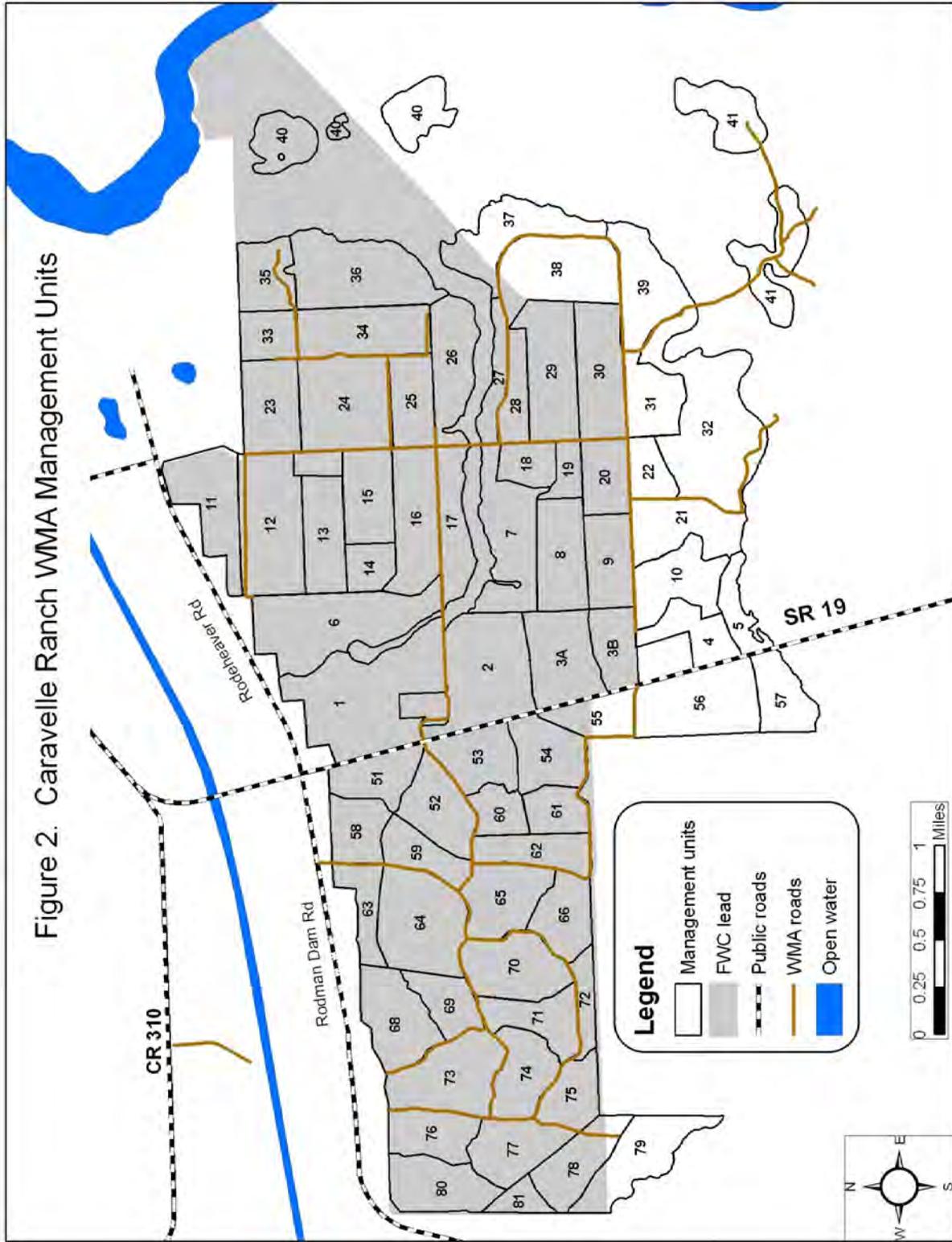


Figure 2. Caravelle Ranch WMA Management Units



## 13.9 Cattle Grazing Agreement

**CONTRACT FOR  
CATTLE GRAZING AT CARAVELLE RANCH WILDLIFE MANAGEMENT AREA**

This GRAZING CONTRACT is entered into by and between the FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, 620 South Meridian Street, Tallahassee, Florida 32399-1600, hereinafter called the "COMMISSION" and, Jim Farley Cattle Company of P. O. Box 937, Penney Farms, FL 32079, hereinafter called the "CONTRACTOR". If the CONTRACTOR is a corporation, its Florida corporate status must be current and an individual must sign as the guarantor.

**SCOPE OF THE CONTRACT**

This Contract is entered into pursuant to the COMMISSION's Invitation to Bid (ITB) FWC 08/09/19 (Attachment A) and the CONTRACTOR's Bid (Attachment B), both attached hereto and made an integral part of this Contract. In the event of conflict between this Contract and Attachments A and B, the terms of this Contract shall govern.

**TERM**

This CONTRACT shall begin on October 15, 2008 or the date executed by both parties, and shall be in full force and effect for a period of five (5) years, unless terminated as provided herein. In the event that this CONTRACT is signed by the parties on different dates, the latter date shall control.

**RENEWAL**

This Contract may be renewed for one additional five (5) year term. Such renewal shall be by mutual agreement in writing and shall be subject to the same terms and conditions set forth in the initial GRAZING CONTRACT. Renewal shall be contingent upon satisfactory performance evaluations by the COMMISSION, and must be in writing and is contingent upon satisfactory performance by the CONTRACTOR.

**AMENDMENT OR MODIFICATION**

No waiver or modification of this Contract or of any covenant, condition, or limitation herein contained shall be valid unless in writing and lawfully executed by the parties.

**1.0 CONTRACTOR'S RESPONSIBILITIES**

**1.1 CONTRACTUAL PAYMENT SCHEDULE:** The CONTRACTOR shall submit the first semi-annual payment and the **\$132,060.00** Performance Bond within ten (10) consecutive calendar days after the execution of the contract. The COMMISSION will invoice the CONTRACTOR for subsequent semiannual payments. CONTRACTOR shall forward said payments, and the renewal of Performance Bond, if annual coverage, to the COMMISSION no later than thirty (30) days from the date of the payment invoice. All payments shall be submitted to Florida Fish and Wildlife Conservation Commission, 620 S. Meridian Street, Tallahassee, FL 32399-1600.

**1.2 STOCKING RATE:** The CONTRACTOR shall pay the COMMISSION **\$ 186.00** per animal grazing unit for the first year of grazing. The grazing unit per animal will be adjusted annually as noted in Section 3.1 below. Cattle shall be stocked at a rate not to exceed **142** animal grazing units on 1,840 acres of Caravelle Ranch Wildlife Management Area as identified in Attachment A attached hereto. The stocking rate may only be increased with written permission by the COMMISSION. The stocking rate may be decreased by the COMMISSION upon written notice to the CONTRACTOR if grazing is excessive for optimum wildlife management. The CONTRACTOR shall accordingly increase or decrease such stocking rate within 60 days of written notice by the COMMISSION.

The CONTRACTOR shall provide the contract manager with an Annual Forage Assessment and Maximum Stocking Rate estimate performed either by a local NRCS extension office, or a professional rangeland consultant by January 31st each year.

**1.3 MARKING OWNERSHIP:** The CONTRACTOR shall mark all cattle with the CONTRACTOR's brand, tag, or other owner identification before releasing the cattle for grazing on the above COMMISSION land. The CONTRACTOR shall mark all calves born in the grazing lands at the first gathering after their births, which shall be undertaken within six months of such births. All cattle grazed under this GRAZING CONTRACT shall be the property of the CONTRACTOR and therefore the sole responsibility of the CONTRACTOR.

**1.4 FENCE MAINTENANCE:** The CONTRACTOR shall maintain all grazing lands, exterior and interior fences and cattle guards in good and operable condition. The CONTRACTOR shall perform necessary fence replacement and repair in accordance with specifications for fence construction detailed in Attachment A (attached). All fences, gates and cattle guards must be maintained in a manner to prevent egress of cattle to areas outside the contracted property. Replacement and/or repair of all posts, cattle guards, gates, material and labor shall be at the sole and exclusive expense of the CONTRACTOR, except as stated under "COMMISSION RESPONSIBILITIES." The CONTRACTOR shall promptly remove storm debris from fencing and make the appropriate repairs. The CONTRACTOR shall relinquish all fences, including posts, gates, and cattle guards in good working condition, to the COMMISSION upon termination of this GRAZING CONTRACT. Furthermore, the CONTRACTOR shall be required to use only the COMMISSION's furnished key or combination locks for said gates.

**1.5 GRAZING ACCOUTERMENTS:** The CONTRACTOR shall be required to have the COMMISSION's Project Manager's written permission to construct or make any physical alterations or improvements to the grazing lands. The CONTRACTOR shall be required to maintain all interior fences in accordance with specifications in Attachment A and other constructed physical alterations or improvements to the grazing lands that are necessary to the CONTRACTOR's grazing operations and which are necessary for the CONTRACTOR to fulfill the covenants to which he or she is bound. The CONTRACTOR shall not cross-fence the grazing lands without prior written approval of the COMMISSION. All supplemental feeding sites shall be rotated every 90 days unless written approval is given by

the COMMISSION. All approved cross fences and related constructed physical alterations or improvements constructed solely at the expense of the CONTRACTOR shall remain the property of the CONTRACTOR and the CONTRACTOR shall expeditiously remove same upon termination of this GRAZING CONTRACT and shall reasonably restore such grazing lands to the condition existing prior to the construction of such physical alterations and improvements, except as otherwise approved in writing by the COMMISSION.

- 1.6 GROUND DISTURBING ACTIVITIES:** The CONTRACTOR shall not initiate any ground disturbing activities including construction of ditches or ponds, vegetation manipulation, or application of pesticide, herbicide, or fertilization upon the grazing lands without prior written approval from the COMMISSION. These restrictions do not exempt the CONTRACTOR from the annual fire lane maintenance requirement.
- 1.7 FIRE LANES/PERFORMANCE BOND:** No less than once every 12 months between October 1 and December 1 of each calendar year, the CONTRACTOR shall disk existing fire lanes of no less than ten foot widths. Such fire lanes shall divide established burn units and completely encircle the perimeter of the contracted area as identified in Attachment A attached hereto. Caravelle Ranch WMA has approximately 5.8 miles of fire lanes. Such fire lanes shall be disked two times with a minimum disked depth of six inches. The CONTRACTOR may request from the COMMISSION, in writing, an extension of time past December 1 of any year for such disking in the event of wet conditions which make such disking impractical. The CONTRACTOR may request from the COMMISSION, in writing, to disk fire lanes in a different time of year. CONTRACTOR shall disk fire lanes following written acceptance of the request by the Project Manager. Such request for extension shall be made by the CONTRACTOR on or before October 1st of said calendar year. Approval for such extension must be in writing from the COMMISSION and shall specify the date upon which the extension shall expire. The granting of an extension for fire lane maintenance shall not be unreasonably withheld. Failure of the CONTRACTOR to properly disk no earlier than October 15th of each calendar year and no later than December 15th of each calendar year or such date upon which any extension shall expire if such extension is approved by the COMMISSION, shall allow the COMMISSION to make a claim on the Contract's Performance Bond. In the event of such a claim, the CONTRACTOR shall provide the monies from the Performance Bond to the COMMISSION immediately upon notification by the COMMISSION.
- 1.8 BURNING:** The CONTRACTOR specifically agrees not to willfully set fire, or allow any agent or employee of the CONTRACTOR to set fire, to the grazing lands. Failure to comply will be cause for immediate cancellation of the CONTRACT after review by the COMMISSION. If it is determined by the COMMISSION that the CONTRACTOR was negligent, the negligence shall provide grounds for a claim against the CONTRACTOR's Performance Bond.
- 1.9 VEHICLES:** The CONTRACTOR shall register with the PROJECT MANAGER any vehicles used by the CONTRACTOR, its agents and employees on the grazing lands and shall have a permit from the Project Manager in any such vehicle while on the grazing lands. The permit shall be displayed upon demand of the COMMISSION.

- 1.10 CAMPING:** The CONTRACTOR shall not allow camping, except as approved in writing by the COMMISSION and at campsites designated by the COMMISSION.
- 1.11 GATHERING NOTICE:** The CONTRACTOR shall give no fewer than seven days written notice to the COMMISSION and other CONTRACTOR's whose use or contract adjoins the grazing lands, prior to the gathering or round-up of cattle within the grazing lands.
- 1.12 REGULATIONS:** The CONTRACTOR shall abide by all laws, rules and regulations relating to the taking of wild animal life or freshwater aquatic life, and use of the grazing lands for outdoor recreational purposes as hereinafter provided, and the CONTRACTOR shall be responsible to the COMMISSION under this GRAZING CONTRACT for its agents and employees so abiding by all such laws, rules and regulations.
- 1.13 ASSIGNMENT:** The CONTRACTOR shall not assign any or all of the rights, liabilities, duties or obligations of the GRAZING CONTRACT nor subcontract any part of the grazing lands, without the prior written approval of the COMMISSION
- 1.14 INDEMNITY:** The CONTRACTOR shall save, hold harmless and indemnify the State of Florida and the COMMISSION against any and all liability, claims, judgments or costs of whatsoever kind and nature for injury to, or death of any person or persons and for the loss or damage to any property resulting from the use, service, operation or performance of work under the terms of this Contract, resulting from the acts or omissions of the CONTRACTOR, his subcontractor, or any of the employees, agents or representatives of the CONTRACTOR or subcontractor.
- 1.15 INSURANCE:** The CONTRACTOR shall, throughout the term of this GRAZING CONTRACT, at his own cost and expense, provide, maintain and keep in force general liability insurance (including personal injury and property damage), insuring against liability for injury to persons or property occurring in, on or about the property or arising out of CONTRACTOR's possession, use, occupancy or maintenance thereof in an amount not less than \$500,000 (Five Hundred Thousand Dollars) per occurrence and \$1,000,000 annual aggregate for bodily injury and not less than \$100,000 per occurrence and \$300,000 annual aggregate for property damage and comprehensive automobile liability coverage with limits of not less than \$300,000 combined single limit for bodily injury and property damage. The COMMISSION shall be named as an additional insured, under such insurance.
- 1.16 RECORD KEEPING REQUIREMENTS:** The CONTRACTOR shall maintain accurate books, records, documents and other evidence that sufficiently and properly reflect all direct and indirect costs of any nature expended in the performance of this contract, in accordance with generally accepted accounting principals. The CONTRACTOR shall allow the COMMISSION, the State, or other authorized representatives, access to periodically inspect, review or audit such documents as books, vouchers, records, reports, canceled checks and any and all similar material. Such audit may include examination and review of the source and application of all funds whether from the state, local or federal government, private sources or otherwise. These records shall be maintained for five (5) years following the

close of this Contract. In the event any work is subcontracted, the CONTRACTOR shall require each subcontractor to similarly maintain and allow access to such records for audit purposes.

**1.17 EXOTIC VEGETATION:** In an effort to control exotic plants such as Tropical Soda Apple, all cattle shall be held six (6) days in an approved quarantine pen (Tropical Soda Apple and all other exotic plants free), before being released on the Caravelle Ranch Wildlife Management Area. During that period, the quarantine pen and grazing units will be inspected at various times by the Project Manager. If it can be determined that the CONTRACTOR's cattle are spreading the Tropical Soda Apple because cattle were not held for the full required quarantined period, then the CONTRACTOR will be responsible for the elimination of the Tropical Soda Apple.

Exotic plant elimination shall be done in accordance with Attachment A attached hereto, Tropical Soda Apple Best Management Practices (BMP). Failure to remedy the situation in a timely manner shall result in cancellation of the GRAZING CONTRACT, forfeiture of Performance Bond and immediate payment of remaining GRAZING CONTRACT fees.

Tropical Soda Apple is listed as a state noxious weed (5B-57.007 F.A.C.). Movement of this plant within the State of Florida without a permit is illegal.

## **2.0 COMMISSION'S RIGHTS AND RESPONSIBILITIES**

**2.1 FENCE:** The COMMISSION, at its discretion, may install new fencing, and shall coordinate such activities with those of the CONTRACTOR.

**2.2 BURNING:** All burning prescribed and otherwise shall be conducted by the COMMISSION.

**2.3 OUTDOOR RECREATION:** The COMMISSION shall have the right to conduct public outdoor recreational activities on the grazing lands, including but not limited to controlled public hunting and fishing, without interference from the CONTRACTOR activities authorized under this GRAZING CONTRACT.

**2.4 WILDLIFE MANAGEMENT EXCLUSIVITY:** The COMMISSION shall have the right to withdraw/add certain acreage from the GRAZING CONTRACT and from/to the CONTRACTOR's cattle grazing use of such acreage, when reasonably necessary or expedient or the proper management of wildlife, upon written notice to the CONTRACTOR with no fewer than 90 days prior to such withdrawal of such acreage, the COMMISSION may fence such acreage so withdrawn at its sole expense. Withdrawal/addition of such acreage shall cause the GRAZING CONTRACT payment to be adjusted accordingly.

**2.5 MINERAL USE:** The COMMISSION shall have the right to remove or cause to be removed any or all minerals, oil or gas occurring on the grazing lands. It is specifically understood that the rights of the CONTRACTOR are confined solely to the grazing of cattle.

**2.6 OTHER USES:** The COMMISSION shall have the right to conduct any other activity not specified that is not reasonably inconsistent with and does not unreasonably interfere with cattle grazing uses.

### **3.0 SPECIAL CONDITIONS**

**3.1 CONTRACT ADJUSTMENTS:** The semi-annual GRAZING CONTRACT payment amount shall be adjusted in accordance to the difference of the previous two (2) years' annual average calf prices in the Annual Livestock Summary (ALS), published by the Florida Crop and Livestock Reporting Service annually in August. Such adjustment to the initial semi-annual payment amount shall be made to the subsequent invoice. The semi-annual GRAZING CONTRACT payment amount adjustments to be paid by CONTRACTOR to the COMMISSION are calculated by multiplying the initial contract semi-annual payment amount by the same percentage of increase or decrease indicated in the ALS as to annual average calf prices.

In addition, the annual GRAZING CONTRACT payment shall be adjusted if the COMMISSION increases or decreases the stocking rate. The COMMISSION shall notify the CONTRACTOR in writing of any stocking rate adjustments.

Within thirty (30) days of date of invoice, the CONTRACTOR shall pay the COMMISSION the amount of such adjustment. The annual GRAZING CONTRACT payment shall also be adjusted if the COMMISSION withdraws acreage for management purposes or if the State sells a part of the grazing lands which affects the CONTRACTOR. Within thirty (30) days of written notice by the COMMISSION, the CONTRACTOR shall adjust cattle stocking rates or remove the cattle from the acreage withdrawn or sold, accordingly. The COMMISSION shall rebate the amount of such adjustment to the CONTRACTOR.

**3.2 PUBLIC RECORDS OF NONGOVERNMENT CONTRACTORS:** All records in conjunction with this contract shall be public records and shall be treated in the same manner.

**3.3 LATE FEE:** Should the CONTRACTOR fail to make the semiannual GRAZING CONTRACT payment, CONTRACTOR shall be charged interest at the rate of one and one-half percent (1 ½%) per month, or fraction thereof, on the amount of the delinquent payment beginning the first day following the due date of payment until paid. Any court costs and attorney's fees required to collect past due GRAZING CONTRACT payments will be at the expense of the CONTRACTOR.

**3.4 TERMINATION:** This GRAZING CONTRACT may be terminated in the following ways:

- a. This CONTRACT shall terminate immediately upon the COMMISSION giving written notice to the CONTRACTOR in the event of fraud or willful misconduct or breach of this CONTRACT. The COMMISSION at its option may allow up to thirty (30) calendar days to correct a breach of this CONTRACT.

- b. This CONTRACT shall terminate upon the COMMISSION giving written notice to the CONTRACTOR in the event the annual CONTRACT payment is not paid when due. Such termination is at the option of the COMMISSION.
- c. This CONTRACT shall terminate upon the COMMISSION giving written notice to the CONTRACTOR, in the event the CONTRACTOR, his agents or employees fail to abide by all laws, rules and regulations relating to the taking of wild animal life or freshwater aquatic life, and the use of grazing lands for outdoor recreational purposes as herein provided, or for failing to abide by other laws and rules of the State of Florida.
- d. The CONTRACT shall terminate ninety (90) days following the COMMISSION giving written notice to the CONTRACTOR that the grazing lands are to be sold. Within thirty (30) days of confirmation by the COMMISSION that CONTRACTOR has to remove his cattle, the COMMISSION shall rebate the prorated share of the annual contract payment to the CONTRACTOR.
- f. This CONTRACT may be terminated by the COMMISSION in its sole discretion upon thirty (30) days written notice to the CONTRACTOR in the event the continuation of cattle grazing activities on the premises are found to be incompatible with the COMMISSION's management plans or activities on the Caravelle Ranch WMA.
- g. If the CONTRACT is terminated upon written notice, the CONTRACTOR shall have thirty (30) days after receipt of the written notice in which to remove his cattle from the grazing lands.

**3.5 RELATIONSHIP OF PARTIES:** It is understood that an employer-employee relationship does not exist between the COMMISSION and CONTRACTOR. There is no conflict of interest or any other prohibited relationship between the CONTRACTOR and the COMMISSION.

**3.6 NOTICE** Unless a notice of change of address is given, any and all notices shall be delivered to the parties at the following addresses:

**CONTRACTOR**  
 Jim Farley Cattle Company  
 P. O. Box 937  
 Penney Farms, FL 32079

**COMMISSION**  
 Jason Slater  
 Caravelle Ranch Wildlife Field Office  
 575 Caravelle  
 Palatka, FL 32177

**3.7 NON-DISCRIMINATION:** No person, on the grounds of race, color, religion, sex, national origin, age, handicap, or marital status, shall be excluded from participation in, be denied the proceeds or benefits of, or be otherwise subjected to discrimination in performance of this Contract.

- 3.8 PROHIBITION OF DISCRIMINATORY VENDORS:** 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 any goods or services to a 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 under a contract with any public entity; and may not transact business with any public entity.
- 3.9 PUBLIC ENTITY CRIMES:** In accordance with Section 287.133(2)(a), F.S., a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not perform work as a grantee, contractor, supplier, subcontractor, consultant or by any other manner under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, F.S., for Category Two, for a period of 36 months from the date of being placed on the convicted vendor list.
- 3.10 PROHIBITION OF UNAUTHORIZED ALIENS:** The employment of unauthorized aliens by any contractor/vendor is considered a violation of Section 274A (e) of the Immigration and Nationality Act. If the CONTRACTOR knowingly employs unauthorized aliens, such violation shall be cause for unilateral cancellation of this Contract. The CONTRACTOR shall be responsible for including this provision in all subcontracts with private organizations issued as a result of this Contract.
- 3.11 SEVERABILITY AND CHOICE OF VENUE:** This Contract has been delivered in the State of Florida and shall be construed in accordance with the laws of Florida. Wherever possible, each provision of this Contract shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Contract shall be prohibited or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Contract. Any action in connection herewith, in law or equity, shall be brought in Leon County, Florida.
- 3.12 NO THIRD PARTY RIGHTS:** The parties hereto do not intend nor shall this contract be construed to grant any rights, privileges or interest to any third party.
- 3.13 JURY TRIAL WAIVER:** As consideration of this Contract, the parties hereby waive trial by jury in any action or proceeding brought by any party against any other party pertaining to any matter whatsoever arising out of or in any way connected with this Contract.
- 3.14 RELATIONSHIP OF THE PARTIES:** The CONTRACTOR shall perform as an independent contractor and not as an agent, representative, or employee of the COMMISSION.
- 3.15 OTHER AGREEMENTS:** This GRAZING CONTRACT and corresponding RFP materials and addenda, if any, and the successful proposal contains the complete GRAZING

CONTRACT between the COMMISSION and the CONTRACTOR and, as of the effective date hereof, shall supersede all other agreements, communication or representations, either verbal or written, between the COMMISSION and CONTRACTOR.

**3.16 COMPLETE CONTRACT:** The COMMISSION and CONTRACTOR stipulate that neither of them has made any representations except such representations specifically contained within this GRAZING CONTRACT and each party acknowledges reliance on its own judgment in entering into this GRAZING CONTRACT. The COMMISSION and CONTRACTOR further acknowledge that any payments or any representations that may have been made outside of those specifically contained herein are of no binding effect and have not been relied upon by either party in its dealings with the other in entering into this GRAZING CONTRACT.

**3.17 PUBLIC RECORDS:** The COMMISSION reserves the right to unilaterally cancel this GRAZING CONTRACT for refusal by the CONTRACTOR to allow public access to all documents, papers, letters or other material subject to the provisions of Chapter 119, Florida Statutes, and made or received by the CONTRACTOR in conjunction with this GRAZING CONTRACT.

**3.18 NOTICE:** Unless there is a change of address, any notice required by this GRAZING CONTRACT shall be delivered to the: Florida Fish and Wildlife Conservation COMMISSION, Terrestrial Habitat Conservation and Restoration Section, 620 South Meridian Street, Tallahassee, FL32399-1600 and to the CONTRACTOR at P. O. Box 937 Penney Farms, FL 32079.

**3.19 NON-DISCRIMINATION:** As a condition of this GRAZING CONTRACT, the CONTRACTOR hereby covenants and agrees not to 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 pursuant to this GRAZING CONTRACT.

**3.20 NO THIRD PARTY BENEFICIARIES:** This GRAZING CONTRACT in no way affords to any third party legal benefits or otherwise the ability to enforce provisions of this GRAZING CONTRACT.

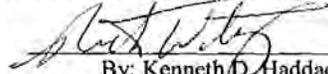
**3.21 MODIFICATION OR AMENDMENT OF GRAZING CONTRACT:** No waiver, or modification or amendment of this GRAZING CONTRACT or of any covenant, condition, or limitation herein contained shall be valid unless in writing and lawfully executed by the party to be charged therewith. It is the intention of the COMMISSION and the CONTRACTOR that no evidence of any waiver, or modification or amendment shall be offered or received in evidence in any proceeding or litigation between the parties arising out of or affecting this GRAZING CONTRACT unless such waiver, or modification or amendment is in writing and executed as aforesaid. The provisions of this section shall not be waived without compliance with said writing and execution requirements.

**3.22 ENTIRE AGREEMENT:** This Contract with all incorporated attachments and exhibits represents the entire agreement of the parties. Any alterations, variations, changes, modifications or waivers of provisions of this Contract shall only be valid when they have been reduced to writing, and duly signed by each of the parties hereto, unless otherwise provided herein.

**IN WITNESS WHEREOF,** the parties hereto have caused this Agreement to be executed through their duly authorized signatories on the day and year last written below.

**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION**

  
Witness Robbie Jones  
  
Witness

  
By: Kenneth D. Haddad  
Executive Director  
Date: 12-9-08

Approved as to form and legality:

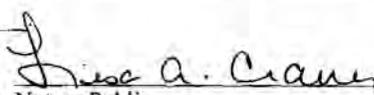
  
FWC Attorney

**STATE OF FLORIDA  
COUNTY OF LEON**

The foregoing agreement was acknowledged before me this 3rd day of December, 2008 by Jim Farley who is personally known to me as the

Owner  
1-28-2012  
My Commission Expires



  
Notary Public

**JIM FARLEY CATTLE COMPANY**

  
Witness

  
Witness

By: Jim Farley  
Owner  
Date: 12-3-08

The foregoing agreement was acknowledged before me this 9 day  
of December, 2008 by Nick Wilby who is personally known to me as  
the Assistant Game Director

My Commission Expires

Notary Public

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

**FWC Contract No. 08191 A-2**

**STATE OF FLORIDA  
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION**

**AMENDMENT NO. 2 TO CONTRACT**

This Amendment to Contract No. 08191 referred to as the Original Contract, is entered into by and between the FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, whose address is 620 South Meridian Street, Tallahassee, Florida 32399-1600, hereafter "FWC," and Jim Farley Cattle Company, whose address is P.O. Box 937, Penney Farms, FL 32709, hereinafter "Contractor", collectively, "Parties".

In consideration of the mutual benefits set forth herein and in the Original Contract, the parties agree to amend the Original Contract, as follows, which amendments shall govern to the exclusion of any provision of the Original Contract to the contrary:

In accordance with the Renewal Paragraph (page 1) of the ORIGINAL CONTRACT, the ORIGINAL CONTRACT is hereby renewed for an additional five (5) year term, commencing December 9, 2013 and terminating December 8, 2018.

All provisions of the ORIGINAL CONTRACT not specifically amended herein shall remain in full force and effect.

**THIS AREA INTENTIONALLY LEFT BLANK**

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to Contract to be executed through their duly authorized signatories on the day and year last written below.

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Kristina Butler  
Witness  
K. Amosch  
Witness

for Karen Veltinger Chief of Staff  
Executive Director  
10-16-13  
Date

Approved as to form and legality by FWC Attorney:

Anthony Pazzino  
Name: Anthony Pazzino  
Date: 10/16/13

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing agreement was acknowledged before me this 16th day of October, 2013 by Karen Veltinger who is personally known to me as the Chief of Staff

My Commission Expires June 13, 2014

[Signature]  
Notary Public

JIM FARLEY CATTLE COMPANY

Denise Heckoy  
Witness Denise Heckoy  
[Signature]  
Witness Veronica Mers

[Signature]  
By: Jim Farley, Owner  
10-7-13  
Date

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing agreement was acknowledged before me this 7 day of October, 2013 by James M. Farley who is personally known to me as the owner

6-13-17  
My Commission Expires



[Signature]  
Notary Public

## 13.10 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 Brinson Honey Co., P.O. Box 2157, Umatilla, Florida, 32784, telephone number (352) 267-9640, 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 upon execution of the agreement and will end three (3) years from the date of execution.
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) (h) below.
  - b. To provide technical assistance for bear-proofing, where required by Area Biologist, of site(s) made available under this Agreement.
  - c. To allow the USER to place a total number of 700 hive boxes, 100 on each of seven sites in the Caravelle Ranch Wildlife Management Area (WMA) and the Hilochee WMA including the Osprey Unit as particularly described in Section 4(h) below and as represented by Attachments B, C, and D, each attached hereto and hereafter made a part of this agreement.
3. The USER Agrees:
  - a. To pay \$560.00 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, Wildlife and Habitat Management Section, Attn: Section Leader, 620 South Meridian Street, Tallahassee, Florida 32399-1600.

- b. To have no more than 100 hive boxes on any of the seven sites in the Caravelle Ranch WMA and the Hilochee WMA including the Osprey Unit.
- c. To comply with the Florida Honey Certification and Honeybee Law, Chapter 586, Florida Statutes, and Rule 5B-19, 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, when 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 A, Florida Fish and Wildlife Conservation Commission (FWC) Technical Information Bulletin, December 2001, Use of Electric Fencing To Exclude Bears and Prevent Property Damage)
  - 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 three (3) years and issuance of a new agreement will be contingent upon a satisfactory performance evaluation and approval of the Area Biologist.
- 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 and presented to and approved by the Wildlife and Habitat Management Section Leader.
- f. The USER shall save, hold harmless and indemnify the State of Florida and the COMMISSION against any and all liability, claims, judgments or costs of whatsoever kind and nature for injury to, or death of any person or persons and for the loss or damage to any property resulting from the use, service, operation or performance of work under the terms of this Contract, resulting from the acts or omissions of the USER, his subcontractor, or any of the employees, agents or representatives of the USER or subcontractor.
- g. This Contract with all incorporated attachments and exhibits represents the entire agreement of the parties. Any alterations, variations, changes, modifications or waivers of provisions of this Contract shall only be valid when they have been reduced to writing, and duly signed by each of the parties hereto, unless otherwise provided herein.
- h. The sites covered by this Agreement are described as being in the vicinity of or at the following latitude and longitude coordinates:

Caravelle Ranch Sites

The first site is: latitude 29°30'55.8462"N and longitude 81° 46'20.6358"W (Western Site). The second site is: latitude 29° 30' 45.5544"N and longitude 81° 43' 42.315"W (Eastern Site) in the Caravelle Ranch WMA and as represented by the Attachment B map.

Hilochee Sites

The first site is: latitude 28°21' 11.61"N and longitude 81°43'59.27"W (Site 1). The second site is: latitude 28°22'41.86"N and longitude 81°43' 25.70"W (Site 2). The third site is: latitude 28°24'21.62"N and longitude 81°43'39.51"W (Site 3) in the Hilochee WMA and as represented by the Attachment C map.

Hilochee Osprey Unit Sites

The first site is: latitude 28°10'51.05"N and longitude 81°43'02.06"W (West Site 1). The second site is: latitude 28°10'16.59"N and longitude 81°41'57.42"W (East Site 2) in the Osprey Unit of the Hilochee WMA and as represented by the Attachment D map.

- i. 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.
- j. 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.
- k. This Agreement may be terminated by the COMMISSION upon thirty (30) days written notice to the USER in the event the continuations 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.
- l. Unless a notice of change of address is given, any and all notices shall be delivered to the parties at the following addresses:

<u>USER</u> Malcolm Brinson P.O. Box 2157 Umatilla, FL. 32784	<u>COMMISSION</u> Section Leader HSC/WHM, M/S – 10 620 South Meridian Street Tallahassee, FL 32399-1600
--	--
- m. This Contract with all incorporated attachments and exhibits represents the entire agreement of the parties. Any alterations, variations, changes, modifications or waivers of provisions of this Contract shall only be valid when they have been reduced to writing, and duly signed by each of the parties hereto, unless otherwise provided herein.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year last below written.

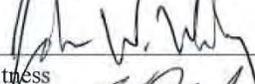
  
\_\_\_\_\_  
USER SIGNATURE

FLORIDA FISH AND WILDLIFE  
CONSERVATION COMMISSION

Date: 11-19-12  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Signature

Mike Brooks, Section Leader  
Wildlife and Habitat Management

  
\_\_\_\_\_  
Witness

Date: 11-27-12  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Signature

Witness

  
\_\_\_\_\_  
Witness

  
\_\_\_\_\_  
Signature

Witness

Approved as to form and legality

  
\_\_\_\_\_  
Commission Attorney

### **13.11 FWC Apiary Policy**

# Apiary Policy

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## 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 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](http://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](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](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.

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.

- a. 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.
  - b. 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)
  - c. To remove all personal property from the site within thirty (30) days of termination or expiration of this Agreement. The USER understands that after this time, all the USER'S personal property remaining on the WMA/WEA shall be deemed abandoned and become the property of the COMMISSION, which will be utilized or disposed of at the sole discretion of the COMMISSION, and that reasonable storage and/or disposal fees and/or costs may be charged to the USER.
4. The parties mutually agree:
- a. This Agreement is not transferable.
  - b. The USER's failure to submit payment by the due date established herein may result in cancellation of the Agreement by the COMMISSION.
  - c. The USER's failure to submit proof of general liability insurance or proof of annual renewal in compliance with (3) (j) above may result in cancellation of this Agreement by the COMMISSION.
  - d. This Agreement shall be in effect for a period of five (5) years and issuance of a new agreement will be contingent upon a satisfactory performance evaluation and approval of the Area Biologist and THCR Section Leader.
  - e. Each apiary site shall be situated so as to be at least one-half (1/2) mile inward from state property lines and there shall be at least one (1) mile separation

between sites. Exceptions to this rule must be reviewed by Area Biologist presented to and approved by the Terrestrial Habitat Conservation and Restoration Section Leader.

- f. The property covered by this Agreement is described as follows: That the property sites (Insert Area Name) Wildlife Management Area are represented by Attachment 2.
- g. In accordance with Section 287.134, Florida Statutes, an entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal or reply on a contract to provide goods or services to any public entity; may not submit a bid, proposal or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant with any public entity; and may not transact business with a public entity.
- h. As part of the consideration of this Agreement, the parties hereby waive trial by jury in action brought by either party pertaining to any matter whatsoever arising out of or in any way connected with this Agreement. Exclusive venue for all judicial actions pertaining to this Agreement is in Leon County, Florida.
- i. This Agreement may be terminated by the COMMISSION upon thirty (30) days written notice to the USER in the event the continuation of the apiary activities are found to be incompatible with the COMMISSION'S management plans or for any other reason at the sole discretion of the COMMISSION.

**This Area Intentionally Left Blank**

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year last below written.

\_\_\_\_\_  
USER SIGNATURE

Date: \_\_\_\_\_

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Witness

FLORIDA FISH AND WILDLIFE  
CONSERVATION COMMISSION

\_\_\_\_\_  
Mike Brooks, Section Leader  
Terrestrial Habitat Conservation and  
Restoration

Date: \_\_\_\_\_

Approved as to form and legality

\_\_\_\_\_  
Commission Attorney

Date: \_\_\_\_\_

# AGREEMENT

## ATTACHMENT 1

### **Use of Electric Fencing to Exclude Bears And Prevent Property Damage**

Florida Fish and Wildlife Conservation Commission  
Technical Information Bulletin (2001)

Electric fencing has proven effective in deterring bears from entering landfills, apiaries (beehives), livestock pens, gardens, orchards, and other high-value properties. Numerous electrical fence designs have been used with varying degrees of success. Design, quality of construction, and proper maintenance determine the effectiveness of an electric fence. The purpose of this technical bulletin is to assist the property owner in understanding and implementing electrical fencing as a tool to exclude and prevent damage caused by black bears.

#### **Understanding Electric Fencing**

Electric fencing provides an electrical shock when an animal comes into contact with the electrically charged wires of the fence. People unfamiliar with electric fencing often are afraid that it will injure, permanently damage, or kill an individual or pet that contacts the fence. **This is not true!** A properly constructed electric fence is safe to people, pets, and bears.

#### **Components of Electric Fencing**

An electric fence is composed of four main elements: a charger, fence posts, wire, and the ground rod.

**Fence Charger.** On a small scale electric fence (like that typically needed for bear exclusion), the largest cost is normally the fence charger. A fence charger's job is to send an electrical pulse into the wire of the fence. Contrary to popular belief, there is not a continuous charge of electricity running through the fence. Instead the charger emits a short pulse or burst of electricity through the fence. The intensity and duration of the electrical pulse varies with the type of charger or controller unit. Chargers with a high-voltage, short duration burst capacity are the best because they are harder to ground out by tall grass and weeds. These types are also the safest, because, even though the voltage is high (5 kilovolts) the duration of the burst is very short (2/10,000 of a second) (FitzGerald, 1984).

Two basic energy sources for chargers are batteries (12-volt automotive type) and household current (110 volt). Battery-type chargers are typically cheaper to purchase but require more maintenance because of the necessity of charging the battery. The advantage of a battery powered charger is that it can be used in a remote location where 110-volt current is not available. Most units that are powered by a fully charged 12-volt deep-cycle batteries can last three weeks before needing a charge. Addition of a solar trickle charger will help prolong the duration of effective charge in 12-volt batteries.

**Fence Posts.** On small scale fences, the posts are normally the second largest expense involved in construction. Therefore, when planning an electric fence it is a good idea to utilize existing fencing in order to save money. If no existing fence is available, posts will need to be placed around the area needing protection. Posts may be wood, metal, plastic, or fiberglass. Wood and metal posts will need to have plastic insulators attached to them which prevent the electric wire from touching the post causing it to ground out. Plastic and fiberglass posts do not need insulators, the wire may be affixed directly to these posts. Wood and metal posts are typically more expensive and require the added expense of insulators, however, they are more durable and generally require less maintenance.

**Wire.** Fourteen to seventeen gauge wire is the most common size range used in electric fencing. Heavier wire (a lower gauge number) is more expensive but carries current with less resistance and is more durable (FitzGerald, 1984).

The two most common types of wire are galvanized and aluminum. Galvanized wire is simply a steel wire with a zinc coating to prevent rust, which makes the wire last longer. Some wire is more galvanized than others. The degree or amount of zinc coating that is around the core steel wire is measured in three classes. A class I galvanization means the wire has a thinner coating of zinc than a class II galvanization. Class III galvanized wire has the heaviest zinc coating and will last longer than the class I and class II wire (FitzGerald, 1984). In general, the cost of galvanized wire increases as the class or amount of galvanization increases.

Aluminum wire is typically more expensive than the galvanized wire. Some advantages of aluminum wire are: it will not rust, it conducts electricity four times better, and it weighs one-third less than steel wire.

**The Ground Rod.** The ground is an often overlooked, but critical part of an electric fence. Without a good ground, electricity will not flow through the wire. When an animal touches a charged wire, the body of the animal completes the electrical circuit and the animal feels the “shock”. The current must travel from the charger through the wire to the animal and then back through the ground to the charger if the animal is to feel the shock. The soil acts as the return “wire” (ground) in the circuit. However, if a

bird was to land on a charged wire without touching the soil the bird would not complete the circuit and would be unaffected (FitzGerald, 1984). Some fence configurations use actual grounded wires within the fence to enhance the grounding system.

The ground may be a commercial ground rod or a copper tube or pipe driven six to eight feet in moist soil. Copper is expensive, so a copper coated steel pipe or any other good conducting metal pipe will work also. Very dry soil can effect the ability to create a good ground and has sometimes been a problem during drought conditions. Pipe may be a better choice than a solid rod during drought conditions, because water may be poured down the ground pipe to improve the ground. Some fence configurations use wires as the grounding system, rather than relying solely on the soil as a ground.

### **Recommended Electric Fence to Deter Black Bears**

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

#### **Materials:**

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

Installation. These instructions are for a square shape fence exclusion, but the process would be very similar for other applications. Drive 4 corner posts 1-foot deep into ground and stake with guy wires. Clip, rake, and keep clear any vegetation in a 15-inch wide strip under the fence and apply herbicide. Attach and stretch the aluminum wire at 8-inch increments starting 8 inches from ground level. A loop of wire should be left on each wire at the first corner post. Once the wire has been stretched around the outside of all the corner posts back to the first post a plastic gate handle should be attached to each wire and the gate handles should be attached to each

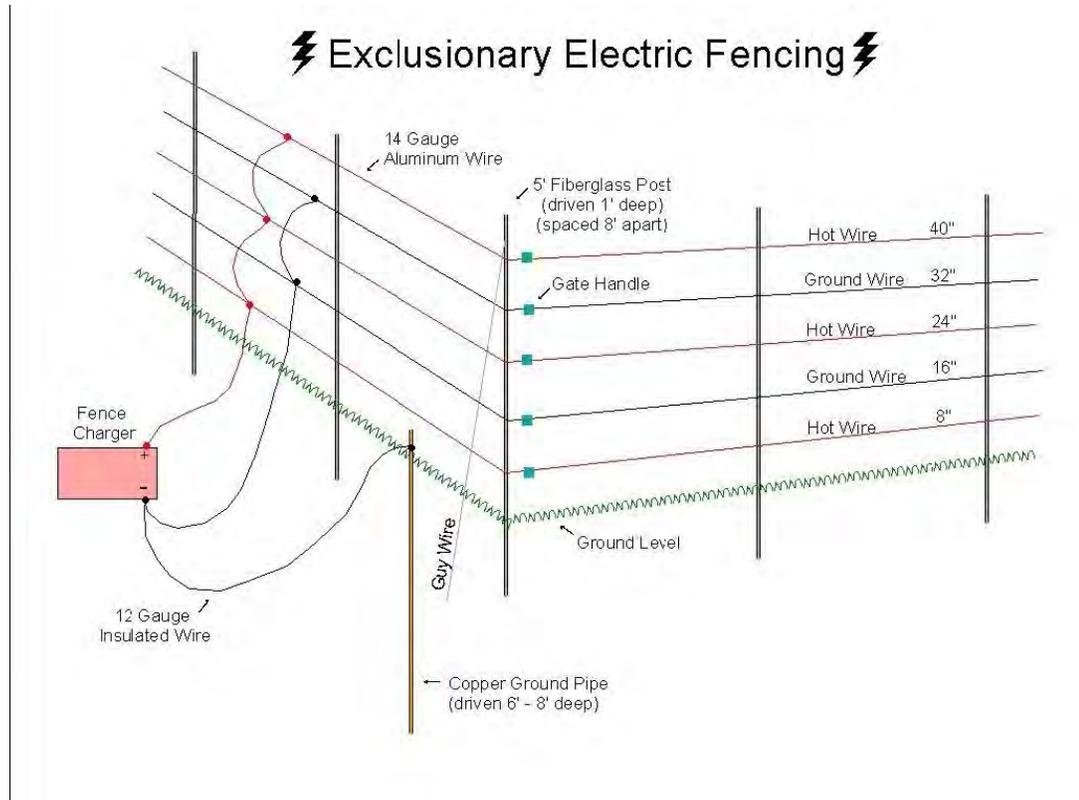
corresponding loop on the first corner post. Drive in the remaining 16 posts to the same depth at 8-foot intervals between corner posts. Secure each of the five wires to each of the posts with additional wire. Attach four plastic electric fence signs (one on each side) to the top wire of the fence. Attach a 12-gauge strand of insulated wire to the positive terminal of the fence charger and attach it to the first, third, and fifth wires of the fence. Attach another 12 gauge insulated wire to the negative terminal of the charger and attach this wire to the ground pipe which has been driven into the ground 6 to 8-feet deep. Attach another 12 gauge insulated wire from the negative terminal of the charger to the second and fourth wires on the fence. Plug the charger into a 110 volt power supply and the fence is in operation.

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

1. If using a 12-volt fence charger, ensure that the battery is charged; check every two weeks.
2. Make sure terminals on the charger and battery are free of corrosion.
3. Make sure hot wires are not being grounded out by tall weeds, fallen tree branches, broken insulators, etc.
4. If fence wires have been broken and repaired, make sure wires are corrosion free where they have been spliced together. Also, tighten the fence at each corner post as wires that have been spliced and are loose make poor connections.
5. Be sure to rake vegetation from under and around the outside of the fence as this may act as an insulator.
6. To improve the ground around the perimeter of the fence add a piece of 24 inch chicken wire laying on the ground around the outside of the fence. This should be connected to ground.
7. During periods of drought pour water down the ground pipe and around the ground pipe to improve the ground. Digging a 6 inch deep 6 inch diameter hole around the ground pipe and back filling with rock salt will also improve the ground. Additional ground pipes may also be added to portions of the fence farthest from the charger.
8. To ensure that the bear solidly contacts the charged portion of the fence, a bait like bacon strips, a can of sardines, or tin foil with peanut butter may be attached to one of the top hot wires. Make sure these do not contact the ground, thus shorting out the fence.
9. When protecting a specific structure (like a shed or rabbit hutch), the fence should be placed 3 to 5 feet away from the structure (rather than on it) so that the bear encounters the fence before reaching the attractant.
10. Protect the fence charger from the elements by covering it with a plastic bucket or a wooden box.
11. Place plastic electric fence signs around the perimeter of your fence to improve visibility and to warn other people.

**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:

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

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

- a. The names of each interested apiarist will be noted on a 1" X 2" piece of paper and folded in half.
- b. The pieces of paper will be inserted into a "black film canister" which has a snap top and placed into a container and stirred up prior to the selection.
- c. A non-biased person will be selected to reach into the bowl (which will be held above the selection person's eyesight) and randomly select one of the canisters.
- d. The canister will be opened by the person performing the selection and the name is read aloud for those in attendance. Everyone in attendance will sign a witness sheet.
- e. The apiarist whose name is selected will be awarded the available site.
- f. A new Agreement will be developed by the THCR Contract Manager.

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

## 13.12 CRWMA Recreation Master Plan

# Recreation Master Plan for Caravelle Ranch WMA



**Florida Fish and Wildlife Conservation Commission**



Office of Public Access and  
Wildlife Viewing Services

November 2013

**Caravelle Ranch Wildlife Management Area  
Recreation Master Plan**

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## I. Introduction

### ***Purpose of Plan/Planning Process***

This Recreation Master Plan serves as a guide for providing recreational and educational experiences focused on wildlife viewing and nature study on Caravelle Ranch Wildlife Management Area (Caravelle Ranch). 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 Caravelle Ranch Field Staff with input from other FWC divisions and a Technical Assistance Group of recreational stakeholders (Appendix 1).

### ***Location***

(Figure 1)

Caravelle Ranch protects a total of 27,251 acres of mesic and wet flatwoods, pasture and floodplain swamp in Putnam County. This plan covers 11,224 acres leased to and managed by FWC with the remainder leased to Florida Department of Environmental Protection (FDEP) and the St. Johns River Water Management District (SJRWMD) and managed as a WMA by FWC. 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 up and down the St. Johns River and westward along the Cross-Florida Greenway. Caravelle Ranch supports a diversity of wildlife populations that provides opportunities for hunting, fishing and wildlife viewing. A network of roads and trails accommodates bicyclists, hikers, horseback riders, and other recreationists while a small creek supports fishing.

## II. Resource Inventory

### ***Topography and Hydrology***

Caravelle Ranch is very flat with a difference in elevation of approximately 25 feet between the higher pine flatwoods in the west and north and the hydric hammock and river floodplains in the south and east. There is a single 30 foot elevation "island" at Outhouse Hammock on the western side of the WMA. Camp Branch Creek flows in a "U" shape through the north part of the WMA from the Cross-Florida Barge Canal to the St. Johns River. The topography is suitable for easy to moderate hiking, but periodic flooding can make the experience more strenuous. There are no paddling opportunities on the WMA but there is excellent paddling on the St. Johns River along the eastern boundary and Ocklawaha River along the southern boundary.

### ***Natural Communities***

(Figure 2)

Floodplain swamp along the St. Johns and Ocklawaha rivers comprises 37% of the WMA, making it the most prevalent natural community on Caravelle Ranch. Mesic flatwoods, the next most common community at 15%, is found primarily on the west and north side of the WMA. Wet flatwoods represent 12% of the area and are found in a mosaic with the mesic flatwoods. Pastures make up 11% of the WMA, ruderal (agriculture or disturbed) areas are 7%, and the remaining 10 natural communities each comprise 6% or less of the WMA. Seven of these represent 1% or less of the area. Despite their small size, several are ecologically or 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. Small areas of scrubby flatwoods, which are relatively uncommon statewide, are of very high quality.

Most of the natural communities on Caravelle Ranch are in excellent condition and represent benchmark examples of native north Florida landscapes. They would be appropriate for interpretation of land management practices.

### ***Sensitive Areas***

Wetlands on Caravelle Ranch are particularly sensitive to physical disturbance, which may churn up organic soils and displace plants. Access to these areas should be controlled and monitored to avoid damage.

### ***Wildlife and Plant Species***

Wildlife viewing can be good at almost any spot on the WMA, especially near the pastures and in the flatwoods. Neotropical migrants such as yellow-bellied sapsuckers, gray catbirds and a variety of warblers offer seasonal variety. More than 125 bird species are documented to occur on the area and several are among the “top 40 most sought-after birds” compiled by the PAWV Wildlife Viewing Section: Bachman’s sparrow, bald eagle, hairy woodpecker, limpkin, mottled duck, purple gallinule, sandhill crane and swallow-tailed kite.

Over 100 species of butterflies have been identified in Putnam County and many may occur on the area including Aaron’s skipper, Arogos skipper, Baracoa skipper, black swallowtail, cloudless sulphur, Cofaqui giant-skipper, Eastern tailed-blue, Eastern tiger swallowtail, Henry’s elfin, Meske’s skipper, Palatka skipper, palmetto skipper, Texan crescent and zebra heliconian.

Other species of particular interest to visitors include the Florida black bear, eastern diamondback and pygmy rattlesnakes, five species of bats including Rafinesque’s big-eared bat, and bobcats. There are also several species of carnivorous plants found on Caravelle Ranch including pitcher plants, bladderworts and sundew.

### ***Cultural Resources***

The Florida Master Site File contains 7 archaeological and historic sites recorded within the boundary of Caravelle Ranch. Archaeological sites include a lithic scatter site and middens ranging from prehistoric to St. Johns Period (700 BC to 1500 AD). Historic sites include a turpentine camp. The wreck of the Federal gunboat Columbine is located in the St. Johns River very near the WMA boundary.

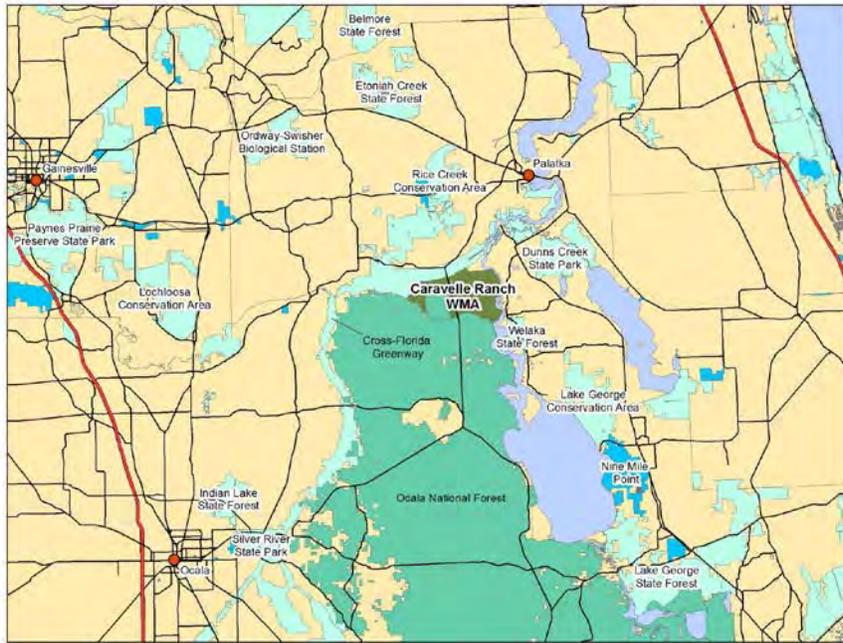


Figure 1: Caravelle Ranch WMA Location Map

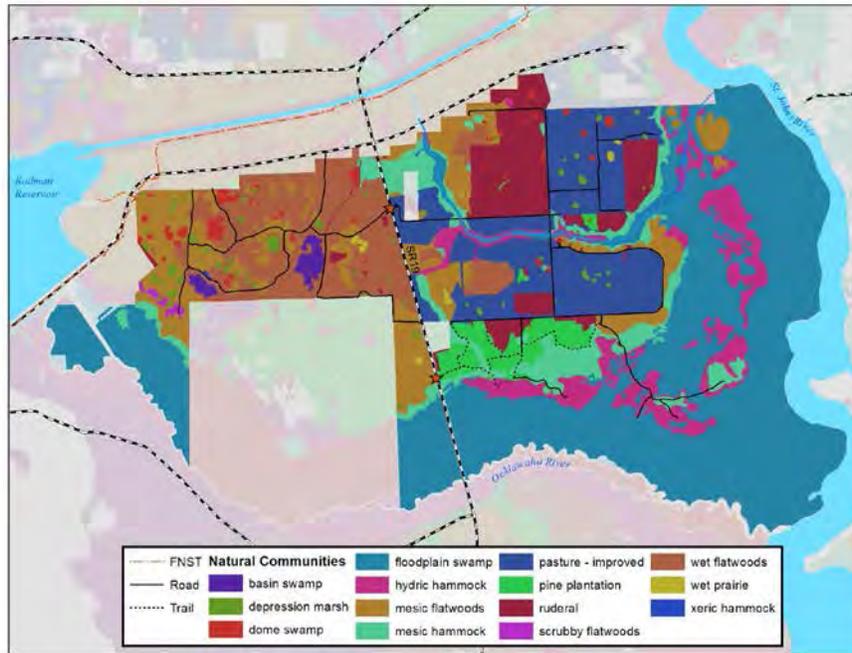


Figure 2: Caravelle Ranch WMA Natural Communities

### ***Scenic Resources***

Caravelle Ranch offers a variety of scenic vistas including creeks, forested wetlands and views of well-maintained flatwoods. The hammocks and floodplain swamps along the rivers are particularly scenic. They feature a sparse understory, a high canopy and a variety of epiphytic plants. Seasonal wildflowers include Florida tickseed (*Coreopsis floridana*), a variety of *Vaccinium* species, meadow-beauties (*Rhexia* sp.), St. Andrews cross (*Hypericum hypericoides*), vanillaleaf (*Carphephorus odoratissimus*), and yellow-eyed grasses (*Xyris* sp.). Peak blooms occur 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 tropical soda apple (*Solanum viarum*), Chinese tallowtree (*Triadica sebifera*) and cogongrass (*Imperata cylindrica*) are problematic on the area. Other management activities include re-establishing hydrologic regimes to benefit fish and wildlife habitats.

### III. Recreation Planning Context

The 2010 population estimate for Putnam County was 74,364 people with a projected growth to 74,388 (0.03% increase) in 2020 and 76,636 (3% increase) by 2040 (Office of Economic and Demographic Research 2013). Hispanic or Latino groups comprise 9% of the county's population (US Census 2010). As with much of Florida, the Hispanic population of Putnam County is projected to grow at a higher rate than other demographic groups although Putnam County currently has a significantly lower proportion (13.5% lower) of Hispanic or Latino residents compared to the statewide average. In other respects, the population demographics of Putnam County fall in line with statewide proportions. Twenty-three percent of the county's population identifies itself as non-white, with the largest groups being African American (16.2%), Other (3.6%) and Multi-racial (1.7%). These demographic data will inform the design of infrastructure and interpretive materials in order to accommodate the full spectrum of potential visitors to the WMA.

Race/Ethnicity	Putnam County		Florida		Difference
	#	%	#	%	
Hispanic or Latino	6,706	9.0%	4,223,806	22.5%	-13.5%
Non-Hispanic or Latino	67,658	91.0%	14,577,504	77.5%	13.5%
White	57,468	77.3%	14,109,162	75.0%	2.3%
African American	12,030	16.2%	2,999,862	16.0%	0.2%
Asian	455	0.6%	454,821	2.4%	-1.8%
American Indian/Alaskan Native	359	0.5%	71,458	0.4%	0.1%
Native Hawaiian/Pacific Islander	53	0.1%	12,286	0.1%	0.0%
Other	2,705	3.6%	681,144	3.6%	0.0%
2 or more	1,294	1.7%	472,577	2.5%	-0.8%

Population age distribution is slightly older than the state distribution with a larger percentage of people over 50.

Age/Gender	Putnam County		Florida		Difference
	#	%	#	%	
Male	36,884	49.6%	9,189,355	48.9%	0.7%
Female	37,480	50.4%	9,611,955	51.1%	-0.7%
<18	16,785	22.6%	4,002,091	21.3%	1.3%
18+	57,579	77.4%	14,799,219	78.7%	-1.3%
20-24	4,046	5.4%	1,228,758	6.5%	-1.1%
25-34	7,747	10.4%	2,289,545	12.2%	-1.8%
35-49	13,287	17.9%	3,832,456	20.4%	-2.5%
50-64	16,414	22.1%	3,677,959	19.6%	2.5%
65+	14,070	18.9%	3,259,602	17.3%	1.6%

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. Caravelle Ranch is within 15 miles of several other public recreation areas that offer a variety of recreation opportunities:

Area	Hiking	Biking	Camping	Paddling	Fishing	Horseback Riding	Hunting	Wildlife Viewing
Crescent Lake Conservation Area (SIRWMD)	✓	✓	✓	✗	✗	✓	✗	✓
Deep Creek Conservation Area (SIRWMD)	✓	✓	✓	✓	✓	✓	✗	✓
Dunns Creek Conservation Area (SIRWMD)	✓	✓	✓	✗	✗	✓	✓	✓
Dunns Creek State Park	✓	✓	✗	✗	✗	✓	✗	✓
Etoniah Creek State Forest	✓	✓	✓	✓	✓	✓	✓	✓
Lake George Conservation Area (SIRWMD)	✓	✓	✓	✓	✓	✓	✓	✓
Marjorie Harris Carr Cross Florida Greenway (DEP)	✓	✓	✓	✓	✓	✓	✓	✓
Murphy Creek Conservation Area (SIRWMD)	✓	✓	✓	✓	✓	✓	✗	✓
Ocala National Forest	✓	✓	✓	✓	✓	✓	✓	✓
Palatka to Lake Butler State Trail (DEP)	✓	✓	✗	✗	✗	✗	✗	✓
Ravine Gardens State Park	✓	✓	✗	✗	✗	✗	✗	✓
Rice Creek Conservation Area (SIRWMD)	✓	✓	✓	✗	✗	✓	✗	✓
Welaka State Forest	✓	✗	✓	✗	✗	✓	✗	✓

✓=Activity available

✗=Activity not available

The Florida Statewide Comprehensive Outdoor Recreation Plan (SCORP) collects data on participation levels in various outdoor recreation activities for different regions of Florida. The results for the Northeast Region are summarized below:

Activity	Resident Participation (%)	Tourist Participation (%)
Paddling	25	10
Picnicking	40	37
Hiking	25	22
Unpaved Bicycle Trails	17	4
Wildlife Viewing	52	47
Nature Study	14	8
Equestrian Activities	6	6
Geocaching	2	3

The Northeast Region is at approximately 50% of the statewide average level of service (miles of trail/1000 participants) for hiking. At current participation levels, it is projected that over 60 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 with the exception of equestrian activities which is more than 50% above the statewide level of service.

There is no MPO (Metropolitan Planning Organization) or TPO (Transportation Planning Organization) for Putnam County, although the North Florida TPO does have an ex-officio member from Putnam County. The Putnam County Trails Plan includes all of the roads and trails on Caravelle Ranch and proposes a multi-use trail along SR19 which bisects the WMA. It also proposes paddling trails on the Ocklawaha and St. Johns rivers adjacent to the WMA. No roads near Caravelle Ranch are slated for improvement on Florida Department of Transportation work plans through 2015. The Putnam County Comprehensive Plan classifies Caravelle Ranch as Conservation Land in the Current and Future Land Use components. None of the roads near Caravelle Ranch are proposed for improvements in the Comprehensive Plan. Community-based organizations are also very active in trail development in Putnam County including the Putnam Blueways and Trails CSO, St. Johns River Alliance and Putnam Trails Council.

There are currently no large scale residential development projects proposed near Caravelle Ranch. Developments have the potential to increase recreational demand and impact the area and its natural and recreation resources.

## IV. Interpretation

In this plan, emphasis is placed on integrating recreation and interpretive planning. Using this approach, the type of recreational experience offered and the location of recreation amenities provided, is strongly influenced by the interpretive goals for the area. Recreation opportunities thus become a means to an end – reaching visitors with important themes and concepts about an area’s natural resources, plant communities, wildlife and wildlife management.

### ***Visitor Experience Goals***

Caravelle Ranch 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 Caravelle Ranch. These goals guide both interpretive and recreation planning.

At Caravelle Ranch, the FWC will provide opportunities for visitors to:

1. Become oriented to and participate in a range of recreational activities on Caravelle Ranch and adjoining natural areas while:
  - Becoming acquainted with wildlife and natural plant communities
  - Understanding Caravelle Ranch’s natural, cultural and commercial history within the context of the state’s prehistory and modern history
  - Appreciating Caravelle Ranch as an oasis providing a retreat from the pressures of urban life and an opportunity to connect with the natural world
2. Learn information and stories associated with major interpretive themes and other related information, through interpretive materials at welcome kiosks, trails and wildlife viewing sites.
3. Have an enjoyable recreational experience without impairing the natural and cultural values of the site. In terms of wildlife viewing, FWC’s goal will be to facilitate positive, memorable experiences that keep wildlife disturbances to a minimum.
4. Understand the management goals and activities of the FWC on Caravelle Ranch.

### ***Interpretive Themes***

Interpretive concepts are categorized into themes and subthemes. All interpretive materials revolve around one or two primary themes, which allow visitors to understand and remember important messages. Primary themes also help set visitor experience goals and priorities and are considered in the design of amenities offered to nature-based recreationists. Subthemes expand upon and support the primary themes. These guide the development of all interpretive

products, which may include sign panels, printed materials, electronic media and educational programming. This detailed media prescription will be developed at a later date.

*Central Theme: Biologists manage the diverse habitats at Caravelle Ranch WMA to benefit wildlife populations and improve recreational opportunities.*

*Subtheme 1: Diverse plant and animal communities at Caravelle 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. Invasive vegetation is monitored and controlled.
- 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: Habitats at Caravelle Ranch WMA are part of a larger regional network of conservation lands.*

- A. Cooperative agreements with landowners on adjoining properties link wetlands and uplands, creating wildlife corridors and increased opportunities for recreation beyond WMA boundaries.
- B. Hydrological connections between Caravelle Ranch and the St. Johns and Ocklawaha rivers influence management on the WMA which in turn improves water quantity and quality in the region.
- C. The WMA preserves evidence of the historical significance of the region, which included subsistence hunting and fishing, cattle ranching and silviculture.
- 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 Caravelle Ranch and note their status and condition (Figure 3). This informs recommendations for achieving visitor experience goals and meeting future recreation demands and needs.

Caravelle Ranch offers opportunities for a variety of high quality, wildlife-focused recreation activities. Based on the approved uses and activities as stated in the 2013-2023 Management Plan (MP), the analysis of existing resources and uses, and the interpretive themes developed for the area, the following activities should be continued and enhanced as described in this section. Conditional activities are those that require additional permits or permission.

- Astronomy (Conditional)
- Bicycling
- Primitive Camping
- Ecotourism (Conditional)
- Environmental Education
- Fishing (Conditional)
- Geocaching (Conditional)
- Hiking
- Horseback riding
- Hunting (Conditional)
- Wildlife Observation

Visitation, as recorded by five separate vehicle and pedestrian counters installed and monitored by FWC, has averaged 23 visitors/day for July 2011 to June 2012. Seasonally, use peaks during deer, special-opportunity dove, and small game seasons from September to December with another, smaller peak in March for spring turkey hunting season.



Infrared (Pedestrian) Counters: Caravelle Ranch IR\_1 is at the walk-in entrance, Caravelle Ranch IR\_2 is at the main entrance, and Caravelle Ranch IR\_3 is on the west side of SR19.

Vehicle Counters: Caravelle Ranch Veh\_1 is at the main entrance and Caravelle Ranch Veh\_2 on the west side of SR19.

*Visitor Contact Points and Roads/Vehicle Access* - The main entrance for Caravelle Ranch WMA is on the east side of SR19 approximately 1.1 miles south of the Cross Florida Barge Canal and 2.7 miles north of the Ocklawaha River. The camping area, check station and a non-standard single-panel kiosk are all located at this point. Another entrance is located on the west side of SR19 directly opposite the main entrance. This entrance does not allow for parking without blocking the gate. There is also a walk-in entrance on the east side of SR19 approximately 1.5 miles south of the main entrance. This entrance is for accessing the hiking trails and has a parking area and non-standard single-panel kiosk. Other than visitor contact kiosks there are no interpretive resources on the WMA.

Vehicles are allowed during specific hours during periods open to hunting and 1 day prior to specified hunts. Tracked vehicles, airboats, and unlicensed/unregistered motorcycles are prohibited.

Caravelle Road, Aubrey Road and Main Access Road are well-maintained limerock roads. Other roads vary in surface and condition but are generally grass or sand and can be traversed in two-wheel drive vehicles.

Wayfinding signage on interior roads is to FWC standards. There are no approach signs for Caravelle Ranch on SR19.

*Hunting* - Hunting is an approved use on Caravelle Ranch with seasons for archery, dove, muzzleloading gun, supervised small game (youth), general gun, small game, youth spring turkey, spring turkey, and migratory birds. There are 69 days of hunting each year excluding migratory birds. Between September and March there is hunting 18 out of 31 weekends and 3 of those weekends are spring turkey season with shooting hours only until 1pm. There is no hunting in February and 5 days of hunting in January. The area is open to other users during hunt days. Quotas limit the number of hunters accessing the area during most hunting seasons to provide a high-quality-hunting experience.

*Fishing/Boating/Paddling* - Fishing is available at all water bodies within the WMA. Shoreline fishing for bass, catfish, and panfish is available on Camp Branch Creek and large concrete culverts provide a stable place to fish. There is no boating access on the WMA but there are boat ramps at Rodman Reservoir and the Ocklawaha River.

*Trail Use* – Hiking, bicycling and horseback riding are permitted on all areas of Caravelle Ranch.

*Trail infrastructure* - There are 5.5 miles of recreational trails available. All of these are accessed from the walk-in entrance on SR19. These trails are well-shaded and traverse the hammocks along the Ocklawaha River floodplain. There are two picnic shelters located on these trails. There are no designated recreational trails west of SR19. A designated recreational trail west of SR19 would provide access to the extensive flatwoods on that part of the WMA and enhance interpretive opportunities at Outhouse Hammock. The Florida National Scenic Trail (FNST) traverses Cross Florida Greenway property adjacent to the WMA. Access to Caravelle Ranch from the FNST and vice versa will be explored.

*Wildlife Viewing and Nature Study* - Wildlife viewing opportunities are available throughout Caravelle Ranch, with some of the best, most accessible, opportunities located along the designated trails and the pastures east of SR19. The pastures provide viewing for a wide variety of birds including turkey, swifts and swallows, and flycatchers. There are no viewing structures at these sites to enhance the viewing experience.

*Picnicking* - There are currently two picnic shelters on the WMA along the designated trails. Placement of additional tables at the main entrance and Outhouse Hammock will be considered.

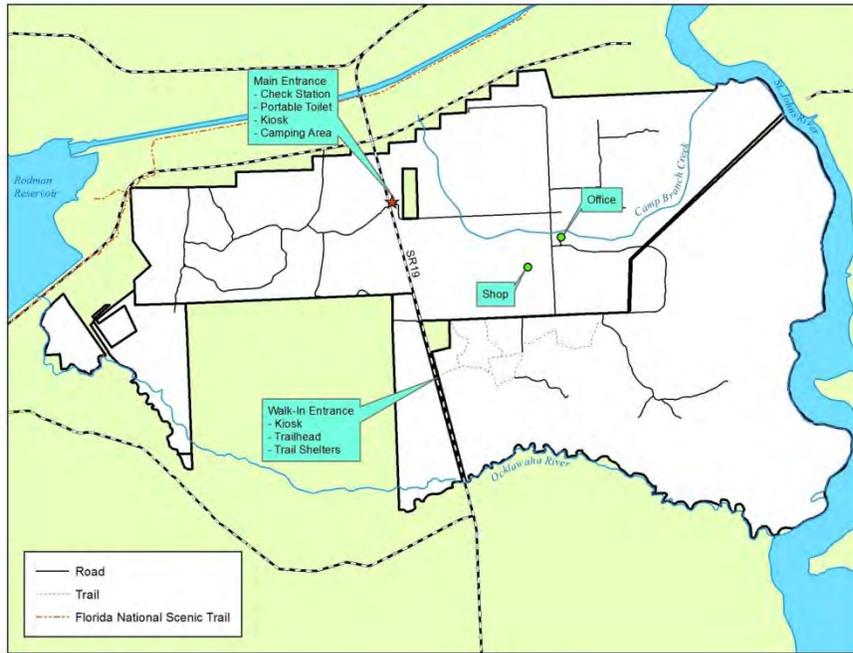


Figure 3: Caravelle Ranch WMA Existing Facilities

*Camping* - Camping is available at the main entrance camping area. Stays are limited to no more than 14 days within a 30 day period. There is a portable toilet at this location during hunting seasons.

*Geocaching* - Geocaching is allowed on the area. There are currently no permitted geocaches on Caravelle Ranch. Approval of new geocaches and disposition of existing geocaches is at the discretion of the site manager and coordinated by FWC's PAWV

*Special Events/Tours* – There are no regular tours or special events at Caravelle Ranch.

*Staff/Volunteers* - A Fisheries and Wildlife Biological Scientist III, a Fisheries and Wildlife Biological Scientist II and a Wildlife Technician are assigned to Caravelle Ranch. Summer interns from the University of Florida are used to assist in field work.

### ***Recreation Sensitivity Analysis***

(Figure 4)

While there are existing facilities at Caravelle Ranch, it is useful to analyze the WMA in its entirety to determine optimum locations for recreation opportunities. To this end, a Recreation Sensitivity Analysis is developed (Appendix 4) that looks at the entire WMA, independent of existing infrastructure and opportunities, to look for the potential to relocate or improve facilities, and to determine locations for new infrastructure.

### ***Recreation Zoning***

Research of recreational use demonstrates that visitors come to recreate on public lands with many different expectations (NPS, 1997). Providing a variety of settings allows visitors to select the type of experience they desire, simplifies management and reduces conflicts between visitors who are seeking different types of experiences. The zones delineated by the planning team are provided in Figure 5. Each zone is described below in terms of the type of experience it offers, the natural resources related to the experience and the level of management required.

#### ***Primitive Zone***

This zone offers an experience of solitude deep in a natural landscape with no evidence of human development. This zone can encompass sensitive natural resources. Access is difficult and the number of people should be limited. Only limited recreation and interpretation opportunities should be developed in this zone. A minimal level of management is necessary for resource protection and safety.

#### ***Semi-Primitive Zone***

The semi-primitive zone provides a sense of being immersed in a natural landscape with opportunities for solitude. Observation structures, boardwalks, interpretative signs and unpaved trails are the types of recreational facilities that are appropriate in this zone. A moderate level of management is provided for resource protection and safety. In areas with

vehicle access on roads, the semi-primitive motorized zone provides a sense of being in a natural landscape with minimal human modification and moderate opportunities for solitude. Interpretative signs, wayfinding signs, vehicle pull-offs, unimproved parking locations and unpaved roads are the types of recreational facilities that are appropriate in this zone. Roads are passable by two-wheel drive vehicle. A moderate level of management is provided for resource protection and safety.

*Developed Zone*

Developed zones are areas with visitor facilities such as parking, picnicking and toilets. The visitor's experience in this zone is highly social. Trails may be paved or hardened for access by people with disabilities. Visitors and facilities are intensively managed in this zone for resource protection and safety purposes. Staff should monitor visitor behavior and attend to maintenance needs. The most intensive interpretation is provided in the developed zone. This is the most appropriate zone for building construction.

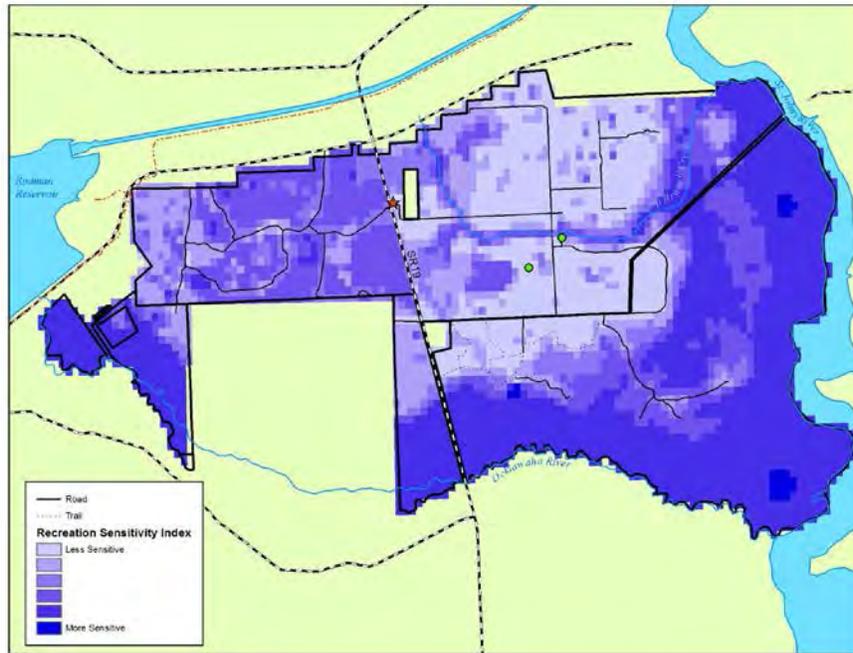


Figure 4: Caravelle Ranch WMA Recreation Sensitivity Index

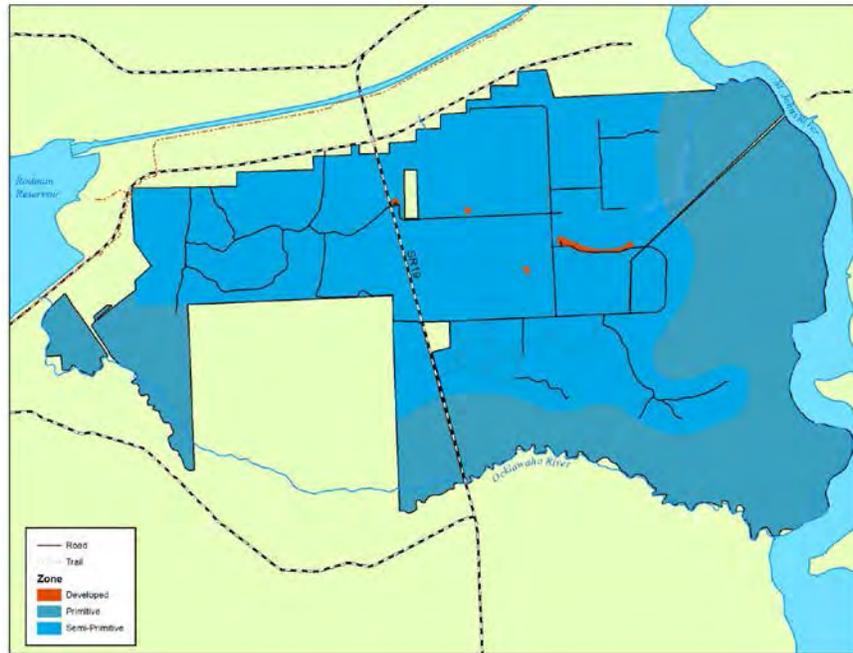


Figure 5: Caravelle Ranch WMA Recreation Zones

### ***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 Caravelle Ranch is 568 people per day (including hunting capacity). If all planned facilities are constructed, this capacity increases to 653 people per day.

## **VI. Nature-based Recreation Recommendations**

### ***Caravelle Ranch WMA Recreation Use Potential***

Caravelle Ranch 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 3. 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. Develop interpretive sign plan.
3. Develop a trail guide.
4. Develop interpretive materials for Outhouse Hammock and explore use of multimedia interpretation (QR Codes, etc.).

5. Stock recreation guide, regulation summaries and bird list in brochure boxes at the main entrance and walk-in entrance.
6. Install approach signs on SR19.
7. Maintain up-to-date information about the area on the FWC website.

**Goal B. Enhance existing trail opportunities**

1. 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 entrance west of SR19 to Outhouse Hammock using a combination of existing roads and new trails.

**Goal D. Enhance existing facilities and develop new wildlife viewing opportunities**

1. Install picnic tables at Outhouse Hammock and the check station.

**Goal E. Direct and manage recreational use to minimize negative resource impacts and maximize visitor satisfaction**

1. Implement a monitoring strategy to assess resource impacts and institute corrective management actions if indicators begin to approach standards.
2. Collect and evaluate information about visitor use and satisfaction:
  - Number of visitors to the area and patterns of visitation
  - User group conflicts
  - Origin and length of stay
  - Motivations for visiting and preferred experiences
  - What visitors already know about the area and primary interpretive themes

**Goal F. Coordinate with local, state and federal agencies and organizations when planning and implementing nature-based recreation opportunities and enhancements**

1. Cross-promote Caravelle Ranch WMA with other regional public lands.

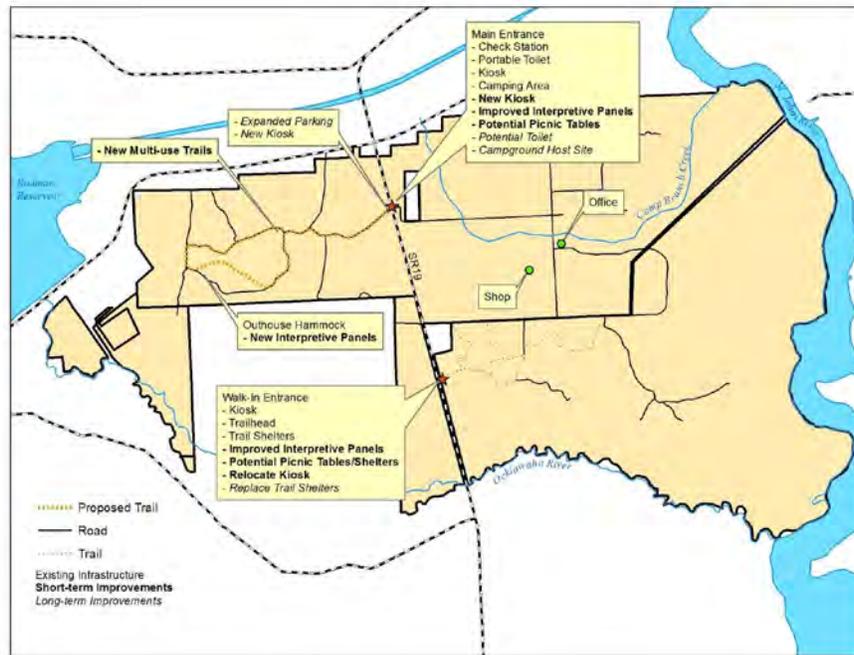


Figure 6: Caravelle Ranch WMA Proposed Recreation Facilities

### ***Challenges and Strategies***

There are several challenges facing the effective implementation and management of nature-based recreation opportunities on Caravelle Ranch. Challenges and proposed strategies to address them are discussed in this section.

1. Challenge:

Caravelle Ranch is not a well-known recreation destination.

Strategies:

- Cross-promote Caravelle Ranch with other regional conservation lands.
- Provide rack cards or similar publication at sources in Palatka, Ocala and the Ocala National Forest.
- Work with Putnam County tourism boards for promotion.
- Investigate developing an online mapping application on the FWC website to provide location and recreation information for Caravelle Ranch.

2. Challenge:

As the population density around Caravelle Ranch continues to increase, recreational use of the area will increase, potentially resulting in resource damage and wildlife disturbance.

Strategies:

- Periodically monitor all public use sites for environmental impacts and implement corrective actions when and where necessary.
- Recreational use will be directed away from sensitive environments to the greatest degree possible.
- Environmental protection information will be provided in all interpretive materials.

3. Challenge:

As recreational use increases, conflicts among user groups may occur.

Strategies:

- Provide a range of recreational opportunities in a variety of settings to avoid user conflicts as much as possible.
- Involve stakeholders and user groups during planning.

- Ensure that user groups understand how to contact local staff to resolve problems.
- Provide opportunities for different user groups to volunteer together to maintain public access amenities and conduct conservation stewardship activities.
- Display hunting information (dates, times and types) at all entrances to help all users make choices as to when to visit.

### ***Summary of Proposed Infrastructure Enhancements***

- Main Entrance
  - New kiosk with interpretive sign panels
  - Picnic tables
  - Toilet if warranted and feasible
  - Campground host site if warranted and feasible
- West SR19 Entrance
  - Kiosk
  - Expanded parking
  - Multi-use trail utilizing existing roads and single-track connectors
  - Interpretation at Outhouse Hammock
- Walk-in Entrance
  - Updated and improved interpretive panels
  - Picnic tables/picnic shelters
  - Replace trail shelters as necessary
  - Relocate kiosk for better visibility

### ***Work Plans***

PAWV will work with local staff to prepare annual work plans and budgets to implement the RMP for Caravelle Ranch. 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 from the PAWV budget.

### ***Monitoring and Management of Recreation Facilities***

PAWV will monitor recreation infrastructure on the WMA biannually including trail and structure photopoints. PAWV will also create an annual monitoring report at the end of each

fiscal year. Any impacts encountered during each monitoring will be brought to the attention of PAWV and WMA staff to determine the best course of action for correction and prevention.

Measurable indicators for monitoring key aspects of the visitor experience and resources at Caravelle Ranch are described in Appendix 5. Indicators should be monitored for each zone, and when necessary, management actions taken to ensure that visitor use and resource impacts remain within the established standards.

## References

A Management Plan for Caravelle Ranch Wildlife Management Area 2013 – 2023. Florida Fish and Wildlife Conservation Commission (2013).

Office of Economic and Demographic Research. <http://www.edr.state.fl.us>. 2013

Florida Statewide Comprehensive Outdoor Recreation Plan. Florida Department of Environmental Protection (2008).

National Park Service. The Visitor Experience and Resource Protection (VERP) Framework: A Handbook for Planners and Managers (1997).

Putnam County Comprehensive Plan. Putnam County (2007)

Putnam County Trails Plan. Putnam County (2009)

US Census 2010. US Census Bureau (2010)

## Appendices

## Appendix 1: Caravelle Ranch WMA Stakeholder Meeting Notes

12 July, 2012  
Caravelle Ranch WMA Field Office

### List of stakeholders in attendance:

Justin Williams, Deer Hunter  
Larry Bennett, Turkey Hunter  
Guion and Ella Lindsay, Florida Trail Association  
Joyce King, Florida Audubon  
Carol McDonald, Florida Native Plant Society  
Sam Carr, Paddler, Putnam Blueways CSO  
Matt Corby, St. Johns River Water Management District

### FWC staff in attendance:

Rich Noyes, Section Leader, Planning and Design  
Tom M. Matthews, Recreation Planner  
Ann Morrow, Interpretive Writer  
Mike Abbott, NE Regional Biologist  
Jimmy Conner, District Biologist  
Jason Slater, Caravelle Ranch WMA Manager and Biologist  
Rio Throm, Caravelle Ranch WMA Biologist  
Jen Williams, NE Regional Public Hunt Areas Biologist  
Allison Jones, Trail Specialist  
Josh Cucinella, Trail Specialist

### Meeting Agenda:

Introduction and Overview of Recreation Planning – Rich Noyes  
Overview and History of Caravelle Ranch – Jason Slater  
Proposed Interpretive Themes – Ann Morrow  
Overview of Proposed Recreation Improvements – Tom M. Matthews  
Stakeholder Input  
Review of Stakeholder Suggestions – Tom M. Matthews

### Responses to stakeholder comments and suggestions:

#### Trails/Activities

- **Produce and distribute a map of the trails west of SR 19.**
  - *Currently there are no trails in that section, but once the trails are constructed a trail map will be produced.*

- **Include all road and trail names, as well as GPS points, in maps to reduce confusion for users.**
  - *We will look at options on how to best provide navigational aid on the area.*

#### **Programming/Interpretation**

- **Conduct interpretive walks led by biologists to educate visitors about butterflies, birds, and wildflowers.**
  - *We will investigate the possibility of using volunteers for this purpose. Area staff may occasionally be available to speak to groups.*
- **Publicize what is available in brochures.**
  - *Brochures will be produced once the plan is finished.*

#### **Parking/Road Improvements**

- **Provide parking area further in to the area on the east side to access more distant destinations, such as the trails in the southeastern portion.**
  - *We will explore the feasibility of this option.*

#### **Facilities/Structures**

- **Provide water source for equestrian use.**
  - *We will monitor the need for and explore the feasibility of this option.*
- **Install toilets near picnic and camping but away from highway.**
  - *We will monitor the need for and explore the feasibility of this option.*
- **Place picnic areas far from road and in shaded areas.**
  - *Picnic tables with either be in natural shade or covered tables will be installed.*
- **Provide soft landing access to the Ocklawaha and St John's Rivers and Barge Canal paddling trails.**
  - *We will determine the ownership of an existing campsite near the junction of the Ocklawaha River and St. Johns River. Beyond this there is no access to either waterway. DEP and SJRWMD offer water access in the immediate vicinity of Caravelle Ranch.*

#### **Camping**

- **Allow primitive, reservation-only camping at appropriate locations, such as in Outhouse Hammock, near trail shelters, or along the river, for biking, hiking and/or paddling.**

- *Staffing levels, land management needs, and other uses of Caravelle Ranch make this impractical. DEP, US Forest Service, Florida Forest Service, and SJRWMD all offer camping in the vicinity of Caravelle Ranch.*
- **Find out who maintains the primitive campsite along the Ocklawaha River near the WMA and if it can be developed. The Blueways Paddling CSO can maintain but it needs to be mapped, signed, and acknowledged as a camping site.**
  - *We will determine the ownership of this existing campsite and proceed accordingly.*

**Other**

- **Additional opportunities for visitors are likely to attract more visitors and gain support and stewardship and preserve our heritage. Implement WMA recreation permit or fee to use property to recreate similar to state park or state forest pass.**
  - *Entrance fees are at the discretion of the FWC Commissioners. This issue will continue to be revisited as appropriate.*

## Appendix 2: Work Plan for Recreation Enhancements

Based on the prioritization of the goals and objectives listed above, the following list of projects and tasks has been ordered in terms of short and long term completion timeframes.

### Short Term

- Main Entrance
  - New kiosk with interpretive sign panels
  - Picnic tables
- West SR19 Entrance
  - Multi-use trail utilizing existing roads and single-track connectors
  - Interpretation at Outhouse Hammock
- Walk-in Entrance
  - Updated and improved interpretive panels
  - Picnic tables/picnic shelters
  - Relocate kiosk for better visibility

### Long Term Completion and Ongoing Tasks

- Main Entrance
  - Toilet if warranted and feasible
  - Campground host site if warranted and feasible
- West SR19 Entrance
  - Kiosk
  - Expanded parking
- Walk-in Entrance
  - Replace trail shelters as necessary

## Appendix 3: Recreation and Wildlife Viewing Facilities Design Guidelines

- **Entrances**  
Should welcome visitors to the area, identify the Commission, describe the range of potential experiences on the area, and describe the wildlife viewing experiences by season, time of day or wildlife event.
- **Viewing structures**  
Structures should include wildlife identification or other interpretive information. The structure should be surrounded by and focused on wildlife and habitat, rather than being the focus itself. For towers, each level should focus visitor attention to a different habitat or feature.
- **Trails**  
Trails should be described at the trailhead with length or time required. If the focus is wildlife viewing, include best seasons. Interpretive panels or brochure stops should be well-spaced and focused by season.

### General considerations in developing facilities:

- Locate viewing facilities on previously disturbed properties wherever possible.
- Preserve a sense of solitude and limit impact on natural resources by concentrating recreation uses in small “developed” zones and along existing road/trail corridors.
- Site facilities and design trails to minimize user conflicts.
- Avoid sensitive areas such as wetlands and route trails to avoid fragmenting habitat.
- Consider physical characteristics and the historical and natural character of the location.
- Adapt parking lots, buildings and other physical developments to existing topography.
- Retain on-site surface water run-off generated by development.
- Use porous pavements where surface hardening is required.
- Consider sewage disposal needs.
- Use native plants representative of the area for all landscaping.
- Design and build trails and observation structures to avoid disturbing wildlife and to minimize negative impacts such as erosion.
- Use elevated boardwalks in wet areas and swamps and walkovers to protect other sensitive areas.
- Incorporate wildlife viewing ethics into all interpretive materials.
- Incorporate interpretive themes into all brochures, trail guides and other materials produced to support recreation opportunities.
- Install interpretive signs and panels as appropriate at all recreation facilities.
- Route trails to interpret restoration and wildlife management activities.

- Insure interpretation of highly desired species viewable on the area.

#### **Universal Access**

Nature-based recreation facilities and programs must be developed and implemented in compliance with the Americans with Disabilities Act. All facilities in developed zones should be universally accessible. Recreation facilities in semi-primitive or primitive zones should be planned to be accessible to the degree possible except where:

- compliance will cause harm to cultural, historic or religious sites or significant natural features or characteristics.
- compliance will substantially alter the nature of the setting or purpose of the facility (or a portion of the facility).
- compliance would require construction methods or materials prohibited by federal, state or local regulations or statutes, or compliance would not be feasible due to terrain or prevailing construction practices.

## Appendix 4: Carrying Capacity Methodology

### FWC Recreation Carrying Capacity

Carrying capacities for recreational users on FWC lands are developed using a methodology employing existing spatial data and models, recommended guidelines for spatial and temporal carrying capacity, recommended guidelines for minimizing wildlife disturbance by outdoor recreation, and site-specific characteristics. The intent of this methodology is to provide a realistic carrying capacity which is based on the best science and data available with a focus on minimizing wildlife and habitat disturbance and providing the type of recreation our visitors desire and FWC's managed areas can support. This methodology also provides a means of monitoring visitor impacts and allows for flexibility in responding to these impacts and adjusting the carrying capacity as necessary. The carrying capacities generated through 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 OPAWVS 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 OPAWVS 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 OPAWVS and area staff.

## Appendix 5: Management and Monitoring

### Recreation Facility Monitoring Protocol

Florida Fish and Wildlife Conservation Commission  
Office of Public Access and Wildlife Viewing Services

#### Introduction

In order to better plan and manage recreation opportunities on lands managed by the Florida Fish and Wildlife Conservation Commission (FWC), FWC's Office of Public Access and Wildlife Viewing Services (PAWV) has developed a monitoring program for recreation-related facilities and infrastructure. Using both qualitative and semi-quantitative methods this program will encompass trails, signs, wildlife viewing structures and other facilities. Data obtained through this program will help FWC better plan, construct and maintain facilities to provide the recreation experiences that are meaningful, enjoyable and safe.

#### Materials

- Digital camera
- Tripod
- Kaidan panoramic photo mount
- VRWorx, or other software for creating panoramic photos
- Monitoring forms
- Tape measure
- Compass
- GPS (loaded with waypoints for monitoring points)
- Hand tools for checking structure hardware

#### Monitoring Procedures

##### Frequency

Starting in FY 2013-2014, trails will be monitored annually in the fall and structures monitored annually in the spring. Prior to FY13-14 trails and structures were both monitored biannually.

##### Photopoints

Panoramic and single photopoints are used to track and document impacts such as trail degradation, corridor condition, structural integrity and vandalism. Single photopoints are taken at use areas to capture the overall condition. Additionally, each amenity and structure has a photopoint associated with it. Panoramic photos are taken at use areas in a central location and at trailheads. Photopoints are predetermined (with the exception of trouble areas along trails), geographically referenced, and consistent. Data are compiled by analyzing panoramas and

photopoints from each monitoring session and combining the findings with impact indices recorded for each site.

Photopoints should be recorded with GPS, which can also be used to navigate back to the photopoint location on future monitoring visits. A description of the location should be recorded to ensure maximum accuracy in relocating the photopoint.

Assemble the panoramic photo gear and set the tripod over the photopoint, making sure the panoramic head is level. Standard photopoint height is 60" to the center of the camera lens while mounted on the panoramic mount. This may be modified for some photopoints depending on surrounding vegetation or other considerations, but the new height should be recorded and used each time that photopoint is taken. The easiest way to set the height is to assemble the tripod, panoramic mount and camera on level ground, adjust the legs to their full length and adjust the center column to achieve the proper lens height. The center column can be marked with a permanent marker, tape, or scored with a small file or engraver and each mark should be labeled with the height and camera model. This will have to be done for each different camera that will be used for photopoints, although it is preferable that the same camera be used for all photopoints.

Cameras should be set to full wide zoom, landscape mode if available, with flash off. All photopoints begin with the detent closest to due north and continue in a clockwise direction. A log should be kept to record the photo numbers and their corresponding photopoint.

After downloading the images they should be processed into a flat panorama (a digital image composed of all of the photos for a particular photopoint). These panoramas along with the component images should be kept in a central location organized by WMA, photopoint number, and photopoint date. Parallel photopoints will not need to be processed but should be organized as above.

### ***Trails***

Trails are monitored with a panoramic photopoint centered at the trailhead, and one photopoint wherever problems areas exist: one photo taken facing forward on the trail and one facing the opposite direction on the trail.

### ***Use areas***

Use areas have 2 photopoints. One is a panoramic photo taken at the center of the use area that follows the procedure for trailhead photopoints. The other is a single photo taken from the perimeter of the area. The compass bearing of the photo should be recorded and used for all subsequent photos taken at that photopoint.

**Structures**

Structures have a single photopoint. This is a single photo, and the compass bearing of the photo should be recorded and used for all subsequent photos taken at that photopoint. If desired, a panoramic photo can be taken to represent the view from the structure (such as the top of a tower).

**Physical Inspections**

- Check for presence or absence (smaller amenities such as fire rings and benches)
- Check for proper location (smaller amenities such as fire rings and benches)
- Inspect for damage (signs and structures)
- Check hardware and tighten or replace if necessary (signs and structures)

Trails should be traversed in their entirety, either on foot for shorter trails or by vehicle for longer trails. Trouble spots (erosion, trail braiding, shortcuts, litter, excess vegetation encroachment, etc.) should be recorded by GPS and noted on the monitoring form.

**Monitoring Forms and Record Keeping**

Monitoring forms are completed in the field. This can be done electronically using the Recon field computer or manually. If done manually they should be transferred to an electronic version by filling out the form on computer. Completed electronic forms are then placed in the appropriate location on the Project Management Site for that WMA along with any relevant GPS data (converted to shapefile), photographs, photopoints and other notes.

Any issues that need attention should be sent to the appropriate Recreation Planner via email. The Recreation Planner is responsible for ensuring that the issue is brought to the attention of the appropriate personnel, both internal and external to FWC, and tracking the issue through resolution.

Litter Impacts		
Rating	Category	Description
1	None	
2	Very Little	small isolated pieces of litter
3 <sup>1</sup>	Some	frequent small pieces or isolated large pieces of litter
4	Extensive	small areas used for trash dumping or multiple areas of high litter
5	Very Extensive	large areas used for trash dumping

Structure or Amenity Damage		
Rating	Category	Description
1	None	none/ loose bolts on new structures.
2	Very Little	minor graffiti or scratches, dirty, light crazing or oxidation, crooked, minor cracks.
3 <sup>2</sup>	Some	minor wood repair; extensive graffiti; cuts or gouges; bullet holes; major cracks, extensive crazing or fading.
4	Extensive	hazardous damage, rotten supports, severe rust, illegible signs, burnt
5	Very Extensive	structure is missing or rendered completely ruined/useless

Trail and Use Area Erosion		
Rating	Category	Description
1	Very little	mostly natural groundcover distribution or man-made materials (concrete, aggregate, mulch, etc.)
2	Some	localized patches of bare soil from use or runoff from structures or impervious surfaces; vehicle tracks noticeable; standing water; minor hog damage
3 <sup>2</sup>	Moderate	large areas of bare soil created by use, ruts from vehicles, areas muddied by use, roots partially exposed, heavy hog damage
4	Extensive	channelization, washout, and/or undercutting banks; roots mostly exposed; deep ruts; trail widening

Trail Corridor Condition		
Rating	Category	Description
1	Within Standards	minimal vegetation encroachment
2 <sup>1</sup>	Exceeds Standards	trail needs some mowing/lopping/chainsawing, minor tree fall
3	Unacceptable	trail is generally overgrown and difficult to find; tree fall that impedes passage

<sup>1</sup>Ratings of three and above exceed PAWV standards for structure and amenity damage or litter impacts and trail erosion.  
<sup>2</sup>Ratings of two and above exceed PAWV standards for trail corridor condition.

WMA Visit Checklist

- Trail maintenance needs
- Sign maintenance needs
- Structure maintenance needs
- Day-use area condition/maintenance needs
- Sufficient PAWV publications in field office
- Brochure boxes adequately stocked
- Hunting calendar posted and up-to-date
- Users encountered on area (number, activity, address for future surveys)
- Geocaches inspected
- Manager concerns
- New Ideas for area enhancement

## 13.13 Timber Contract

**CONTRACT FOR  
TIMBER SALE PREPARATION CONTRACT  
FOR  
GUANA RIVER WMA AND CARAVELLE RANCH WMA**

THIS CONTRACT is entered into by and between the FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, whose address is 620 South Meridian Street, Tallahassee, Florida 32399-1600, hereafter "COMMISSION," and THE FORESTRY COMPANY whose address is 502 W. Green Street, Perry, Florida, 32347, hereafter "CONTRACTOR."

NOW THEREFORE, the COMMISSION and the CONTRACTOR, for the considerations hereafter set forth, agree as follows:

1. **PROJECT DESCRIPTION AND PURPOSE.** This Contract is entered into pursuant to the COMMISSION's Invitation to Bid (ITB), FWC 11/12-43, (Attachment A) and the CONTRACTOR's response thereto (Attachment B), both attached hereto and made an integral part of this Contract. In the event of conflict between this Contract and Attachments A and B, the terms of this Contract shall govern. The term "Scope of Work" when used in this Contract shall include Attachments A and B. The purpose of this Contract and attachments is to provide for consultant services to administer the procurement of harvesting and accounting for timber sales for Guana River / Caravelle Ranch Wildlife Management Areas.

2. **PERFORMANCE.** The CONTRACTOR shall perform the services described in the Scope of Work in a proper and satisfactory manner. Any and all equipment, products or materials necessary or appropriate to perform under this Contract shall be supplied by the CONTRACTOR. The CONTRACTOR shall be licensed as necessary to perform under this Contract as may be required by law, rule, or regulation, and shall provide evidence of such compliance to the COMMISSION upon request. The CONTRACTOR shall procure all supplies; pay all charges, fees, taxes and incidentals that may be required for the completion of this Contract. By acceptance of this Contract, the CONTRACTOR warrants that it has the capability in all respects to fully perform the contract requirements and the integrity and reliability that will assure good-faith performance as a responsible vendor. The CONTRACTOR shall comply with Chapter 287, F.S., and all other applicable laws, rules and ordinances.

2.1 **PERFORMANCE BOND.** A Performance Bond shall be required from the CONTRACTOR by the COMMISSION for this project. Prior to commencing any work, and within five (5) days after execution of Contract, the CONTRACTOR shall furnish a Performance Bond in the amount of \$190,000 in 2012, \$190,000 in 2013, and \$190,000 in 2014 to ensure full and complete performance of the contract. The Performance Bond amount for any additional renewal years(s) will be determined based on projected revenue, as determined by the COMMISSION. The bond must state on its front page: the name, principal business address and phone number of the CONTRACTOR, The Surety, the COMMISSION's full name, the purchase order or contract number assigned to the project by the COMMISSION, and a description of the service being provided along with a general

description of the project. The CONTRACTOR is required to provide the original of the Performance Bond and the Power of Attorney to the COMMISSION's Purchasing Department and provide a copy to Contract Manager.

The bond shall be issued from a reliable Surety Company acceptable to the COMMISSION, licensed to do business in the State of Florida and signed by a Florida Licensed Resident Agent. Such a bond shall be accomplished by a duly authenticated power of attorney evidencing that the person executing the bonds in behalf of the Surety had the authority to do so on the date of the bond. In the event of non-payment of revenue to the COMMISSION or negligence of the CONTRACTOR is determined by the COMMISSION, the CONTRACTOR shall provide the monies from the Performance Bond as compensation for any such loss to the COMMISSION.

Contractor is required to maintain continuous Performance Bond coverage during the term of this Contract. The Contractor is required to renew the Performance Bond yearly and the new bond with its accompanying power of attorney must be provide to Purchasing (originals of both documents) along with a copy to the Contract Manager prior to expiration date of the previous year's bond.

3. **TERM.** This Contract shall be effective upon execution by the last party to do so and shall remain in effect until June 30, 2015 inclusive, unless terminated sooner as provided herein.

4. **RENEWAL.** This Contract may be renewed for one additional three (3) year renewal period. Renewal of this Contract shall be in writing and subject to the same terms and conditions of this Contract. Renewal amendments must be executed prior to the completion date of the Contract. All renewals are contingent upon satisfactory performance by the CONTRACTOR.

5. **CONTRACTUAL PAYMENT SCHEDULE.** The CONTRACTOR agrees to pay the FWC 80.6% of timber sales revenue on a monthly basis.

The CONTRACTOR shall establish a trust account where all timber sale revenues are deposited upon receipt from the Timber Buyer. The CONTRACTOR shall forward monthly revenue payments from the Trust Account to the:

Florida Fish and Wildlife Conservation COMMISSION  
Accounting Services  
PO Box 6150  
Tallahassee, Florida, 32314.

All revenue payments shall be accompanied by a copy of all load tickets, a Summary Statement showing revenue to FWC and revenue to the Contractor, along with a copy of the CONTRACTOR's (consultant) Trust Account Monthly Bank Statement, and a copy of each check submitted to FWC Accounting during the month.

The CONTRACTOR shall submit the first monthly revenue within 15 days following the first monthly harvest of timber.

Detailed monthly statements of the following shall be forwarded with percentage of revenue payment due to the COMMISSION within 15 days following the end of each month:

- A. CONTRACTOR's trust account activities
- B. Summary of revenue remitted to FWC and revenue share kept by CONTRACTOR
- C. Audit documents sufficient to verify harvest volumes and corresponding payment, including copies of load tickets, and a copy of each check submitted to FWC Accounting during the month.
- D. A copy of the monthly bank statement for the trust account

The payment and all these back-up documents shall be forwarded by the CONTRACTOR to the FWC Accounting Services at the address listed above. In addition, one copy of each item A-D shall be mailed concurrently to the FWC Contract Manager at the address listed below:

**FWC's Contract Manager:**

Dale Jermyn  
HSC-THCR  
Contract Manager, THCR  
620 South Meridian St.  
Tallahassee FL 32399

Contact Number for Contract Manager is: (850)617-9510, and email is:  
[Dale.Jermyn@MvFWC.com](mailto:Dale.Jermyn@MvFWC.com)

6. **CONTRACTOR'S RESPONSIBILITIES:** In addition to the general provisions of this Contract and the Scope of Work, the CONTRACTOR shall have the following specific responsibilities:

6.1 **TIMBER SALE PLANNING AND MARKETING** – The CONTRACTOR shall be responsible for marketing and conducting all aspects of timber within the designated management unit. Tasks will include: delineation and inventory of sale blocks(s), marking trees to harvest, description of products to be sold, estimation of stumpage value based on inventory of planned sale block(s), and preparation and execution of contract for each timber sale. The CONTRACTOR shall secure bids for each timber sale and upon review and approval by the Contract Manager, enter into a sales contract with the timber buyer on behalf of FWC.

6.2 **TIMBER SALE ADMINISTRATION AND OVERSIGHT** – The CONTRACTOR shall be responsible for administering all aspects of timber harvests including: recommendations for improvements to the transportation systems, conduct pre-harvest conference, supervise harvest operations for compliance and wood security, administer settlements, and provide written evaluations and recommendations within 30 days of close-out.

6.3 **TIMBER SALE PREPARATON** – The CONTRACTOR shall mark the sale boundaries, cut or leave trees as appropriate, streamside management zones and those

ecologically sensitive sites identified by the COMMISSION. CONTRACTOR shall document general pre-harvest conditions of access roads, gates, and other capital improvements that are subject to damage during harvest operations.

6.4 TIMBER SALE PROSPECTUS – The CONTRACTOR shall prepare a sale prospectus that includes technical specifications and contractual covenants that will be used as part of an Invitation to Bid for the planned sale(s). The Sale Prospectus shall be sent to the COMMISSION's Contract Manager for review and approval prior to advertising the sale. The sale prospectus shall include, but not limited to, the following:

- A. Identification of the State of Florida as timber owner
- B. Location of the timber by all four of the following methods: Map, legal description, directions and how sale boundaries will be marked.
- C. Description of timber/volume information, which must be either a general description, such as all timber within unit, or a specific description, such as how trees were measured (if applicable), estimated volume by species, diameter classes, or product classes, if appropriate.
- D. Type of bid – Identify the sale as a scaled, per unit or pay-as-cut sale. Prepare bid sheet based on product categories/classes.
- E. Procedure allowing for prospective buyers to inspect sale area, including the time when an inspection may occur, access considerations, and coordination/contract procedures.
- F. Bid Sheet and must include the following requirements for bidders:
  - Legal Identity of prospective bidders/timber buyers;
  - Requirements to verify adequate financial resources to perform the contract or the ability to obtain them;
  - Evidence of ability to perform the services within the contract term;
  - Satisfactory performance record on prior timber sale contracts;
  - Satisfactory record of integrity and business ethics;
  - Evidence of ability to obtain equipment and resources suitable for logging the timber and for meeting the resources protection provisions of the contract;
  - Evidence of qualifications and eligibility to receive an award under applicable laws and regulations; and
  - Evidence that bidder has or will use crews that have completed the Florida Master Logger training program or have a comparable certificate of training and complies with training recommended by the American Forest and Paper Association's Sustainable Forestry Initiative.
- G. Provisions for payment including stipulations for down payment, any other applicable settlement requirements, routing procedures, and refund of

performance bond upon satisfactory completion of harvest and conformance with contract requirements.

- H. Provisions providing for the remittance of timber revenue from the buyer to a trust account, and provisions that specify permissible payment methods and routing procedures.
- I. Limitations or special considerations including provisions for best management practices, harvesting deadline, access and equipment restrictions, times when loggers may not operate, leave trees, infrastructure maintenance and repair.
- J. A provision for a bid binder requiring a security deposit of ten percent (10%) of the successful bidder's estimated sale value must be received with 72 hours of the acceptance of the bid and specifying that the bid binder will be in the form of a company check, with a letter from the banking institution the company check is drawn on certifying the amount of available funds. The bid binder check shall be made out to the Florida Fish and Wildlife Conservation Commission or the Project Administrator of the timber sale. The 10% bid binder shall be a credit towards any additional monies or advance payments due at closing.

Prior to execution of the contract by the successful bidder, in addition any advance payments, a cashier's check, money order or surety bond to serve as a performance bond of 10% of the estimated total bid amount is required from the successful bidder.

- K. **Conduct of the Bid Process** – The CONTRACTOR shall perform all steps necessary to secure bids consistent with the developed sales program; the procedures will include, but are not limited to, scheduling, organizing and advertisement of pre-bid conference(s) for prospective timber buyers; and, serving as the primary point of contact for prospective bidders regarding all technical, fiscal and logistical aspects of planned sales and timber harvest operations.
- L. **Timber Sale Contract** – The CONTRACTOR shall execute a formal contract with the timber buyer(s) specifying the responsibilities and expectations of all parties. Within Attachment A (Invitation to Bid) is a Contract Template that will be used as a guide by the CONTRACTOR when executing the sales agreement. The Contract Template includes state-required covenants that must be included in the final agreement with the buyer. The CONTRACTOR is expected to add language specific to the sale as needed to ensure successful completion and execution of the sale, harvest operations and payment procedures.

6.5 **REGULATIONS** – The CONTRACTOR shall abide by all laws, rules and regulations relating to the taking of wild animal life or freshwater aquatic life, and use of the Guana River / Caravelle Ranch WMA lands for outdoor recreational

purposes as hereinafter provided, and the CONTRACTOR shall be responsible to the COMMISSION under this CONTRACT for its agents and employees so abiding by all such laws, rules and regulations.

7. **TERMINATION.** The COMMISSION may terminate this Contract at any time by certified mail, return receipt requested, from the COMMISSION to the CONTRACTOR. This Contract shall terminate immediately upon the COMMISSION giving written notice to the CONTRACTOR in the event of fraud or willful misconduct. The COMMISSION may terminate this contract in the event of breach in accordance with the REMEDIES provision below. Upon receipt of such notice, the CONTRACTOR shall, unless the notice directs otherwise, immediately discontinue all work and services. Upon termination of this Contract, the CONTRACTOR shall promptly render to the COMMISSION all property belonging to the COMMISSION. For the purposes of this section, property belonging to the COMMISSION shall include, but shall not be limited to, all books and records kept on behalf of the COMMISSION.

7.1 This Contract shall terminate or be terminated in the following ways. Upon termination of this Contract, the CONTRACTOR shall as of the effective date of termination vacate the Property and remove any and all personal property.

- A. This Contract shall terminate immediately upon the COMMISSION giving written notice to the CONTRACTOR in the event of fraud, or willful misconduct.
- B. This Contract shall terminate, automatically, 30 days after the CONTRACTOR's receipt of notice of termination from COMMISSION for failure to perform any of the CONTRACTOR's obligations under this Contract.
- C. Either party may terminate this Contract, for any reason, by giving written notice to the to the other party specifying the termination date, at least 60 days prior to the termination date specified in the notice. In the event of termination under this provision by the COMMISSION, the CONTRACTOR may be given a reasonable time, determined by the sole discretion of COMMISSION, to remove equipment, etc.
- D. This Contract shall terminate immediately upon arrest of the CONTRACTOR for any violation of WMA regulations or State of Florida statues regarding wildlife, including violation of any Rules and Regulations pertaining to the Guana River / Caravelle Ranch Wildlife Management Area.

7.1.1 **REMOVAL OF PERSONAL PROPERTY** – The CONTRACTOR shall be escorted while upon the property for removal of all personal property, and equipment belonging to the CONTRACTOR, by appointment, within 7 days of termination. Continued occupancy of the premises after termination of the Contract shall constitute trespassing by the CONTRACTOR and may be prosecuted as such. In addition, the CONTRACTOR shall pay the COMMISSION \$100 per day as liquidated damages for such trespassing and holding over. If CONTRACTOR-owned property is not removed within 30 days of termination, then the property will be dismantled and disposed of by the COMMISSION at the CONTRACTOR's expense.

7.2 **LATE FEE** – Should the CONTRACTOR fail to make the monthly revenue CONTRACT payment, CONTRACTOR shall be charged interest at the rate of one and on-

half percent (1 ½%) per month, or fraction thereof, on the amount of the delinquent payment beginning the first day following the due date of payment until paid. Any court costs and attorney's fees required to collect the past due CONTRACT payments will be at the expense of the CONTRACTOR.

7.3 REQUIRED AUTHORIZATIONS:

- A. The CONTRACTOR shall seek written authorization for the placement of any buildings or other improvements on said property.
- B. The CONTRACTOR may subcontract as necessary to perform the service, provided that the subcontract has been approved in writing by the COMMISSION prior to its execution. It is understood by the CONTRACTOR that it is liable for the subcontractor's performance under any subcontract, and that the CONTRACTOR shall be solely responsible for any payments under this Contract, and any payments due under any subcontracts.

8. **TAXES.** The CONTRACTOR recognizes that the State of Florida, by virtue of its sovereignty, is not required to pay any taxes on the services or goods purchased under the terms of this Contract.

9. **NOTICES.** Any and all notices shall be delivered to the parties at the following addresses (or such changed address or addressee as may be provided by notice). A notice or other communication shall be deemed received by the addressee on the next business day after having been placed in overnight mail with the U. S. Postal Service, or other overnight express service such as FedEx, UPS, or similar service. Notices sent by means other than overnight delivery shall be deemed received when actually received by the addressee:

COMMISSION Contract Manager  
Dale Jermyn  
HSC-THCR  
Contract Manager, THCR  
620 South Meridian St.  
Tallahassee, FL 32399  
(850)488-3831  
Dale.Jermyn@MyFWC.com

CONTRACTOR  
The Forestry Company  
Don R. Curtis Jr.  
502 W. Green St.  
Perry, FL 32347

10. **AMENDMENT.** No waiver or modification of this Contract or of any covenant, condition, or limitation herein contained shall be valid unless in writing and lawfully executed by the parties. The COMMISSION any time, by written order designated to be a Modification, make any change in the work within the general scope of this Contract (e.g., specifications, schedules, method or manner of performance, requirements, etc.). Minor, non-substantive changes to the contract mutually agreed upon by the parties may be made by written order designated to be a Modification. Any other change shall require formal amendment. However, any Modification that causes an increase or decrease in the CONTRACTOR's cost or the term of the Contract shall require a formal amendment.

11. **RELATIONSHIP OF THE PARTIES.** The CONTRACTOR shall perform as an independent contractor and not as an agent, representative, or employee of the COMMISSION. The CONTRACTOR covenants that it presently has no interest and shall not acquire any interest which would conflict in any manner or degree with the performance of services required. The parties agree that there is no conflict of interest or any other prohibited relationship between the CONTRACTOR and the COMMISSION.

12. **INSURANCE.** To the extent required by law, the CONTRACTOR will either be self-insured for Worker's Compensation claims, or will secure and maintain during the life of this Contract, Workers' Compensation Insurance for all of its employees connected with the work of this project. If any work is subcontracted, the CONTRACTOR shall require the subcontractor similarly to provide Workers' Compensation Insurance for all of the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. Such self-insurance program or insurance coverage shall comply fully with the Florida Workers' Compensation law. In case any class of employees engaged in hazardous work under this Contract is not protected under Workers' Compensation statutes, the CONTRACTOR shall provide, and cause each subcontractor to provide, adequate insurance satisfactory to the COMMISSION, for the protection of his employees not otherwise protected.

Employers who have employees who are engaged in work in Florida must use Florida rates, rules, and classifications for those employees. In the construction industry, only corporate officers of a corporation or any group of affiliated corporations may elect to be exempt from workers' compensation coverage requirements. Such exemptions are limited to a maximum of three per corporation and each exemption holder must own at least 10% of the corporation. Independent contractors, sole proprietors and partners in the construction industry cannot elect to be exempt and must maintain workers' compensation insurance.

The CONTRACTOR shall secure and maintain comprehensive general liability coverage with limits of not less than \$500,000 per occurrence and \$1,000,000 annual aggregate for bodily injury, and not less than \$100,000 per occurrence and \$300,000 annual aggregate for property damage; and comprehensive automobile liability coverage with limits of not less than \$300,000 combined single limit for bodily injury and property damage. The CONTRACTOR's current certificate of insurance shall indicate the COMMISSION as an additional insured, and shall contain a provision that the insurance will not be canceled for any reason during the term of this Contract except after thirty (30) days written notice to the COMMISSION's Contracts Manager.

Contractor is required to maintain continuous General Liability coverage during the term of this Contract. The Contractor is required to renew the General Liability coverage yearly and the new Certificate of Insurance must be provide to Purchasing along with a copy to the Contract Manager prior to expiration date of the previous year's Certificate of Insurance.

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**CERTIFICATE OF INSURANCE**

The Contractor agrees to supply proof of insurance to the Commission's Tallahassee Purchasing Office within five (5) calendar days after execution of the contract (Purchase Order), with the types and coverage outlined herein by the Commission. The proof of insurance must contain the bid number and all insurance policies shall be through insurers authorized or eligible to write policies in Florida. Copies are acceptable and can be faxed to (850) 921-2500.

13. **PUBLIC RECORDS.** Records made or received in conjunction with this contract may be public records under Chapter 119, Florida Statutes. This Contract may be unilaterally canceled by the COMMISSION for refusal by the CONTRACTOR to allow public access to all documents, papers, letters, or other material subject to the provisions of Chapter 119, Florida Statutes, and made or received by the CONTRACTOR in conjunction with this Contract.

14. **RECORD KEEPING REQUIREMENTS.** The CONTRACTOR shall maintain accurate books, records, documents and other evidence that sufficiently and properly reflect all direct and indirect costs of any nature expended in the performance of this Contract, in accordance with generally accepted accounting principles. The CONTRACTOR shall allow the COMMISSION, the State, or other authorized representatives, access to periodically inspect, review or audit such documents as books, vouchers, records, reports, canceled checks and any and all similar material. Such audit may include examination and review of the source and application of all funds whether from the state, local or federal government, private sources or otherwise. These records shall be maintained for five (5) years following the close of this Contract. In the event any work is subcontracted, the CONTRACTOR shall require each subcontractor to similarly maintain and allow access to such records for audit purposes.

15. **LIABILITY.** The CONTRACTOR shall save, hold harmless and indemnify the State of Florida and the COMMISSION against any and all liability, claims, judgments or costs of whatsoever kind and nature for injury to, or death of any person or persons and for the loss or damage to any property resulting from the use, service, operation or performance of work under the terms of this Contract, resulting from the acts or omissions of the CONTRACTOR, his subcontractor, or any of the employees, agents or representatives of the CONTRACTOR or subcontractor.

16. **NON-DISCRIMINATION.** No person, on the grounds of race, creed, color, national origin, age, sex, or disability, shall be excluded from participation in, be denied the proceeds or benefits of, or be otherwise subjected to discrimination in performance of this Contract.

17. **PROHIBITION OF DISCRIMINATORY VENDORS.** 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 any goods or services to a 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 under a contract with any public entity; and may not transact business with any public entity.

18. **PUBLIC ENTITY CRIMES.** In accordance with Section 287.133(2)(a), F.S., a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not perform work as a grantee, contractor, supplier, subcontractor, consultant or by any other manner under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, F.S., for Category Two, for a period of 36 months from the date of being placed on the convicted vendor list.

19. **PROHIBITION OF UNAUTHORIZED ALIENS.** In accordance with Executive Order 96-236, the Commission shall consider the employment by the Contractor of unauthorized aliens a violation of section 274A(e) of the Immigration and Nationalization Act. Such violation shall be cause for unilateral cancellation of this Contract if the Contractor knowingly employs unauthorized aliens.

20. **EMPLOYMENT ELIGIBILITY VERIFICATION.** The Contractor shall enroll in and use the U.S. Department of Homeland Security's E-Verify Employment Eligibility Verification System (<http://www.uscis.gov/portal/site/uscis>) to verify the employment eligibility of all new employees hired by the Contractor during the term of this Contract.

The Contractor shall include in any subcontracts for the performance of work or provision of services pursuant to this Contract the requirement that the subcontractor use the E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.

The Contractor further agrees to maintain records of its participation and compliance with the provisions of the E-Verify program, including participation by its subcontractors as provided above, and to make such records available to the Commission or other authorized state entity consistent with the terms of the Contractor's enrollment in the program. This includes maintaining a copy of proof of the Contractor's and subcontractors' enrollment in the E-Verify Program (which can be accessed from the "Edit Company Profile" link on the left navigation menu of the E-Verify employer's homepage).

Compliance with the terms of the Employment Eligibility Verification provision is made an express condition of this Contract and the Commission may treat a failure to comply as a material breach of the Contract.

21. **NON-ASSIGNMENT.** This Contract is an exclusive contract for services and may not be assigned in whole or in part without the written approval of the COMMISSION. Any such assignment or attempted assignment shall be null and void.

22. **PROHIBITION OF CONTINGENT FEES.** The CONTRACTOR warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the CONTRACTOR, to solicit or secure this Contract and that it has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide

employee working solely for the CONTRACTOR, any fee, commission, percentage, gift or other consideration contingent upon or resulting from the award or making of this Contract.

23. **REMEDIES.** The CONTRACTOR shall perform the services in a proper and satisfactory manner as determined by the COMMISSION. If the COMMISSION determines that the CONTRACTOR or successors are in violation of the terms of this Agreement, it may take any of the following actions, after 15 day written notice to the CONTRACTOR or successors to correct the violation: 1) the COMMISSION may itself correct the violation, including but not limited to obtaining replacement for all or any part of the services or products to be provided under this Agreement, and demand payment from the CONTRACTOR for all costs associated with such action; 2) the COMMISSION may bring an action at law or in equity in a court of competent jurisdiction to enforce the terms of this Agreement, for specific performance, to temporarily or permanently enjoin the violation, recover damages for violation of this Agreement, including but not limited to the costs of replacement services or products, and any other damages permitted by law. In any enforcement action the COMMISSION shall not be required to prove either actual damages or the inadequacy of otherwise available remedies. The COMMISSION'S remedies shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity.

24. **SEVERABILITY AND CHOICE OF VENUE.** This Contract has been delivered in the State of Florida and shall be construed in accordance with the laws of Florida. Wherever possible, each provision of this Contract shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Contract shall be prohibited or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Contract. Any action in connection herewith, in law or equity, shall be brought in Leon County, Florida, to the exclusion of all other lawful venues.

25. **NO THIRD PARTY RIGHTS.** The parties hereto do not intend nor shall this Contract be construed to grant any rights, privileges or interest to any person not a party to this Contract.

26. **JURY TRIAL WAIVER.** As part of the consideration for this Contract, the parties hereby waive trial by jury in any action or proceeding brought by any party against any other party pertaining to any matter whatsoever arising out of or in any way connected with this Contract, or with the products or services provided under this Contract; including but not limited to any claim by the CONTRACTOR of quantum meruit.

27. **ENTIRE AGREEMENT.** This Contract with all incorporated attachments and exhibits represents the entire agreement of the parties. Any alterations, variations, changes, modifications or waivers of provisions of this Contract shall only be valid when they have been reduced to writing, and duly signed by each of the parties hereto, unless otherwise provided herein.

**THIS AREA INTENTIONALLY LEFT BLANK**

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed through their duly authorized signatories on the day and year last written below.

THE FORESTRY COMPANY

FLORIDA FISH AND WILDLIFE  
CONSERVATION COMMISSION

*D. R. Curtis Jr.*  
Authorized Official  
Name: *D. R. Curtis Jr.*  
Title: *President*  
Date: *2/15/12*

*Nick Wiley*  
Nick Wiley  
Executive Director  
Date: *2/17/12*

Approved as to form and legality:  
*Anthony Pignone*  
FWC Attorney  
Date: *2/6/12*

Attachments in this Contract include the following:

- Attachment A ITB FWC 11/12-43
- Attachment B Contractor's Response to ITB

### **13.14 Management Procedures Guidelines - Management of Archaeological and Historical Resources and Master Site File**

**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](http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf).

\* \* \*

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

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

Phone: (850) 245-6425  
Toll Free: (800) 847-7278  
Fax: (850) 245-6435

DHR Master Site File: Known Cultural Sites on CRWMA									
SITEID	SITENAME	SITETYPE1	SITETYPE2	SITETYPE3	SITETYPE4	CULTURE1	CULTURE2	CULTURE3	CULTURE4
PU00030	NN	Prehistoric midden(s)				Prehistoric			
PU00033	NN	Prehistoric midden(s)				Prehistoric			
PU01219	MIDDEN ROAD MIDDEN	Campsite (prehistoric)	Prehistoric shell midden	Prehistoric midden(s)	Historic refuse / Dump	Twentieth century American, 1900-present	Mt. Taylor	Prehistoric	St. Johns, 700 B.C.-A.D. 1500
PU01220	OUTHOUSE HAMMOCK	Building remains	Campsite (prehistoric)	Lithic scatter/quarry (prehistoric: no ceramics)		Twentieth century American, 1900-present	Prehistoric	St. Johns, 700 B.C.-A.D. 1500	
PU01221	LONELY POINT	Land-terrestrial	Single artifact or isolated find			Prehistoric lacking pottery	Prehistoric		
PU01222	BEAR SCAT TURPENTINE CAMP	Turpentine camp				Twentieth century American, 1900-present			
PU01640	Pine Island Midden	Land-terrestrial	Prehistoric shell midden	Prehistoric midden(s)					

**13.15 Land Management Uniform Cost Accounting Council Terms  
and Operational Plan Fiscal Year 2013-2014**

## Land Management Uniform Accounting Council Categories and Subcategories

### **1. Resource Management**

- a. Exotic Species Control. -- Invasive exotic plant and animal removal activities and costs for inventorying, planning, preparing, executing, evaluating, monitoring and reporting. Also includes equipment, chemicals, protective clothing and supplies. Includes nuisance native feral animal and plant control.
- b. Prescribed Burning. -- Prescribed burning activities and costs for assessing, planning, preparing, executing, evaluating and reporting. Also includes equipment, protective clothing and supplies.
- c. Cultural Resource Management. -- Management activities and costs for assessing, planning, executing, evaluating and reporting, and for all maintenance, restoration or monitoring activities for prehistoric and historic sites, features and collection objects.
- d. Timber Management. -- Activities and costs related to the establishment of a stand of potentially merchantable timber, harvest of merchantable timber, and cultural treatments intended primarily to improve the growth and overall health of a stand of merchantable timber. Also includes activities and costs related to the cutting of merchantable timber in natural community and habitat restoration projects.
- e. Hydrological Management. -- Hydrological management and restoration activities and costs for assessing, monitoring, planning, preparing, executing, evaluating and reporting. Includes water level management, repair, removal or back-filling of ditches, canals, berms and dams. Also includes water quality and water quantity monitoring.
- f. Other. -- All other resource management activities and costs not captured in other specific subcategories. Examples include natural community and habitat restoration through other techniques; plant, animal or biological community survey, monitoring and research; listed species management; technical assistance; and evaluating and commenting on resource impacts to parks.

### **2. Administration**

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

General operating costs of district or region administrative facilities are included.

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

### **3. Support**

- a. Land Management Planning. -- Developing land management plans required by Sec. 253.034, F.S. Includes researching and compiling plan information, materials and maps, coordinating planning activities, conducting review activities (internal reviews, public meetings, advisory group meetings, ARC, etc.), and promulgating draft plans and final plans.
- b. Land Management Reviews. -- Planning, organizing and conducting land management reviews by teams created under Sec. 259.036, F.S. Includes preparing and responding to land management review reports. Also includes similar work conducted as part of internal agency land management reviews.
- c. Training/Staff Development. -- Staff training and development costs incurred in any facet of the agency's land management activities.
- d. Vehicle Purchase. -- Acquisition of any vehicle purchased primarily for land management purposes or to support any category of land management activity by the agency.
- e. Vehicle Operation and Maintenance. -- Costs of operating and upkeep of any vehicle used by the agency to support any category of land management activity.
- f. Other. -- Any other support activity or cost not captured by other categories or subcategories.

### **4. Capital Improvements**

- a. New Facility Construction. -- Use of Fixed Capital Outlay (FCO) or other budget authority for all new facility design and construction activities. Includes new roads, parking and all other infrastructure.
- b. Facility Maintenance. -- Use of Fixed Capital Outlay (FCO) or other budget authority for all repairs or renovations to existing facilities, roads or other infrastructure. Also includes ADA accessibility improvements and renovations.

### **5. Visitor Services/Recreation**

- a. Information/Education Programs. -- Interpretive, environmental education and marketing programs that explain or promote the agency’s mission or instill in visitors an understanding and appreciation for Florida’s natural and cultural resources and their proper use and care. Includes signs, brochures, maps and other public information materials that are produced or disseminated.
- b. Operations. -- Includes the non-administrative and non-support costs involved in providing public access to lands. Includes all actions required to manage visitor activities in a way to ensure safe and enjoyable use by the public. Includes routine maintenance, cleaning and other work required to provide safe and efficient utilization of facilities and resources that support visitor use and recreation. Includes protection activities required by staff to safeguard natural and cultural resources, facilities, material, staff and visitors.

**6. Law Enforcement**

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

**Land Management Uniform Accounting Council Categories and FWC Activity Codes**

**Resource Management**

Exotic Species Control

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

Prescribed Burning

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

Cultural Resource Management

- 201 Cultural resource management

Timber Management

- 202 Timber management

Hydrological Management

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

Other

- 185 GIS

186	Biometrics
200	RESOURCE MANAGEMENT
203	Tree and shrub planting
213	Wildlife management
214	Listed Species management
219	Upland restoration
282	Herbaceous seeding
283	Clearings
289	Native vegetation management (mechanical)
290	Native vegetation management (chemical)
221	Animal surveys
228	Inland aerial surveys
235	Vegetation and plant surveys
250	MONITORING AND ASSESSMENTS
252	Biomedical monitoring
253	Ecological monitoring
256	Habitat monitoring analysis
263	Nest box monitoring
264	Population demographics
295	Biological data collection, analysis, and reporting
275	Permits and authorizations
276	Commission rule development and review
277	Relocation
278	CITES tags
281	Other resource management
284	Feeding/watering
285	Nest structures
286	Population control
287	Stocking enhancements/population augmentation
288	Nuisance animal complaints
293	Mortality investigations
294	Program coordination and implementation C inter- and intra-agency coordination and program implementation at the section, bureau, or division level
296	Habitat protection technical assistance
750	URTD assessment
789	Site Preparation – GCR
790	Irrigation – GCR
791	Seed Collection – Hand
792	Seed Collection – Mechanical
793	Herbicide Maintenance Treatment

## **Administration**

### Central Office/Headquarters

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

## **Support**

### Land Management Planning

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

### Land Management Reviews

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

### Training/Staff Development

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

### Vehicle Purchase

- 128 New Vehicle and Equipment Purchase

### Vehicle Operation and Maintenance

- 923 FEM C vehicles/equipment

### Other

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

## **Capital Improvements**

### New Facility Construction

- 910 New facility construction C buildings/structures
- 912 New construction C roads/bridges
- 913 New construction C trails
- 914 New construction C fences

### Facility Maintenance

- 920 Facility and equipment maintenance (FEM) C buildings/structures
- 921 FEM C utilities
- 922 FEM C custodial functions
- 925 FEM C boating access
- 926 FEM C roads/bridges
- 927 FEM C trails
- 928 FEM C fences

## **Visitor Services/Recreation**

### Information/Education Programs

- 145 Technical bulletin

### Operations

- 311 Boundary signs
- 312 Informational signs
- 320 Outreach and education C attending or developing educational or informational materials or events for the public
- 327 Becoming an Outdoor Woman C enhancement

- 331 Wings Over Florida
- 339 Range safety operations
- 341 Public use administration (hunting)
- 342 Public use administration (non-hunting)
- 350 Customer service support C disseminating written or verbal information or assistance to the public
- 700 STUDIES
- 740 EVALUATIONS AND ASSESSMENTS

## **Law Enforcement**

### **FWC Activity Code Numeric Listing**

- 100 ADMINISTRATION C administrative tasks, including preparation of forms, word processing, photocopying, filing, and other clerical/secretarial duties.
- 101 Project inspection C field inspections of projects.
- 103 Meetings C includes workshops, conferences, staff, and other meetings.
- 104 Budget/purchasing/accounting
- 128 New Vehicle and Equipment Purchase
- 140 REPORT WRITING/EDITING/MANUSCRIPT PREPARATION
- 141 Grant applications
- 145 Technical bulletin
- 150 PERSONNEL MANAGEMENT C recruitment, hiring, training, counseling, and supervising.
- 180 SYSTEMS ADMINISTRATION AND MANAGEMENT
- 182 Data management
- 184 Metadata development and management
- 185 GIS
- 186 Biometrics
- 187 IT
- 188 Web development
- 191 Stamp design coordination
- 194 Lake restoration
- 200 RESOURCE MANAGEMENT
- 201 Cultural resource management
- 202 Timber management
- 203 Tree and shrub planting
- 204 Resource planning
- 205 Prescribed burning
- 206 Prescribed burning C growing season (April 1 to September 30)
- 207 Prescribed burning C dormant season (October 1 to March 31)
- 208 Firebreaks
- 209 Land Management Reviews
- 210 Exotic species control
- 211 Exotic plant control (mechanical)
- 212 Exotic plant control (chemical)
- 213 Wildlife management
- 214 Listed Species management
- 215 Hydrology management

216	Dams, dikes, levees
217	Canals
218	Water level management
219	Upland restoration
221	Animal surveys
226	Human dimensions surveys
228	Inland aerial surveys
235	Vegetation and plant surveys
250	MONITORING AND ASSESSMENTS
252	Biomedical monitoring
253	Ecological monitoring
256	Habitat monitoring analysis
263	Nest box monitoring
264	Population demographics
275	Permits and authorizations
276	Commission rule development and review
277	Relocation
278	CITES tags
281	Other resource management
282	Herbaceous seeding
283	Clearings
284	Feeding/watering
285	Nest structures
286	Population control
287	Stocking enhancements/population augmentation
288	Nuisance animal complaints
289	Native vegetation management (mechanical)
290	Native vegetation management (chemical)
293	Mortality investigations
294	Program coordination and implementation C inter- and intra-agency coordination and program implementation at the section, bureau, or division level
295	Biological data collection, analysis, and reporting
296	Habitat protection technical assistance
311	Boundary signs
312	Informational signs
320	Outreach and education C attending or developing educational or informational materials or events for the public
327	Becoming an Outdoor Woman C enhancement
331	Wings Over Florida
339	Range safety operations
341	Public use administration (hunting)
342	Public use administration (non-hunting)
350	Customer service support C disseminating written or verbal information or assistance to the public
700	STUDIES
721	Geospatial analysis techniques 740EVALUATIONS AND ASSESSMENTS
750	URTD assessment
789	Site Preparation – GCR
790	Irrigation – GCR

- 791 Seed Collection – Hand
- 792 Seed Collection – Mechanical
- 793 Herbicide Maintenance Treatment
- 910 New facility construction C buildings/structures
- 912 New construction C roads/bridges
- 913 New construction C trails
- 914 New construction C fences
- 920 Facility and equipment maintenance ( FEM) C buildings/structures
- 921 FEM C utilities
- 922 FEM C custodial functions
- 923 FEM C vehicles/equipment
- 925 FEM C boating access
- 926 FEM C roads/bridges
- 927 FEM C trails
- 928 FEM C fences

**Caravelle Ranch WMA Operational Plan Cost Estimate – Fiscal Year 2013-2014**

Activity	Title	Staff Days	Salary	Fuel Cost	Other	Total
101	Project inspection	20	\$4,008.80	\$264.80	\$0.00	\$4,273.60
103	Meetings	20	\$4,008.80	\$264.80	\$0.00	\$4,273.60
104	Budget/purchasing/accounting	15	\$3,006.60	\$198.60	\$0.00	\$3,205.20
128	New Vehicle and Equipment Purchases	2	\$400.88	\$26.48	\$8,000.00	\$8,427.36
140	Report writing/editing/manuscript preparation	10	\$2,004.40	\$132.40	\$0.00	\$2,136.80
150	Personnel management	20	\$4,008.80	\$264.80	\$1,500.00	\$5,773.60
185	GIS	15	\$3,006.60	\$198.60	\$0.00	\$3,205.20
202	Timber management	20	\$4,008.80	\$264.80	\$0.00	\$4,273.60
204	Resource planning	150	\$30,066.00	\$1,986.00	\$27,000.00	\$59,052.00
206	Prescribed burning - growing season	50	\$10,022.00	\$662.00	\$2,500.00	\$13,184.00
207	Prescribed burning - dormant season	75	\$15,033.00	\$993.00	\$2,500.00	\$18,526.00
208	Firebreaks	15	\$3,006.60	\$198.60	\$0.00	\$3,205.20
212	Exotic plant control (chemical)	25	\$5,011.00	\$331.00	\$0.00	\$5,342.00
218	Water level management	25	\$5,011.00	\$331.00	\$0.00	\$5,342.00
219	Upland restoration	0	\$0.00	\$0.00	\$0.00	\$0.00
221	Animal surveys	80	\$16,035.20	\$1,059.20	\$2,500.00	\$19,594.40
235	Vegetation and plant surveys	20	\$4,008.80	\$264.80	\$0.00	\$4,273.60
282	Herbaceous seeding	130	\$26,057.20	\$1,721.20	\$25,000.00	\$52,778.40
285	Nest structures	5	\$1,002.20	\$66.20	\$0.00	\$1,068.40
289	Native vegetation management (mechanical)	110	\$22,048.40	\$1,456.40	\$12,500.00	\$36,004.80
294	Program coordination and implementation	20	\$4,008.80	\$264.80	\$0.00	\$4,273.60
295	Biological data collection, analysis, and reporting	60	\$12,026.40	\$794.40	\$8,500.00	\$21,320.80
312	Informational signs	10	\$2,004.40	\$132.40	\$1,000.00	\$3,136.80
320	Outreach and education	5	\$1,002.20	\$66.20	\$0.00	\$1,068.40

<b>Activity</b>	<b>Title</b>	<b>Staff Days</b>	<b>Salary</b>	<b>Fuel Cost</b>	<b>Other</b>	<b>Total</b>
341	Public use administration (hunting)	20	\$4,008.80	\$264.80	\$2,500.00	\$6,773.60
350	Customer service support	5	\$1,002.20	\$66.20	\$0.00	\$1,068.40
740	Evaluations and assessments	0	\$0.00	\$0.00	\$0.00	\$0.00
793	Herbicide Maintenance Treatment	20	\$4,008.80	\$264.80	\$0.00	\$4,273.60
910	New facility construction -- buildings/structures	0	\$0.00	\$0.00	\$0.00	\$0.00
920	FEM -- buildings/structures	45	\$9,019.80	\$595.80	\$72,500.00	\$82,115.60
923	FEM -- vehicles/equipment	125	\$25,055.00	\$1,655.00	\$35,925.00	\$62,635.00
926	FEM -- roads/bridges	118	\$23,651.92	\$1,562.32	\$0.00	\$25,214.24
927	FEM -- trails	10	\$2,004.40	\$132.40	\$0.00	\$2,136.80
928	FEM -- fences	10	\$2,004.40	\$132.40	\$1,000.00	\$3,136.80
All	totals	1,255	\$251,552.20	\$16,616.20	\$202,925.00	\$471,093.40

## 13.16 FWC Agency Strategic Plan

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

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**Theme One – Florida’s Fish and Wildlife Populations and Their Habitats**

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

Strategies:

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

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

Strategies:

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

## **Theme Two – Interactions with Fish and Wildlife, including Fishing, Hunting, Boating and Wildlife Viewing Opportunities**

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

Strategies:

1. Develop, acquire and use the appropriate biological and sociological science necessary to provide sustainable fishing, hunting, boating and wildlife viewing opportunities that meet the needs and expectations of user groups while providing for the sustainability of those resources.
2. Manage fish and wildlife populations to provide sustainable fishing, hunting, and wildlife viewing opportunities.
3. Develop and maintain widely available, diverse and accessible fishing, hunting, boating and wildlife viewing opportunities that meet the needs and expectations of residents and visitors while providing for the sustainability of those resources and emphasizing partnerships with both public and private landowners.
4. Recruit and manage sustainable levels of resident and visitor participation in fishing, hunting, boating and wildlife viewing.
5. Provide targeted fishing, hunting, boating and wildlife viewing programs for youth, the disabled and veterans.

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

Strategies:

1. Provide and promote opportunities for residents, and visitors to learn safety practices for fishing, hunting, boating and wildlife viewing.
2. Enhance the boating safety and waterway experience of residents and visitors through improved access, management, education and enforcement.
3. Promote Florida's outdoor environment as a safe and healthy recreational option for residents and visitors.
4. Address the growing disconnect between people and nature by marketing and providing opportunities and education for diverse age, race, gender, ethnic and other demographic sectors.

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

Strategies:

1. Continually evaluate proposed and existing regulations, based on resource management benefits, public safety concerns, and economic and social impacts, to improve or eliminate regulations as warranted.
2. Coordinate with partners and stakeholders to ensure that appropriate authorities and regulations exist to maintain sustainable fish and wildlife populations.
3. Implement and enforce regulations in an informative, proactive and influential manner to enrich resident and visitors' outdoor experience while safeguarding the natural resources.

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

Strategies:

1. Manage species and their habitats, as well as species and human interactions, to eliminate or reduce the adverse environmental, social, economic and health and safety impacts from native and non-native fish, wildlife and plants.
2. Effectively communicate to residents, visitors and businesses how to be safe and act responsibly when interacting with or possessing fish, wildlife and plants.
3. Manage captive and non-native wildlife movement and trade through proactive and responsive enforcement, regulation and education, with an emphasis on species that pose a high risk to our native fish and wildlife.
4. Enhance partnerships to address adverse environmental, social, economic and health and safety impacts from fish, wildlife and plants and ensure a consistent and integrated approach with FWC.

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

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

Strategies:

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

2. Develop and deliver standardized youth conservation curricula and fishing, hunting, boating and wildlife viewing outdoor activity programs, and assist with adapting programs and curricula to meet the needs of diverse communities.
3. Foster stewardship and shared responsibility for fish and wildlife conservation through conservation education programs.
4. Expand marketing and outreach to reach diverse audiences and engage all staff in priority outreach initiatives.

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

Strategies:

1. Foster a common vision among partners and the FWC to maintain and enhance fish and wildlife populations and their habitats through interagency coordination, mutually beneficial goals and initiatives.
2. Engage residents, visitors, stakeholders and partners to understand their perspectives, develop and implement conservation programs, and implement fishing, hunting, boating and wildlife viewing management activities.
3. Use citizen science to enhance conservation programs.

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

Strategies:

1. Inform residents and visitors about conservation stewardship and encourage their active involvement in achieving conservation of fish and wildlife.
2. Provide and promote opportunities for residents and visitors, especially youth, to participate in conservation stewardship activities, including FWC volunteer opportunities.

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

Strategies:

1. Provide communities with the necessary assistance to help them obtain the social and economic benefits of local conservation lands.
2. Provide residents and visitors with relevant information on the social and economic benefits of conservation, fishing, hunting, boating, and wildlife viewing.
3. Support community events and programs that promote fish and wildlife conservation.

## **Theme Four – Responsive Organization and Quality Operations**

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

Strategies:

1. Identify and implement ways to support Florida businesses and job growth while managing fish and wildlife.
2. Identify and promote opportunities for staff to benefit local communities through participation in approved activities where FWC resources can be used (for example, the Florida State Employees' Charitable Campaign, the Guardian ad Litem Program, mentoring programs, FWC Disaster Response Teams, and American Red Cross Disaster Services).
3. Provide residents and visitors with reliable and current information on Florida's fish and wildlife.
4. Continue to attract visitors by providing top-quality fishing, hunting, boating and wildlife viewing opportunities.

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

Strategies:

1. Identify existing and emerging risks to the safety of residents and visitors and foster internal collaboration and external partnerships necessary to effectively manage, reduce or eliminate those risks.
2. Provide immediate and effective disaster response and recovery through mutual-aid efforts with local, state and federal partners.
3. Provide search, rescue, and recovery services in coordination with local, state and federal entities to ensure the safety of residents and visitors.
4. Protect natural and cultural resources through proactive and responsive enforcement efforts.

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

Strategies:

1. Address emerging biological, social and economic trends, anticipate impacts and take advantage of opportunities to accomplish FWC's mission.
2. Expect each employee to be an ambassador for FWC and its mission to Florida's diverse residents and visitors.

3. Provide efficient and effective service to Florida's diverse residents, visitors, and FWC staff.
4. Foster a diverse, accountable, responsive and skilled workforce who effectively serves Florida's residents and visitors.
5. Manage existing and secure additional resources necessary to achieve fish and wildlife conservation and meet residents, visitor and stakeholder needs.
6. Create and maintain an effective business model that supports the FWC's mission by using continuous improvement approaches that foster a collaborative and professional culture.

## 13.17 Arthropod Control Plan



CHARLES H. BRONSON  
COMMISSIONER

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

**ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS**

Chapters 388.4111, F.S. and 5E-13.042(4)(b), F.A.C.  
Telephone: (850) 922-7011

**For use in documenting an Arthropod control plan for lands designated by the State of Florida or any political subdivision thereof as being environmentally sensitive and biologically highly productive therein.**

Name of Designated Land:  
Caravelle Ranch Wildlife Management Area

Is Control Work Necessary:       Yes       No

Location:  
Putnam 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:

- |  |                                      |  |
|--|--------------------------------------|--|
| <input type="checkbox"/> Landing Rate Counts | <input type="checkbox"/> Light Traps | <input type="checkbox"/> Sentinel Chickens |
| <input type="checkbox"/> Citizen Complaints  | <input type="checkbox"/> Larval Dips | <input type="checkbox"/> Other             |

If "Other", please explain:  
N/A

Arthropod Species for Which Control is Proposed:  
N/A

Proposed Larval Control:  
N/A

Proposed larval monitoring procedure:  
Are post treatment counts being obtained:  Yes  No

Biological Control of Larvae:

Might predacious fish be stocked:  Yes  No  
Other biological controls that might be used:

N/A

Material to be Used for Larvaciding Applications:

(Please Check All That Apply:)

- Bti
- Bs
- Methoprene
- Non-Petroleum Surface Film
- Other, please specify:

Please specify the following for each larvicide:

Chemical or Common name:

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: Arthropod control agency may request special exception to this plan during a threat to public or animal health declared by State Health Officer or Commissioner of Agriculture.

Proposed Notification Procedure for Control Activities:

Records:

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

- Yes       No

Records Location:

How long are records maintained:

Vegetation Modification:

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

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed?  
No

Include proposed operational schedules for water fluctuations  
N/A

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

Proposed Modification of Aquatic Vegetation:

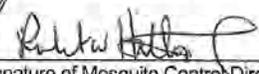
None

Land Manager Comments:

No control methods are proposed or requested at this time.

Arthropod Control Agency Comments:

  
\_\_\_\_\_  
Signature of Lands Manager or Representative      2/11/2013  
Date

  
\_\_\_\_\_  
Signature of Mosquito Control Director / Manager      2/11/2013  
Date

### **13.18 Putnam and Marion Counties: Letters of Compliance with Local Government Comprehensive Plans**

P. O. Box 1486  
Palatka, FL 32178-1486  
Email: [pzb@putnam-fl.com](mailto:pzb@putnam-fl.com)



Planning / Zoning: 386-329-0316  
Building: 386-329-0307  
Codes Enforcement: 386-329-0317

July 22, 2014

Jennifer Tucker  
2574 Seagate Drive  
Koger-Marathon Suite 203  
Tallahassee FL, 32399

RE: Caravelle Ranch WMA management plan letter of compliance with  
Putnam County comprehensive plan

Dear Ms. Tucker:

I have reviewed the Caravelle Ranch WMA Management Plan and have found it to be in compliance with Putnam County's Comprehensive Plan, which designates the area as conservation. The plan is in concert with the anticipated public use of the property. If you have any questions regarding this issue, contact me at (386) 329-0311 at your convenience.

Sincerely,

A handwritten signature in black ink that reads "John Salmons". The signature is written in a cursive style with a large initial "J".

John Salmons  
Senior Planner



Marion County  
Board of County Commissioners

Growth Services

2710 E. Silver Springs Blvd.  
Ocala, FL 34470  
Phone: 352-438-2600  
Fax: 352-438-2601

May 12, 2014

[via email]

Ms. Jennifer K. Tucker  
Florida Fish and Wildlife Conservation Commission  
Division of Habitat and Species Conservation  
Land Conservation Planning Section  
620 South Meridian Street  
Tallahassee, Florida 32399-1600

**RE: Comprehensive Plan Consistency Determination:**  
Florida Fish and Wildlife Conservation Commission's (FWC)  
Caravelle Ranch Wildlife Management Area (CRWMA)  
Draft Management Plan for 2014-2024 (Management Plan)

Dear Ms. Tucker:

Thank you for transmitting the FWC's CRWMA draft Management Plan for Marion County's Comprehensive Plan consistency review. Marion County Growth Services has reviewed the draft Management Plan and determined it is consistent with Marion County's Comprehensive Plan; although a technical correction is required in the last sentence of the last paragraph of Section 1.9 *Adjacent Land Uses* on Page 9 of the draft.

The Management Plan correctly references that "the future land use for the small portion of the CRWMA located in Marion County is *Preservation* (emphasis added)." However, the surrounding lands are designated either *Preservation* or *Rural Land*. A map showing the recently adopted Future Land Use Map land use designations for the CRWMA property and the surrounding properties is attached. *Preservation* designated lands are those owned by public Federal, State, or regional agencies for conservation and/or recreation purposes which are subject to management contracts and management plans. *Rural Land* represents privately held lands suited for very low density and agricultural purposes. The privately held lands adjoining the CRWMA's south boundary and those across the Ocklawaha River to the west and southwest are designated *Rural Land* and are zoned A-1 (General Agriculture) consistent with their land use designation. The *Preservation* and *Rural Land* designations are considered compatible land use designations.

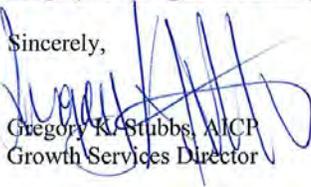
The Management Plan will ensure the CRWMA is managed to restore, protect, and maintain native ecosystems and water resources, ensure the viability of listed species populations, and integrate compatible human uses. Planned management and recreational opportunities will provide year-around accessibility and support resource-based recreational and eco-tourism opportunities which are a growing focus for Marion County.

"Meeting Needs by Exceeding Expectations"

[www.marioncountyfl.org](http://www.marioncountyfl.org)

We appreciate the opportunity to review the Caravelle Ranch Wildlife Management Area draft Management Plan for 2014-2024 and look forward to continued cooperation and coordination with the FWC. We look forward to receiving a final copy of the Management Plan upon its approval and completion. If you have any questions related to this matter, please contact me or Samuel Martsolf, Planning/Zoning Manager, by phone or via email at [Gregory.Stubbs@marioncountyfl.org](mailto:Gregory.Stubbs@marioncountyfl.org) or [Samuel.Martsolf@marioncountyfl.org](mailto:Samuel.Martsolf@marioncountyfl.org), respectively.

Sincerely,



Gregory K. Stubbs, AICP  
Growth Services Director

Cc by Lee Niblock, MC Administrator  
email: Gina Peebles, P&R Director

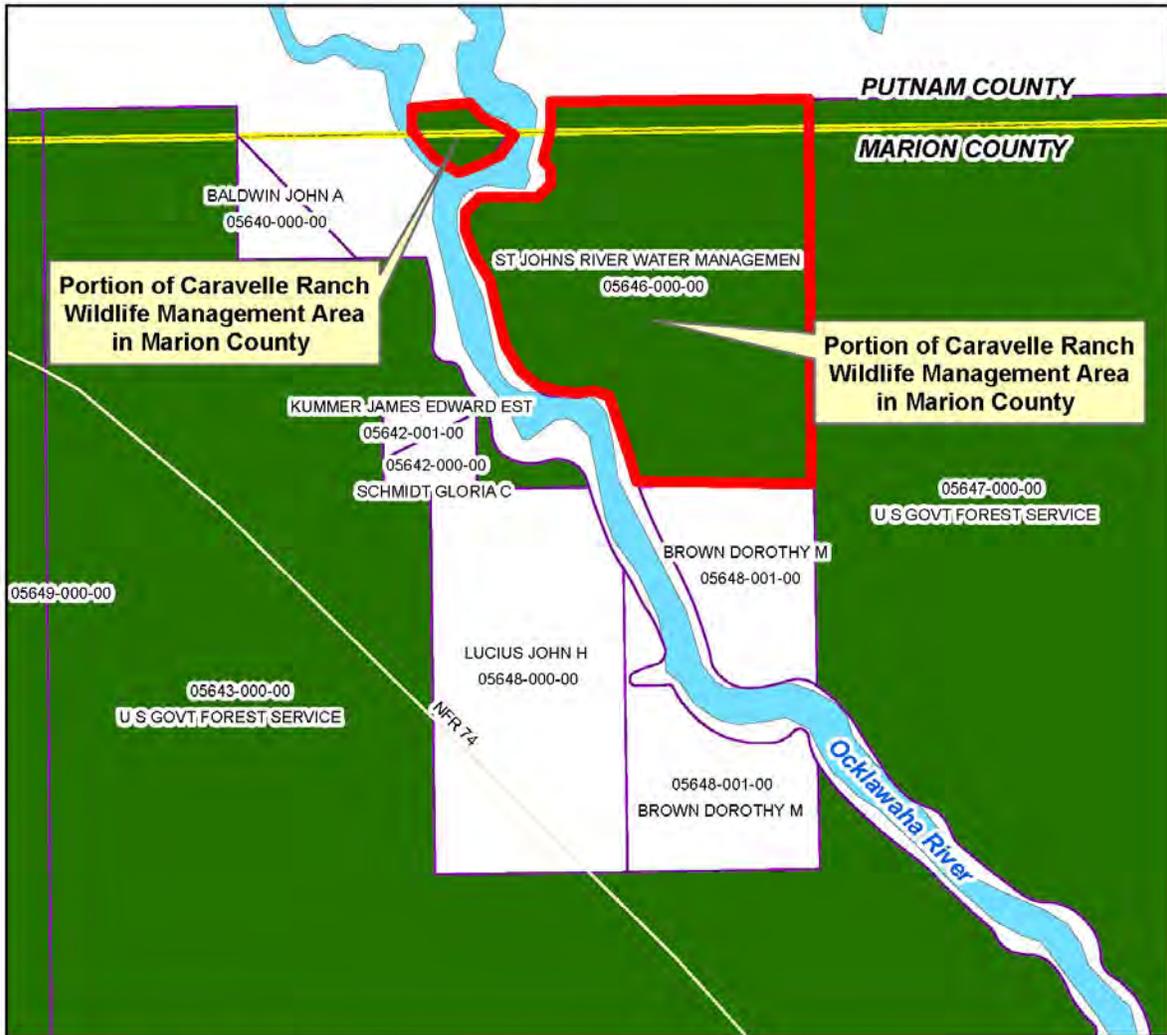
Mounir Bouyounes, ACA-PW  
James Couillard, MC-LA  
CRWMA File

Loretta Shaffer, CVB Director  
Barbra Hernandez, PIO Manager  
OCF

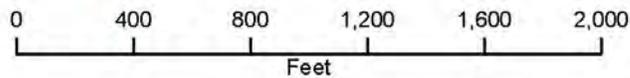
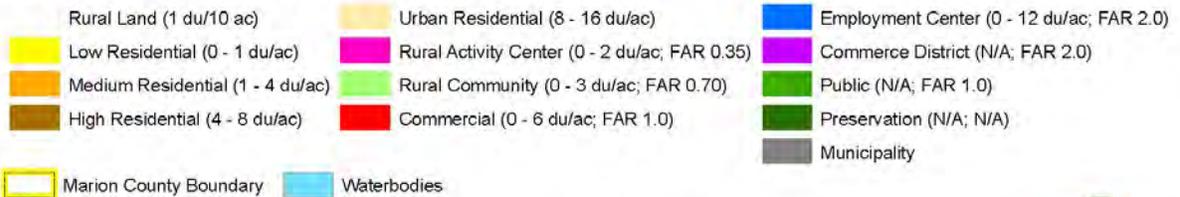
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MARION COUNTY - EXISTING - MAY 2014



**Future Land Use Designation**



Map information compiled by the Marion County Growth Services Department. This information is subject to projection and data variations and should NOT be used for survey, land transfer, or other similar legal representations.

